

IPC115D (V.2.5)

APPLICATION GUIDE

INDEX

2. GENERALITIES 8 3. AVAILABLE APPLICATION CONFIGURATIONS 8 3.1 MAIN FUNCTIONS 9 4. SUPERVISION FROM LOCAL AND REMOTE 12 5. USER INTERFACE VISOGRAPH 1.0 AND VISOGRAPH 2.0 13 5.1 HOW TO SWITCH ON/OFF THE UNIT AND CHANGE CHILLER/HEAT PUMP WORK MODE FROM KEYBOARD 16 5.1.1 Unit Switch-ON/OFF From The Keyboard 16 5.1.2 Unit Switch-ON/OFF From Digital Input 18 5.1.3 Select The Working Mode: Chiller-Heat Pump 18 5.1.4 Change Over Function 19 5.2.1 Working With Clock Disabling Digital Input 19 5.2.3 Working With Unit In OFF From RC If ON Is Forced From Key 21 5.3 OPERATION IN CONDENSING UNIT WORKING MODE 22 5.3.1 Working With Digital Input Configuration As Temperature Control Request 22 5.3.1 Working With Digital Input Configured As Cooling Request 22 5.3.3 Working With Digital Input Configured As Heating Request 22 5.3.4 Norking With Digital Input Configured As Heating Request 22 5.3.3 Working With Digital Input Configured As Heating Request 22 5.3.4 Norking With Digital Input Configured As Heating Request 22 5.4.1 Select Probes For Display 23	1. 1.1	IMPORTANT RECOMMENDATIONS PRODUCT DISPOSAL (WEEE)	6 7
3.1 MAIN FUNCTIONS 9 4. SUPERVISION FROM LOCAL AND REMOTE 12 5. USER INTERFACE VISOGRAPH 1.0 AND VISOGRAPH 2.0 13 5.1 HOW TO SWITCH ON/OFF THE UNIT AND CHANGE CHILLER/HEAT PUMP WORK MODE FROM KEYBOARD 16 5.1.1 Unit Switch-ON/OFF From Digital Input. 16 5.1.2 Unit Switch-ON/OFF From Digital Input. 18 5.1.3 Select The Working Mode: Chiller-Heat Pump. 18 5.1.4 Change Over Function. 19 5.2 UNIT SWITH ON/OFF BY RTC 19 5.2.1 Working With Clock Disabling Digital Input. 19 5.2.2 Working With Unit In OFF From RTC If ON Is Forced From Key. 21 5.2.3 Working With Digital Input Configured As Cooling Request. 22 5.3.1 Working With Digital Input Configured As Cooling Request. 22 5.3.3 Working With Digital Input Configured As Cooling Request. 22 5.4.1 Select Probes For Display 23 5.5 SET KEY IN MAIN SCREEN 23 5.6 PROBES KEY IN MAIN SCREEN 26 5.7 ALARM KEY IN MAIN SCREEN 26 5.9.3 Compressors 37 5.9.4 Heaters/Liquid Line Solenoid Valve. 23 5.9.5			8
4. SUPERVISION FROM LOCAL AND REMOTE 12 5. USER INTERFACE VISOGRAPH 1.0 AND VISOGRAPH 2.0 13 5.1 HOW TO SWITCH ON/OFF THE UNIT AND CHANGE CHILLER/HEAT PUMP WORK MODE FROM KEYBOARD 16 5.1.1 Unit Switch-ON/OFF From The Keyboard 16 5.1.2 Unit Switch-ON/OFF From Digital Input. 18 5.1.3 Select The Working Mode: Chiller-Heat Pump 18 5.1.4 Change Over Function 19 5.2.1 Working With Clock Disabling Digital Input. 19 5.2.2 Working With Vist to PF From RTC If ON Is Forced From Key 21 5.2.3 Working With Digital Input Configuration As Temperature Control Request 22 5.3.1 Working With Digital Input Configured As Cooling Request. 22 5.3.2 Working With Digital Input Configured As Cooling Request. 22 5.3.3 Working With Digital Input Configured As Cooling Request. 22 5.4.1 Belect Probes For Display. 23 5.4.1 Select Probes For Display. 23 5.5 SET KEY IN MAIN SCREEN 26 5.6 IRC KEY IN MAIN SCREEN 26 5.9 SERVICE KEY IN MAIN SCREEN 26 5.9.1 TimeTime Bands. 36 5.9.2 TimeTime Bands. 36 5.9.3 Compressors. 37 <t< th=""><th>3.</th><th>AVAILABLE APPLICATION CONFIGURATIONS</th><th>8</th></t<>	3.	AVAILABLE APPLICATION CONFIGURATIONS	8
5. USER INTERFACE VISOGRAPH 1.0 AND VISOGRAPH 2.0 13 5.1 HOW TO SWITCH ON/OFF THE UNIT AND CHANGE CHILLER/HEAT PUMP WORK MODE FROM KEYBOARD 16 5.1.1 Unit Switch-ON/OFF From The Keyboard 16 5.1.2 Unit Switch-ON/OFF From Digital Input 18 5.1.3 Select The Working Mode: Chiller-Heat Pump 18 5.1.4 Change Over Function 19 5.2 UNIT SWITH ON/OFF BY RTC 19 5.2.1 Working With Clock Disabling Digital Input. 19 5.2.1 Working With Clock Disabling Digital Input. 19 5.2.3 Working With OXIN CONDENSING UNIT WORKING MODE 22 5.3.1 Working With Digital Input Configured As Temperature Control Request 22 5.3.3 Working With Digital Input Configured As Heating Request 22 5.4.1 Select Probes For Display 23 5.5 SET KEY IN MAIN SCREEN 23 5.6 PROBES KEY IN MAIN SCREEN 26 5.7 ALARM KEY IN MAIN SCREEN 26 5.8 Compressors 37 5.9.4 Haters Programming 34 5.9.5 Alarms Di	3.1	MAIN FUNCTIONS	9
5.1 HOW TO SWITCH ON/OFF THE UNIT AND CHANGE CHILLER/HEAT PUMP WORK MODE FROM KEYBOARD 16 5.1.1 Unit Switch-ON/OFF From Digital Input. 16 5.1.3 Select The Working Mode: Chiller-Heat Pump. 18 5.1.4 Change Over Function. 19 5.2 UNIT SWITH ON/OFF BY RTC 19 5.2.1 Working With Clock Disabling Digital Input. 19 5.2.2 Working With Clock Disabling Digital Input. 19 5.2.3 Working With Digital Input Configuration As Temperature Control Request. 22 5.3.1 Working With Digital Input Configured As Cooling Request. 22 5.3.3 Working With Digital Input Configured As Heating Request. 22 5.4.1 Select Probes For Display. 23 5.4 HOW TO MODIFY THE INFORMATION PRESENT IN THE MAIN SCREEN 23 5.4.1 Select Probes For Display. 23 5.5 SET KEY IN MAIN SCREEN 25 5.6 PROBES KEY IN MAIN SCREEN 26 5.7 ALARM KEY IN MAIN SCREEN 26 5.9.1 Parameters Programming. 34 5.9.1 Parameters Programming.	4.	SUPERVISION FROM LOCAL AND REMOTE	12
FROM KEYBOARD 16 5.1.1 Unit Switch-ON/OFF From Digital Input. 16 5.1.3 Select The Working Mode: Chiller-Heat Pump. 18 5.1.4 Change Over Function 19 5.2 UNIT SWITH ON/OFF BY RTC 19 5.2.1 Working With Clock Disabiling Digital Input. 19 5.2.2 Working With Ventilation Only' Digital Input. 19 5.2.3 Working With Ventilation Only' Digital Input. 19 5.3.4 OPERATION IN CONDENSING UNIT WORKING MODE 22 5.3.1 Working With Digital Input Configured As Cooling Request. 22 5.3.2 Working With Digital Input Configured As Heating Request. 22 5.3.3 Working With Digital Input Configured As Heating Request. 22 5.4.1 Select Probes For Display. 23 5.4.1 Select Probes For Display. 23 5.5 SET KEY IN MAIN SCREEN 25 5.6 PROBES KEY IN MAIN SCREEN 26 5.7 ALARM KEY IN MAIN SCREEN 26 5.9.1 Parameters Programming. 33 5.9.1 Parameters Programming. 34	5.	USER INTERFACE VISOGRAPH 1.0 AND VISOGRAPH 2.0	13
5.1.1 Unit Switch-ON/OFF From The Keyboard 16 5.1.2 Unit Switch-ON/OFF From Digital Input. 18 5.1.3 Select The Working Mode: Chiller-Heat Pump 18 5.1.4 Change Over Function 19 5.2 UNIT SWITH ON/OFF BY RTC 19 5.2.1 Working With Clock Disabling Digital Input. 19 5.2.2 Working With Clock Disabling Digital Input (Air-Air Unit Only) 21 5.2.3 Working With Digital Input Configuration As Temperature Control Request 22 5.3.1 Working With Digital Input Configured As Cooling Request 22 5.3.3 Working With Digital Input Configured As Cooling Request 22 5.3.3 Working With Digital Input Configured As Heating Request 22 5.4 HOW TO MODIFY THE INFORMATION PRESENT IN THE MAIN SCREEN 23 5.4 Sett KEY IN MAIN SCREEN 26 5.7 ALARM KEY IN MAIN SCREEN 26 5.8 SERVICE KEY IN MAIN SCREEN 26 5.9 SERVICE KEY IN MAIN SCREEN 33 5.9.1 Parameters Programming 34 5.9.2 Time/Time Bands 36 <td< td=""><td>5.1</td><td></td><td></td></td<>	5.1		
5.1.2 Unit Switch-ON/OFF From Digital Input. 18 5.1.3 Select The Working Mode: Chiller-Heat Pump. 18 5.1.4 Change Over Function 19 5.2 UNIT SWITH ON/OFF BY RTC 19 5.2.1 Working With Clock Disabling Digital Input. 19 5.2.2 Working With 'Ucht Disabling Digital Input (Air-Air Unit Only) 21 5.2.3 Working With Unit In OFF From RTC If ON Is Forced From Key. 21 5.3 OPERATION IN CONDENSING UNIT WORKING MODE 22 5.3.1 Working With Digital Input Configured As Temperature Control Request. 22 5.3.3 Working With Digital Input Configured As Heating Request. 22 5.4 HOW TO MODIFY THE INFORMATION PRESENT IN THE MAIN SCREEN 23 5.4 Select Probes For Display 23 5.5 SET KEY IN MAIN SCREEN 23 5.6 PROBES KEY IN MAIN SCREEN 26 5.7 ALARM KEY IN MAIN SCREEN 26 5.9.1 Parameters Programming. 34 5.9.2 Time/Time Bands 36 5.9.3 Compressors 37 5.9.4 Water Pump.			
5.1.3 Select The Working Mode: Chiller-Heat Pump. .18 5.1.4 Change Over Function .19 5.2 UNIT SWITH ON/OFF EV RTC .19 5.2.1 Working With Clock Disabling Digital Input. .19 5.2.2 Working With Ventilation Only' Digital Input (Air-Air Unit Only) .21 5.3 Working With Ventilation Only' Digital Input (Air-Air Unit Only) .21 5.3 Working With Digital Input Configuration As Femperature Control Request .22 5.3.1 Working With Digital Input Configured As Cooling Request .22 5.3.2 Working With Digital Input Configured As Heating Request .22 5.3 Working With Digital Input Configured As Heating Request .22 5.4 HOW TO MODIFY THE INFORMATION PRESENT IN THE MAIN SCREEN .23 5.5 SET KEY IN MAIN SCREEN .23 5.6 PROBES KEY IN MAIN SCREEN .26 5.8 CIRC KEY IN MAIN SCREEN .26 5.9 SERVICE KEY IN MAIN SCREEN .33 5.9.1 Parameters Programming. .34 5.9.3 Compressors. .37 5.9.4 Water Pump. .33 <tr< td=""><td></td><td>5.1.1 Unit Switch-ON/OFF From The Keyboard</td><td>16</td></tr<>		5.1.1 Unit Switch-ON/OFF From The Keyboard	16
5.1.4 Change Over Function 19 5.2 UNIT SWITH ON/OFF BY RTC 19 5.2.1 Working With Clock Disabling Digital Input. 19 5.2.2 Working With "Ventilation Only" Digital Input (Air-Air Unit Only) 21 5.2.3 Working With Unit In OFF From RTC If ON Is Forced From Key. 21 5.3 OPERATION IN CONDENSING UNIT WORKING MODE 22 5.3.1 Working With Digital Input Configuration As Temperature Control Request 22 5.3.2 Working With Digital Input Configured As Cooling Request 22 5.3.3 Working With Digital Input Configured As Heating Request 22 5.4 HOW TO MODIFY THE INFORMATION PRESENT IN THE MAIN SCREEN 23 5.4 Select Probes For Display 23 5.6 PROBES KEY IN MAIN SCREEN 25 5.7 ALARM KEY IN MAIN SCREEN 26 5.8 CIRC KEY IN MAIN SCREEN 29 5.9.1 Parameters Programming 34 5.9.2 Time/Time Bands 36 5.9.3 Compressors 37 5.9.4 Water Pump 39 5.9.5 Alarms Display			
5.2 UNIT SWITH ON/OFF BY RTC 19 5.2.1 Working With Clock Disabling Digital Input. 19 5.2.2 Working With Ventilation Only" Digital Input (Air-Air Unit Only) 21 5.3.1 Working With Unit In OFF From RTC If ON Is Forced From Key. 21 5.3 OPERATION IN CONDENSING UNIT WORKING MODE 22 5.3.1 Working With Digital Input Configuration As Temperature Control Request. 22 5.3.2 Working With Digital Input Configured As Heating Request. 22 5.3.3 Working With Digital Input Configured As Heating Request. 22 5.4 HOW TO MODIFY THE INFORMATION PRESENT IN THE MAIN SCREEN 23 5.4.1 Select Probes For Display 23 5.5 SET KEY IN MAIN SCREEN 26 5.6 PROBES KEY IN MAIN SCREEN 26 5.7 ALARM KEY IN MAIN SCREEN 26 5.8 SERVICE KEY IN MAIN SCREEN 33 5.9.1 Parameters Programming 34 5.9.2 Time/Time Bands 36 5.9.3 Compressors 37 5.9.4 Water Pump 36 5.9.5 Alarms Display			
5.2.1 Working With Clock Disabling Digital Input. 19 5.2.2 Working With "Ventilation Only" Digital Input (Air-Air Unit Only) 21 5.3 Working With Unit In OFF From RTC If ON Is Forced From Key. 21 5.3 OPERATION IN CONDENSING UNIT WORKING MODE 22 5.3.1 Working With Digital Input Configuration As Temperature Control Request. 22 5.3.2 Working With Digital Input Configured As Cooling Request. 22 5.3.3 Working With Digital Input Configured As Cooling Request. 22 5.4 HOW TO MODIFY THE INFORMATION PRESENT IN THE MAIN SCREEN 23 5.4 Select Probes For Display 23 5.4 Select Probes For Display 23 5.5 SET KEY IN MAIN SCREEN 26 5.6 ROBES KEY IN MAIN SCREEN 26 5.7 ALARM KEY IN MAIN SCREEN 26 5.9 SERVICE KEY IN MAIN SCREEN 23 5.9.1 Parameters Programming. 34 5.9.2 Time/Time Bands 36 5.9.3 Compressors 37 5.9.4 Water Pump 39 5.9.5 Alarms Display	52		
5.2.2 Working With "Ventilation Only" Digital Input (Air-Air Unit Only) 21 5.2.3 Working With Unit In OFF From RTC If ON Is Forced From Key 21 5.3 OPERATION IN CONDENSING UNIT WORKING MODE 22 5.3.1 Working With Digital Input Configuration As Temperature Control Request 22 5.3.2 Working With Digital Input Configured As Cooling Request 22 5.3.3 Working With Digital Input Configured As Heating Request 22 5.3.4 HOW TO MODIFY THE INFORMATION PRESENT IN THE MAIN SCREEN 23 5.4.1 Select Probes For Display 23 5.4 SET KEY IN MAIN SCREEN 23 5.6 PROBES KEY IN MAIN SCREEN 26 5.7 ALARM KEY IN MAIN SCREEN 26 5.8 CIRC KEY IN MAIN SCREEN 26 5.9.1 Parameters Programming 33 5.9.1 Parameters Programming 34 5.9.2 Time/Time Bands 36 5.9.3 Compressors 37 5.9.4 Water Pump 39 5.9.5 Alarms Display 40 5.9.6 Historical Alarms 42 <	J.2	5.2.1 Working With Clock Disabling Digital Input	19
5.2.3 Working With Unit In OFF From RTC If ON Is Forced From Key 21 OPERATION IN CONDENSING UNIT WORKING MODE 22 5.3.1 Working With Digital Input Configuration As Temperature Control Request 22 5.3.2 Working With Digital Input Configured As Cooling Request 22 5.3.3 Working With Digital Input Configured As Heating Request 22 5.3.3 Working With Digital Input Configured As Heating Request 22 5.4 HOW TO MODIFY THE INFORMATION PRESENT IN THE MAIN SCREEN 23 5.4 Select Probes For Display 23 5.5 SET KEY IN MAIN SCREEN 23 5.6 PROBES KEY IN MAIN SCREEN 26 5.7 ALARM KEY IN MAIN SCREEN 29 5.8 CIRC KEY IN MAIN SCREEN 29 5.9.1 Parameters Programming 34 5.9.2 Time/Time Bands 36 5.9.3 Compressors 37 5.9.4 Water Pump 38 5.9.5 Alarms Display 40 5.9.6 Historical Alarms 40 5.9.7 Defrost 43 5.9.8 Heaters/Liqu			
5.3 OPERATION IN CONDENSING UNIT WORKING MODE 22 5.3.1 Working With Digital Input Configuration As Temperature Control Request. 22 5.3.2 Working With Digital Input Configured As Cooling Request. 22 5.3.3 Working With Digital Input Configured As Heating Request. 22 5.4 HOW TO MODIFY THE INFORMATION PRESENT IN THE MAIN SCREEN 23 5.4.1 Select Probes For Display 23 5.5 SET KEY IN MAIN SCREEN 23 5.6 PROBES KEY IN MAIN SCREEN 25 5.7 ALARM KEY IN MAIN SCREEN 26 5.8 CIRC KEY IN MAIN SCREEN 29 5.9 SERVICE KEY IN MAIN SCREEN 29 5.9.1 Parameters Programming 34 5.9.2 Time/Time Bands 36 5.9.3 Compressors 37 5.9.4 Water Pump 38 5.9.5 Alarms Display 40 5.9.6 Historical Alarms 40 5.9.7 Defrost 42 5.9.8 Heaters/Liquid Line Solenoid Valve 43 5.9.10 Therrostatic 43 <td></td> <td></td> <td></td>			
5.3.1 Working With Digital Input Configuration As Temperature Control Request .22 5.3.2 Working With Digital Input Configured As Cooling Request .22 5.3.3 Working With Digital Input Configured As Heating Request .22 5.3.4 HOW TO MODIFY THE INFORMATION PRESENT IN THE MAIN SCREEN .23 5.4.1 Select Probes For Display .23 5.5 SET KEY IN MAIN SCREEN .23 5.6 PROBES KEY IN MAIN SCREEN .26 5.7 ALARM KEY IN MAIN SCREEN .26 5.8 CIRC KEY IN MAIN SCREEN .26 5.9 SERVICE KEY IN MAIN SCREEN .29 5.9 SERVICE KEY IN MAIN SCREEN .33 5.9.1 Parameters Programming .34 5.9.2 Time/Time Bands .36 5.9.3 Compressors .37 5.9.4 Water Pump .39 5.9.5 Alarms Display .40 5.9.6 Historical Alarms .40 5.9.7 Defrost .42 5.9.8 Heaters/Liquid Line Solenoid Valve .43 5.9.10 Thermostatic .43	5.3		22
5.3.2 Working With Digital Input Configured As Cooling Request 22 5.3.3 Working With Digital Input Configured As Heating Request 22 5.4 HOW TO MODIFY THE INFORMATION PRESENT IN THE MAIN SCREEN 23 5.4.1 Select Probes For Display 23 5.5 SET KEY IN MAIN SCREEN 23 5.6 PROBES KEY IN MAIN SCREEN 25 5.7 ALARM KEY IN MAIN SCREEN 26 5.8 CIRC KEY IN MAIN SCREEN 26 5.9 SERVICE KEY IN MAIN SCREEN 26 5.9 SERVICE KEY IN MAIN SCREEN 33 5.9.1 Parameters Programming 34 5.9.2 Time/Time Bands 36 5.9.3 Compressors 37 5.9.4 Water Pump 39 5.9.5 Alarms Display 40 5.9.6 Historical Alarms 42 5.9.7 Defrost 42 5.9.8 Heaters/Liquid Line Solenoid Valve 43 5.9.10 Thermostatic 45 5.9.11 Heat Recovery 45 5.9.12 Auxiliary Outputs <t< td=""><td></td><td></td><td></td></t<>			
5.3.3 Working With Digital Input Configured As Heating Request. 22 For HOW TO MODIFY THE INFORMATION PRESENT IN THE MAIN SCREEN 23 5.4.1 Select Probes For Display 23 5.5 SET KEY IN MAIN SCREEN 23 5.6 PROBES KEY IN MAIN SCREEN 25 5.7 ALARM KEY IN MAIN SCREEN 26 5.8 CIRC KEY IN MAIN SCREEN 26 5.8 CIRC KEY IN MAIN SCREEN 29 5.9.1 Parameters Programming 34 5.9.2 Time/Time Bands 36 5.9.3 Compressors 37 5.9.4 Water Pump 39 5.9.5 Alarms Display 40 5.9.6 Historical Alarms 40 5.9.7 Defrost 42 5.9.8 Heaters/Liquid Line Solenoid Valve 43 5.9.10 Thermostatic 43 5.9.11 Heat Recovery 47 5.9.12 Auxiliary Outputs 48 5.9.13 Free-Cooling 49 5.9.14 Screw Compressor Temperature 53 5.9.15		5.3.2 Working With Digital Input Configured As Cooling Request	22
5.4.1Select Probes For Display235.5SET KEY IN MAIN SCREEN235.6PROBES KEY IN MAIN SCREEN265.7ALARM KEY IN MAIN SCREEN265.8CIRC KEY IN MAIN SCREEN295.9SERVICE KEY IN MAIN SCREEN335.9.1Parameters Programming345.9.2Time/Time Bands365.9.3Compressors375.9.4Water Pump395.9.5Alarms Display405.9.6Historical Alarms405.9.7Defrost425.9.8Heaters/Liquid Line Solenoid Valve435.9.10Thermostatic455.9.11Heat Recovery475.9.12Auxiliary Outputs485.9.13Free-Cooling495.9.14Screw Compressor535.9.15Discharge Compressor Temperature535.9.16Domestic Hot Water (Sanitary Water)535.9.17Auxiliary Heating55		5.3.3 Working With Digital Input Configured As Heating Request	22
5.5 SET KEY IN MAIN SCREEN 23 5.6 PROBES KEY IN MAIN SCREEN 26 5.7 ALARM KEY IN MAIN SCREEN 26 5.8 CIRC KEY IN MAIN SCREEN 26 5.9 SERVICE KEY IN MAIN SCREEN 29 5.9 SERVICE KEY IN MAIN SCREEN 33 5.9.1 Parameters Programming. 34 5.9.2 Time/Time Bands. 36 5.9.3 Compressors. 37 5.9.4 Water Pump 39 5.9.5 Alarms Display 40 5.9.6 Historical Alarms 40 5.9.7 Defrost. 42 5.9.8 Heaters/Liquid Line Solenoid Valve. 43 5.9.9 I/O Status 43 5.9.10 Thermostatic 45 5.9.11 Heat Recovery 47 5.9.12 Auxiliary Outputs 48 5.9.13 Free-Cooling 49 5.9.14 Screw Compressor Temperature 53 5.9.15 Discharge Compressor Temperature 53 5.9.16 Domestic Hot Water (Sanitary Water)	5.4		23
5.6 PROBES KEY IN MAIN SCREEN 25 5.7 ALARM KEY IN MAIN SCREEN 26 5.8 CIRC KEY IN MAIN SCREEN 29 5.9 SERVICE KEY IN MAIN SCREEN 33 5.9.1 Parameters Programming 34 5.9.2 Time/Time Bands 36 5.9.3 Compressors 37 5.9.4 Water Pump 39 5.9.5 Alarms Display 40 5.9.6 Historical Alarms 40 5.9.7 Defrost 42 5.9.8 Heaters/Liquid Line Solenoid Valve 43 5.9.9 I/O Status 43 5.9.11 Heat Recovery 47 5.9.12 Auxiliary Outputs 48 5.9.13 Free-Cooling 49 5.9.14 Screw Compressor 52 5.9.15 Discharge Compressor Temperature 53 5.9.16 Domestic Hot Water (Sanitary Water) 53 5.9.17 Auxiliary Heating 53			
5.7 ALARM KEY IN MAIN SCREEN 26 5.8 CIRC KEY IN MAIN SCREEN 29 5.9 SERVICE KEY IN MAIN SCREEN 33 5.9.1 Parameters Programming 34 5.9.2 Time/Time Bands 36 5.9.3 Compressors 37 5.9.4 Water Pump 39 5.9.5 Alarms Display 40 5.9.6 Historical Alarms 40 5.9.7 Defrost 42 5.9.8 Heaters/Liquid Line Solenoid Valve 43 5.9.9 I/O Status 43 5.9.11 Heat Recovery 47 5.9.12 Auxiliary Outputs 48 5.9.13 Free-Cooling 49 5.9.14 Screw Compressor 52 5.9.15 Discharge Compressor Temperature 53 5.9.16 Dornestic Hot Water (Sanitary Water) 53 5.9.17 Auxiliary Heating 55			23
5.8CIRC KEY IN MAIN SCREEN295.9SERVICE KEY IN MAIN SCREEN335.9.1Parameters Programming.345.9.2Time/Time Bands.365.9.3Compressors.375.9.4Water Pump.395.9.5Alarms Display.405.9.6Historical Alarms.405.9.7Defrost.425.9.8Heaters/Liquid Line Solenoid Valve.435.9.9I/O Status435.9.10Thermostatic455.9.11Heat Recovery475.9.12Auxiliary Outputs.485.9.13Free-Cooling495.9.14Screw Compressor Temperature535.9.15Discharge Compressor Temperature535.9.17Auxiliary Heating55			
5.9 SERVICE KEY IN MAIN SCREEN 33 5.9.1 Parameters Programming 34 5.9.2 Time/Time Bands 36 5.9.3 Compressors 37 5.9.4 Water Pump 39 5.9.5 Alarms Display 40 5.9.6 Historical Alarms 40 5.9.7 Defrost 42 5.9.8 Heaters/Liquid Line Solenoid Valve 43 5.9.9 I/O Status 43 5.9.10 Thermostatic 45 5.9.11 Heat Recovery 47 5.9.12 Auxiliary Outputs 48 5.9.13 Free-Cooling 49 5.9.14 Screw Compressor 52 5.9.15 Discharge Compressor Temperature 53 5.9.16 Domestic Hot Water (Sanitary Water) 53 5.9.17 Auxiliary Heating 53			
5.9.1 Parameters Programming			
5.9.2Time/Time Bands365.9.3Compressors375.9.4Water Pump395.9.5Alarms Display405.9.6Historical Alarms405.9.7Defrost425.9.8Heaters/Liquid Line Solenoid Valve435.9.9I/O Status435.9.10Thermostatic455.9.11Heat Recovery475.9.12Auxiliary Outputs485.9.13Free-Cooling495.9.14Screw Compressor525.9.15Discharge Compressor Temperature535.9.16Domestic Hot Water (Sanitary Water)535.9.17Auxiliary Heating55	5.9		
5.9.3 Compressors			
5.9.4Water Pump395.9.5Alarms Display405.9.6Historical Alarms405.9.7Defrost.425.9.8Heaters/Liquid Line Solenoid Valve435.9.9I/O Status435.9.10Thermostatic455.9.11Heat Recovery475.9.12Auxiliary Outputs485.9.13Free-Cooling495.9.14Screw Compressor525.9.15Discharge Compressor Temperature535.9.16Domestic Hot Water (Sanitary Water)535.9.17Auxiliary Heating55			
5.9.5Alarms Display405.9.6Historical Alarms405.9.7Defrost.425.9.8Heaters/Liquid Line Solenoid Valve435.9.9I/O Status435.9.10Thermostatic455.9.11Heat Recovery475.9.12Auxiliary Outputs485.9.13Free-Cooling495.9.14Screw Compressor525.9.15Discharge Compressor Temperature535.9.16Domestic Hot Water (Sanitary Water)535.9.17Auxiliary Heating55		5.9.3 Compressors	37 20
5.9.6Historical Alarms405.9.7Defrost.425.9.8Heaters/Liquid Line Solenoid Valve435.9.9I/O Status435.9.10Thermostatic455.9.11Heat Recovery475.9.12Auxiliary Outputs485.9.13Free-Cooling495.9.14Screw Compressor525.9.15Discharge Compressor Temperature535.9.16Domestic Hot Water (Sanitary Water)535.9.17Auxiliary Heating55			
5.9.7Defrost.425.9.8Heaters/Liquid Line Solenoid Valve435.9.9I/O Status435.9.10Thermostatic455.9.11Heat Recovery475.9.12Auxiliary Outputs485.9.13Free-Cooling495.9.14Screw Compressor525.9.15Discharge Compressor Temperature535.9.16Domestic Hot Water (Sanitary Water)535.9.17Auxiliary Heating55			
5.9.8Heaters/Liquid Line Solenoid Valve435.9.9I/O Status435.9.10Thermostatic455.9.11Heat Recovery475.9.12Auxiliary Outputs485.9.13Free-Cooling495.9.14Screw Compressor525.9.15Discharge Compressor Temperature535.9.16Domestic Hot Water (Sanitary Water)535.9.17Auxiliary Heating55			
5.9.9I/O Status435.9.10Thermostatic455.9.11Heat Recovery475.9.12Auxiliary Outputs485.9.13Free-Cooling495.9.14Screw Compressor525.9.15Discharge Compressor Temperature535.9.16Domestic Hot Water (Sanitary Water)535.9.17Auxiliary Heating55			
5.9.10Thermostatic455.9.11Heat Recovery475.9.12Auxiliary Outputs485.9.13Free-Cooling495.9.14Screw Compressor525.9.15Discharge Compressor Temperature535.9.16Domestic Hot Water (Sanitary Water)535.9.17Auxiliary Heating55			
5.9.11Heat Recovery475.9.12Auxiliary Outputs485.9.13Free-Cooling495.9.14Screw Compressor525.9.15Discharge Compressor Temperature535.9.16Domestic Hot Water (Sanitary Water)535.9.17Auxiliary Heating55			
5.9.12Auxiliary Outputs			
5.9.13Free-Cooling			
5.9.14Screw Compressor525.9.15Discharge Compressor Temperature535.9.16Domestic Hot Water (Sanitary Water)535.9.17Auxiliary Heating55			
5.9.15Discharge Compressor Temperature535.9.16Domestic Hot Water (Sanitary Water)535.9.17Auxiliary Heating55			
5.9.16 Domestic Hot Water (Sanitary Water) 53 5.9.17 Auxiliary Heating 55			
5.9.17 Auxiliary Heating			
5.9.18 Control Panel		5.9.17 Auxiliary Heating	55
		5.9.18 Control Panel	56

6. USER INTERFACE VISOTOUCH

6.1	HOW TO SWITCH ON/OFF THE UNIT AND CHANGE CHILLER/HEAT PUMP FROM VISOTOUCH	WORK MODE 63
	6.1.1 Unit Switch-ON/OFF From The Visotouch	
	6.1.2 Unit Switch-ON/OFF From Digital Input	
	6.1.3 Select The Working Mode: Chiller-Heat Pump	
	6.1.4 Change Over Function	
6.2		67
	6.2.1 Working With Clock Disabling Digital Input	
	6.2.2 Working With "Ventilation Only" Digital Input (Air-Air Unit Only)	
	6.2.3 Working With Unit In OFF From RTC If ON Is Forced From Visotouch	
6.3		69
	6.3.1 Working With Digital Input Configuration As Temperature Control Request	
	6.3.2 Working With Digital Input Configured As Cooling Request	
6.4	6.3.3 Working With Digital Input Configured As Heating Request HOW TO MODIFY THE INFORMATION PRESENT IN THE MAIN SCREEN	
6.4		70
6.5		70 71
6.6		72
6.7		74
0.7	6.7.1 Probes Submenu	
	6.7.2 Setpoint Submenu	
	6.7.3 Circuits Submenu	
	6.7.4 Icons Submenu	
6.8		81
	6.8.1 Parameters programming	83
	6.8.2 Time/Time bands	
	6.8.3 Compressors	
	6.8.4 Water pump	
	6.8.5 Alarms display	
	6.8.6 Historical alarms	
	6.8.7 Defrost.	
	6.8.8 Heaters/Liquid line solenoid valve6.8.9 I/O status	
	6.8.10 Thermostatic	
	6.8.11 Heat recovery	
	6.8.12 Auxiliary outputs	
	6.8.13 Free-cooling	
	6.8.14 Screw compressor	
	6.8.15 Discharge compressor temperature	
	6.8.16 Domestic hot water (Sanitary water)	102
	6.8.17 Auxiliary heating	104
	6.8.18 Control panel	105
7.	USE WIZMATE TO CONFIGURE PARAMETERS	108
7.1	HOW TO INSTALL WIZMATE	108
7.2		111
7.3		114
1.0	7.3.1 Configuration Menu	
	7.3.2 Language Configuration	
	7.3.3 Import/Export Maps And Libraries	
7.4	HOW TO USE WIZMATE	117
	7.4.1 Scan For Device	117
	7.4.2 Read Parameters Value	
	7.4.3 Change Parameters Value	
	7.4.4 Save/Open Map	119
~		
8.	PARAMETERS IN TABLE FORM	121

9. ANALOGUE - DIGITAL INPUTS/OUTPUTS CONFIGURATIONS 157

9.1	DI1 – DI20 DIGITAL INPUTS CONFIGURATION (DI TYPE)	158
9.2	RL1- RL15 DIGITAL OUTPUTS CONFIGURATION (DO TÝPE)	160
9.3	ANALOGUE INPUTS PB1 - PB10 CONFIGURATION (AI TYPÉ)	163
9.4	CONFIGURATION OF THE OUT1 / OUT4 PROPORTIONAL OUTPUTS (AO TYPE)	165
9.5	CONFIGURATION OF THE OUT5 / OUT6 PROPORTIONAL OUTPUTS	165
9.6	ANALOGUE INPUTS CALIBRATION	165
9.7	ANALOGUE INPUTS RANGE	166
9.8	FURTHER CONNECTIONS	166
10.	ALARMS	167
10.1	PROBE BREAKDOWN	167
10.2	HIGH PRESSURE PRESSURE SWITCH ALARM	168
10.3	COMPRESSOR HIGH DISCHARGE THERMOSTAT ALARM FROM DIGITAL INPUT	169
10.4	LOW PRESSURE PRESSURE SWITCH ALARM	169
10.5	OIL FLOAT/PRESSURE SWITCH ALARM	170
10.6	CONDENSATION HIGH TEMPERATURE/ PRESSURE ALARM	171
10.7	LOW CONDENSATION TEMPERATURE/PRESSURE ALARM (IF THE EVAPORATOR	
	PRESSURE PROBES ARE NOT CONFIGURED)	173
10.8	LOW EVAPORATION PRESSURE ALARM (IF THE EVAPORATOR PRESSURE PROBES AR CONFIGURED)	174
10.9	AIR/AIR UNIT LOW TEMPERATURE ALARM & ANTI-FREEZE ALARM IN CHILLER MODE	175
10.10	AIR/AIR UNIT LOW TEMPERATURE ALARM & ANTI-FREEZE ALARM IN HEAT PUMP MODI	
10.11	AIR/AIR UNIT LOW TEMPERATURE ALARM & ANTI-FREEZE ALARM	177
10.12		178
	HOT SIDE FLOW SWITCH ALARM (DIFFERENTIAL PRESSURE SWITCH)	180
10.14		181
10.15	DOMESTIC HOT WATER PUMP FLOW SWITCH ALARM	181
10.16	SOLAR PANELS WATER PUMP FLOW SWITCH ALARM	182
10.17	COMPRESSOR OVERLOAD ALARM	182
10.18	COMPRESSOR HIGH DISCHARGE TEMPERATURE ALARM FROM ANALOGUE INPUT	183
10.19	EVAPORATOR WATER INLET HIGH TEMPERATURE ALARM	184
10.20	CONDENSATION FAN OVERLOAD ALARM	185
10.21	DEFROST ALARM	185
10.22	UNLOADING ALARM DUE TO HIGH CONDENSATION TEMPERATURE/PRESSURE IN COOLING WORKING MODE	186
10.23	HEAT RECOVERY DISABLING SIGNAL DUE TO HIGH CONDENSATION	
40.04	TEMPERATURE/PRESSURE IN COOLING WORKING MODE	187
	UNLOADING SIGNAL DUE TO LOW EVAPORATION PRESSURE IN HEATING WORKING M UNLOADING SIGNAL DUE TO EVAPORATOR WATER INLET HIGH TEMPERATURE	
10.25 10.26	PUMP DOWN ALARM WITH LOW PRESSURE PRESSURE SWITCH/TRANSDUCER IN	188
	STOPPING	189
10.27	PUMP DOWN ALARM WITH LOW PRESSURE TRANSDUCER IN START-UP	189
10.28	EVAPORATOR WATER PUMP OVERLOAD ALARM	190
10.29	CONDENSER WATER PUMPING OVERLOAD ALARM	191
10.30	GENERIC ALARM 1	191
10.31	GENERIC ALARM 2	192
10.32		192
10.33		192
10.34		193
	POWER SUPPLY FREQUENCY ALARM	193
10.36	XEV20D NOT CONNECT ALARM	193
10.37		194
10.38	PHASES SEQUENCE ALARM	194
10.39		194
10.40		195
10.41		195
10.42		196
	FUNCTION NOT AVAILABLE ALARM	200
10.44	NOTE: ALARM RELAY AND BUZZER	201

11.	NO VOLTAGE	201
12.	AUTOMATIC TO MANUAL RESRT ALARMS DIAGNOSTICS	201
13.	OUTPUTS BLOCK TABLE	202
13.1 13.2 13.3	CIRCUIT "A" OUTPUTS ALARM BLOCK TABLE CIRCUIT "B" OUTPUTS ALARM BLOCK TABLE COMPRESSOR "C" ALARMS OUTPUTS BLOCK TABLE	202 205 205

1. IMPORTANT RECOMMENDATIONS

- The symbol alerts the user of non-insulated "dangerous voltage" within the product area that is sufficiently high to constitute a risk of electric shock to persons.
- The symbol alerts the user of important operating and maintenance (assistance) instructions found in the documentation attached to the device.
- Dixell Srl cannot accept any liability for damages caused by modems that are not supported. Dixell Srl reserves the right to modify this manual without prior notice. The documentation can be downloaded from www.dixell.com even prior to purchase.
- This manual forms part of the product and must always be kept near the device for easy and quick reference. The device cannot be used as a safety device. Verify the limits of application before using the device.
- Verify that the power supply voltage is correct before connecting the device. Do not expose it to
 water or humidity: use the controller only within the operating limits, avoiding sudden changes
 in temperature and high atmospheric humidity in order to prevent condensation from forming.
 Recommendation: disconnect all the electric connections before performing any maintenance.
 Insert the probe where it cannot be reached by the End User. The device must not be opened.
 Consider the maximum current that can be applied to each relay. Make sure that the wires for
 the probes, the loads and the electrical power supply are separated and sufficiently distant from
 each other, without crossing or intertwining with each other. In the case of applications in
 industrial environments, it may be useful to use the main filters (our mod. FT1) in parallel to the
 inductive loads.
- The customer shall bear full responsibility and risk for product configuration in order to achieve the results pertaining to installation and/or final equipment/system. Upon the customer's request and following a specific agreement, Dixell s.r.l. may be present during the start-up of the final machine/application, as a consultant, however, under no circumstances can the company be held responsible for the correct operation of the final equipment/system.
- Since Dixell products form part of verv hiah level of technology. а а qualification/configuration/programming/commissioning stage is required to use them as best as possible. Otherwise, these products may malfunction and Dixell cannot be held responsible. The product must not be used in any way that differs from that stipulated in the documentation.
- The device must always be inserted inside an electrical panel that can only be accessed by authorised personnel. For safety purposes, the keyboard must be the only part that can be reached.
- The device must never be hand-held while being used.

- It is good practice to bear the following in mind for all Dixell products:
 - Prevent the electronic circuits from getting wet as contact made with water, humidity or any other type of liquid can damage them. Comply with the temperature and humidity limits specified in the manual in order to store the product correctly.
 - The device must not be installed in particularly hot environments as high temperatures can damage it (electronic circuits and/or plastic components forming part of the casing). Comply with the temperature and humidity limits specified in the manual in order to store the product correctly.
 - Under no circumstances is the device to be opened the user does not require the internal components. Please contact qualified service personnel for any assistance.
 - Prevent the device from being dropped, knocked or shaken as either can cause irreparable damage.
 - Do not clean the device with corrosive chemical products, solvents or aggressive detergents.
 - The device must not be used in applications that differ from that specified in the following material.

• Separate the power of the device from the rest of the electrical devices connected inside the electrical panel. The secondary of the transformer must never be connected to the earth.

• Dixell Srl reserves the right to change the composition of its products, even without notice, ensuring the same and unchanged functionality."

1.1 PRODUCT DISPOSAL (WEEE)

With reference to Directive 2002/96/EC of the European Parliament and of the Council of 27 January 2003 and to the relative national legislation, please note that:

- There lies the obligation not to dispose of electrical and electronic waste as municipal waste but to separate the waste.
- Public or private collection points must be used to dispose of the goods in accordance with local laws. Furthermore, at the end of the product's life, it is also possible to return this to the retailer when a new purchase is made.
- This equipment may contain hazardous substances. Improper use or incorrect disposal can have adverse effects on human health and the environment.
- The symbol shown on the product or the package indicates that the product has been placed on the market after 13 August 2005 and must be disposed of as separated waste.
- Should the product be disposed of incorrectly, sanctions may be applied as stipulated in applicable local regulations regarding waste disposal.

2. GENERALITIES

iProCHILL is a programmable controller for application on Air Conditioning units up to 4 circuits and 4 compressors per circuit.

It is possible to manage the following units:

- Air/air (for very simple unit)
- Air/water
- Water/water
- Condensing Units
- All types with:
- Heating with gas reversibility
- Free cooling function
- Recovery function
- Domestic hot water function

3. AVAILABLE APPLICATION CONFIGURATIONS

The controller can manage various of equipments and functions, find the table below for possible combinations:

Appli	cation	Chiller water/ water	Chiller air/water	Heat pump	Domestic hot water	Free cooling	Heat recovery	Motor cond.unit
Type	Hermetic steps			\checkmark	\checkmark		\checkmark	
Type	Screw steps	\checkmark		\checkmark				
compres. to	Screw Stepless							
manage	Inverter 0/10 volt							
manage	Inverter Refcomp			\checkmark	\checkmark			
Type of	Proportional Step							
Thermo-	Neutral zone	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	
regulation	Step-less			\checkmark				
	Inverter			\checkmark				
	Anti-freeze			\checkmark				
	Auxiliary relay	\checkmark		\checkmark				
	Energy saving	\checkmark		\checkmark				
	Dynamic setpoint	\checkmark		\checkmark				
	Auxiliary heating	\checkmark		\checkmark	\checkmark			\checkmark
Principal	Evaporator pump	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark
Functions	Condenser pump	\checkmark		\checkmark	\checkmark	\checkmark	\checkmark	
	Condensation fan		\checkmark	\checkmark	\checkmark	\checkmark	\checkmark	\checkmark
	Pump down	\checkmark		\checkmark				\checkmark
	Unloading	\checkmark		\checkmark	\checkmark			
	Defrost			\checkmark	\checkmark			
	Anti-Legionella							
Family grou	ups to consider	CF -CO- IO- RA- CA- AL- ES-SD- US -PA- PD -UN	CF -CO- IO- RA- CA- AL- ES-SD- US –PA- PD -UN -	CF -CO- IO- RA- CA- AL- ES-SD- US –PA- PD -UN –	CF -CO- IO- RA- CA- AL- ES-SD-US –PA-PD - UN –FA –	CF -CO- IO- RA- CA- AL- ES-SD- US –PA- PD -UN	CF -CO- IO- RA- CA- AL- ES-SD- US –PA- PD -UN –	CF -CO- IO- RA- CA- AL- ES-SD- US –PA- PD -UN –
			FA	FA - DF	DF -FS	-FA -FC	FA- AR	FA

3.1 MAIN FUNCTIONS

Management of the cooling/heating unit with:

- Single-circuit up to four compressors
- Four circuits up to 16 compressors
- Screw compressors

Start-up of configurable compressors:

- Direct
- Part winding
- Star delta (not available)

Compressor management with inverter:

- 1 compressor per circuit
- Configurable soft start-ups:
- Start-up with unloading valve
- Idle running valve

Unloaders management:

- continuous working
- step working
- modulating working (screw compressors)

Compressors rotation and temperature control configurable from parameter:

- by fix sequence
- by FIFO sequence
- by balance
- by saturation
- Step-less compressor management:
- with neutral-zone regulation

Compressors liquid injection function

• Control with dedicated PTC probe

Compressors discharge high temperature alarm function

Control with dedicated PTC probe

Complete management of two water side pumping units:

- 2 pumps evaporator side
- 2 pumps condenser side

Customised default display of all variables

- Temperatures
- Pressures

Other displays available

- Status of the digital inputs
- Compressor running hours
- N° compressor start-ups
- Evaporator/condenser water pump running hours
- Time remaining before defrost
- Percentage of the proportional outputs

Compressors discharge temperature

Reset alarms using customised password

Historical alarms

• Compressor thermal overload alarms

- Possibility of enabling/disabling the individual circuit
- Allows maintenance of the circuit

• Allows "partialised" working of the unit

- Possibility of enabling/disabling the individual compressor
- Maintenance of the individual compressor
- Malfunction

•

Complete management of pump down function:

- With dedicated pressure switch
- Timed
- Via the low pressure switch

• Via the low pressure transducer

Circuit unloading function:

- From high evaporator inlet water temperature
- From low evaporator outlet water temperature
- From high condensing temperature/pressure
- From low evaporator pressure

Anti-freeze function:

- From low evaporator temperature
- From low condenser temperature
- From digital input as anti-freeze alarm
- Active with four heaters

Domestic hot water production function:

- From low temperature of domestic hot water control probe
- Take effects by compressors and heaters working with step regulation
- Manage domestic hot water pump and valves

Antilegionella function:

- From RTC time band setting
- Take effects by domestic hot water production

Solar panels water pump management:

- From high solar panel NTC temperature probe temperature
- Manage solar panel water pump and solar coil enabling/exclusion ON/OFF valve

Free-cooling function:

- From high system water inlet temperature and low external air temperature
- Manage Free-cooling ON/OFF valve and Free-cooling ON/OFF fan
- Mange modulating output free-cooling mixer valve and hot water three-way valve

Controlled loads maintenance signal function:

- Compressors
- Evaporator pumps
- Condenser pump

Circuit auxiliary relay function:

 Four completely configurable relay outputs, also released from normal working of the unit controlled, managed by means of NTC or PTC temperature probes or with 4÷20mA – 0.5 Volt pressure transducer

Weekly working in energy saving mode:

• Up to three daily time bands (devices with RTC option)

• From digital input

Weekly working with automatic switch on and switch off:

• Up to three daily time bands (devices with RTC option)

Dynamic set-point function:

• Managed by NTC or 4÷20mA input

Changeover function:

- Automatic changeover between cooling and heating by NTC input
- Remote OFF function:
- From configurable digital input
- Remote heating cooling function:

• From digital input with configurable logic

Supply fan hot start function:

• Air/air unit

Defrost management:

- In temperature in pressure or with both (combined control)
- Forced defrost for start-up with low external air temperatures
- From digital input or timed
- Manual using the relevant key
- By hot gas or fan only

Auxiliary heating function:

• With integration heaters

Four outputs for the proportional control of the condensing fan speeds via external module (inverter or single/three phase phase cut) with configurable signal:

- PWM
- 0÷10 Volt
- 4÷20 mA

Complete alarms management:

• With internal data logger alarms (up to 100 events)

Work as motor-condensing unit:

- Response to cooling/heating request from digital input
- Capacity controlled by digital input
- No temperature regulation

Expansion module:

- up to 4 IPROEX60D
- for each expansion module, including: 3 DI, 7 AI, 3 AO and 6 DO.

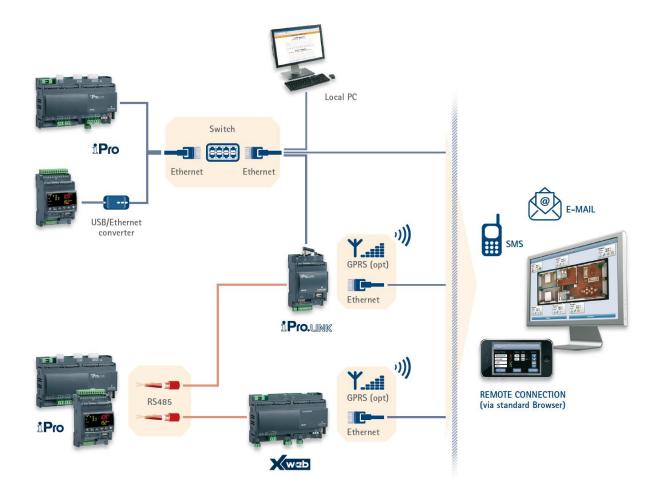
Electronic thermostatic valve driver:

- up to 4 XEV20D
- driving up to 8 electronic expansion valves
- each XEV20D includes 4 probes.

4. SUPERVISION FROM LOCAL AND REMOTE

Supervision/tele-assistance/remote monitoring for complete control and supervision from local and remote

- By means of network output with ModBus TCP / IP protocol (INTERNET / INTRANET)
- Directly by telephone line (MODEL WITH INTERNAL MODEM)
- Indirectly by means of GSM modem or XWEB serial modem (MODEL WITH RS232 OUTPUT PREPARATION)
- Via RS485 slave output with ModBus protocol to Dixell XWEB300D / XWEB500D supervision systems

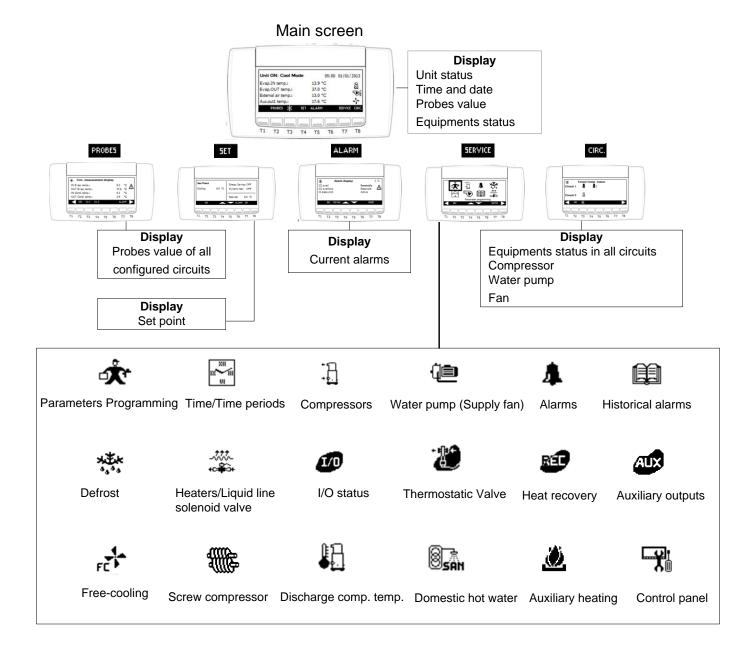


5. USER INTERFACE VISOGRAPH 1.0 AND VISOGRAPH 2.0

Using the VISOGRAPH LCD graphic keyboard, it is possible to monitor and modify the status of the unit. User can select UI type via configuring parameter DP12 in Wizmate with administrator authority. The options are: VISOGRAPH 1.0, VISOGRAPH 2.0 and VISOTOUCH.

VISOGRAPH 1.0 and VISOGRAPH 2.0 are different in hardware and firmware, but they are showing the same screens. The only difference is VISOGRAPH 2.0 can manage also two LEDs on the front panel in addition.

- Green LED: Always ON after power on.
- Red LED: ON when have alarm active or resettable.



The information that appears in the main screen is:

Unit ON: Cool Mode $00:00 \ 01/01/2013$ Evap.IN temp.: $5.0 \ ^{\circ}C$ Evap.OUT temp.: $15.0 \ ^{\circ}C$ FC system IN water T.: $20.0 \ ^{\circ}C$ FC ext. air/cond. water T.: $10.0 \ ^{\circ}C$ PROBESSET ALARMT1T2T3T4T5T6T7T8
11 12 13 T4 T5 16 17 18
 to indicate that at least one of the compressors is working.
• to indicate that the evaporator pump E and/or the condenser pump I are working (th
condenser pumps are present in the case of WATER-WATER configuration).
 to indicate that the condenser fans are working (in the case of AIR-AIR or AIR-WATER unit configuration)
If the alarms occur or particular working modes sub-enter, the following icons will be shown on the mai screens:
flashing to indicate that an alarm is active
to indicate that the UNLOADING mode is in progress
on to indicate that the defrost cycle is in progress, flashing during the count down
to indicate that the anti-freeze/support heaters are active
automatic switch-off and/or energy saving is enabled during the current day
• to indicate that the unit is working within the energy saving period or that the dynamic set
point is active

• The to indicate that the domestic hot water production is active

•

• to indicate that the auxiliary heating is active (it will display in the same place with domestic hot water production icon)

On unit power-on, the main screen will be the following (Displyed probes are selectable):

Unit in Stand-by	09:00	01/01/2013	
Evap.IN temp.:	13.9 °C		
	37.0 °C		
External air temp.:	13.0 °C		
Aux.out1 temp.:	17.6 °C		
PROBES 🏂 S	ET ALARM 🔆	SERVICE CIRC.	
)
Т1 Т2 Т3 Т	4 T5 T6	T7 T8	

When the keyboard shows "Remote OFF", "OFF through clock" or "Stand-by", they all mean the unit is OFF now but with different causes.

When the keyboard shows "Unit ON: Cool Mode" or "Unit ON: Heat Mode", they all mean the unit is ON now but in different working mode.

Below find a typical screen during working in chiller mode:

Unit ON: Cool Mod	e 09:00	01/01/2013
Evap.IN temp.:	13.9 °C	ĝ
Evap.OUT temp.:	37.0 °C	
External air temp.:	13.0 °C	¢≣≨
Aux.out1 temp.:	17.6 °C	-1-

5.1 HOW TO SWITCH ON/OFF THE UNIT AND CHANGE CHILLER/HEAT PUMP WORK MODE FROM KEYBOARD

Firstly, we will talk about No Motor Condensing Unit. Set Par CF04 = 0.

UNIT SWITCH-ON AND SWITCH-OFF CAN TAKE PLACE:

- From the keyboard
- From digital input configured as remote ON/OFF
- By time bands (see unit switch on/off by RTC)

5.1.1 Unit Switch-ON/OFF From The Keyboard

The unit can be configured as chiller only, heat pump only or as chiller with heat pump mode by par CF02. For different type of units, the switch ON/OFF procedures are different.

1 = chiller only 2 = heat pump only13	CF 2	Selection of unit working			
2 = heat pump only		1 = chiller only	4	2	
		2 = heat pump only	1	3	
3 = chiller with heat pump		3 = chiller with heat pump			

Note: If user wants change CF02 value, please switch off the unit to "Stand-by" status first. Otherwise, it may take no effect.

When only the heating is enabled, the ACF1 alarm is not generated if the reverse valves in the envisioned circuits are not configured.

SWITCH THE UNIT ON/OFF IN COOLING- HEATING MODE FROM THE KEYBOARD

The configuration should be: CF04 = 0, (not Motor condensing unit) CF02 = 3, (chiller with heat pump) SP09 = 0, (from the keyboard)

In the beginning, the device is in stand-by mode, and the keys and are all visible. One is placed in key 3, another is placed in key 6, depends on Par SP08.

(The keyboard has eight keys in all. They are key 1, key 2, key 3...and key 8 from left to right.)

SP08 = 0: placed in key 3, placed in key 6. SP08 = 1: placed in key 3, placed in key 6.

No matter how to place, key 3 is always used for cooling mode. Key 6 is always used for heating mode.

Suppose SP08 = 0, press key (key 3) can switch on the unit to work in cooling mode. At this moment is hidden.

Press the key again, the unit is switch OFF and return to status stand-by. The key and and are all visible now. In this case, user can press key to switch to heating mode or press to restart the cooling mode.

The device is in stand-by when both and and keys are visible. The stand-by mode is obtained every time that the unit is off from cooling or heating working mode. Also in stand-by mode, the controller gives the possibility to:

- display the variables detected
- manage the alarm situations, displaying and signalling them.

When unit is ON in chiller mode, the status in the screen is "Cool Mode":

Unit ON: Cool Mode 09:00 01/01/2013	
Evap.IN temp.: 13.9 °C 0 Evap.OUT temp.: 37.0 °C 0 External air temp.: 13.0 °C 0 Aux.out1 temp.: 17.6 °C 1	
Aux.outl temp.: 17.6 °C	
T1 T2 T3 T4 T5 T6 T7 T8	

When unit is ON in heat pump mode, the status in the screen is "Heat Mode":

Unit ON: Heat Mode	09:00	01/01/2013
Evap.IN temp.:	13.9 °C	8
Evap.OUT temp.:	37.0 °C	õ.
External air temp.:	13.0 °C	열리
Aux.out1 temp.:	17.6 °C	-+-
PROBES 5E	ET ALARM	SERVICE CIRC.

SWITCH THE UNIT ON/OFF IN COOLING MODE FROM THE KEYBOARD

The configuration should be: CF04 = 0, (not Motor condensing unit) CF02 = 1, (chiller only) SP09 = 0, (from the keyboard)

In the keyboard, key 3 is always visible and key 6 is hidden. Key 3 will be shown as when SP08 = 0 and shown as when SP08 = 1. Press key 3 can switch the device status between cooling mode and stand-by.

SWITCH THE UNIT ON/OFF IN HEATING MODE FROM THE KEYBOARD

The configuration should be: CF04 = 0, (not Motor condensing unit) CF02 = 2, (heat pump only) SP09 = 0, (from the keyboard)

In the keyboard, key 6 is always visible and key 3 is hidden. Key 6 will be shown as when SP08 = 0 and shown as when SP08 = 1. Press key 3 can switch the device status between heating mode and stand-by.

5.1.2 Unit Switch-ON/OFF From Digital Input

If the unit is switch off by remote digital input, the screen will be:

Unit Remote OFF	09:00 01/01/2013
Evap.IN temp.:	13.9 °C
	37.0 °C
External air temp.:	13.0 °C
Aux.out1 temp.:	17.6 °C
PROBES 🎉 SET	T ALARM 🔆 SERVICE CIRC.

From digital input configured as **remote ON/OFF** (DI type =1). When deactivate, on the basis of the polarity selected, the input determines the OFF status

- It has priority with respect to the keyboard
- The unit can only be switched-on and off with input activated
- With input activated, the device goes back to the status previous to activation

5.1.3 Select The Working Mode: Chiller-Heat Pump

The parameter SP09 allows selecting and enabling the selection of the unit switch-on mode in the three working modes.

Par SP09 = 0

The switch-on selection of a unit configured for cooling and heating takes place from the keyboard.

AUTOMATIC WORKING SELECTION IN COOLING-HEATING MODE FROM DIGITAL INPUT

Par SP09 = 1

The switch-on selection of a unit configured for cooling and heating takes place from digital inputs configured as **Remote cooling/heating**(DI type=2). With digital input activated, cooling mode is selected, with digital input deactivated, heating mode is selected.

- The selection is enabled if a digital input is configured as cooling request or as heating request. If no digital input has been configured, the unit **REMAINS in stand by**
- the cooling/heating selection from the keyboard is disabled. The unit can only be switched-on/off in the working status selected from the digital input
- CF02 is the precondition. If only CF02=3 the cooling/heating selection from digital input is available. Otherwise, the device working mode will be set by CF02.
- In the keyboard, keys for cooling/heating will be shown according to digital input status. E.g., digital input=cooling, key 3 is visible and key 6 is hidden. By pressing key 3, the unit can switch between cooling and stand-by.

AUTOMATIC WORKING SELECTION IN COOLING-HEATING MODE FROM ANALOGUE INPUT

Par SP09 = 2

Selection from analogue input (change over function) has priority with respect to the digital input. For temperature of the external air included in the SP11 differential, it is allowed to change the working mode from the keyboard.

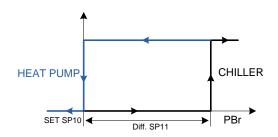
5.1.4 Change Over Function

SP10	Automatic chiller / heat pump mode changeover setting	-50.0	110	°C	Dec
		-58	230	°F	int
SP11	Automatic chiller / heat pump mode changeover differential	0.1	25.0	°C	Dec
		1	45	°F	int

The status change over can only take place if these necessary conditions are present at the same time, otherwise the unit **REMAINS in stand - by:**

- 1. CF02=3 (chiller with heat pump)
- 2. SP09=2 is an NTC probe configured as an **Dynamic/boiler function/change over set-point external** air temperature NTC temperature probe(Al type=35)
- 3. the regulation probe selected must not be in error conditions

AUTOMATIC CHANGE OVER REGULATOR GRAPHICS



Parameters that regulated the change over function

SP10 allows setting the change over set point. If the selection of the working mode from analogue input is enabled, it represents the temperature value detected by the regulation probe below which the device imposes the working in heating mode

SP11 allows setting the change over differential. If the selection of the working mode from analogue input is enabled, it represents the temperature differential on the basis of which the device imposes the working in cooling mode

For temperature of the external air included in the SP11 differential, it is allowed to change the working mode from the keyboard.

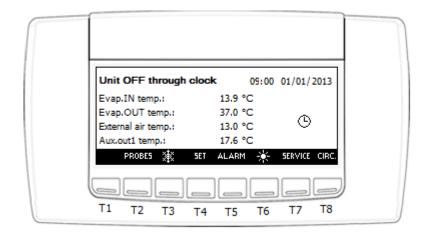
NTC external air temperature regulation NTC probe > SP10+ SP11, the unit is switched-on in cooling mode. NTC external air temperature regulation NTC probe < SP10, the unit is switched-on in heating mode.

5.2 UNIT SWITH ON/OFF BY RTC

5.2.1 Working With Clock Disabling Digital Input

ES 1	Start of working time band 1 (0-24)	0	24.00	Hr	10 Min
ES 2	End of working time band 1 (0-24)	0	24.00	Hr	10 Min
ES 3	Start of working time band 2 (0-24)	0	24.00	Hr	10 Min
ES 4	End of working time band 2 (0-24)	0	24.00	Hr	10 Min
ES 5	Start of working time band 3 (0-24)	0	24.00	Hr	10 Min
ES 6	End of working time band 3 (0-24)	0	24.00	Hr	10 Min
ES18	Monday automatic shutdown time band	0	7		
ES19	Tuesday automatic shutdown time band	0	7		
ES20	Wednesday automatic shutdown time band	0	7		
ES21	Thursday automatic shutdown time band	0	7		
ES22	Friday automatic shutdown time band	0	7		
ES23	Saturday automatic shutdown time band	0	7		
ES24	Sunday automatic shutdown time band	0	7		

If the unit is switch off during switch-off time bands, the screen will be:



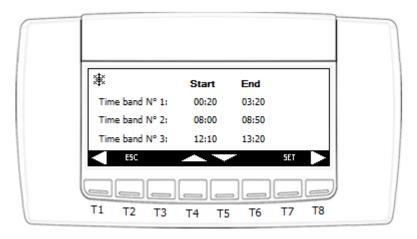
If a digital input is configured as **Digital input working in RTC automatic enabling (time band)/manual (keyboard) mode** (DI type=91) and is active, the working via the internal clock is disabled. Otherwise, if this digital input is not configured or configured but not active, enables the working via the internal clock. The unit is forced to switch off within the time band.

Set the time band with Par ES01-ES06, and select weekly time band by Par ES18-ES24. If current time is inside the setting band, the unit will be shut off automatically, and the keyboard shows "Unit OFF through clock".

The RTC time band also can be configured from keyboard. Enter into the **TIME/TIME PERIOD** screen from **SERVICE** menu.

set time/date/ti	ime bands	
Time set-up:	20:00	
Date set-up:	01/01/2013	
Energy Saving:	DIS	
Auto Power Off:	EN	
< ESC _	5ET	3
Т1 Т2 Т3 Т	14 T5 T6 T7 T	18

Enable the Auto Power Off option, set Time band N1/N3 in page 2.



Select time band from Monday to Sunday in the next pages' last column Auto On-Off.

*	Energy Saving	Auto On-Off	
Monday	Band1	None	
Tuesday	Bands1,2	Band3	
Wednesday	y All bands	None	
ESC		5ET	
T1 T2	T3 T4 T5		Э т8

5.2.2 Working With "Ventilation Only" Digital Input (Air-Air Unit Only)

If the unit has been configured as AIR-AIR, during clock off, it is possible to decide whether to enable ventilation or not. When ventilation enabled, the screen will be:

		01/01/201
Evap.IN temp.: Evap.OUT temp.:	13.9 °C 37.0 °C	_
External air temp.:	13.0 °C	ତେନ
Aux.out1 temp.: PROBES	17.6 °C 5ET ALARM -∳-	

This working mode is only enabled if the clock is present and enabled.

Set CF01=0, select air/air unit.

Set ES01-06, ES18-24 to enable the function automatic shutdown by RTC.

If a digital input is configured as **Digital input working with supply fan only** (DI type=92) and is active, when current time is inside the automatic shutdown time band, the unit will work in "Ventilation only" mode. In "Ventilation only" mode, only relay configured as supply fan is enabled.

After current time goes out of the automatic shutdown time band, the unit will back to normal working mode.

WARNING: In ventilation only mode, the supply fan will forced to active if unit is on. When the unit is placed in remote off or stand-by, supply fan will switch off after the delay time set in par PA03.

5.2.3 Working With Unit In OFF From RTC If ON Is Forced From Key

 ES25
 Unit maximum working time in OFF from RTC if forced in ON from key
 0
 250
 Min
 10 Min

When the unit is OFF by RTC, user can use keyboard or digital input to force the unit ON. However, the ON time can't be longer than the time set by Par ES25. After ES25 time, the unit will be forced back to OFF status.

During ES25 time, user can manually switch OFF the unit by keyboard or digital input.

5.3 OPERATION IN CONDENSING UNIT WORKING MODE

If CF04 = 1, the unit will work as Motor-condensing unit.

CF 4	Motor-condensing unit 0 = no 1 = yes	0	1	
	Temperature control, dynamic set point and energy saving functions are automatically disabled when CF04 = 1			

WARNING:

In condensing unit working mode the temperature control, dynamic set-point function and energy saving function are disabled automatically

In condensing unit working mode, the cooling/heating capacity is only controlled by digital input configured as **Capacity step x demand digital input** (x can be 1 to 16.DI type = 96-111).

5.3.1 Working With Digital Input Configuration As Temperature Control Request

Unit configured as motor-condensing CF04 = 1.

Configure DI as Cooling/Heating demand digital input (condensing unit). (DI type = 93)

- With DI contact NOT ACTIVE unit in OFF
- With DI contact ACTIVE unit in **cooling/heating**

With DI contact active, user can select the cooling or heating working mode by parameter CF02, SP09 and keyboard. The capacity steps will be called by DI configured as **Capacity step x demand digital input** (x can be 1 to 16.DI type = 96-111) if resources are available in the circuit.

With DI contact active, user can switch ON/OFF the unit by the keyboard. With DI contact not active, the unit will always OFF.

5.3.2 Working With Digital Input Configured As Cooling Request

Unit configured as motor-condensing CF04 = 1, CF02=1 or 3. Configure DI as **Cooling demand digital input (condensing unit)** (DI type= 94)

- With DI contact NOT active unit is OFF
- With DI contact active unit is **ON** in chiller mode

With DI contact active, unit works in chiller mode. The capacity steps, if available, will be called by DI configured as **Capacity step x demand digital input** (x can be 1 to 16).

With DI contact active, user can switch ON/OFF the unit by the keyboard. If the unit has been switched-off from the keyboard, user can re-start it by deactivated and re-activated the digital input.

5.3.3 Working With Digital Input Configured As Heating Request

Unit configured as motor-condensing CF04 = 1, CF02=2 or 3. Configure DI as **Heating demand digital input (condensing unit)** (DI type= 95)

- With contact NOT active unit is **OFF**
- With contact active unit is **ON** in heat pump mode

With DI contact active, unit works in heat pump mode. The capacity steps, if available, will be called by DI configured as **Capacity step x demand digital input** (x can be 1 to 16).

With DI contact active, user can switch ON/OFF the unit by the keyboard. If the unit has been switched-off from the keyboard, user can re-start it by deactivated and re-activated the digital input.

Working error

If two digital inputs are configured as cooling request and heating request with both inputs active at the same time, the unit will be positioned in OFF mode.

5.4 HOW TO MODIFY THE INFORMATION PRESENT IN THE MAIN SCREEN

5.4.1 Select Probes For Display

To select the probes to display on the keyboard, modify the parameters from DP01 to DP04 (see Programming parameters paragraph).

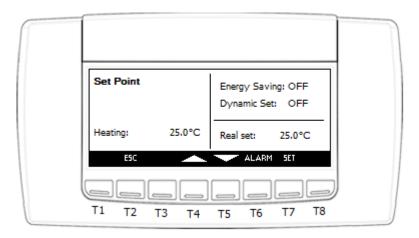
5.5 SET KEY IN MAIN SCREEN

To set the set-point of the cooling and/or heating from the main screen, press **SET**. In this way, enter the set-point screen.

Chiller mode:

Set Point Energy Saving: OFF Cooling: 8.0 °C Dynamic Set: OFF	
Real set: 8.0 °C	
T1 T2 T3 T4 T5 T6 T7 T8	

Heat pump mode:



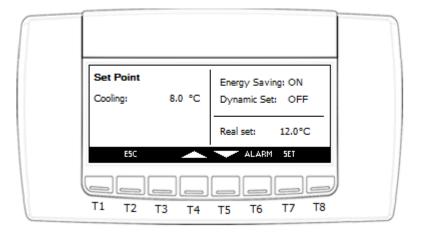
To modify the values, position the cursor on the element "Cooling" or "Heating" temperature and press the **SET** key:

- The element starts to flash.
- Increase or decrease the value using the **UP** and **DOWN** keys.
- Confirm the modification by pressing the **SET** key again.

The cursor will automatically position itself on the next element, to modify it repeat the operation just described.

In this screen it is also possible to verify (but not modify) whether the energy saving mode and dynamic set are active. If they are active, the **real set** may different from the **Cooling** or **Heating** set.

Cooling (Heating) set is always the same as par ST01(ST04), the real set represent the set-point value including the energy saving delta or of the dynamic set, and it is read only (can't be modified).



If heat recovery is enabled (RC01>0), the recovery set point will also shown in this screen.

Set Point Cooling: Recovery:	8.0 °C 10.3°C	Energy Saving: OFF Dynamic Set: OFF Real set: 8.0 °C	
E5C		ALARM SET	

Press the **ESC** key several times to go back to the main screen.

5.6 PROBES KEY IN MAIN SCREEN

To see the configured probes value of the circuits, press the **PROBES** key in the main screen;

Circ. measureme	
IN Evap. temp.:	9.2 ℃ 🔨
OUT Evap. temp.:	37.0 °C 🖴
IN Cond. temp.:	5.3 °C
OUT Cond. temp.:	2.9 °C
ESC Cir.1 Cir.2	ALARM 🕨

By pressing the key, all of the relevant variables of the circuits can be seen.

	lav	
IN system water temp.(FC):	0.0	°C
Ext. air/cond.water temp.(FC):	0.0	°C 4
Sanitary water regitemp.:	0.0	°C
Sanitary water security temp.:	0.0	°C
< ЕБС Сік.1 Сік.2	AL	ARM

Warning: the probes displayed are only those configured.

In order to display the variables relative to the individual circuit, press the relative key. For example, if the variable of circuit 1 is to be displayed, press

_	Circ. measurement 1		
	HIGH circuit:	18.2 Bar	Λ
	LOW circuit:	4.9 Bar	
	Evaporator output temp.:	38.1 °C	
	Combined def.temp.:	0.7 °C	
	ESC Сік.2	🔆 ALARM	
	T1 T2 T3 T4 T5	T6 T7	Т8
By pressing the key, all of	the other variables of the c	circuit seleo	cted can be seen.

Circ. measurement 1
Condenser input temp.: 5.5 °C
Condenser output temp.: 2.8 °C
🗲 ESC 🛛 Cir. 2 🔆 ALARM 🕨
T1 T2 T3 T4 T5 T6 T7 T8

Press the ESC key several times to go back to the main screen.

5.7 ALARM KEY IN MAIN SCREEN

When an alarm occurs, the display shows the flashing icon and the buzzer starts to operate. Press any key to silence the buzzer.

Moreover, the alarms key starts to flash alternately with the icons By pressing the key, pass to the alarms in progress screen:

	Alarm disp	lay	1 /1
	C2 overl C1 overltirc1 Hi press circ1	Resettable Password Active	Δ
	ESC RST ALL	RESE	т
l			
	T1 T2 T3 T4	T5 T6 T7	T8

Three types of alarms can be present:

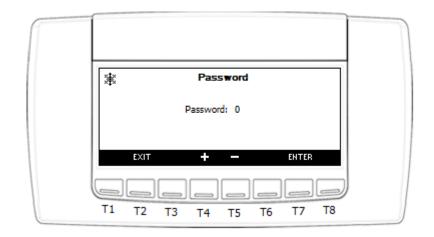
- Resettable → in this case, the alarm is not active and can be reset. Position the cursor on the alarm element and press **RESET**.
- Password \rightarrow in this case, the alarm is not active, but a password is required to reset it.
- Active \rightarrow the alarm is still in progress.

If there are several resettable alarms, instead of selecting them one by one, press **RST ALL** and they will all be reset together.

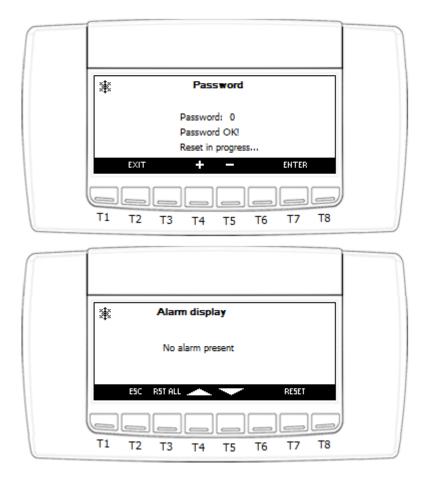
To reset an alarm that is protected by a password, operate as follows:

- Select the alarm marked by "Password".
- Press **RESET**.

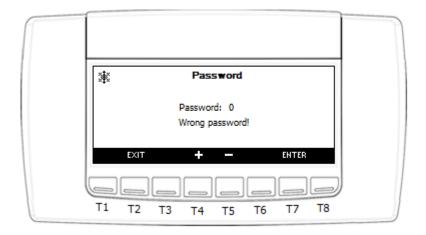
/ PP255.



- Via keys and and set the password.
- Press ENTER to confirm.
- If the password is correct, the following message will be displayed:



• If the password introduced is incorrect, the following message will be displayed:

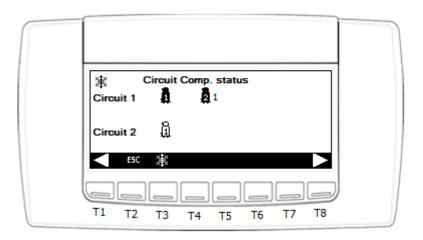


If the password is correct, after a few minutes you will go automatically back to the alarms screen.

5.8 CIRC KEY IN MAIN SCREEN

Using the **CIRC** key in the main screen it is possible to monitor the situation of the unit. The information refers to:

Circuits compressors status; the screen shows the compressors present for each circuit and the activation status of the compressor (number of unloaders active). If the compressor has no number on the right, it means that it is at full power.
 In the screen below, circuit 1 has 2 compressors configured. Compressor 1 running at full power, compressor 2 running at 1st power step. circuit 2 has 1 compressors configured and it is not working now.



If unloading should be active, the maximum step number for unloading will be displayed.

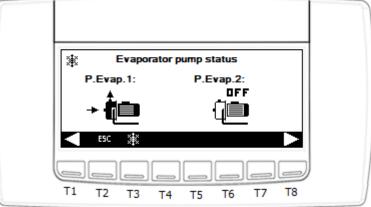
Circuit Comp. status Circuit 1 1 1 1 Unloading on Steps n°: 2	
Circuit 2 Unloading on Steps n°: 2	
T1 T2 T3 T4 T5 T6 T7 T8	

• Condensation-evaporation probes. The screen shows the condensation and evaporation pressures of every circuit present.

Condenser-e	vaporator p	probes
н	ligh side Lo	w side
Circuit 1 1	8.3 Bar 4	4.9 Bar
Circuit 2 1	7.8 Bar 4	4.6 Bar

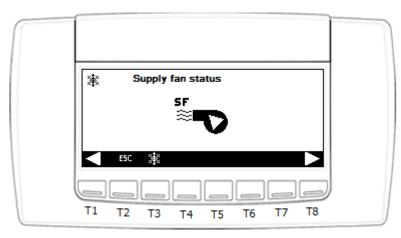
If the valuer of the parameter SP01 is equal to "0" or "2", the high side is represented with the temperatures.

Status of the evaporator pump (or evaporator pumps if the support is present)

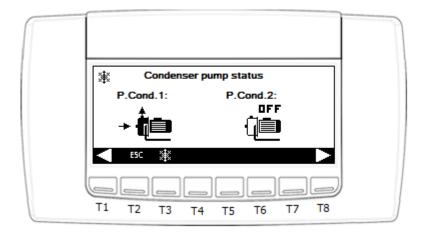


• Status of the supply fan

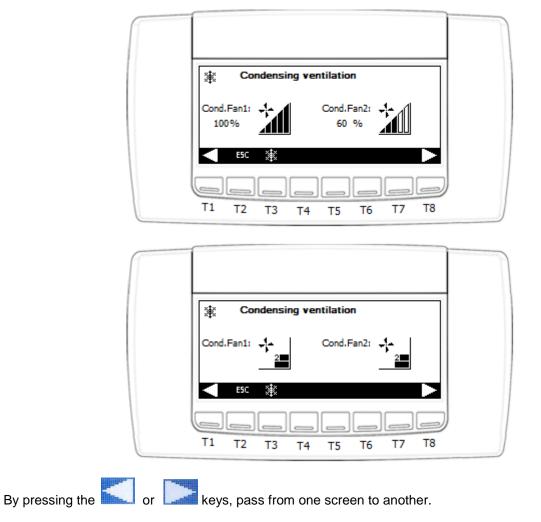
•



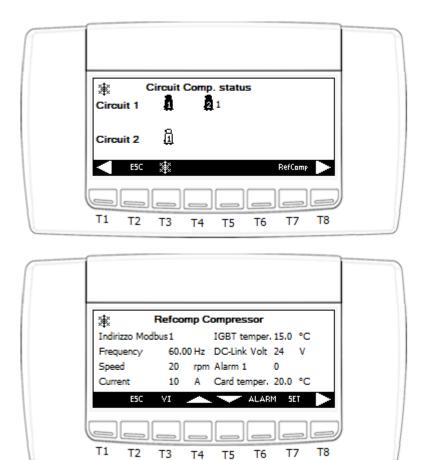
• Status of the condenser pump (or of the pumps if the WATER-WATER support is present)



• Condensation fans (proportional or with steps - AIR-AIR or AIR-WATER)

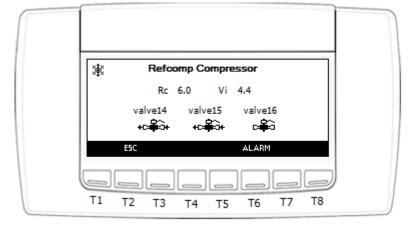


• Refcomp compressor information If Refcomp compressor is configured, press key **RefComp** to see relevant information.



In the screen above, the modbus address is editable.

• Refcomp compressor valve status Press key **VI** to see the valve status



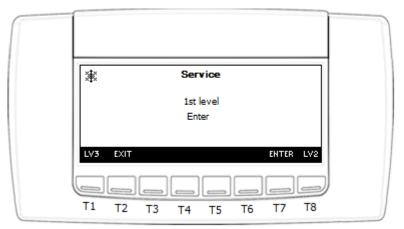
5.9 SERVICE KEY IN MAIN SCREEN

By pressing the SERVICE key, enter the configuration of:

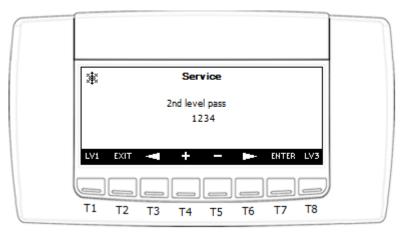
- Parameters Programming
- Time/Time periods Programming
- Compressors
- Water pump (Supply fan)
- Alarms display
- Historical alarms
- Defrost
- Heaters/Liquid line solenoid valve
- I/O status (Inputs and Outputs)
- Thermostatic Valve
- Heat recovery function
- Auxiliary outputs
- Free-cooling
- Screw compressor
- Discharge compressor temperature
- Sanitary water (Domestic hot water)
- Auxiliary heating
- Control panel

The SERVICE menu is protected by password in 3 levels.

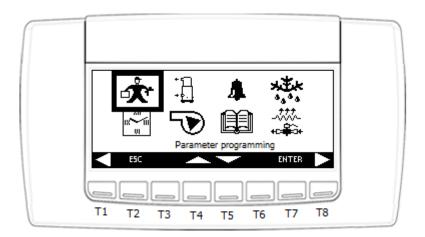
For 1st level, no password needed. Press key ENTER can enter in SERVICE menu directly.



Press key LV2 or LV3 can switch to higher user level. For 2^{nd} and 3^{rd} level, relevant password is required.



5.9.1 Parameters Programming



By selecting this menu it is possible to modify the value of the parameters depending on the Password level. The parameters are divided per groups with the following meaning:

Label	Meaning
ST	Display temperature control parameters
DP	Display variables to be shown on the keyboard
CF	Display configuration parameters
SP	Display parameters for machine set up
Sd	Display dynamic set-point parameters
ES	Display energy saving and automatic timed switch-on/off parameters
AH	Display auxiliary heating parameters
со	Display compressor parameters
SL	Display stepless compressor parameters
PA	Display evaporator/condenser water pump parameters
Pd	Display pump down function parameters
Un	Display unloading function parameters
FA	Display ventilation parameters
Ar	Display anti-freeze heaters parameters
dF	Display defrost parameters
rC	Display heat recovery parameters
FS	Display production of domestic hot water parameters
FC	Display free-cooling function parameters
US	Display auxiliary output parameters
AL	Display alarm parameters
Et	Display parameters for the management of the electronic expansion valve
10	Display inputs/outputs configuration parameters
CA	Display analog input calibration parameters
RA	Display analog input range parameters

According to user level, different amount of parameters are visiable in the parameters programming screen.

- If user entered into SERVICE menu with 1st level, he can enter to see parameters in Level 1(Pr1). If user entered into SERVICE menu with 2ndlevel, he can enter to see parameters in Level 2(Pr2). If user entered into SERVICE menu with 3rd level, he can enter to see parameters in Level 3(Pr3). •

In the selected level screen, user only can see parameters with equal or lower protecting level. For example: When enter into 2nd level parameters screen, only parameters with Pr1 or Pr2 are displayed.

And user can change a parameter's protecting level to Pr1 or Pr2 in this screen.

* Parameter programming 1st level US St IO SP AH PA FA rC dP CA Pd FS AL Sd CO Ar CF ES dF FC Et rA SL Un ENTER AL ADM Τ1 Τ2 Τ7 Т8 T3 Т5 Τ6 т4

Use the **UP** and **DOWN** cursors to select the family of parameters and press **ENTER**.

To modify a parameter, position the cursor on the value and use the UP and DOWN cursors and press SET:

Image: St:Set-point St1 5.0 ℃
St2 -10.0 °C
St3 50.0 °C St4 20.0 °C
Chiller set
T1 T2 T3 T4 T5 T6 T7 T8

- The element starts to flash.
- Increase or decrease the value using the UP and DOWN keys.
- Confirm the modification by pressing the **SET** key again.

The cursor will automatically position itself on the next element, to modify it repeat the operation just described.

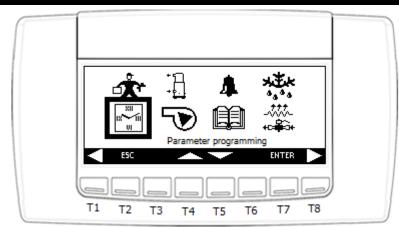
When cursor position in different parameters, the parameter's description will display in the bottom.

Press the **ESC** key several times to go back to the main screen.

Warning:

For parameter groups CF, IO, CA, and RA, they can be verified and changed only if the unit is switch-OFF (stand-by).

5.9.2 Time/Time Bands



We have already seen previously that this menu is used for the time and date set. It is also possible to enable or disable the Energy Saving and/or automatic switch off of the time bands.

Set time/date/t	ime bands	
Time set-up:	00:00	
Date set-up:	01/01/XXXX	
Energy Saving:	EN	
Auto Power Off:	EN	
< ESC _	📥 🥣 ALARM SET 🕨	
T1 T2 T3 1	T4 T5 T6 T7 T8	

By pressing the key, pass to the screen for the configuration of the three time bands.

瀐	Start	End		
Time band N° 1:	00:20	03:20		
Time band N° 2:	08:00	08:50		
Time band N° 3:	12:10	13:20		
ESC ESC			SET 🕨	
T1 T2 T3	T4 T5	T6	T7 T8	

To modify the values, position the cursor on the element and press the **SET** key:

- The element starts to flash.
- Increase or decrease the value using the **UP** and **DOWN** keys.
- Confirm the modification by pressing the **SET** key again.

The cursor will automatically position itself on the next element, to modify it repeat the operation just described.

By pressing the

key again, pass to the screen for weekly programming of the time periods for the

Energy saving and for automatic switch-off.

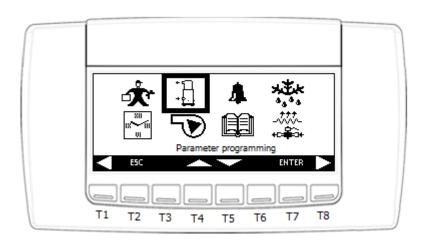
*	Energy Saving	Auto On-Off	
		None	
	Bands1,2		
	All bands		

For every day of the week and for both functions, it is possible to manage:

- No time band
- Band 1
- Band 2
- Band 1 and 2
- Band 3
- Band 1 and 3
- Band 2 and 3
- All bands

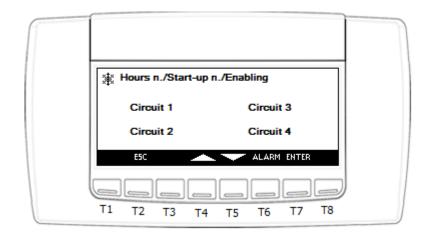
Warning: Automatic switch-off has priority with respect to Energy saving Press the **ESC** key several times to go back to the main screen.

5.9.3 Compressors



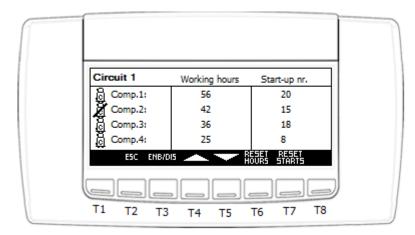
The following information is available for each circuit in this menu:

- Hours worked by each individual compressor
- Number of start-ups for each individual compressor



For each individual compressor it is possible:

- To reset the working hours
- Reset the number of start-ups
- Disable compressor working (e.g. perform maintenance)

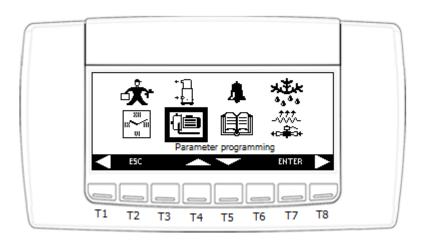


To reset the values, position the cursor on the element and press the **RESET HOURS** or **RESET STARTS** key:

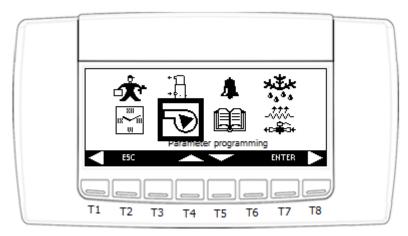
The cursor will automatically position itself on the next element, to modify it repeat the operation just described.

To enable or disable a compressor, position the cursor on the element and press the ENB/DIS key:

The cursor will automatically position itself on the next element, to modify it repeat the operation just described.



When CF01=0 (Air/air unit), instead of pump icon, the fan icon will display.



The following information is available in this menu:

• Hours worked by each individual pump (evaporator and condenser)

For each individual pump it is possible:

- To reset the working hours
- To disable the pump (e.g. perform maintenance)

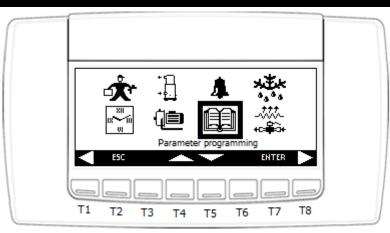
Water Pumps	Working hours
📋 Evap water pump	21
🖉 Support evap.water pump	15
📵 Condenser water pump	8
Dig Support cond.water pump	12
ESC ENB/DIS 🔜 🧡	- RÉSET HOURS

To reset working hours or disable/enable the pumps, follow the procedure described for the compressors.

5.9.5 Alarms Display

This menu contains the same information as press key ALARM in the main screen.

5.9.6 Historical Alarms

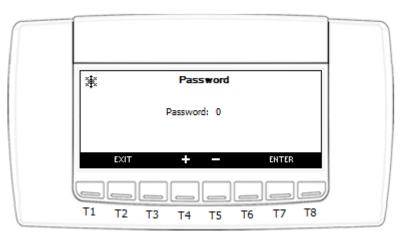


All alarms occurred are memorised in this screen.

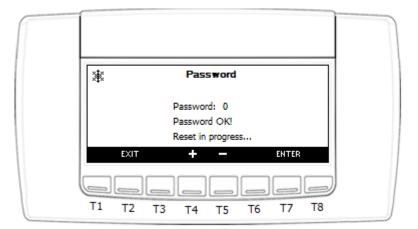
Alarm log disolar 1 /7
Alarm log display 1 /7 Hi press circ1 Δ Unit ON: Cool Mode 11:00 01/01/2013
AL oil C2 Unit ON: Cool Mode 15:00 01/01/2013
ESC RST ALL PRESS

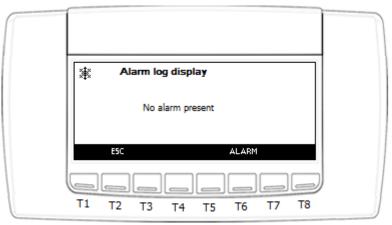
To reset the alarms log, operate as follows:

• Press the **RST ALL key**, holding it down for 3 seconds.

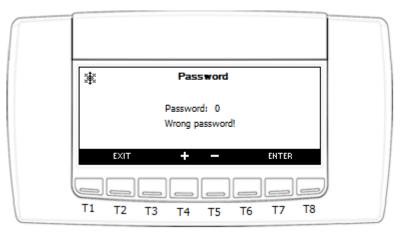


- Via keys **and** and **set the password**.
- Press ENTER to confirm.
- If the password is correct, the following message will be displayed:



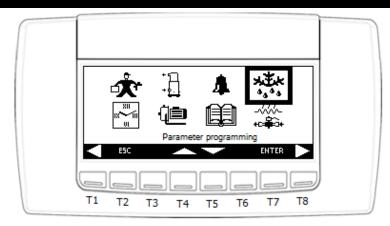


• If the password introduced is incorrect, the following message will be displayed:



If the password is correct, after a few minutes you will go automatically back to the alarms screen.

5.9.7 Defrost



In this screen it is possible to check the status of the defrost cycle for every circuit present:

Defrost status	
Circuit 1: Counting EN Circuit 2: Cycle EN	
ESC ALARM ENTER	
T1 T2 T3 T4 T5 T6 T7 T8	

Circuit defrost status can be:

- Counting EN: In counting down, defrost will start soon
- Cycle EN: Defrost in progress
- Drip time EN: In dripping time
- Waiting:
- Condition not present:
- No necessary condition for defrost

No defrost, normal working

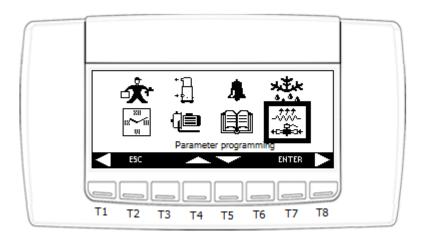
By selecting the circuit affected and pressing **ENTER**, pass to the following screen.

Circuit 1: Countin	g EN
Delay defrost start:	00:00:26
Reversing valve status:	ON
Combined def. pb temp:	0.7 °C
Set combined def.start:	3.0 °C
Set combined def.end:	8.0 °C
ESC 🎊	ALARM
T1 T2 T3 T4 T	5 T6 T7 T8

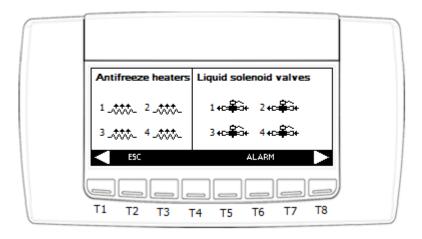
Press the

key for 5 seconds allows forcing start of the defrost cycle.

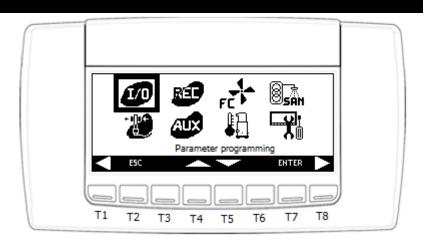
5.9.8 Heaters/Liquid Line Solenoid Valve



This menu allows to display the active and/or deactivated heaters and any active and/or deactivated liquid line solenoid valves (only the resources configured are displayed).

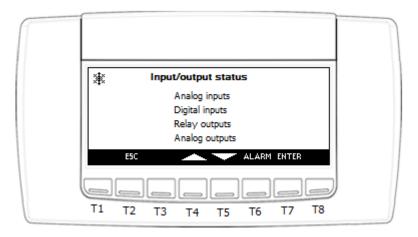


5.9.9 I/O Status



This menu allows to display the status of all inputs and outputs that have been defined.

The I/O units have been divided by groups, as in the screen below:

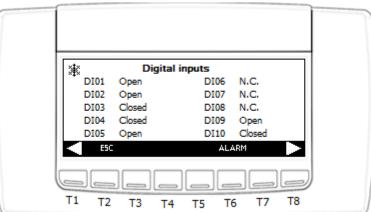


By pressing the ENTER key, it is possible to enter every I/O unit.

Analog inputs:

*			inputs	iPro		
	Pb01		°C	Pb06	N.C.	
	Pb02	-1.2	°C	Pb07	N.C.	
	Pb03	3.7	°C		N.C.	
	Pb04	12.9	°C	Pb09		
	Pb05	2.6	°C	Pb10	N.C.	
_ ≤	E 50			AL	ARM	
]				
T1	T2	т3	T4	T5 T	6 T7	Т8

Digital inputs:



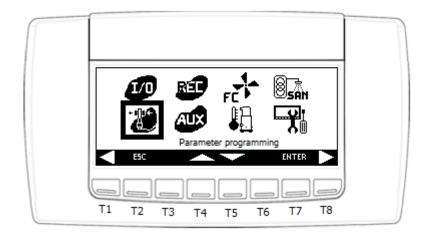
Relay outputs:

RL01 C	Relay outp	outs iPro ON RL11	ON
RL01 C		OFF RL12	
		OFF RL13	
RL04 C	OFF RL09	OFF RL14	ON:
RL05 C	ON RL10	ON RL15 ALARM	
Т1 Т	2 T3 T4	4 T5 T6	T7 T8

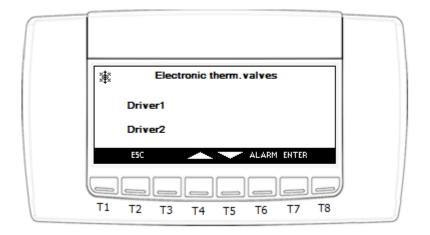
Analog outputs:

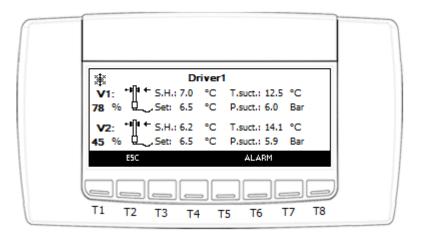
×	Analog o	-		
OUT1	100.00 %	Pro OUT4	ON	
	80.00 %	OUTS		
OUT3	OFF	OUT6	N.C.	
ESC		ALA	ARM	

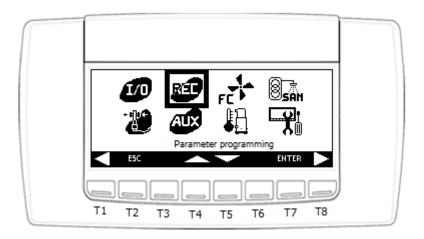
5.9.10 Thermostatic



In this menu it is possible to check the working status of the valve and/or electronic thermostatic valves for every circuit defined.







Using this menu it is possible to verify the recovery working status.

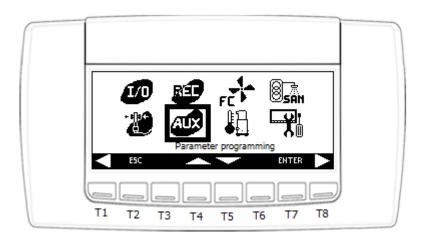
Recovery DIS		-
User-side priority Cond.IN temp.: 5.3 °C Cond.OUT temp.: 2.9 °C	Gircuit 2 Off	
ESC 🛞	ALARM T6 T7 T8	J

Press the key for 1 second enables the recovery working.

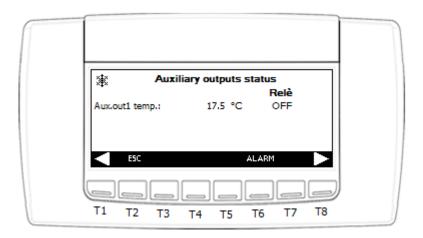
The following information may be available in this screen:

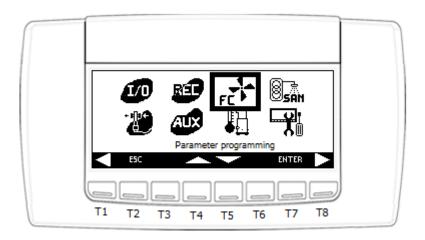
- Status of the recovery function: •
 - o Disabled
 - Disabled from key 0
 - Enabled 0
 - 0 Active
 - Type of priority:
 - o User side
 - o Recovery side

5.9.12 Auxiliary Outputs



Using this menu it is possible to display the status of the auxiliary outputs (if present).





Using this menu it is possible to verify the free cooling working status. If FC01 \neq 4, this following screen will display:

Free Cooling not active	
Condensing priority OFF Valve FC system IN water T.: 0.0 °C Direct 0 % FC ext. air/cond. water T.: 13.0 °C Direct 0 % Differential FC activation: 2.0 °C On-Off OFF	
ESC ALARM T1 T2 T3 T4 T5 T6 T7 T8	

Press the Key for 1 second can enable the free cooling working.

The following information may be available in this screen:

- Status of the free cooling function: •
 - Not active
 - Disabled from key 0
 - Disabled from anti-freeze 0
 - OFF 0
 - ON 0
- Type of priority:
 - Condensation
 - Free-cooling
 - External ventilation 0

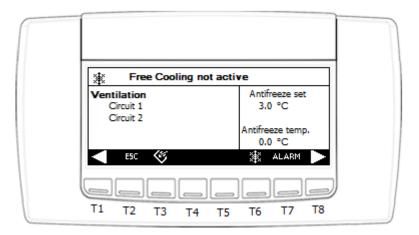
key, pass to the next screen where the following information is available (only if CF01 By pressing the ≠0**)**:

Free Cooling not	active	
Ventilation Circuit 1 Circuit 2	Antifreeze set 3.0 °C Antifreeze temp. 0.0 °C	
T1 T2 T3 T4		

Press the **ESC** key to go back to the main screen.

If FC01 = 4, the following 3 screens will display. Press key	and		can switch between screens:
--	-----	--	-----------------------------

Free Cooling not active
FC system IN water T.: 9.1 °C Set: 8.0 °C FC ext. air/cond. water T.: 20.4 °C Set: 20.4 °C External air temp.: 13.0 °C Set: 10.0 °C
Valve 0 % V1 c=≩c3 V2 c=≩c3



Free Cooling not a	ctive	
Delay from Ext air temp.	02:00	11
Delay from Cond water temp.	0:50	
Valve switch delay	0:58	
FC exit delay	1:00	
Antif prevention delay	1:10	
🧲 ESC 🔇	💥 ALARM 🕨	
		J
T1 T2 T3 T4 T	5 T6 T7 T8	

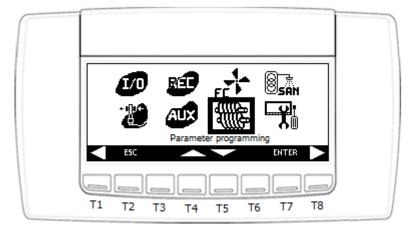
Delay in free-cooling:

- Delay from Ext. air temp.:
- Delay from Cond water temp.:
- Valve switch delay:
- FC exit delay:
- Antif prevention delay:

Count down from parameter FC03 Count down from parameter FC19 Count down from parameter FC20 Count down from parameter FC23 Count down from parameter FC24

5.9.14 Screw Compressor

If CO09 = 2/3, screw compressor is used. The icon is shown as picture below.



This menu can be used to monitor the working status of the screw compressor in the various circuits.

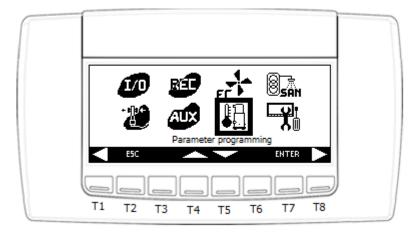
*	Screwo	ompressor	
		Set 120.0 °C 100.0 °C	2.0 °C
Circuit 1		Circuit 3	
	T3 T4	T5 T6	

By selecting the desired circuit and pressing **ENTER**, the following information can be displayed:

Screw compressor C	ircuit 1
Comp.1:	Comp.2:
Discharge temp. 120.0 °C	120.0 °C
Liquid injection valve OFF	OFF
Min.load start-up valve OFF	OFF
ESC	ALARM

5.9.15 Discharge Compressor Temperature

If CO09 = 0/1, discharge compressor icon is shown as picture below.

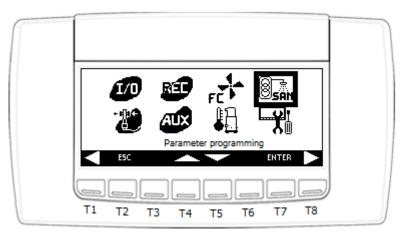


In this screen, if the probe: **compressor 1...16 PTC discharge temperature probe** (AI type=1 to 16) is configured, its value will be displayed.

🗼 Disc	harge	comp	. temp.:			1
Comp.1:	1.0	°C	Comp.5:	3.8	°C	
Comp.2:						
Comp.3:	10.0	°C	Comp.7:			
Comp.4:	2.9	°C	Comp.8:	2.0	°C	
< E50			ALA	.RM		
	, [
T1 T2	Т3	T4	T5 T6	; .	T7 T8	

5.9.16 Domestic Hot Water (Sanitary Water)

If AH01 = 0 (Auxiliary heating is disabled), the icon for domestic hot water is shown as picture below.



In sanitary water screen, relevant probes value and output status will display.

The sanitary water set point is editable.

Press key **F** for 1 second can enable/disable the sanitary water function.

The sanitary water function status can be:

- DIS disabled by parameter setting •
- Dis by key disabled by keyboard
- Not requested not needed •
- Doing dF defrost in progress •
- Changing state
- ON activated

* s	anitary Water	ON			
Sanitary Sanitary	water reg.temp.: water set point: water security t.: set point:	25.0°C	0⊒∛ V1 ↓ V2		
			ALARI	M 5ET	

requested but not start yet, in inversion valve changing phase.

In Antilegionella cycle screen, relevant probes value, status and count down time will display. The Antilegionella set point and the activate time is editable.

- The antilegionella function status can be:
- DIS • disabled by parameter setting deactive

active

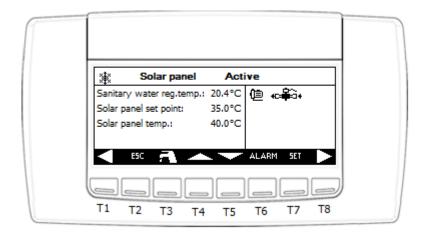
- Not active
- Running

* *	ntilegionella c	yclenot	activ	e	
	water reg.temp.: nella set point:				
	every: SC	72 Hr	1 d	02:05:00	
)
Т1 Т	2 T3 T4	T5	Т6	T7 T8	

In Solar panel screen, relevant probes value and output status will display. The Solar panel set point is editable.

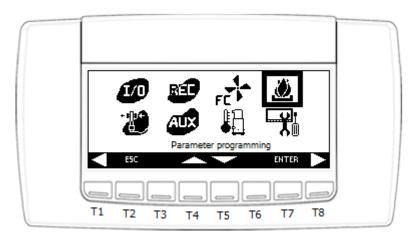
The solar panel working status can be:

- Not active •
- Active



5.9.17 Auxiliary Heating

If AH01 > 0 (Auxiliary heating is enabled), the icon for auxiliary heating is shown as picture below.



In auxiliary heating screen, set points and output status are displayed.

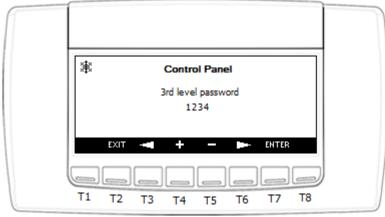
leating set: 10.0°C Real sets Dn/off set: 30.0°C On/off set: 25.0
On/off set: 30.0°C On/off set: 25.0
rop. set: 30.0°C Prop. set: 25.0
Dn/off out: 2/4 Prop. out: 80
ESC 🛛 📥 🤝 ALARM SE

5.9.18 Control Panel

Your own LCD keyboard can be customised in this menu.

Control	Panel
Parameters file manage	ement Contrast&backlight
-	Language selection
	System Informations
ESC	ALARM ENTER

If user entered into SERVICE menu with 1st level or 2nd level, he needs to input the 3rd level password to enter in the control panel screen. See graph below:



On the contrary, if user entered into SERVICE menu with 3rd level, no password is needed for control paned menu anymore.

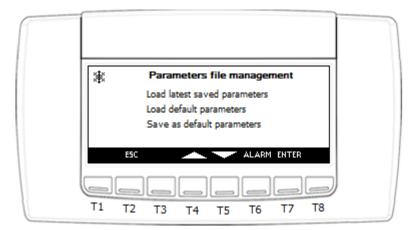
The possible options in this menu are:

- Parameters file management: Load last saved parameters or load default parameters.
- Contrast & backlight: Contrast: regulation from 0 to 200 Back light time ON: regulation from 0 to 200 seconds, or always on
- Log file management: Export log files to USB disk.
- Language selection: Italian \rightarrow English \rightarrow Italian
- Update Visograph
- System Information: Release software, setting IP address and MODBus node.
- Parameters file management:

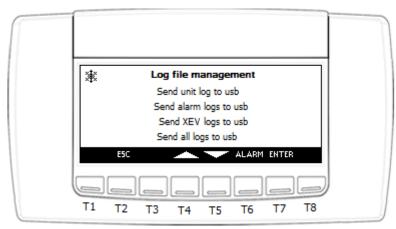
Position the cursor on the element with UP and DOWN key, press ENTER, the parameters value will be loaded from configuration file.

There are 2 files available, one for latest saved parameters and another for default parameters.

The 3rd line "Save as default parameters" means copy latest saved parameters to default parameters configuration file.



Log file management:



Plug the USB disk in iPro,send command from this screen, the log file will be export to the USB disk.

The log file path is: USB ROOT:\ipro\IP address of the ipro

One example for unit log: F:\ipro\10.161.92.79\log\Unit_20130221.txt

Unit log file (Record every 100 PLC cycles):

```
1 Counter, Date, Status, Set, Regulation probe, steps required, steps provided, unloading, water pumps, average cycle time, overcycles
```

- 2 130117101213, HP, 100, -61, 3, 3, FALSE, FALSE, 99, 42,
- 3 130117101226,HP,100,-61,3,3,FALSE,FALSE,100,37, 4 130117101238,HP,100,-61,3,3,FALSE,FALSE,94,38,
- 130117101250, HP, 100, -61, 3, 3, FALSE, FALSE, 94, 36,
 130117101251, HP, 100, -61, 3, 3, FALSE, FALSE, 94, 36,

Alarms log file (including alarms_a, alarms_b, alarms_c):

- alarms_a = unit alarm
- alarms_b = circuit alarm
- alarms_c = compressor alarm
- alarms_a log file:

Counter, Date, Alarm description, Alarm status, Events in last hour
 121115150206, AEM3-IPEX 3 not connected, START, 18
 121115150206, AEM4-IPEX 4 not connected, START, 18

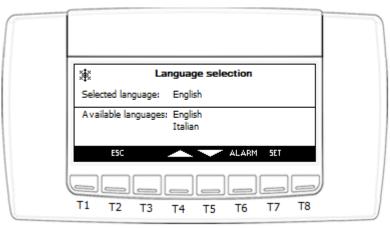
- 4 121115150307, AP22-Failure on probe 5 exp. 2, START, 19
- 5 121115150307, AP5 -Failure on probe 5, START, 19

Xev log file (including xev11, xev12, xev21, xev22):

Record every 10 seconds if XEV20D is available.

```
1 Counter, Date, Suction pressure, Saturation temperature, Suction temperature, Superheating, Steps
```

- 2 130130121005,60,45,125,70,500
- 3 130130121015,59,44,121,68,496
- 4 130130121025,57,45,123,63,492
- 5 130130121035,56,44,122,61,488
- Language selection:

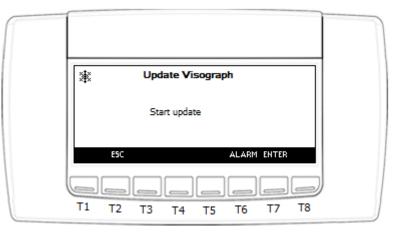


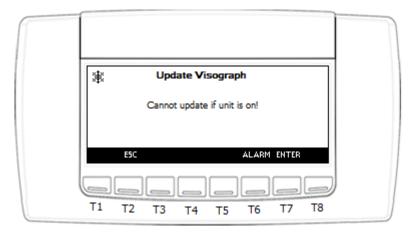
Use key UP and DOWN to select the language. If new language is selected, the warning will show as below. Press key SET to start language update. Please don't switch off the ipro during updating.

Language selection	
Selected language: English	
Available languages: English Italian Are you sure to update?	
DO NOT SWITCH OFF IPRO DURING UPDATE	
)
T1 T2 T3 T4 T5 T6 T7 T8	

• Update Visograph:

Press key ENTER, Visograph application will be updated. If the unit is ON now, the updating is not allowed.





• System information:

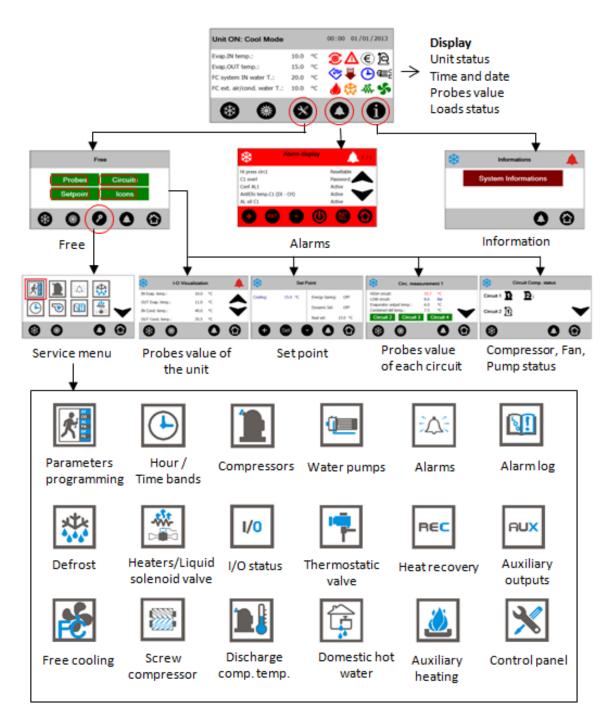
The IP address and ModBUS address are editable, but the modification will be actual at next reboot of the ipro.

1 × • •		
Release 0.0	Interface 2.0c.00	
IP address ModBus address	192.168.0 .250 1	
	Release 0.0 IP address ModBus address Modifications will be act	ModBus address 1 Modifications will be actual at next reboot ESC ALARM SET

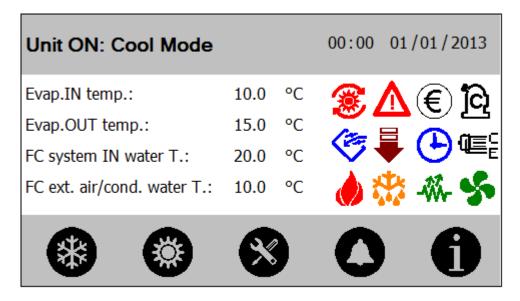
6. USER INTERFACE VISOTOUCH

Configure parameter DP12=2 from Wizmate can select VISOTOUCH as the user interface. VISOTOUCH shows similar screens as VISOGRAPH 1.0, and it manages two LEDs on the front panel in addition.

- Green LED: Always ON after power on.
- Red LED: ON when have alarm active or resettable.



The information that appears in the main screen is:



- ୀ ପ୍
- to indicate that at least one of the compressors is working.
- to indicate that the evaporator pump **E**and/or the condenser pump **C**are working (the condenser pumps are present in the case of WATER-WATER configuration).
 - **S**

to indicate that the condenser fans are working (in the case of AIR-AIR or AIR-WATER unit configuration)

If the alarms occur or particular working modes sub-enter, the following icons will be shown on the main screens:

- flashing to indicate that an alarm is active
 - 🖣

to indicate that the UNLOADING mode is in progress

- . 🚓
- on to indicate that the defrost cycle is in progress, flashing during the count down
- to indicate that the anti-freeze/support heaters are active
- . 🕒
 - automatic switch-off and/or energy saving is enabled during the current day
 - €
- to indicate that the unit is working within the energy saving period or that the dynamic setpoint is active



to indicate that the domestic hot water production is active

• to indicate that the auxiliary heating is active (it will display in the same place with domestic hot water production icon)

After iPro power-on, the main screen will be the following (Displyed probes are selectable by DP parameters):

Unit in Stand-by			09:00	01/01/2013
Evap.IN temp.:	11.0	°C		
Evap.OUT temp.:	12.0	°C		
FC system IN water T.:	13.0	°C		
FC ext. air/cond. water T.:	10.0	°C		
	X)	0	•

When the keyboard shows "Remote OFF", "OFF through clock" or "Stand-by", they all mean the unit is OFF now but with different causes.

When the keyboard shows "Unit ON: Cool Mode" or "Unit ON: Heat Mode", they all mean the unit is ON now but in different working mode.

Below find a typical screen during working in chiller mode:

Unit ON: Cool Mode			09:00	01/01/2013
Evap.IN temp.:	11.0	°C		Gî
Evap.OUT temp.:	12.0	°C		2 <u>-</u> 5
FC system IN water T.:	13.0	°C		₩ <u></u> E
FC ext. air/cond. water T.:	10.0	°C		
*	X		0	•

6.1 HOW TO SWITCH ON/OFF THE UNIT AND CHANGE CHILLER/HEAT PUMP WORK MODE FROM VISOTOUCH

Firstly, we will talk about No Motor Condensing Unit. Set Par CF04 = 0.

UNIT SWITCH-ON AND SWITCH-OFF CAN TAKE PLACE:

- From the keyboard
- From digital input configured as remote ON/OFF
- By time bands (see unit switch on/off by RTC)

6.1.1 Unit Switch-ON/OFF From The Visotouch

The unit can be configured as chiller only, heat pump only or as chiller with heat pump mode by par CF02. For different type of units, the switch ON/OFF procedures are different.

CF 2	Selection of unit working			
	1 = chiller only	4	2	
	2 = heat pump only	1	3	
	3 = chiller with heat pump			

Note: If user wants change CF02 value, please switch off the unit to "Stand-by" status first. Otherwise, it may take no effect.

When only the heating is enabled, the ACF1 alarm is not generated if the reverse valves in the envisioned circuits are not configured.

SWITCH THE UNIT ON/OFF IN COOLING- HEATING MODE FROM THE VISOTOUCH

The configuration should be: CF04 = 0, (not Motor condensing unit) CF02 = 3, (chiller with heat pump) SP09 = 0, (from the keyboard)

In the beginning, the device is in stand-by mode, and the buttons and 1 and 2 are all visible. These two buttons' position depends on Par SP08.

SP08 = 0: 😻 is placed in left, 🧐 is placed in right.

SP08 = 1: 🕮 is placed in left, 🏙 is placed in right.

No matter how to place, the left button is always used for cooling mode. The right button is always used for heating mode.

Suppose SP08 = 0, press button 6 for 1 second can switch on the unit to work in cooling mode. At this moment 6 is hidden.

Press the button 🚳 again, the unit is switch OFF and return to status stand-by. The button 🊳 and 🥨

are all visible now. In this case, user can press button 🗐 to switch to heating mode or press 👹 to restart the cooling mode.

The device is in stand-by when both and buttons are visible. The stand-by mode is obtained every time that the unit is off from cooling or heating working mode. Also in stand-by mode, the controller gives the possibility to:

- display the variables detected
- manage the alarm situations, displaying and signalling them.

When unit is ON in chiller mode, the status in the screen is "Cool Mode":

Unit ON: Cool Mode			09:00	01/01/2013
Evap.IN temp.:	11.0	°C		ත්
Evap.OUT temp.:	12.0	°C		2-5
FC system IN water T.:	13.0	°C		ų E
FC ext. air/cond. water T.:	10.0	°C		- 5
*	8		0	•

When unit is ON in heat pump mode, the status in the screen is "Heat Mode":

Unit ON: Heat Mode			09:00	01/01/2013
Evap.IN temp.:	8.0	°C		ත්
Evap.OUT temp.:	12.0	°C		2 <u>-</u> 5
External air temp.:	7.0	°C		₩ <u></u>
Aux.out1 temp.:	10.0	°C		- - %
٢	×		0	6

SWITCH THE UNIT ON/OFF IN COOLING MODE FROM THE VISOTOUCH

The configuration should be: CF04 = 0, (not Motor condensing unit) CF02 = 1, (chiller only) SP09 = 0, (from the keyboard)

In the Visotouch, the left button is always visible and the right button is hidden. The left button will be shown

as 1 when SP08 = 0 and shown as 2 when SP08 = 1. Press this button for 1 second can switch the device status between cooling mode and stand-by.

SWITCH THE UNIT ON/OFF IN HEATING MODE FROM THE VISOTOUCH

The configuration should be: CF04 = 0, (not Motor condensing unit) CF02 = 2, (heat pump only) SP09 = 0, (from the keyboard)

In the Visotouch, the right button is always visible and the left button is hidden. The right button will be shown

as when SP08 = 0 and shown as when SP08 = 1. Press this button for 1 second can switch the device status between heating mode and stand-by.

6.1.2 Unit Switch-ON/OFF From Digital Input

If the unit is switch off by remote digital input, the screen will be:

Unit Remote OFF		09:00	01/01/2013
Evap.IN temp.:	8.0 °	С	
Evap.OUT temp.:	12.0 °	С	
External air temp.:	7.0 °	С	
Aux.out1 temp.:	10.0 °	С	
* *	8	0	•

From digital input configured as **remote ON/OFF** (DI type =1). When deactivate, on the basis of the polarity selected, the input determines the OFF status

- It has priority with respect to the keyboard
- The unit can only be switched-on and off with input activated
- With input activated, the device goes back to the status previous to activation

6.1.3 Select The Working Mode: Chiller-Heat Pump

The parameter SP09 allows selecting and enabling the selection of the unit switch-on mode in the three working modes.

Par SP09 = 0

The switch-on selection of a unit configured for cooling and heating takes place from the Visotouch.

AUTOMATIC WORKING SELECTION IN COOLING-HEATING MODE FROM DIGITAL INPUT

Par SP09 = 1

The switch-on selection of a unit configured for cooling and heating takes place from digital inputs configured as **Remote cooling/heating**(DI type=2). With digital input activated, cooling mode is selected, with digital input deactivated, heating mode is selected.

- The selection is enabled if a digital input is configured as cooling request or as heating request. If no digital input has been configured, the unit **REMAINS in stand by**
- the cooling/heating selection from the keyboard is disabled. The unit can only be switched-on/off in the working status selected from the digital input
- CF02 is the precondition. If only CF02=3 the cooling/heating selection from digital input is available. Otherwise, the device working mode will be set by CF02.
- In the Visotouch, buttons for cooling/heating will be shown according to digital input status. E.g., digital input=cooling.

input=cooling, I is visible and I is hidden. By pressing III, the unit can switch between cooling and stand-by.

AUTOMATIC WORKING SELECTION IN COOLING-HEATING MODE FROM ANALOGUE INPUT

Par SP09 = 2

Selection from analogue input (change over function) has priority with respect to the digital input. For temperature of the external air included in the SP11 differential, it is allowed to change the working mode from the keyboard.

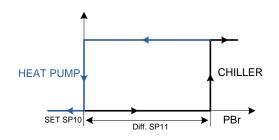
6.1.4 Cha	nge Over Function					
SP10	Automatic chiller / heat pump mode changeover setting	-50.0 -58	110 230	°C °F	Dec int	

SP11	Automatic chiller / heat pump mode changeover differential	0.1	25.0	°C	Dec
		1	45	°F	int

The status change over can only take place if these necessary conditions are present at the same time, otherwise the unit **REMAINS in stand - by:**

- 4. CF02=3 (chiller with heat pump)
- 5. SP09=2 is an NTC probe configured as an **Dynamic/boiler function/change over set-point external** air temperature NTC temperature probe(Al type=35)
- 6. the regulation probe selected must not be in error conditions

AUTOMATIC CHANGE OVER REGULATOR GRAPHICS



Parameters that regulated the change over function

SP10 allows setting the change over set point. If the selection of the working mode from analogue input is enabled, it represents the temperature value detected by the regulation probe below which the device imposes the working in heating mode

SP11 allows setting the change over differential. If the selection of the working mode from analogue input is enabled, it represents the temperature differential on the basis of which the device imposes the working in cooling mode

For temperature of the external air included in the SP11 differential, it is allowed to change the working mode from the keyboard.

NTC external air temperature regulation NTC probe > SP10+ SP11, the unit is switched-on in cooling mode. NTC external air temperature regulation NTC probe < SP10, the unit is switched-on in heating mode.

6.2 UNIT SWITH ON/OFF BY RTC

6.2.1 Working With Clock Disabling Digital Input

ES 1	Start of working time band 1 (0-24)	0	24.00	Hr	10 Min
ES 2	End of working time band 1 (0-24)	0	24.00	Hr	10 Min
ES 3	Start of working time band 2 (0-24)	0	24.00	Hr	10 Min
ES 4	End of working time band 2 (0-24)	0	24.00	Hr	10 Min
ES 5	Start of working time band 3 (0-24)	0	24.00	Hr	10 Min
ES 6	End of working time band 3 (0-24)	0	24.00	Hr	10 Min
ES18	Monday automatic shutdown time band	0	7		
ES19	Tuesday automatic shutdown time band	0	7		
ES20	Wednesday automatic shutdown time band	0	7		
ES21	Thursday automatic shutdown time band	0	7		
ES22	Friday automatic shutdown time band	0	7		
ES23	Saturday automatic shutdown time band	0	7		
ES24	Sunday automatic shutdown time band	0	7		

If the unit is switch off during switch-off time bands, the screen will be:

Unit OFF through cl	ock		09:00	01/01/2013
Evap.IN temp.:	8.0	°C		
Evap.OUT temp.:	12.0	°C		~
External air temp.:	7.0	°C		G
Aux.out1 temp.:	10.0	°C		
* *	X		0	0

If a digital input is configured as **Digital input working in RTC automatic enabling (time band)/manual (keyboard) mode** (DI type=91) and is active, the working via the internal clock is disabled. Otherwise, if this digital input is not configured or configured but not active, enables the working via the internal clock. The unit is forced to switch off within the time band.

Set the time band with Par ES01-ES06, and select weekly time band by Par ES18-ES24. If current time is inside the setting band, the unit will be shut off automatically, and the Visotouch shows "Unit OFF through clock".

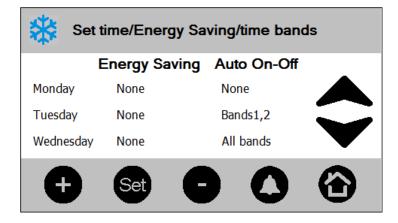
The RTC time band also can be configured from Visotouch. Enter into the **Set time/date/time bands** screen from **SERVICE** menu.

Set time/Energy Saving/time bands				
Time set-up:	02:00			
Date set-up:	01/01/2013			
Energy Saving:	DIS	\sim		
Auto Power Off:	EN			
Ð		$\textcircled{\blue}{\blue}$		

Enable the Auto Power Off option, set Time band N1/N3 in page 2.

Set time/Energy Saving/time bands					
	Start	End	_		
Time band Nº 1:	00:20	03:20			
Time band N° 2:	08:00	08:50	\mathbf{i}		
Time band N° 3:	12:00	13:20			
+ Set	0	0	$\textcircled{\black}{\bullet}$		

Select time band from Monday to Sunday in the next pages' last column Auto On-Off.



6.2.2 Working With "Ventilation Only" Digital Input (Air-Air Unit Only)

If the unit has been configured as AIR-AIR, during clock off, it is possible to decide whether to enable ventilation or not. When ventilation enabled, the screen will be:

Ventilation only		09:00	01/01/2013
Evap.IN temp.:	17.0 °C		
Evap.OUT temp.:	17.5 °C		
External air temp.:	15.0 °C		<u>(</u> -}™
Aux.out1 temp.:	10.0 °C		
* *	8	0	•

This working mode is only enabled if the clock is present and enabled.

Set CF01=0, select air/air unit.

Set ES01-06, ES18-24 to enable the function automatic shutdown by RTC.

If a digital input is configured as **Digital input working with supply fan only** (DI type=92) and is active, when current time is inside the automatic shutdown time band, the unit will work in "Ventilation only" mode. In "Ventilation only" mode, only relay configured as supply fan is enabled.

After current time goes out of the automatic shutdown time band, the unit will back to normal working mode.

WARNING: In ventilation only mode, the supply fan will forced to active if unit is on. When the unit is placed in remote off or stand-by, supply fan will switch off after the delay time set in par PA03.

6.2.3 Working With Unit In OFF From RTC If ON Is Forced From Visotouch

ES25 Unit maximum working time in OFF from RTC if forced in ON from key	0	250	Min	10 Min
---	---	-----	-----	--------

When the unit is OFF by RTC, user can use Visotouch or digital input to force the unit ON. However, the ON time can't be longer than the time set by Par ES25. After ES25 time, the unit will be forced back to OFF status.

During ES25 time, user can manually switch OFF the unit by Visotouch or digital input.

6.3 OPERATION IN CONDENSING UNIT WORKING MODE

If CF04 = 1, the unit will work as Motor-condensing unit.

CF 4	Motor-condensing unit			
	0 = no			
	1 = yes	0	1	
	Temperature control, dynamic set point and energy saving functions are			
	automatically disabled when CF04 = 1			
	10			

WARNING:

In condensing unit working mode the temperature control, dynamic set-point function and energy saving function are disabled automatically

In condensing unit working mode, the cooling/heating capacity is only controlled by digital input configured as **Capacity step x demand digital input** (x can be 1 to 16.Dl type = 96-111).

6.3.1 Working With Digital Input Configuration As Temperature Control Request

Unit configured as motor-condensing CF04 = 1.

- Configure DI as Cooling/Heating demand digital input (condensing unit). (DI type = 93)
 - With DI contact NOT ACTIVE unit in OFF
 - With DI contact ACTIVE unit in **cooling/heating**

With DI contact active, user can select the cooling or heating working mode by parameter CF02, SP09 and keyboard. The capacity steps will be called by DI configured as **Capacity step x demand digital input** (x can be 1 to 16.DI type = 96-111) if resources are available in the circuit.

With DI contact active, user can switch ON/OFF the unit by the keyboard. With DI contact not active, the unit will always OFF.

6.3.2 Working With Digital Input Configured As Cooling Request

Unit configured as motor-condensing CF04 = 1, CF02=1 or 3. Configure DI as **Cooling demand digital input (condensing unit)** (DI type= 94)

- With DI contact NOT active unit is OFF
- With DI contact active unit is **ON** in chiller mode

With DI contact active, unit works in chiller mode. The capacity steps, if available, will be called by DI configured as **Capacity step x demand digital input** (x can be 1 to 16).

With DI contact active, user can switch ON/OFF the unit by the keyboard. If the unit has been switched-off from the Visotouch, user can re-start it by deactivate and re-activate the digital input.

6.3.3 Working With Digital Input Configured As Heating Request

Unit configured as motor-condensing CF04 = 1, CF02=2 or 3. Configure DI as **Heating demand digital input (condensing unit)** (DI type= 95)

- With contact NOT active unit is OFF
- With contact active unit is **ON** in heat pump mode

With DI contact active, unit works in heat pump mode. The capacity steps, if available, will be called by DI configured as **Capacity step x demand digital input** (x can be 1 to 16).

With DI contact active, user can switch ON/OFF the unit by the keyboard. If the unit has been switched-off from the Visotouch, user can re-start it by deactivate and re-activate the digital input.

Working error

If two digital inputs are configured as cooling request and heating request with both inputs active at the same time, the unit will be positioned in OFF mode.

6.4 HOW TO MODIFY THE INFORMATION PRESENT IN THE MAIN SCREEN

6.4.1 Select Probes For Display

To select the probes to display on the Visotouch, modify the parameters from DP01 to DP04 (see Programming parameters chapters).

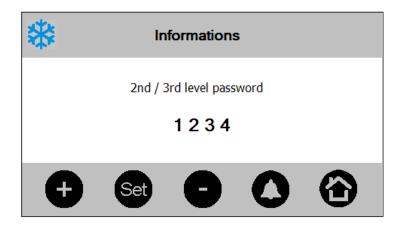
6.5 INFORMATION BUTTON IN MAIN SCREEN

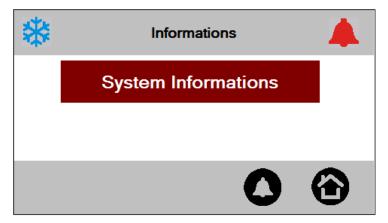
Press the **b** button can enter in the Informations screen. In order to go back to previous screen, press the **b** button.

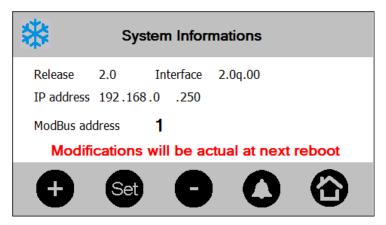
This screen is protected by password. The 2nd level or 3rd level password are all available.

• System information:

The IP address and ModBUS address are editable, but the modification will be actual at next reboot of the ipro.



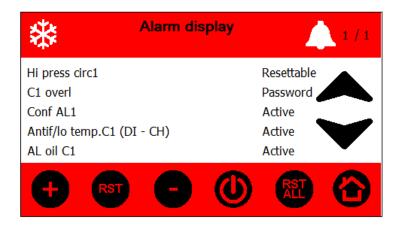




6.6 ALARM BUTTON IN MAIN SCREEN

When an alarm occurs, the screen shows the flashing icon Δ , the red LED switch ON and the buzzer starts to operate. Press anywhere on the screen can silence the buzzer.

Push button Can enter in the Alarm display screen. In order to go back to previous screen, please press the button.



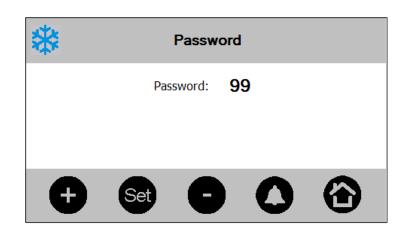
Three types of alarms can be present:

- Resettable → in this case, the alarm is not active and can be reset. Position the cursor on the alarm element and press
- Password \rightarrow in this case, the alarm is not active, but a password is required to reset it.
- Active \rightarrow the alarm is still in progress.

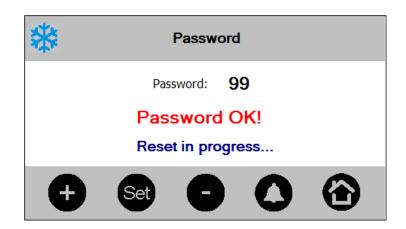
If there are several resettable alarms, instead of selecting them one by one, press and they will all reset together.

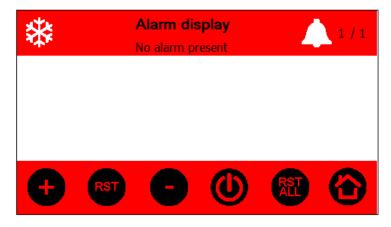
To reset an alarm that is protected by a password, operate as follows:

- Select the alarm marked by "Password".
- Press

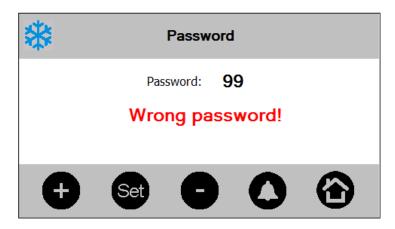


- Via buttons and •, set the password.
- Press **U** to confirm.
- If the password is correct, the following message will display:





• If the password introduced is incorrect, the following message will display:

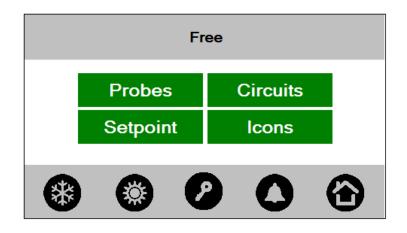


If the password is correct, after a few seconds you will go automatically back to the alarms screen.

6.7 FREE BUTTON IN MAIN SCREEN

Press button can enter in the Free screen. It has 4 sub menus.

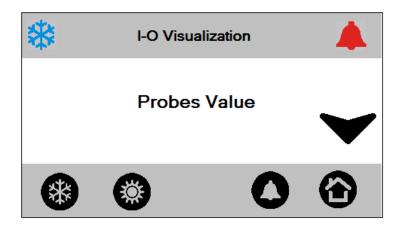
- Probes: Show the global probes' value. They are not dedicated to any circuit.
- Setpoint: Show the configured setpoint value and the real setpoint value in use considering energy saving and dynamic setpoint.
- **Circuits:** Show the probes' value belong to each circuit.
- Icons: Show the loads' status of all configured circuits (including compressors, pumps, and fans).



6.7.1 Probes Submenu

Press Probes button in Free screen can enter in the Probes screen.

By pressing the \bigwedge and \bigvee buttons, all the relevant probes can be seen.



*	I-O Visualizatio		
IN Evap. temp.:	10.0	°C	
OUT Evap. temp.	: 11.0	°C	
IN Cond. temp.:	40.0	°C	
OUT Cond. temp	.: 35.5	°C	•
() ()		0	$\textcircled{\blue}{\blue}$

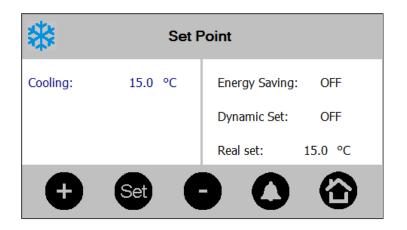
Press the button several times to go back to the main screen.

6.7.2 Setpoint Submenu

To set the setpoint of the cooling and/or heating, press Setpoint

button and enter the set-point screen.

Chiller mode:



Heat pump mode:

*	Set Point			
		Energy Saving: OFF		
		Dynamic Set: OFF		
Heating:	25.0 °C	Real set: 25.0 °C		
Ð	Set			

To modify the setpoint, click the element "Cooling" or "Heating" setpoint then press the button:

- The element starts to flash.
- Increase or decrease the value using the 💆 and 💟 buttons.
- Confirm the modification by pressing the See button again.

In this screen it is also possible to verify (but not modify) whether the energy saving mode and dynamic set are active. If they are active, the **Real set** may different from the **Cooling** or **Heating** set. **Cooling** (**Heating**) set is always the same as par ST01(ST04), the **real set** represent the set-point value including the energy saving delta or of the dynamic set, and it is read only (can't be modified).

*	Set Point			
Cooling:	10.0 °C	Energy Saving: ON		
		Dynamic Set: OFF		
		Real set: 15.0 °C		
Ð	Set			

If heat recovery is enabled (RC01>0), the recovery set point will also be shown in this screen.

*	Set Point			
Cooling:	10.0 °C	Energy Saving: OFF		
Recovery:	20.0 °C	Dynamic Set: OFF		
		Real set: 10.0 °C		
Ð	Set			

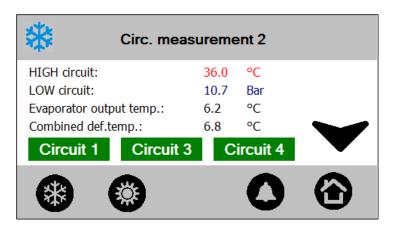
Press the button can exit current screen.

6.7.3 Circuits Submenu Circuits Press the

Circ. measurement 1 °C HIGH circuit: 35.7 LOW circuit: 8.6 Bar Evaporator output temp.: 6.0 °C Combined def.temp.: 7.5 °C Circuit 2 Circuit 4 Circuit 3 Circuit 4 Circuit 2 Circuit 3 If multi circuits are configured, press between different circuits.

button in the Free screen can show probes' value of each circuit.

buttons can switch the display

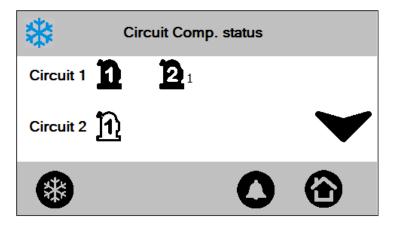


6.7.4 Icons Submenu

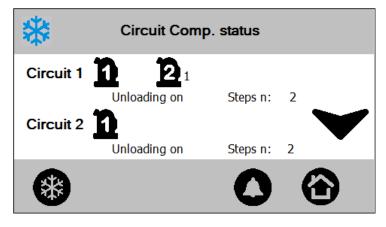
Press the **lcons** button in the Free screen is possible to monitor the loads' status of the unit. The information refers to:

Circuits compressors status; the screen shows the compressors present for each circuit and the activation status of the compressor (number of unloaders active). If the compressor has no number on the right, it means that it is at full power.
 In the screen below, circuit 1 has 2 compressors configured. Compressor 1 running at full power, compressors 2 running at 1st power of active act

compressor 2 running at 1st power step. circuit 2 has 1 compressors configured and it is not working now.

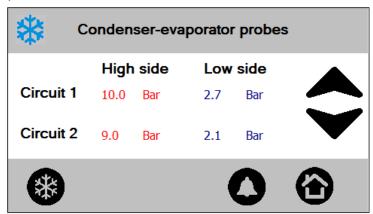


If unloading is active, the maximum step number for unloading will be displayed.



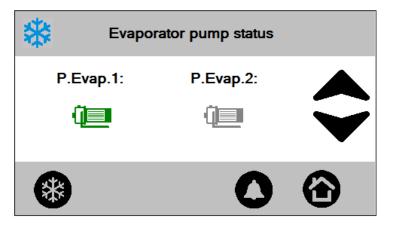
• Condensation-evaporation probes. The screen shows the condensation and evaporation pressures

of every circuit present.

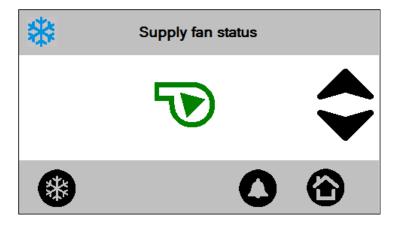


If the valuer of the parameter SP01 is equal to "0" or "2", the high side is represented with the temperatures.

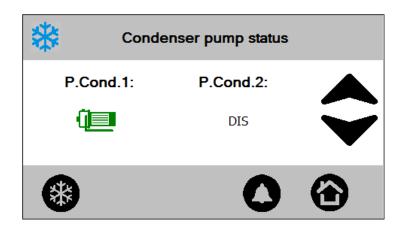
• Status of the evaporator pump (or evaporator pumps if the support is present)



• Status of the supply fan



• Status of the condenser pump (or of the pumps if the WATER-WATER support is present)



• Condensation fans (proportional or with steps - AIR-AIR or AIR-WATER)

	Condensing ventilation		
		% %	
	Cond.Fan1:	Cond.Fan2:	
	0 %	60 %	
	*		
	*	Condensing ventilation	
		5 5 5	
	Cond.Fan1:	Cond.Fan2:	
	-	•	
By pressing the	or 🗡 bu	uttons, can pass from one screen to another.	

• Refcomp compressor information If Refcomp compressor is configured, press key **RefComp** to see relevant information.

🗱 c	Circuit Comp. status			
Circuit 1 🚹				
Circuit 2 🛐		\checkmark		
*	Comp	()		

*	Refco	mp Co	ompress	or	
Indirizzo Modbus	1				
Frequency	60.00	Hz			
Speed	500	rpm			\checkmark
Current	10	Α			
			M	0	$\textcircled{\black}{\bullet}$

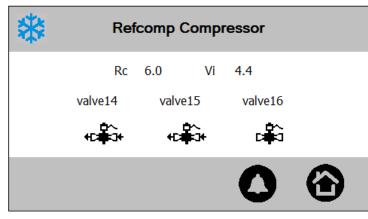
*	Refco	omp Com	press	or	
IGBT temper.	15.0	°C			
DC-Link Volt	24	V			
Alarm 1	0				
Card temper.	20.0	°C			
			M	0	$\textcircled{\begin{tabular}{lllllllllllllllllllllllllllllllllll$

*	Refco	omp Compressor
Running Time	100	h 0 m 0 s
I2t Time	10	h 0 m 0 s
Motor PTC	20	ohm Alarm 2
I2t expire time	10	sec Status 1
I2t condition	30	%

In the screen above, the modbus address is editable.

• Refcomp compressor valve status

Press button to see the valve status



6.8 SERVICE MENU

In screen Free, press the *e* button on the bottom can enter in the SERVICE menu.

Free						
	Probes	Circuits				
	Setpoint Icons					
*			•			

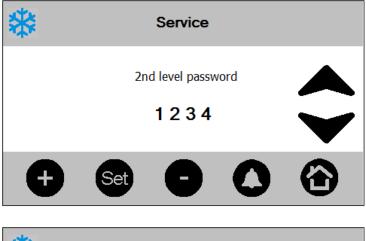
In SERVICE menu is possible to configure:

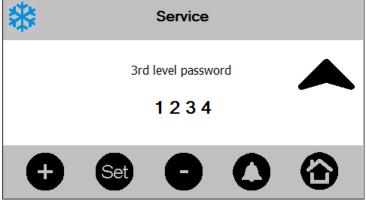
- Parameters Programming
- Time/Time periods Programming
- Compressors
- Water pump (Supply fan)
- Alarms display
- Historical alarms
- Defrost
- Heaters/Liquid line solenoid valve
- I/O status (Inputs and Outputs)
- Thermostatic Valve
- Heat recovery function
- Auxiliary outputs
- Free-cooling
- Screw compressor
- Discharge compressor temperature
- Sanitary water (Domestic hot water)
- Auxiliary heating
- Control panel

The SERVICE menu is protected by password in 3 levels. For 1st level, no password needed. Press key ENTER can enter in SERVICE menu directly.

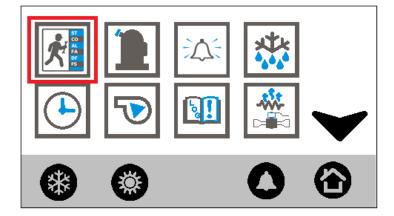


Press \checkmark button can switch to higher user level. For 2nd and 3rd level, relevant password is required.





6.8.1 Parameters programming



By selecting this menu it is possible to modify the value of the parameters depending on the password level. The parameters are divided per groups with the following meaning:

Label	Meaning
ST	Display temperature control parameters
DP	Display variables to be shown on the keyboard
CF	Display configuration parameters
SP	Display parameters for machine set up
Sd	Display dynamic set-point parameters
ES	Display energy saving and automatic timed switch-on/off parameters
AH	Display auxiliary heating parameters
со	Display compressor parameters
SL	Display stepless compressor parameters
PA	Display evaporator/condenser water pump parameters
Pd	Display pump down function parameters
Un	Display unloading function parameters
FA	Display ventilation parameters
Ar	Display anti-freeze heaters parameters
dF	Display defrost parameters
rC	Display heat recovery parameters
FS	Display production of domestic hot water parameters
FC	Display free-cooling function parameters
US	Display auxiliary output parameters
AL	Display alarm parameters
Et	Display parameters for the management of the electronic expansion valve
10	Display inputs/outputs configuration parameters
CA	Display analog input calibration parameters
RA	Display analog input range parameters

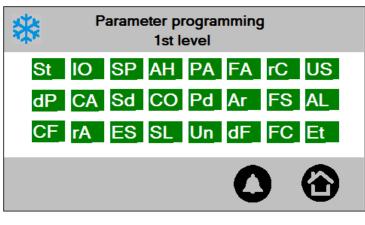
According to user level, different amount of parameters are visiable in the parameters programming screen.

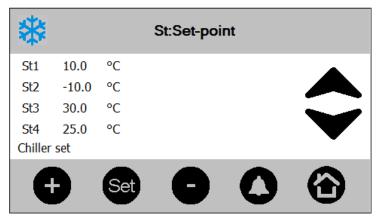
- If user entered into SERVICE menu with 1st level, he can enter to see parameters in Level 1(Pr1). If user entered into SERVICE menu with 2nd level, he can enter to see parameters in Level 1(Pr1) and • Level 2(Pr2).
- If user entered into SERVICE menu with 3rd level, he can enter to see parameters in Level 1(Pr1), Level • 2(Pr2) and Level 3(Pr3).

In the selected level screen, user only can see parameters with equal or lower protecting level. For example: When enter into 2nd level parameters screen, only parameters with Pr1 or Pr2 are displayed.

And user can change a parameter's protecting level to Pr1 or Pr2 in this screen.

Click on the family name label can open this parameter family.





To modify a parameter, click on the value:

- Press the Set button.
- Increase or decrease the value using the $\textcircled{\bullet}$ and $\textcircled{\bullet}$ buttons.
- Confirm the modification by pressing the Set button again.

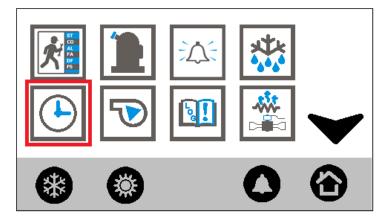
and buttons also can be used to move the cursor. When cursor points to different parameters, the parameter's description will display in the bottom.

Press the button can exit current screen.

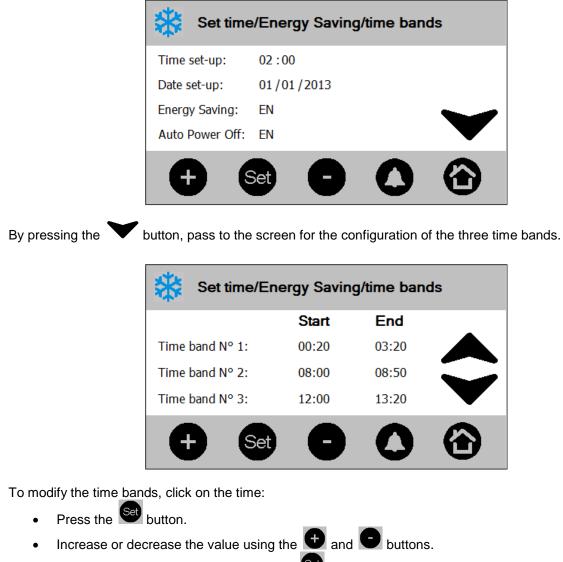
Warning:

For parameter groups CF, IO, CA, and RA, they can be verified and changed only if the unit is switch-OFF (stand-by).

6.8.2 Time/Time bands



As mentioned in previous chapter, this menu is used for the time and date set. It is also possible to enable or disable the Energy Saving and/or automatic switch on/off the time bands.



• Confirm the modification by pressing the See button again.

By pressing the button again, pass to the screen for weekly programming of the time periods for the Energy saving and for automatic switch-off.

Set time/Energy Saving/time bands					
	Energy Saving	Auto On-Off			
Monday	None	None			
Tuesday	None	Bands1,2	$\mathbf{\subseteq}$		
Wednesday	None	All bands			
Ð	Set	0	ᢙ		

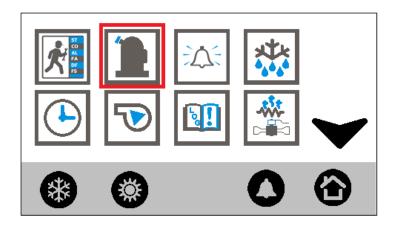
For every day of the week and for both functions(Energy saving and Auto On-Off), it is possible to manage:

- No time band
- Band 1
- Band 2
- Band 1 and 2
- Band 3
- Band 1 and 3
- Band 2 and 3
- All bands

Warning: Automatic switch-off has priority with respect to Energy saving

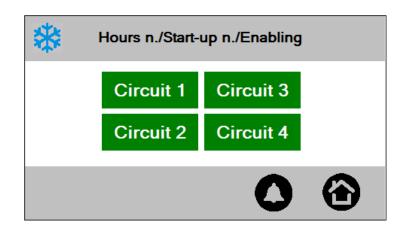
Press the button can exit current screen.

6.8.3 Compressors



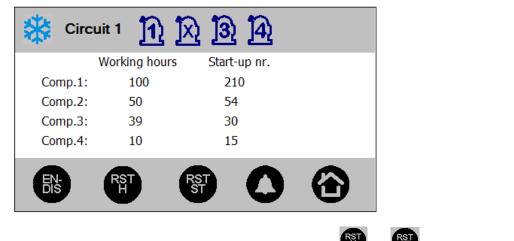
The following information is available for each circuit in this menu:

- Hours worked by each individual compressor
- Number of start-ups for each individual compressor



For each individual compressor it is possible:

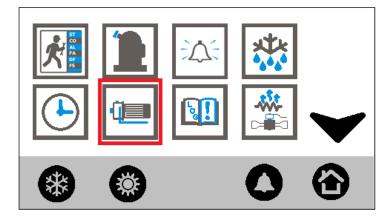
- To reset the working hours
- Reset the number of start-ups
- Disable compressor working (e.g. inorder to perform maintenance)



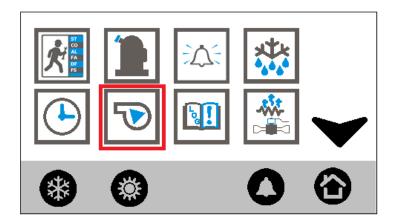
To reset the values, click on the compressor name label, and press the or button. And the password is request for reset operation (password is set by Par. AL31).

To enable or disable a compressor, click on the compressor name label, and then press the button.

6.8.4 Water pump



When CF01=0 (Air/air unit), instead of pump icon, the fan icon will display in the same position.



The following information is available in this menu:

• Hours worked by each individual pump (evaporator and condenser)

For each individual pump it is possible:

- To reset the working hours
- To disable the pump (e.g. to perform maintenance)

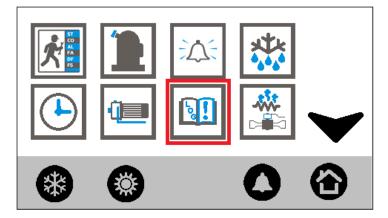
🗱 Supply Fan	Working hours		
Evap water pump	21		
Support evap.water pump	15		
Condenser water pump	8		
	12		
ENS RET			

To reset working hours or disable/enable the pumps, follow the procedure described for the compressors. Password is request for reset operation (password is set by Par. AL31).

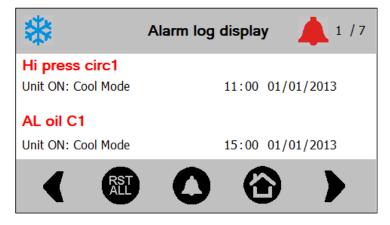
6.8.5 Alarms display

This menu contains the same information as press the button in the main screen. See previous chapters for your reference.

6.8.6 Historical alarms

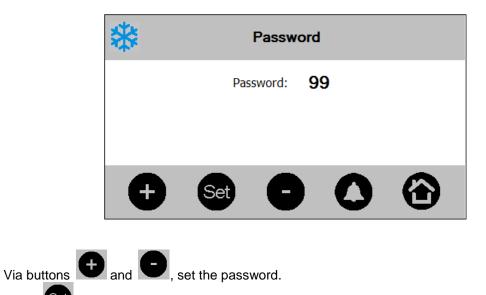


All alarms occurred are memorised in this screen.



To reset the alarms log, operate as follows:

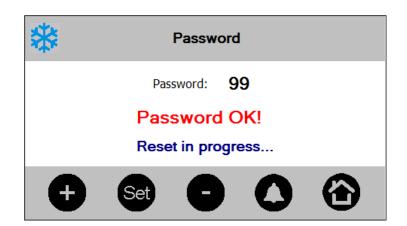
Press the button for 3 seconds.



• Press **Set** to confirm.

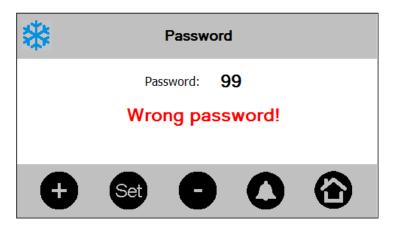
•

• If the password is correct, the following message will display:



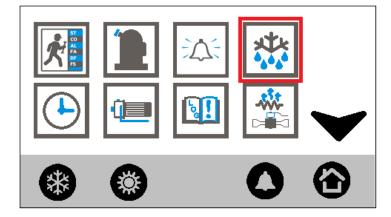
*	Alarm log display
	No alarm present

• If the password introduced is incorrect, the following message will display:



If the password is correct, after a few seconds you will go back automatically to the Alarm log screen.

6.8.7 Defrost



In this screen it is possible to check the status of the defrost cycle for every circuit present:

*	Defrost status
Circuit 1:	Counting EN
Circuit 2:	Cycle EN
	$\mathbf{O} \ \boldsymbol{\Theta}$

Circuit defrost status can be:

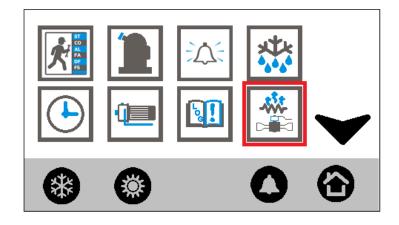
- Counting EN: In counting down, defrost will start soon
- Cycle EN: Defrost in progress
- Drip time EN: In dripping time
- Waiting: No defrost, normal working
- Condition not present: No necessary condition for defrost

Click on the circuit label can pass to the following screen.

Circuit 1: Counting EN								
Delay defrost start:	00:00):26						
Reversing valve status:	ON							
Combined def. pb temp:	0.7	°C						
Set combined def.start:	3.0	°C						
Set combined def.end:	8.0	°C						
8		0	$\textcircled{\blue}{3}$					

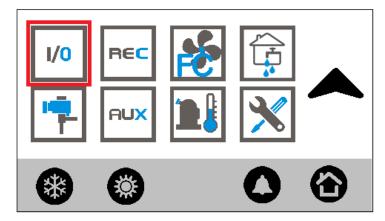
Press the button for 5 seconds allows forcing start of the defrost cycle. Press the button can exit current screen.

6.8.8 Heaters/Liquid line solenoid valve



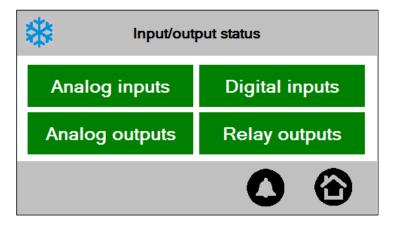
This menu allows to display the active and/or deactivated heaters and any active and/or deactivated liquid line solenoid valves (only the resources configured are displayed).

*	Other
Antifreeze heaters	Liquid solenoid valves 1 ← 2 ← 2 ←
3 4	3 40 4 40
	0



This menu allows to display the status of all inputs and outputs that have been defined.

The I/O units have been divided by groups, as in the screen below:



Click on the Analog inputs/Digital inputs/Analog outputs/Relay outputs button, it is possible to enter in the corresponding I/O screen.

Analog inputs:

*	Analog	g inpi	uts	iPro	
Pb01	10.0	°C	Pb06	N.C.	
Pb02	-1.2	°C	Pb07	N.C.	
Pb03	Closed	°C	Pb08	N.C.	
Pb04	12.9	°C	Pb09	N.C.	
Pb05	2.6	°C	Pb10	N.C.	•
				0	$\textcircled{\begin{tabular}{lllllllllllllllllllllllllllllllllll$

Digital inputs:

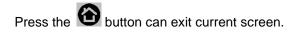
*		Digital inpu	uts	
DI01	Open	DI06	N.C.	
DI02	Open	DI07	N.C.	
DI03	Closed	DI08	N.C.	~ ~
DI04	Open	DI09	Open	
DI05	Closed	DI10	Open	•
			0	•

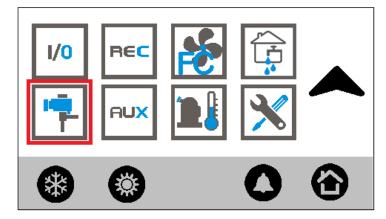
Relay outputs:

*	Relay	output	S	iPro		
RL01	ON	RL06	N.C.	RL11	N.C.	
RL02	OFF	RL07	N.C.	RL12	N.C.	
RL03	OFF	RL08	ON	RL13	N.C.	
RL04	ON	RL09	ON	RL14	OFF	
RL05	N.C.	RL10	ON	RL15	ON	•
)	$\textcircled{\begin{tabular}{ll}}$

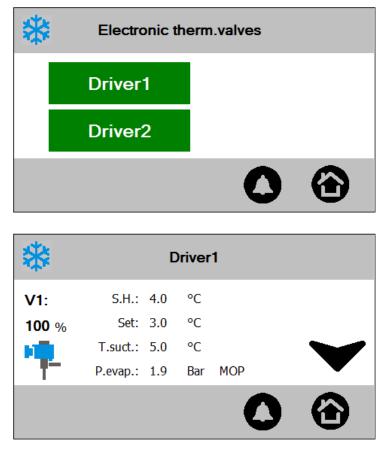
Analog outputs:

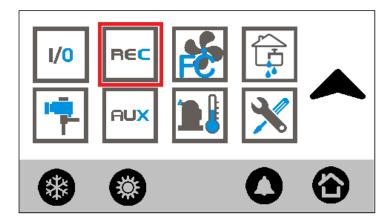
*	Analog outputs							
			iPro					
OUT1	100.00	%		OUT4	ON			
OUT2	80.00	%		OUT5	N.C.	\checkmark		
OUT3	OFF			OUT6	N.C.			
					0	$\textcircled{\begin{tabular}{lllllllllllllllllllllllllllllllllll$		





In this menu it is possible to check the working status of the valve and/or electronic thermostatic valves for every circuit defined.





Using this menu it is possible to verify the recovery working status.

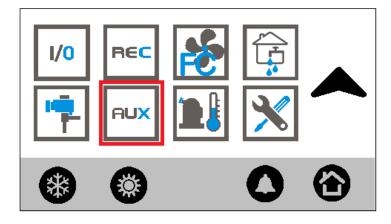
Reco	overy	DIS		
User-side priority			Rec.va	ves
			Circuit 1	OFF
Cond.IN temp.:	30.0	°C	Circuit 2	OFF
Cond.OUT temp.:	27.0	°C		
		③	0	$\textcircled{\black}{\bullet}$

Press the button for 1 second enables the recovery working.

The following information can be available in this screen:

- Status of the recovery function:
 - Disabled
 - Disabled from key
 - o Enabled
 - o Active
- Type of priority:
 - User side
 - Recovery side

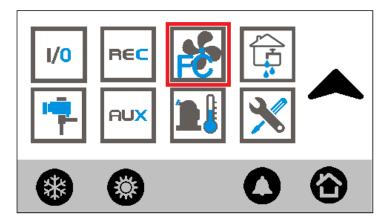
6.8.12 Auxiliary outputs



Using this menu it is possible to display the status of the auxiliary outputs (if present).

Auxiliary outputs status								
			Relay					
Aux.out1 temp.:	25.3	°C	ON					
Aux.out2 temp.:	2.5	°C	OFF	▼				
			0					

🗱 Au	xiliary	outp	uts statu	s	
			Perc		
Disch temp.C1:	42.1	°C	30.00	%	
Evap.IN temp.:	8.0	°C	100.00	%	
				_	
				7	U



In this menu it is possible to verify the free cooling working status. If FC01 \neq 4, this following screen will display:

Free Coo	oling	not	active		
Condensing priority	OFF		Valveer		
FC system IN water T.:	8.4	°C	Direct	0	%
FC ext. air/cond. water T.:	13.5	°C	Reverse	100	%
Differential FC activation:	2.0	°C			\checkmark
On-off time	00:1	0	On-Off	OFF	
		3	0)	$\textcircled{\begin{tabular}{lllllllllllllllllllllllllllllllllll$

Press the button for 1 second can enable the free cooling working.

The following information can be available in this screen:

- Status of the free cooling function: •
 - Not active 0
 - Disabled from key 0
 - Disabled from anti-freeze 0
 - OFF 0
 - ON 0
 - Type of priority:
 - Condensation
 - Free-cooling 0
 - External ventilation

By pressing the V button can pass to the next screen where the following information is available (only if CF01≠0):

🗱 Fre	ee Cooling	not active	
Ventilation			
Circuit 1	1 step	Antifreeze set	
Circuit 2	3 steps	5.0 °C	
		Antifreeze temp.	
		10.0 °C	
			Ð

Press the the button can exit the current screen.

If FC01 = 4, the following 3 screens will display. Press A and V buttons can switch between the following screens:

*	Free Coo	oling not active
FC system IN	water T.:	9.1 °C Set: 9.0 °C
FC ext. air/co	nd. water T.:	12.4 °C Set: 13.0 °C
External air te		12.0 °C Set: 10.0 °C
Valve	0 %	V1 C V2 C

*	Free Cooling	g not active	
Ventila	tion		
Circuit 1	1 step	Antifreeze set	
Circuit 2	3 steps	5.0 °C	
		Antifreeze temp.	
		10.0 °C	•
	(O	$\textcircled{\begin{tabular}{lllllllllllllllllllllllllllllllllll$

Free Cooling	not active
Delay from Ext air temp.	02:00
Delay from Cond water temp.	0 : 32
Valve switch delay	0 : 45
FC exit delay	1 :00
Antif prevention delay	1 :10

Delay in free-cooling:

- Delay from Ext. air temp.:
- Delay from Cond water temp.:
- Valve switch delay:
- FC exit delay:
- Antif prevention delay:

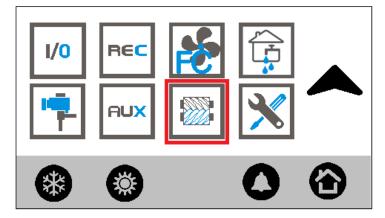
Count down from parameter FC19 Count down from parameter FC20 Count down from parameter FC23

Count down from parameter FC03

Count down from parameter FC24

6.8.14 Screw compressor

If CO09 = 2/3, screw compressor is used. The icon is shown as picture below.



This menu can be used to monitor the working status of the screw compressor in each circuit.

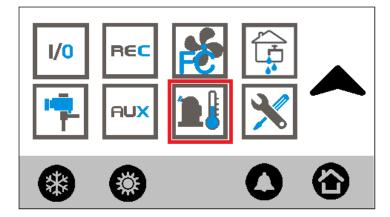
Screw compressor					
		Se	t	Di	ff.
Discharge temp	. alarm	70.0	°C	5.0	°C
Liquid injection		30.0	°C	3.0	°C
Circuit 1	Circuit 2	Circ	uit 3	(Circuit 4
			C		•

By selecting the desired circuit and click on its label, the following information can be displayed:

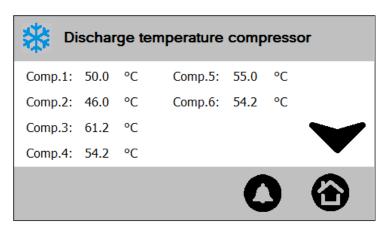
Screw co	mpres	sor	Circ	uit 1	
	Comp.	.1:	Comp	.2:	
Discharge temp.	60.0	°C	56.0	°C	
Liquid injection valve	OFF		OF	F	
Min.load start-up valve	e OFF		OF	F	
					$\textcircled{\begin{tabular}{lllllllllllllllllllllllllllllllllll$

6.8.15 Discharge compressor temperature

If CO09 = 0/1, discharge compressor icon is shown as picture below.



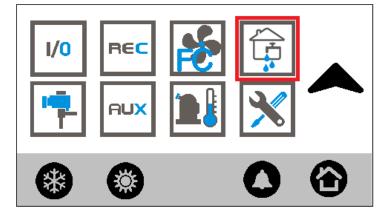
In this screen, if the probe: **compressor 1...16 PTC discharge temperature probe** (AI type=1 to 16) is configured, its value will be displayed.



Press the button can exit current screen.

6.8.16 Domestic hot water (Sanitary water)

If AH01 = 0 (Auxiliary heating is disabled), the icon for domestic hot water is shown as picture below.



In sanitary water screen, relevant probes value and output status will display.

The sanitary water set point is editable.

Press Dutton for 1 second can enable/disable the sanitary water function.

The sanitary water function status can be:

DIS disabled by parameter setting •

activated

- Dis by key disabled by keyboard .
- Not requested not needed •
- Doing dF defrost in progress
- Changing state
- ON

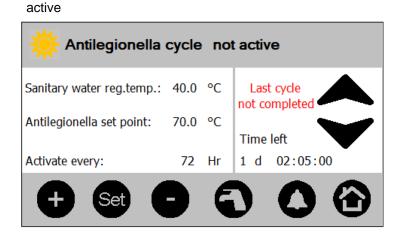
requested but not start yet, in inversion valve changing phase.

Sanitary Water ON Sanitary water reg.temp.: 40.0 °C ₩~₩~ 45.0 °C Sanitary water set point: Sanitary water security t.: 60.0 °C 50.0 °C Security set point:

In Antilegionella cycle screen, relevant probes value, status and count down time will display. The Antilegionella set point and the activate time is editable.

The antilegionella function status can be:

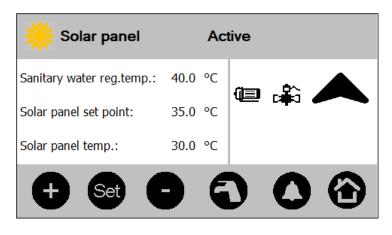
- DIS disabled by parameter setting deactive
- Not active
- Running



In Solar panel screen, relevant probes value and output status will display. The Solar panel set point is editable.

The solar panel working status can be:

- Not active •
- Active



Press the button can exit current screen.

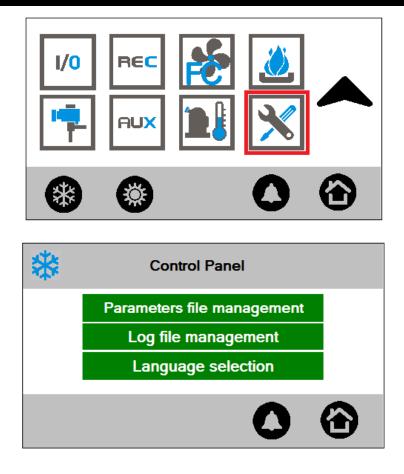
6.8.17 Auxiliary heating

If AH01 > 0 (Auxiliary heating is enabled), the icon for auxiliary heating is shown as picture below.

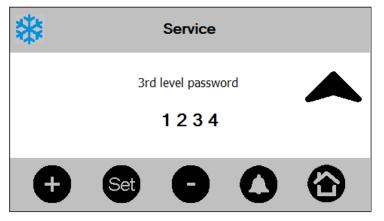


In auxiliary heating screen, set points and output status are displayed.

*	Auxiliary Heating		
Heating set:	20.0 °C Real sets	ES	
On/off set:	25.0 °C On/off set:	24.0 °C	
Prop. set:	30.0 °C Prop. set:	28.0 °C	
On/off out:	2 / 4 Prop. out:	30 %	
Ð			



If user entered into SERVICE menu with 1st level or 2nd level, he needs to input the 3rd level password to enter in the control panel screen. See graph below:



On the contrary, if user entered into SERVICE menu with 3rd level, no password is needed for control paned menu anymore.

The possible options in this menu are:

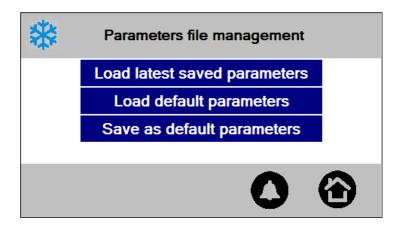
- Parameters file management: Load last saved parameters or load default parameters.
- Log file management: Export log files to USB disk.
- Language selection: Italian \rightarrow English \rightarrow Italian
- Parameters file management:

Position the cursor on the element with UP and DOWN key, press ENTER, the parameters value will be

loaded from configuration file.

There are 2 files available, one for latest saved parameters and another for default parameters.

The 3rd line "Save as default parameters" means copy latest saved parameters to default parameters configuration file.



Log file management:

Log file management			
Send unit log to usb	Send alarm logs to usb		
Send XEV logs to usb	Send all logs to usb		
	0		

Plug the USB disk in iPro,send command from this screen, the log file will be export to the USB disk.

The log file path is: USB ROOT:\ipro\IP address of the ipro

One example for unit log: F:\ipro\10.161.92.79\log\Unit_20130221.txt

Unit log file (Record every 100 PLC cycles):

Counter, Date, Status, Set, Regulation probe, steps required, steps provided, unloading, water pumps, average cycle time, overcycles

2 130117101213, HP, 100, -61, 3, 3, FALSE, FALSE, 99, 42,

```
3 130117101226, HP, 100, -61, 3, 3, FALSE, FALSE, 100, 37,
4 130117101238, HP, 100, -61, 3, 3, FALSE, FALSE, 94, 38,
```

5 130117101251, HP, 100, -61, 3, 3, FALSE, FALSE, 94, 36,

Alarms log file (including alarms_a, alarms_b, alarms_c):

- alarms_a = unit alarm
- alarms_b = circuit alarm
- alarms_c = compressor alarm

```
alarms_a log file:
```

```
1 Counter, Date, Alarm description, Alarm status, Events in last hour
```

```
2 121115150206, AEM3-IPEX 3 not connected, START, 18
```

```
3 121115150206, AEM4-IPEX 4 not connected, START, 18
```

```
4 121115150307, AP22-Failure on probe 5 exp. 2, START, 19
```

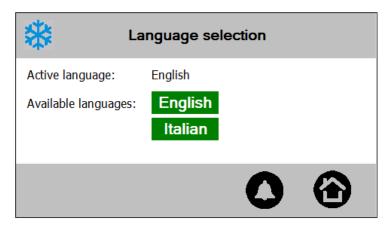
```
5 121115150307, AP5 -Failure on probe 5, START, 19
```

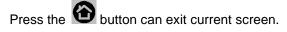
Xev log file (including xev11, xev12, xev21, xev22):

Record every 10 seconds if XEV20D is available.

```
1 Counter, Date, Suction pressure, Saturation temperature, Suction temperature, Superheating, Steps
```

- 2 130130121005,60,45,125,70,500
- 3 130130121015,59,44,121,68,496
- 4 130130121025,57,45,123,63,492
- 5 130130121035,56,44,122,61,488
- Language selection:



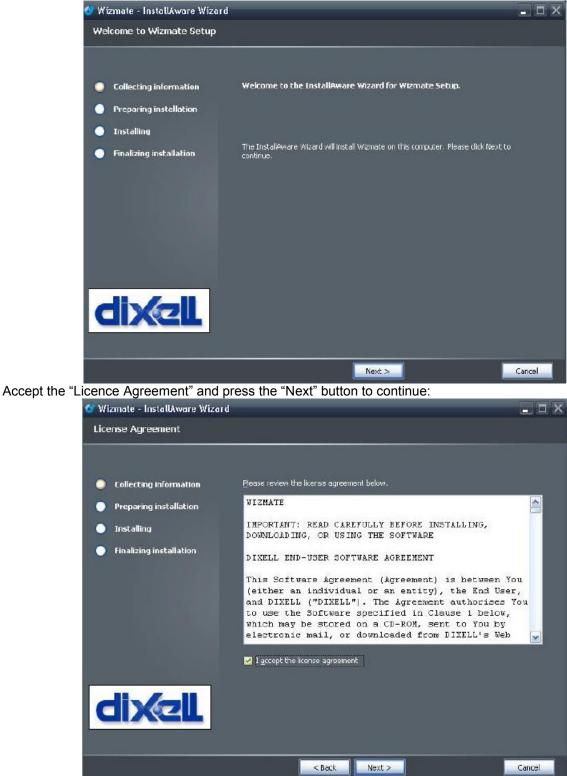


7. USE WIZMATE TO CONFIGURE PARAMETERS

Wizmate software allows the managing of the parameter map of DIXELL controllers.

7.1 HOW TO INSTALL WIZMATE

Inserter the CD in the CD drive and click the "Wizmate.exe" file to start the guided process. press the "Next" button:



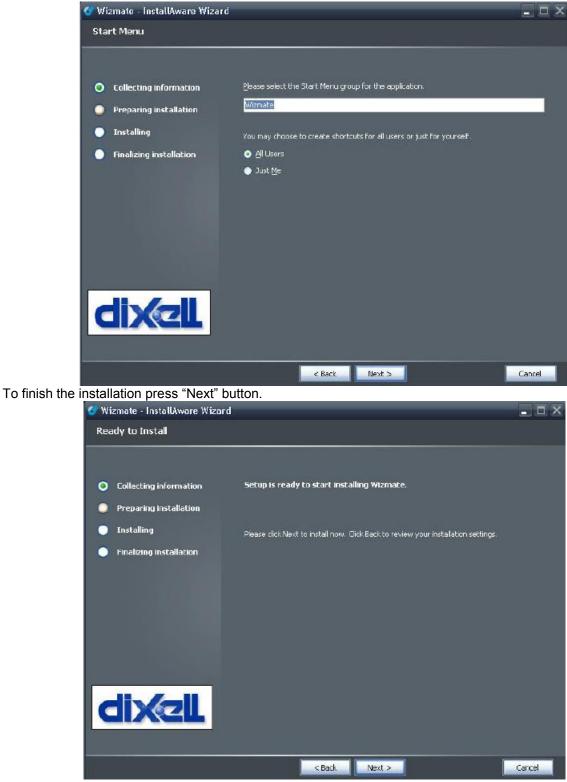
Enter "User name" and "Company name", then press the "Next" button to continue:



Select the path where you want to install the Wizmate; default path is "C:\Programs\Dixell\Wizmate"; press the "Next" button:

Wizmate - InstallAware Wiza	rd	
Destination Folder		
 Collecting information Preparing installation Installing Finalizing installation 	Elease select the destination folder for the application.	
	Folder path:	
	C:\Programmi\DIXELL\Wzmate	
dixell	Space Required: Available Disk Space: Remaining Disk Space:	21,340 KB 11,340 MB 11,319 MB
	< Bark Next >	Carce

Press the "Next" button:



To exit the installation press "Finish" button.

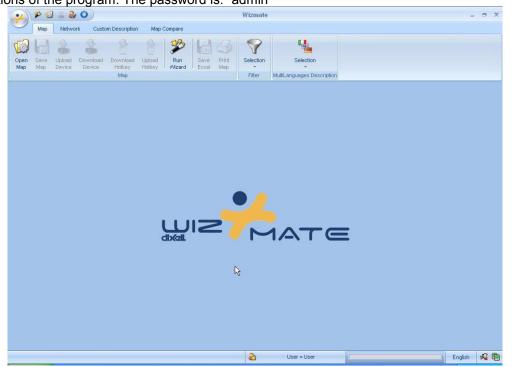


7.2 LOGIN WIZMATE

After having installed Wizmate, two users are managed:

• User: can see only a small number of parameters (only Pr1 level of visibility); he cannot use all functions of the program (is not possible to create wizard and to create new users). The password is: "user"

• Administrator: can see all the parameters (Pr1, Pr2 and Pr3 level of visibility); the "Administrator" can use all the functions of the program. The password is: "admin"



To access the program as "Administrator", press the "Login" button:



or using the configuration menu (press the button) and select "Security" menu:



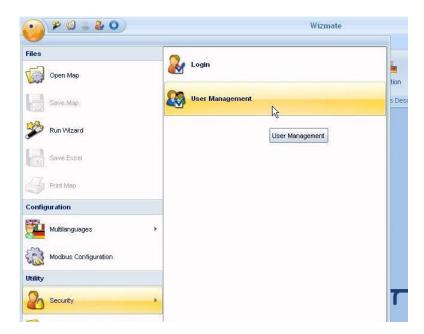
Enter the user name "Administrator" and password "admin", then press "Login" button.



How to create a new user:

Only the "Administrator" user can create a new user.

Press Sutton, select "Security" and then "User management":



From the configuration menu, click "Security" _ "User Management" to display the following window:

Security		
ि Administrator हे रू User	User name Password Confirm password	Administrator admin admin
	Security Level Visibility Level	100 🗲 Level 3
🔏 Add User 🛛 🔏 Delete User	Save User	Ok Cancel

A new user can be entered clicking "Add user":

- enter the user name
- enter the password
- confirm the password
- enter the security level:
 - level 5= "user" level (it is not possible to generate wizard);
 - level 100= "administrator" right (it is possible to generate wizard)
- enter the maximum level of visibility of the parameters
- to confirm, click the "Ok" button

7.3 WIZMATE CONFIGURATION

7.3.1 Configuration Menu

 $\frac{1}{2}$ It is used to configure the language, the communication port (COM), etc.

7.3.2 Language Configuration

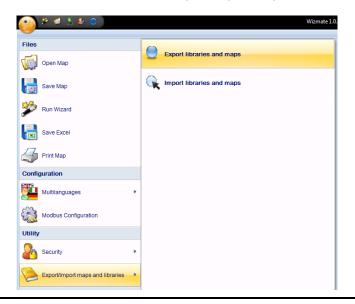
we button, select "Multilanguages" menu and choose the language: Press Files English 6 Open Map 1203 Save Map Run Wizard Italian IN: Save Excel 4 Print Map Configuration Multilanguages 6 Modbus Configuration Utility 2a Security Export/Import maps and libraries ۶ Info **(i)** About Wizmate

7.3.3 Import/Export Maps And Libraries

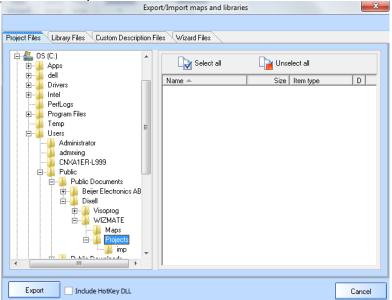
"Export/Import libraries and maps" allows the user to import the new library or import new maps. To import the maps or libraries contained in a *.WME file, select the command "Export/Import maps and libraries", then select "Import libraries and maps":

	🏞 🐗 🐁 🍇 🔾				Wiz
iles					
	Open Map		Export libraries and m	naps	
0	Save Map	R	Import libraries and m	aps	
Þ	Run Wizard				
1 <u>N 1</u>	Save Excel				
5	Print Map				
onfig	guration				
ļ	Multilanguages	•			
3	Modbus Configuration				
Itility	,				
h	Security	•			
2	Export/Import maps and libraries	•			
≁ 0	Open				— ×
\bigcirc	🔾 🗢 🕌 « tester 🕨 IPROCHILL	_Wizmate_2012	• 1010 • •	Search IPRC	OCHILL_Wizmate_2
0	rganize 🔻 New folder				:= - 🔟 🔞
~	Favorites		Da	te modified	Туре
		10000.WME	201	12/10/10 15:55	WME File
		10000.WME		L2/10/10 15:54	WME File
	Ecent Places				
6	☐ Libraries ☐ Documents				
	Music				
	Pictures				
	Videos				
Į,	Computer				
G	🖣 Network 👻 🗧		m		
	File name: 3A140	0000.WME	•	Wizmate Exp	ort (*.WME) 🔻
				Open	Cancel

To export the maps or libraries, select the command "Export/Import maps and libraries".



Then select "Export libraries and maps".



Search the maps to export, select them then press "Export" button:

Export/Import maps and libraries	×										
Project Files Library Files Custom Description Files Wizard Files											
Project Files Library Files Custom Description Files Wizard Files											
Export Indude HotKey DLL	Cancel										

Select the path to save the file and enter the name of the file:

✤ Save As		×
Cor Cor	mputer > v 4 Search Compute	r 🔎
Organize 🔻		₩= ▼ (2)
 Recent Places Libraries Documents Music Pictures Videos Computer Network 	 Hard Disk Drives (2) OS (C:) OS (G:) IOS GB free of 143 GB Local Disk (D:) IOE GB free of 143 GB Devices with Removable Storage (1) DVD Drive (E:) 	
	.WME Wizmate Export (.WME)	•
Hide Folders	Open	Cancel

7.4 HOW TO USE WIZMATE

7.4.1 Scan For Device

Enter in "Network" menu, set "Start IP" and "Stop IP" according to your Ipro IP address.

Press button , if the device is connected, it will display in the list.

🤗 🥙	s 🔮 🔘				Wizmate
Мар	Network Wizard Cu	istom Description Ma	ap Compare	Administrator	
	Start Adr.	1 ‡	Start IP.	10.161.92.79	
	Stop Adr.	247 🛟	Stop IP.	10.161.92.79	
Scan Stop Network Scan	Status	Enable	Status		Enable 🔽
Network	RS 232/485 r	net settings		IP net settings	
Network Tree View					
Netwo	ork	Instrument Addres		Model	Firmware
	Devices	10.161	92.79	XPC400D	2.0
	Devices 🁰 XPC400D (10.161.92.7	79)			

7.4.2 Read Parameters Value

Enter in menu "Map", press button the parameters value will be read out from the ipro controller and display.

;	🌮 🤞	- S 🏖	0								
	Мар	Networ	k Wizard	Custom	Description	Map C	Compare				
			-			2					
Open Map	Save Map	Upload Device	Download Device	Download Hotkey	Upload Hotkey	Run Wizard	Save Excel				
				Мар							
	Upload Device										

🔎 🥙 👌 🗞 🔍					Wizma	ate 1.0.1.3	7									
Map Network	Wizard Custom Description Map Com	npare A	dministrator													
	a a Almalı		7													
💭 📷 👗 🕠	🎍 👌 🎓 🖁	📧 😂														
		Save Prin		ion	Se	election										
lap Map Device D	evice Hotkey Hotkey Wizard E Map	Excel Map	Filte	r M.	util angu	* ages Des	cription									
	map		Fille		nucangu	ages Des	cription									
odel XPC400D FW 2.0)							Mod	el Code (Hex)	50 43	64 24	Family (Hex	k) 3A Fin	mware (Hex) 14	EEprom (Hex)	1
lap note								Info								
Crew Drumste	- Description	Va	alue		Mark Inc.		Limit	Unit	Comment							-
Group Paramete	r Description	Edit	Original		Mod. lev	Minimun	n Maximum		Comment							
ST - Temperature ST1	Chiller set point	30.0		1 - Pr1	1 - Pr1	0.0		°C								
ST - Temperature ST2	Minimum chiller set point	0.0		3 - Pr3		-50.0	30.0	°C								
ST - Temperature ST3	Maximum chiller set point	30.0			3 - Pr3	0.0		°C								
ST - Temperature ST4	Heat pump set point	20.0			3 - Pr3	20.0	50.0	°C								
ST - Temperature ST5	Heat pump minimum set point	20.0	20.0	3 - Pr3	3 - Pr3	-50.0	50.0	°C								
ST - Temperature ST6	Heat pump maximum set point	50.0	50.0	3 - Pr3	3 - Pr3	20.0	110.0	°C								
ST - Temperature ST7	Intervention band regulation steps in chille	r 16.0		3 - Pr3	3 - Pr3	0.1	25.0	°C								
ST - Temperature ST8	Intervention band regulation steps in heat	р 10.0	10.0	3 - Pr3	3 - Pr3	0.1	25.0	°C								
ST - Temperature ST9	Chiller temperature control probe		1 - Evapoi													
ST - Temperature ST10	Heat pump temperature control probe	0 - evapo	r 0 - evapor	3 - Pr3	3 - Pr3											
ST - Temperature ST11	Defines the type of temperature control		r 0 - Propor													
ST - Temperature ST12	Defines the temperature control logic	0 - Of ma	0 - Of mad													
ST - Temperature ST13	Circuit 2 chiller set point	0.0		3 - Pr3			0.0	°C								
ST - Temperature ST14	Circuit 2 chiller minimum set point	0.0		3 - Pr3		-50.0	0.0	°C								
ST - Temperature ST15	Circuit 2 chiller maximum set point	0.0			3 - Pr3	0.0	110.0	°C								
ST - Temperature ST16	Circuit 2 heat pump set point	0.0			3 - Pr3	0.0	0.0	°C								
ST - Temperature ST17	Circuit 2 heat pump minimum set point	0.0		3 - Pr3			0.0	°C								
ST - Temperature ST18	Circuit 2 heat pump maximum set point	0.0		3 - Pr3				°C								
ST - Temperature ST19	Intervention band regulation steps of circu	i10.1	0.1	3 - Pr3	3 - Pr3	0.1	25.0	°C								

In this screen, it display parameters' group, name, description, value, visibility/changeability level, minimum/maximum limitation and measurement unit.

To facilitate using, it allows to select and display one single parameter group. Right click on the table, in the pop-out menu, chose "Group" and then select the interested group.

Map Network	Wizard Custom Description Ma	p Comp	oare A	dministrato	r	Wizmate 1.0.1.37	
	L 2 2 🖉			3 5	>	4	
	wnload Download Upload Run evice Hotkey Hotkey Wizard Map		ave Prin ccel Map			Selection * MultiLanguages Description	
Model XPC400D FW 2.0						Model Cod	
Map note Group Paramete	r Description		Va	alue Original	Vis. L	_AllAll	
ST - Temperature ST1	Chiller set point		30.0	30.0	1 - P	r1 AL - Alarms	
ST - Temperature ST2	Minimum chiller set point		0.0	0.0	3 - P		
ST - Temperature ST3	Maximum chiller set point	💦 Sta	ndard colu	ımn order		CA - AI Calibration	
ST - Temperature ST4	Heat pump set point	Gro Gro				CF - Configuration	
ST - Temperature ST5	Heat pump minimum set point	@ Par	ameter + r	elations	Ctrl+	+P CO - Compressors	
ST - Temperature ST6	Heat pump maximum set point	Parameters with error Ctrl+E					
ST - Temperature ST7	Intervention band regulation steps in	× Res	et Filter		E	DP - Display	
ST - Temperature ST8	Intervention band regulation steps in	ES - Energy Saving					
ST - Temperature ST9	Chiller temperature control probe	Sele	ect all para	meters		ET - Electronic Thermostatic	
ST - Temperature ST10	Heat pump temperature control prob	Mu	ItiLanguag	jes Descripti	on	 FA - Condenser ventilation 	
ST - Temperature ST11	Defines the type of temperature con	Cu	stom Desc	ription		FC - Free Cooling	
ST - Temperature ST12	Defines the temperature control logi	🌲 Sen	d Selected	parameters	E	FS - Domestic hot water	
ST - Temperature ST13	Circuit 2 chiller set point	👱 Sen	nd Change	d parameter	s F.	IO - IO Configuration	
ST - Temperature ST14	Circuit 2 chiller minimum set point	-	ow Math			PA - Water pumps	
ST - Temperature ST15	Circuit 2 chiller maximum set point		0.0	0.0	3 - P		
ST - Temperature ST16	Circuit 2 heat pump set point		0.0	0.0	3 - P	r3 RA - AI Range	
ST - Temperature ST17	Circuit 2 heat pump minimum set po	int	0.0	0.0	3 - P		
ST - Temperature ST18	Circuit 2 heat pump maximum set po	oint	0.0	0.0	3 - P		
ST - Temperature ST19	Intervention band regulation steps of			0.1	3 - P	SL - Stepless	

This function can also be done by click button



Run Wizard	Save Excel	Print Map	Selec	ction		Selec	ction				
			Ø	Group	AII					_All	
			Ø	Parame	ters with	n error	Ctr	1+E		AH - Auxiliary Heating AL - Alarms	
			Ø	Parameter + relations Ctrl+P						AR - Antifreeze heaters CA - Al Calibration	
		Valu	e		Level Mod. level		Limit			CF - Configuration	
	Edit)riginal			N	/linimum	Maximu	m	CO - Compressors DF - Defrosting	-

7.4.3 Change Parameters Value

If some parameters' value need to be changed, input the new values in "Value" cell.

Г	Group Parar		Description	Value		Vie Level	Mod. level	Limit		Unit	Comment
	Group Parar	ameter	Description	Edit	Original	VIS. LEVEI	Mod. level	Minimum	Maximum	Unit	Comment
Þ	ST - Temperature ST1	1	Chiller set point	30.0	30.0	1 - Pr1	1 - Pr1	0.0	30.0	°C	
	ST - Temperature ST2	2	Minimum chiller set point	0.0	0.0	3 - Pr3	3 - Pr3	-50.0	30.0	°C	
	ST - Temperature ST3	3	Maximum chiller set point	30.0	30.0	3 - Pr3	3 - Pr3	0.0	110.0	°C	



Then press button to download new parameters' value into the controller. Or user can right click on the table, in the pop-out menu, click on "Send Changed parameters".

	Group	Parameter	Description	\ Edit	
Þ	ST - Temperature	ST1	Chiller set poi	Standard column order	·
	ST - Temperature	ST2	Minimum chil	Group	•
	ST - Temperature	ST3	Maximum chi	Parameter + relations	Ctrl+P
	ST - Temperature	ST4	Heat pump se	Parameters with error	Ctrl+E
	ST - Temperature	ST5	Heat pump m	X Reset Filter	F12
	ST - Temperature	ST6	Heat pump m		
	ST - Temperature	ST7	Intervention b	Select all parameters	
	ST - Temperature	ST8	Intervention b	MultiLanguages Descriptio	n ▶
	ST - Temperature	ST9	Chiller temper	Custom Description	
Γ	ST - Temperature	ST10	Heat pump te	Send Selected parameters	F10
	ST - Temperature	ST11	Defines the ty	Send Changed parameters	F11
	ST - Temperature	ST12	Defines the te	Show Math	
	lot t	CT40	O		

7.4.4 Save/Open Map



Press button for a .bin file which can be open and used in the future.

4	۶ 🌮	🕹 🏜	0					-	1.00	Wizmate 1.0.1.37	-	a	-
	Мар	Network	Wizard	Custom	Description	Map C	ompare	Adm	ninistrator				
	Save	Upload	Download	Download		2	Save	Print	Selection	Selection			
Open Map	Map	Device	Device	Hotkey	Upload Hotkey	Run Wizard	Excel	Мар	selection	Selection *			
		🐥 Save	As								x		
	XPC400)⊽ [₽ ► (Computer 🕨					▼ \$	earch Computer	٩	1odel Code (Hex)	50 43
Mapr	iote	Organ	nize 🔻							₩ - ▼	0	nfo	
ST ST ST ST ST ST ST ST ST ST ST	 Tempe 		Documents Music Pictures Videos Computer File name	es E	Loca 122 Devices wi	C:) GB free of : al Disk (D:) GB free of :	143 GB 143 GB	torage		Save	•	Comment	
ST	- Tempe	📳 🌰 Hio		t 2 heat pur	np minimum	set point	0.0	0.	0 3 - P	Save Cancel			



To open the map file, press button Map, then select the .bin file.



8. PARAMETERS IN TABLE FORM

Parameter groups:

Label	Meaning
ST	Display temperature control parameters
DP	Display variables to be shown on the keyboard
CF	Display configuration parameters
SP	Display parameters for machine set up
Sd	Display dynamic set-point parameters
ES	Display energy saving and automatic timed switch-on/off parameters
AH	Display auxiliary heating parameters
СО	Display compressor parameters
SL	Display stepless compressor parameters
PA	Display evaporator/condenser water pump parameters
Pd	Display pump down function parameters
Un	Display unloading function parameters
FA	Display ventilation parameters
Ar	Display anti-freeze heaters parameters
dF	Display defrost parameters
rC	Display heat recovery parameters
FS	Display production of domestic hot water parameters
FC	Display free-cooling function parameters
US	Display auxiliary output parameters
AL	Display alarm parameters
Et	Display parameters for the management of the electronic expansion valve
ю	Display inputs/outputs configuration parameters
СА	Display analog input calibration parameters
RA	Display analog input range parameters

	Temperature control							
Parameter	Description	min	max	um	Resolution			
ST 1	Chiller set point This allows you to set the working set point in chiller mode	ST02	ST03	°C/°F	Dec/int			
ST 2	Minimum chiller set This defines the minimum limit that can be used for the working set point in chiller mode	-50.0 -58	ST03	°C °F	Dec int			
ST 3	Maximum chiller set point This defines the maximum limit that can be used for the working set point in chiller mode	ST02	110 230	°C °F	Dec int			
ST 4	Heat pump set point This allows you to set the working set point in h.p. mode	ST05	ST06	°C/°F	dec/int			
ST 5	Heat pump minimum set point This defines the minimum limit that can be used for the working set point in heat pump mode	-50.0 -58	ST06	°C °F	Dec int			
ST 6	Heat pump maximum set point This defines the maximum limit that can be used for the working set point in heat pump mode	ST05	110 230	°C °F	Dec int			
ST 7	Intervention band regulation steps in chiller mode	0.1 1	25.0 45	°C °F	Dec int			
ST 8	Intervention band regulation steps in heat pump mode	0.1 1	25.0 45	°C °F	Dec int			

		1			
ST 9	Chiller temperature control probe				
	0 - evaporator input NTC				
	1 - Evaporator output 1 NTC				
	2 - Evaporator output 2 NTC	0	7		
	3 - Evaporator output 3 NTC	Ĭ	'		
	4 - Evaporator output 4 NTC				
	5 - Evaporator common output NTC				
ST 10	Heat pump temperature control probe				
	0 - evaporator input NTC				
	1 - Evaporator output 1 NTC				
	2 - Evaporator output 2 NTC				
	3 - Evaporator output 3 NTC				
	4 - Evaporator output 4 NTC				
	5 - Evaporator common output NTC				
	8 - condenser water common input NTC				
	9 - circuit 1 condenser water input NTC				
	10 - circuit 2 condenser water input NTC	0	17		
	11 - circuit 3 condenser water input NTC	Ĭ	.,		
	12 - circuit 4 condenser water input NTC				
	13 - circuit 1 condenser water output NTC				
	14 - circuit 2 condenser water output NTC				
	15 - circuit 3 condenser water output NTC				
	16 - circuit 4 condenser water output NTC				
	17 - condenser water common output NTC				
	WARNING				
	If the same temperature control is required in cooling and heating mode, set				
OT 11	the same value in the ST09 and ST10 parameters		ļ		
ST 11	Defines the type of temperature control	_	4		
	0 = Proportional	0	4		
ST 12	2 = Neutral zone	+			
31 12	Defines the temperature control logic 0 = Of machine	0	1		
	1 = or two separate circuits	0			
	Circuit 2 regulation if temperature control is enabled on two s	separate	circuits		
ST 13	Circuit 2 chiller set point	T	L	°C/°F	doclint
	This allows you to set the working set point in chiller mode	ST14	ST15	°C/°F	dec/int
ST 14	Circuit 2 chiller minimum set point	E0.0		°C	Dec
	This defines the minimum limit that can be used to set the working set	-50.0 -58	ST15	°C °F	Dec
	point in chiller mode	-၁Ծ		۲.	int
ST 15	Circuit 2 chiller maximum set		110	°C	Daa
	This defines the maximum limit that can be used to set the working set	ST14	110 230	°C °F	Dec int
	point in chiller mode		230	Г	irit
ST 16	Circuit 2 heat pump set point	CT47	CT40	°C/°F	doc/int
	This allows you to set the working set point in h.p. mode	ST17	ST18	°C/°F	dec/int
ST 17	Circuit 2 heat pump minimum set point	50.0		°C	Daa
	This defines the minimum limit that can be used to set the working set	-50.0	ST18	°C °E	Dec
	point in heat pump mode	-58		°F	int
ST 18	Circuit 2 heat pump maximum set point		140	•	Dee
	This defines the maximum limit that can be used to set the working set	ST17	110	°C °F	Dec
	point in heat pump mode		230	Г	int
ST 19	Intervention band regulation steps of circuit 2 in chiller mode	0.1	25.0	°C	Dec
		1	45	°F	int
ST 20	Intervention band regulation steps in circuit 2 heat pump	0.1 1	25.0 45	°C °F	Dec int
ST 21	Circuit 2 chiller temperature control probe			1	
	0 - evaporator input NTC				
	1 - Evaporator output 1 NTC				
	2 - Evaporator output 2 NTC	0	7		
	3 - Evaporator output 3 NTC	Ĭ	.		
	4 - Evaporator output 4 NTC				
	5 - Evaporator common output NTC				
		1			

ST 22	Circuit 2 haat numn tomporature control suchs	[
	Circuit 2 heat pump temperature control probe				
	0 - evaporator input NTC				
	1 - Evaporator output 1 NTC				
	2 - Evaporator output 2 NTC				
	3 - Evaporator output 3 NTC				
	4 - Evaporator output 4 NTC				
	5 - Evaporator common output NTC				
	8 - condenser water common input NTC				
	9 - circuit 1 condenser water input NTC	0	17		
	10 - circuit 2 condenser water input NTC				
	11 - circuit 3 condenser water input NTC				
	12 - circuit 4 condenser water input NTC				
	13 - circuit 1 condenser water output NTC				
	14 - circuit 2 condenser water output NTC				
	15 - circuit 3 condenser water output NTC				
	16 - circuit 4 condenser water output NTC				
	17 - condenser water common output NTC				
	Circuit 1 PID regulation				
Parameter	Description	min	max	um	Resolution
ST 23	Circuit 1 band offset	-25.0	25.0	°C	Dec
		-45	45	°F	int
ST 24	Circuit 1 integral sampling time	0	250	Sec	1
ST 25	Circuit 1 derived sampling time	0	250	Sec	
51 25		Ŭ,	200	000	
	Circuit 2 PID regulation	1	1	1	1-
ST 26	Circuit 2 band offset	-25.0	25.0	°C	Dec
		-45	45	°F	int
	Circuit 2 integral sampling time	0	250	Sec	
ST 28	Circuit 2 derived sampling time	0	250	Sec	
ST 29	Activation offset with regulation of the neutral zone	0.0	25.0	°C	Dec
	When the controlled temperature (coming from neutral zone) enters the	0	45	°F	Int
	compressors activation zone the compressors/capacity steps are enabled				
	only if the variable exceeds (in cooling) or drops below (in heating) the				
	relevant threshold for at least ST30.				
ST 30	Activation delay with regulation of the neutral zone	0	250	Sec	
	The controlled variable must be over (in cooling) or under (in heating) the	-			
	above mentioned activation level for at least the ST30 time before the				
	compressor/capacity step is switched ON.				
ST 31	Deactivation offset with regulation of the neutral zone	0.0	25.0	°C	Dec
51 51	When the controlled temperature (coming from neutral zone) enters the	0.0	45	°F	Int
	compressors disabling zone the compressors/capacity steps are disabled	0	43		III
	only if the variable drops below (in cooling) or exceeds(in heating) the				
	relevant threshold of at least ST32.				
		0	250	Sec	
CT 22	Deactivation delay with regulation of the neutral zone	0	200	Sec	
ST 32					
ST 32	The controlled variable must be under (in cooling) or over (in heating) the				
ST 32	above mentioned activation level for at least the ST32 time before the				
ST 32	above mentioned activation level for at least the ST32 time before the compressor/capacity step is switched OFF.				
	above mentioned activation level for at least the ST32 time before the compressor/capacity step is switched OFF. Displays				
	above mentioned activation level for at least the ST32 time before the compressor/capacity step is switched OFF.	min	max	um	Resolution
	above mentioned activation level for at least the ST32 time before the compressor/capacity step is switched OFF. Displays	min	max	um	Resolution
	above mentioned activation level for at least the ST32 time before the compressor/capacity step is switched OFF. Displays Description Remote terminal 1	min	max	um	Resolution
Parameter	above mentioned activation level for at least the ST32 time before the compressor/capacity step is switched OFF. Displays Description Remote terminal 1 Row 1 of Visograph keyboard 1 analogue input display	min	max	um	Resolution
Parameter	above mentioned activation level for at least the ST32 time before the compressor/capacity step is switched OFF. Displays Description Remote terminal 1 Row 1 of Visograph keyboard 1 analogue input display 0 = no display (the line remains empty), others are same with probe			um	Resolution
Parameter DP1	above mentioned activation level for at least the ST32 time before the compressor/capacity step is switched OFF. Displays Description Remote terminal 1 Row 1 of Visograph keyboard 1 analogue input display 0 = no display (the line remains empty), others are same with probe configuration			um	Resolution
Parameter	above mentioned activation level for at least the ST32 time before the compressor/capacity step is switched OFF. Displays Description Remote terminal 1 Row 1 of Visograph keyboard 1 analogue input display 0 = no display (the line remains empty), others are same with probe configuration Row 2 of Visograph keyboard 1 analogue input display	0	66	um	Resolution
Parameter DP1	above mentioned activation level for at least the ST32 time before the compressor/capacity step is switched OFF. Displays Description Remote terminal 1 Row 1 of Visograph keyboard 1 analogue input display 0 = no display (the line remains empty), others are same with probe configuration Row 2 of Visograph keyboard 1 analogue input display 0 = no display (the line remains empty), others are same with probe			um	Resolution
Parameter DP1 DP2	above mentioned activation level for at least the ST32 time before the compressor/capacity step is switched OFF. Displays Description Remote terminal 1 Row 1 of Visograph keyboard 1 analogue input display 0 = no display (the line remains empty), others are same with probe configuration Row 2 of Visograph keyboard 1 analogue input display 0 = no display (the line remains empty) , others are same with probe configuration	0	66	um	Resolution
Parameter DP1	above mentioned activation level for at least the ST32 time before the compressor/capacity step is switched OFF. Displays Description Remote terminal 1 Row 1 of Visograph keyboard 1 analogue input display 0 = no display (the line remains empty), others are same with probe configuration Row 2 of Visograph keyboard 1 analogue input display 0 = no display (the line remains empty) , others are same with probe configuration Row 3 of Visograph keyboard 1 analogue input display	0	66 66	um	Resolution
Parameter DP1 DP2	above mentioned activation level for at least the ST32 time before the compressor/capacity step is switched OFF. Displays Description Remote terminal 1 Row 1 of Visograph keyboard 1 analogue input display 0 = no display (the line remains empty), others are same with probe configuration Row 2 of Visograph keyboard 1 analogue input display 0 = no display (the line remains empty) , others are same with probe configuration Row 3 of Visograph keyboard 1 analogue input display 0 = no display (the line remains empty) , others are same with probe configuration Row 3 of Visograph keyboard 1 analogue input display 0 = no display (the line remains empty) , others are same with probe	0	66	um	Resolution
Parameter DP1 DP2 DP3	above mentioned activation level for at least the ST32 time before the compressor/capacity step is switched OFF. Displays Description Remote terminal 1 Row 1 of Visograph keyboard 1 analogue input display 0 = no display (the line remains empty), others are same with probe configuration Row 2 of Visograph keyboard 1 analogue input display 0 = no display (the line remains empty) , others are same with probe configuration Row 3 of Visograph keyboard 1 analogue input display 0 = no display (the line remains empty) , others are same with probe configuration Row 3 of Visograph keyboard 1 analogue input display 0 = no display (the line remains empty) , others are same with probe configuration	0	66 66	um I um	Resolution
Parameter DP1 DP2	above mentioned activation level for at least the ST32 time before the compressor/capacity step is switched OFF. Displays Description Remote terminal 1 Row 1 of Visograph keyboard 1 analogue input display 0 = no display (the line remains empty), others are same with probe configuration Row 2 of Visograph keyboard 1 analogue input display 0 = no display (the line remains empty) , others are same with probe configuration Row 3 of Visograph keyboard 1 analogue input display 0 = no display (the line remains empty) , others are same with probe configuration Row 3 of Visograph keyboard 1 analogue input display 0 = no display (the line remains empty) , others are same with probe configuration Row 4 of Visograph keyboard 1 analogue input display	0 0 0	66 66 66	um 	Resolution
Parameter DP1 DP2 DP3	above mentioned activation level for at least the ST32 time before the compressor/capacity step is switched OFF. Displays Description Remote terminal 1 Row 1 of Visograph keyboard 1 analogue input display 0 = no display (the line remains empty), others are same with probe configuration Row 2 of Visograph keyboard 1 analogue input display 0 = no display (the line remains empty) , others are same with probe configuration Row 3 of Visograph keyboard 1 analogue input display 0 = no display (the line remains empty) , others are same with probe configuration Row 3 of Visograph keyboard 1 analogue input display 0 = no display (the line remains empty) , others are same with probe configuration Row 4 of Visograph keyboard 1 analogue input display 0 = no display (the line remains empty) , others are same with probe configuration Row 4 of Visograph keyboard 1 analogue input display 0 = no display (the line remains empty) , others are same with probe	0	66 66	um 	Resolution
Parameter DP1 DP2 DP3 DP4	above mentioned activation level for at least the ST32 time before the compressor/capacity step is switched OFF. Displays Description Remote terminal 1 Row 1 of Visograph keyboard 1 analogue input display 0 = no display (the line remains empty), others are same with probe configuration Row 2 of Visograph keyboard 1 analogue input display 0 = no display (the line remains empty) , others are same with probe configuration Row 3 of Visograph keyboard 1 analogue input display 0 = no display (the line remains empty) , others are same with probe configuration Row 3 of Visograph keyboard 1 analogue input display 0 = no display (the line remains empty) , others are same with probe configuration Row 4 of Visograph keyboard 1 analogue input display 0 = no display (the line remains empty) , others are same with probe configuration	0 0 0	66 66 66	um 	Resolution
Parameter DP1 DP2 DP3	above mentioned activation level for at least the ST32 time before the compressor/capacity step is switched OFF. Displays Description Remote terminal 1 Row 1 of Visograph keyboard 1 analogue input display 0 = no display (the line remains empty), others are same with probe configuration Row 2 of Visograph keyboard 1 analogue input display 0 = no display (the line remains empty) , others are same with probe configuration Row 3 of Visograph keyboard 1 analogue input display 0 = no display (the line remains empty) , others are same with probe configuration Row 3 of Visograph keyboard 1 analogue input display 0 = no display (the line remains empty) , others are same with probe configuration Row 4 of Visograph keyboard 1 analogue input display 0 = no display (the line remains empty) , others are same with probe configuration HMI type (Can be seen only in Wizmate by Administrator).	0 0 0	66 66 66	um 	Resolution
Parameter DP1 DP2 DP3 DP4	above mentioned activation level for at least the ST32 time before the compressor/capacity step is switched OFF. Displays Description Remote terminal 1 Row 1 of Visograph keyboard 1 analogue input display 0 = no display (the line remains empty), others are same with probe configuration Row 2 of Visograph keyboard 1 analogue input display 0 = no display (the line remains empty) , others are same with probe configuration Row 3 of Visograph keyboard 1 analogue input display 0 = no display (the line remains empty) , others are same with probe configuration Row 3 of Visograph keyboard 1 analogue input display 0 = no display (the line remains empty) , others are same with probe configuration Row 4 of Visograph keyboard 1 analogue input display 0 = no display (the line remains empty) , others are same with probe configuration Row 4 of Visograph keyboard 1 analogue input display 0 = no display (the line remains empty) , others are same with probe configuration Row 4 of Visograph keyboard 1 analogue input display 0 = no display (the line remains empty) , others are same with probe configuration HMI type (Can be seen only in Wizmate by Administrator). 0 = Visograph 1	0 0 0	66 66 66	um 	Resolution
Parameter DP1 DP2 DP3 DP4	above mentioned activation level for at least the ST32 time before the compressor/capacity step is switched OFF. Description Remote terminal 1 Row 1 of Visograph keyboard 1 analogue input display 0 = no display (the line remains empty), others are same with probe configuration Row 2 of Visograph keyboard 1 analogue input display 0 = no display (the line remains empty) , others are same with probe configuration Row 3 of Visograph keyboard 1 analogue input display 0 = no display (the line remains empty) , others are same with probe configuration Row 3 of Visograph keyboard 1 analogue input display 0 = no display (the line remains empty) , others are same with probe configuration Row 4 of Visograph keyboard 1 analogue input display 0 = no display (the line remains empty) , others are same with probe configuration HMI type (Can be seen only in Wizmate by Administrator). 0 = Visograph 1 1 = Visograph 2	0 0 0 0 0	66 66 66 66	um 	Resolution
Parameter DP1 DP2 DP3 DP4	above mentioned activation level for at least the ST32 time before the compressor/capacity step is switched OFF. Description Remote terminal 1 Row 1 of Visograph keyboard 1 analogue input display 0 = no display (the line remains empty), others are same with probe configuration Row 2 of Visograph keyboard 1 analogue input display 0 = no display (the line remains empty), others are same with probe configuration Row 3 of Visograph keyboard 1 analogue input display 0 = no display (the line remains empty), others are same with probe configuration Row 3 of Visograph keyboard 1 analogue input display 0 = no display (the line remains empty), others are same with probe configuration Row 4 of Visograph keyboard 1 analogue input display 0 = no display (the line remains empty), others are same with probe configuration Row 4 of Visograph keyboard 1 analogue input display 0 = no display (the line remains empty), others are same with probe configuration HMI type (Can be seen only in Wizmate by Administrator). 0 = Visograph 1 1 = Visograph 2 2 = Visotouch	0 0 0	66 66 66	um ium ium ium ium ium ium ium i	Resolution
Parameter DP1 DP2 DP3 DP4	above mentioned activation level for at least the ST32 time before the compressor/capacity step is switched OFF. Description Remote terminal 1 Row 1 of Visograph keyboard 1 analogue input display 0 = no display (the line remains empty), others are same with probe configuration Row 2 of Visograph keyboard 1 analogue input display 0 = no display (the line remains empty) , others are same with probe configuration Row 3 of Visograph keyboard 1 analogue input display 0 = no display (the line remains empty) , others are same with probe configuration Row 4 of Visograph keyboard 1 analogue input display 0 = no display (the line remains empty) , others are same with probe configuration Row 4 of Visograph keyboard 1 analogue input display 0 = no display (the line remains empty) , others are same with probe configuration HMI type (Can be seen only in Wizmate by Administrator). 0 = Visograph 1 1 = Visograph 2 2 = Visotouch For visograph 2 and Visotouch:	0 0 0 0 0	66 66 66 66	um I um I I I I I I I I I I I I I I I I I I I	Resolution
Parameter DP1 DP2 DP3 DP4	above mentioned activation level for at least the ST32 time before the compressor/capacity step is switched OFF. Displays Description Remote terminal 1 Row 1 of Visograph keyboard 1 analogue input display 0 = no display (the line remains empty), others are same with probe configuration Row 2 of Visograph keyboard 1 analogue input display 0 = no display (the line remains empty) , others are same with probe configuration Row 3 of Visograph keyboard 1 analogue input display 0 = no display (the line remains empty) , others are same with probe configuration Row 3 of Visograph keyboard 1 analogue input display 0 = no display (the line remains empty) , others are same with probe configuration Row 4 of Visograph keyboard 1 analogue input display 0 = no display (the line remains empty) , others are same with probe configuration Row 4 of Visograph keyboard 1 analogue input display 0 = no display (the line remains empty) , others are same with probe configuration Row 4 of Visograph keyboard 1 analogue input display 0 = no display (the line remains empty) , others are same with probe configuration HMI type (Can be seen only in Wizmate by Administrator). 0 = Visograph 1 1 = Visograph 2 2 = Visotouch For visograph 2 and Visotouch: Leds green: always on;	0 0 0 0 0	66 66 66 66	um	Resolution
Parameter DP1 DP2 DP3 DP4	above mentioned activation level for at least the ST32 time before the compressor/capacity step is switched OFF. Displays Description Remote terminal 1 Row 1 of Visograph keyboard 1 analogue input display 0 = no display (the line remains empty), others are same with probe configuration Row 2 of Visograph keyboard 1 analogue input display 0 = no display (the line remains empty) , others are same with probe configuration Row 3 of Visograph keyboard 1 analogue input display 0 = no display (the line remains empty) , others are same with probe configuration Row 3 of Visograph keyboard 1 analogue input display 0 = no display (the line remains empty) , others are same with probe configuration Row 4 of Visograph keyboard 1 analogue input display 0 = no display (the line remains empty) , others are same with probe configuration Row 4 of Visograph keyboard 1 analogue input display 0 = no display (the line remains empty) , others are same with probe configuration Row 4 of Visograph keyboard 1 analogue input display 0 = no display (the line remains empty) , others are same with probe configuration Row 4 of Visograph keyboard 1 analogue input display 0 = no display (the line remains empty) , others are same with probe configuration HMI type (Can be seen only in Wizmate by Administrator). 0 = Visograph 1 1 = Visograph 2 2 = Visotouch For visograph 2 and Visotouch: Leds green: always on; Leds red: on when alarm active or resettable	0 0 0 0 0	66 66 66 66	um	Resolution
Parameter DP1 DP2 DP3 DP4	above mentioned activation level for at least the ST32 time before the compressor/capacity step is switched OFF. Description Remote terminal 1 Row 1 of Visograph keyboard 1 analogue input display 0 = no display (the line remains empty), others are same with probe configuration Row 2 of Visograph keyboard 1 analogue input display 0 = no display (the line remains empty) , others are same with probe configuration Row 3 of Visograph keyboard 1 analogue input display 0 = no display (the line remains empty) , others are same with probe configuration Row 3 of Visograph keyboard 1 analogue input display 0 = no display (the line remains empty) , others are same with probe configuration Row 4 of Visograph keyboard 1 analogue input display 0 = no display (the line remains empty) , others are same with probe configuration Row 4 of Visograph keyboard 1 analogue input display 0 = no display (the line remains empty) , others are same with probe configuration HMI type (Can be seen only in Wizmate by Administrator). 0 = Visograph 1 1 = Visograph 2 2 = Visotouch For visograph 2 and Visotouch: Leds green: always on; Leds red: on when alarm active or resettable Configuration	0 0 0 0 0	66 66 66 66	um	Resolution
Parameter DP1 DP2 DP3 DP4	above mentioned activation level for at least the ST32 time before the compressor/capacity step is switched OFF. Displays Description Remote terminal 1 Row 1 of Visograph keyboard 1 analogue input display 0 = no display (the line remains empty), others are same with probe configuration Row 2 of Visograph keyboard 1 analogue input display 0 = no display (the line remains empty) , others are same with probe configuration Row 3 of Visograph keyboard 1 analogue input display 0 = no display (the line remains empty) , others are same with probe configuration Row 3 of Visograph keyboard 1 analogue input display 0 = no display (the line remains empty) , others are same with probe configuration Row 4 of Visograph keyboard 1 analogue input display 0 = no display (the line remains empty) , others are same with probe configuration Row 4 of Visograph keyboard 1 analogue input display 0 = no display (the line remains empty) , others are same with probe configuration Row 4 of Visograph keyboard 1 analogue input display 0 = no display (the line remains empty) , others are same with probe configuration Row 4 of Visograph keyboard 1 analogue input display 0 = no display (the line remains empty) , others are same with probe configuration HMI type (Can be seen only in Wizmate by Administrator). 0 = Visograph 1 1 = Visograph 2 2 = Visotouch For visograph 2 and Visotouch: Leds green: always on; Leds red: on when alarm active or resettable	0 0 0 0 0	66 66 66 66	um 	Resolution

				1	
CF 1	Defines the type of unit to control				
	0 = Air to air unit	0	2		
	1 = Air to water	0	2		
	2 = Water to water				
CF 2	Selection of unit working mode				
	1 = chiller only				
	2 = heat pump only	1	3		
	3 = chiller with heat pump				
CF 3				-	
СГЗ	Enable compressor operation				
	0 = chiller and heat pump	0	2		
	1 = chiller only	_			
	2 = heat pump only				
CF 4	Motor-condensing unit				
	0 = no				
	1 = yes	0	1		
	Temperature control, dynamic set point and energy saving functions are				
	automatically disabled when $CF04 = 1$				
	Circuits/compressors		•		
CF 5			4 (2)	1	T
CF 5	Number of compressors in circuit 1		4 (2 if		
		1	CF9≠		
			0)		
CF 6	Number of compressors in circuit 2		4 (2 if		
		0	CF10≠		
		0			
			0)		
CF 7	Number of compressors in circuit 3		4 (2 if	1	
		0	CF11+		
		-	0)		
CF 8					
CF 0	Number of compressors in circuit 4		4 (2 if		
		0	CF12≠		
			0)		
CF 9	Circuit 1 compressor unloaders		1		
	0 = 1 step per compressor				
	1 = 2 steps per compressor	0	3		
	2 = 3 steps per compressor	0	5		
CF 10	3 = 4 steps per compressor				
	Circuit 2 compressor unloaders				
	0 = 1 step per compressor		_		
	1 = 2 steps per compressor	0	3		
	2 = 3 steps per compressor				
	3 = 4 steps per compressor				
CF 11	Circuit 3 compressor unloaders				
	0 = 1 step per compressor				
	1 = 2 steps per compressor	0	3		
	2 = 3 steps per compressor	_	-		
	3 = 4 steps per compressor				
CF 12	Circuit 4 compressor unloaders				
01 12	0 = 1 step per compressor				
		0	2		
	1 = 2 steps per compressor	0	3		
	2 = 3 steps per compressor				
	3 = 4 steps per compressor				
	Machine Set Up				
Parameter	r Description	min	max	udm	Resolution
Analogue					
	Inputs				
SP 1			1		
SP 1	Working in temperature or pressure from an analog input				
SP 1	Working in temperature or pressure from an analog input 0 - NTC cond. temperature / evap. pressure 4.0.20mA:				
SP 1	Working in temperature or pressure from an analog input 0 - NTC cond. temperature / evap. pressure 4.0.20mA: The condensation temperature is controlled through the use of an NTC				
SP 1	Working in temperature or pressure from an analog input 0 - NTC cond. temperature / evap. pressure 4.0.20mA: The condensation temperature is controlled through the use of an NTC probe, while a transducer with an input of 4-20 mA must be used to				
SP 1	Working in temperature or pressure from an analog input 0 - NTC cond. temperature / evap. pressure 4.0.20mA: The condensation temperature is controlled through the use of an NTC probe, while a transducer with an input of 4-20 mA must be used to control the evaporation pressure of the circuits and the pressure of the				
SP 1	Working in temperature or pressure from an analog input 0 - NTC cond. temperature / evap. pressure 4.0.20mA: The condensation temperature is controlled through the use of an NTC probe, while a transducer with an input of 4-20 mA must be used to control the evaporation pressure of the circuits and the pressure of the pressure probe configured as an auxiliary output				
SP 1	Working in temperature or pressure from an analog input 0 - NTC cond. temperature / evap. pressure 4.0.20mA: The condensation temperature is controlled through the use of an NTC probe, while a transducer with an input of 4-20 mA must be used to control the evaporation pressure of the circuits and the pressure of the pressure probe configured as an auxiliary output 1 - Condensation and evaporation pressure 4.0.20mA:				
SP 1	 Working in temperature or pressure from an analog input 0 - NTC cond. temperature / evap. pressure 4.0.20mA: The condensation temperature is controlled through the use of an NTC probe, while a transducer with an input of 4-20 mA must be used to control the evaporation pressure of the circuits and the pressure of the pressure probe configured as an auxiliary output 1 - Condensation and evaporation pressure 4.0.20mA: A transducer with an input of 4-20 mA must be used to control the 				
SP 1	Working in temperature or pressure from an analog input 0 - NTC cond. temperature / evap. pressure 4.0.20mA: The condensation temperature is controlled through the use of an NTC probe, while a transducer with an input of 4-20 mA must be used to control the evaporation pressure of the circuits and the pressure of the pressure probe configured as an auxiliary output 1 - Condensation and evaporation pressure 4.0.20mA:				
SP 1	 Working in temperature or pressure from an analog input 0 - NTC cond. temperature / evap. pressure 4.0.20mA: The condensation temperature is controlled through the use of an NTC probe, while a transducer with an input of 4-20 mA must be used to control the evaporation pressure of the circuits and the pressure of the pressure probe configured as an auxiliary output 1 - Condensation and evaporation pressure 4.0.20mA: A transducer with an input of 4-20 mA must be used to control the 	0	3		
SP 1	 Working in temperature or pressure from an analog input 0 - NTC cond. temperature / evap. pressure 4.0.20mA: The condensation temperature is controlled through the use of an NTC probe, while a transducer with an input of 4-20 mA must be used to control the evaporation pressure of the circuits and the pressure of the pressure probe configured as an auxiliary output 1 - Condensation and evaporation pressure 4.0.20mA: A transducer with an input of 4-20 mA must be used to control the condensation or evaporation pressures 	0	3		
SP 1	 Working in temperature or pressure from an analog input 0 - NTC cond. temperature / evap. pressure 4.0.20mA: The condensation temperature is controlled through the use of an NTC probe, while a transducer with an input of 4-20 mA must be used to control the evaporation pressure of the circuits and the pressure of the pressure probe configured as an auxiliary output 1 - Condensation and evaporation pressure 4.0.20mA: A transducer with an input of 4-20 mA must be used to control the condensation or evaporation pressures 2 - NTC cond. temperature / evap. pressure 05V: The condensation temperature is controlled through the use of an NTC 	0	3		
SP 1	 Working in temperature or pressure from an analog input 0 - NTC cond. temperature / evap. pressure 4.0.20mA: The condensation temperature is controlled through the use of an NTC probe, while a transducer with an input of 4-20 mA must be used to control the evaporation pressure of the circuits and the pressure of the pressure probe configured as an auxiliary output 1 - Condensation and evaporation pressure 4.0.20mA: A transducer with an input of 4-20 mA must be used to condensation or evaporation pressures 2 - NTC cond. temperature / evap. pressure 05V: The condensation temperature is controlled through the use of an NTC probe, while a ratiometric transducer with an input of 0÷5V must be used 	0	3		
SP 1	 Working in temperature or pressure from an analog input 0 - NTC cond. temperature / evap. pressure 4.0.20mA: The condensation temperature is controlled through the use of an NTC probe, while a transducer with an input of 4-20 mA must be used to control the evaporation pressure of the circuits and the pressure of the pressure probe configured as an auxiliary output 1 - Condensation and evaporation pressure 4.0.20mA: A transducer with an input of 4-20 mA must be used to control the condensation or evaporation pressures 2 - NTC cond. temperature / evap. pressure 05V: The condensation temperature is controlled through the use of an NTC probe, while a ratiometric transducer with an input of 05V 	0	3		
SP 1	 Working in temperature or pressure from an analog input 0 - NTC cond. temperature / evap. pressure 4.0.20mA: The condensation temperature is controlled through the use of an NTC probe, while a transducer with an input of 4-20 mA must be used to control the evaporation pressure of the circuits and the pressure of the pressure probe configured as an auxiliary output 1 - Condensation and evaporation pressure 4.0.20mA: A transducer with an input of 4-20 mA must be used to control the condensation or evaporation pressures 2 - NTC cond. temperature / evap. pressure 05V: The condensation temperature is controlled through the use of an NTC probe, while a ratiometric transducer with an input of 0÷5V must be used to control the evaporation pressure of the circuits and the pressure of the pressure probe configured as an auxiliary output 	0	3		
SP 1	 Working in temperature or pressure from an analog input 0 - NTC cond. temperature / evap. pressure 4.0.20mA: The condensation temperature is controlled through the use of an NTC probe, while a transducer with an input of 4-20 mA must be used to control the evaporation pressure of the circuits and the pressure of the pressure probe configured as an auxiliary output 1 - Condensation and evaporation pressure 4.0.20mA: A transducer with an input of 4-20 mA must be used to control the an input of 4-20 mA must be used to control the condensation or evaporation pressure 4.0.20mA: A transducer with an input of 4-20 mA must be used to control the condensation or evaporation pressures 2 - NTC cond. temperature / evap. pressure 05V: The condensation temperature is controlled through the use of an NTC probe, while a ratiometric transducer with an input of 0÷5V must be used to control the evaporation pressure of the circuits and the pressure of the pressure probe configured as an auxiliary output 3 - Condensation and evaporation pressure 05V: 	0	3		
SP 1	 Working in temperature or pressure from an analog input 0 - NTC cond. temperature / evap. pressure 4.0.20mA: The condensation temperature is controlled through the use of an NTC probe, while a transducer with an input of 4-20 mA must be used to control the evaporation pressure of the circuits and the pressure of the pressure probe configured as an auxiliary output 1 - Condensation and evaporation pressure 4.0.20mA: A transducer with an input of 4-20 mA must be used to control the condensation pressure 9.5V: 2 - NTC cond. temperature / evap. pressure 05V: The condensation temperature is controlled through the use of an NTC probe, while a ratiometric transducer with an input of 0÷5V must be used to control the evaporation pressure of the circuits and the pressure of the pressure probe configured as an auxiliary output 	0	3		
SP 1	 Working in temperature or pressure from an analog input 0 - NTC cond. temperature / evap. pressure 4.0.20mA: The condensation temperature is controlled through the use of an NTC probe, while a transducer with an input of 4-20 mA must be used to control the evaporation pressure of the circuits and the pressure of the pressure probe configured as an auxiliary output 1 - Condensation and evaporation pressure 4.0.20mA: A transducer with an input of 4-20 mA must be used to control the condensation pressure 9.5V: 2 - NTC cond. temperature / evap. pressure 05V: The condensation temperature is controlled through the use of an NTC probe, while a ratiometric transducer with an input of 0÷5V must be used to control the evaporation pressure of the circuits and the pressure of the pressure probe configured as an auxiliary output 3 - Condensation and evaporation pressure 05V: A ratiometric transducer with an input of 0-5 V must be used to control the pressure of the circuits and the pressure of the pressure of the pressure of the circuits and the pressure of the pressure of the pressure of the circuits and the pressure of the pressure of the pressure of the circuits and the pressure of the pressure of the pressure of the circuits and the pressure of the pressure of the pressure probe configured as an auxiliary output 3 - Condensation and evaporation pressure 05V: A ratiometric transducer with an input of 0-5 V must be used to control the condensation or evaporation pressures 	0	3		
SP 1	 Working in temperature or pressure from an analog input 0 - NTC cond. temperature / evap. pressure 4.0.20mA: The condensation temperature is controlled through the use of an NTC probe, while a transducer with an input of 4-20 mA must be used to control the evaporation pressure of the circuits and the pressure of the pressure probe configured as an auxiliary output 1 - Condensation and evaporation pressure 4.0.20mA: A transducer with an input of 4-20 mA must be used to control the approximation pressure 5 2 - NTC cond. temperature / evap. pressure 05V: The condensation temperature is controlled through the use of an NTC probe, while a ratiometric transducer with an input of 0÷5V must be used to control the evaporation pressure of the circuits and the pressure of the pressure probe configured as an auxiliary output 3 - Condensation and evaporation pressure 05V: A ratiometric transducer with an input of 0-5 V must be used to control the pressure of the circuits and the pressure of the pressure of the condensation or evaporation pressure 05V: 	0	3		
SP 1	 Working in temperature or pressure from an analog input 0 - NTC cond. temperature / evap. pressure 4.0.20mA: The condensation temperature is controlled through the use of an NTC probe, while a transducer with an input of 4-20 mA must be used to control the evaporation pressure of the circuits and the pressure of the pressure probe configured as an auxiliary output 1 - Condensation and evaporation pressure 4.0.20mA: A transducer with an input of 4-20 mA must be used to control the condensation pressure 9.5V: 2 - NTC cond. temperature / evap. pressure 05V: The condensation temperature is controlled through the use of an NTC probe, while a ratiometric transducer with an input of 0÷5V must be used to control the evaporation pressure of the circuits and the pressure of the pressure probe configured as an auxiliary output 3 - Condensation and evaporation pressure 05V: A ratiometric transducer with an input of 0-5 V must be used to control the pressure of the circuits and the pressure of the pressure of the pressure of the circuits and the pressure of the pressure of the pressure of the circuits and the pressure of the pressure of the pressure of the circuits and the pressure of the pressure of the pressure of the circuits and the pressure of the pressure of the pressure probe configured as an auxiliary output 3 - Condensation and evaporation pressure 05V: A ratiometric transducer with an input of 0-5 V must be used to control the condensation or evaporation pressures 	0	3		
SP 1	 Working in temperature or pressure from an analog input 0 - NTC cond. temperature / evap. pressure 4.0.20mA: The condensation temperature is controlled through the use of an NTC probe, while a transducer with an input of 4-20 mA must be used to control the evaporation pressure of the circuits and the pressure of the pressure probe configured as an auxiliary output 1 - Condensation and evaporation pressure 4.0.20mA: A transducer with an input of 4-20 mA must be used to control the approximation pressure 5 2 - NTC cond. temperature / evap. pressure 05V: The condensation temperature is controlled through the use of an NTC probe, while a ratiometric transducer with an input of 0÷5V must be used to control the evaporation pressure of the circuits and the pressure of the pressure probe configured as an auxiliary output 3 - Condensation and evaporation pressure 05V: A ratiometric transducer with an input of 0-5 V must be used to control the pressure of the circuits and the pressure of the pressure of the condensation or evaporation pressure 05V: 	0	3		

Parameter	Description	min	max	udm	Resolution
SP 2	Type of gas used to calculate the saturated temperatures				
	1=R22				
	2=R407c				
	3=R134a	1	6		
	4=R410a				
	5=R404a				
	6=R290				
SP 3	Choice between absolute and relative pressure to calculate overheating:	~			
	0 = Relative 1 = Absolute	0	1		
SP 4	Not used				
SP 5	Not used				
SP 6	Not used				
SP 7	Not used				
	Working mode				
SP 8	Operating logic				
	0= ііler / іін.p.	0	1		
	1= 🌞 chiller / 🗱 h.p.				
	Chiller / heat pump mode selection				
SP 9	Chiller / heat pump mode selection				
	0 = from the keyboard	0	2		
	1 = from a digital input	Ŭ	-		
	2 = from an analog input				
	Automatic change over				
Parameter	Description	min	max	udm	Resolution
SP 10	Automatic chiller / heat pump mode changeover setting	-50.0	110	°C	Dec
		-58	230	°F	int
SP 11	Automatic chiller / heat pump mode changeover differential	0.1	25.0	°C	Dec
		1	45	°F	int
00.40	Unit of measurement selection	I	1	1	
SP 12	Measurement Unit selection 0 = °C / BAR	0	1		
	1 = °F / psi	0	I		
	Network frequency selection	I	L	L	
SP 13	Mains frequency - continuous power supply selection	[T T	1	[
51 15	0=50 Hz				
	1= 60 Hz				
	2= continuous power supply	0	2		
	<u>WARNING</u> with SP 11 = 2 the PWM proportional outputs for fan speed	0	2		
	control are not managed (network frequency alarm is off)				
	If SP13 is different from current network frequency, alarm 'AFr -Power supply freq. clerm' will ecour				
	freq. alarm' will occur. Serial address	I			
SP 14	Serial address	1	247	Γ	
SP 15	Firmware release	•	2.17		
SP 16	Eeprom map of parameters				
	Password				
SP 17	Level 2 password	0	9999		
SP 18	Level 3 password	0	9999		
_	Dynamic set-point		r	r	
Parameter	Description	min	max	um	Resolution
Sd 1	Maximum increase in chiller mode dynamic set point This determines the maximum variation of the working set point in chiller	-50.0	110	°C	Dec
	i his determines the maximum variation of the working set point in chiller mode	-58	230	°F	int
Sd 2	Maximum increase in heat pump mode dynamic set point		<u> </u>	1	
	This determines the maximum variation in the working set point in heat	-50.0	110	°C	Dec
	pump mode	-58	230	°F	int
Sd 3	Dynamic set point in chiller mode for the external air temperature setting	-50.0	110	°C	Dec
		-58	230	°F	int
Sd 4	Dynamic set point in heat pump mode for the external air temperature	-50.0	110	°C	Dec
646	setting	-58	230	°F	int
Sd 5	External air temperature differential dynamic set point in chiller mode	-50.0	110	°C	Dec
Sd 6	Dynamic set point in heat pump mode for the external air temperature	-58 -50.0	230 110	°F °C	int Dec
54.0	differential	-50.0	230	°F	int
	Energy saving	-50	200		n
Parameter		min	max	um	Possiution
Parameter	Description	min	max	um	Resolution
			24.00	Hr	10 Min
ES 1	Start of working time band 1 (0-24)	0			10 M
ES 1 ES 2	End of working time band 1 (0-24)	0	24.00	Hr	10 Min 10 Min
ES 1					10 Min 10 Min 10 Min

iProCHILL 125/205

ES 7 ES 8 ES 8 ES 9 ES 10 ES 11 ES 12 ES 13 ES 14 ES 15 ES 16 ES 17	End of working time band 3 (0-24) Monday energy saving time band 0 = None 1 = Time Band 1 2 = Time Band 2 3 = Time Bands 1 and 2 4 = Time Band 3 5 = Time Bands 1 and 3 6 = Time Bands 2 and 3 7 = All time bands Tuesday energy saving time band Wednesday energy saving time band Thursday energy saving time band Friday energy saving time band Saturday energy saving time band Saturday energy saving time band Saturday energy saving time band Energy saving differential in chiller mode	0 0 0 0 0 0 0 0 0 0 -50.0	24.00 7 7 7 7 7 7 7	Hr	10 Min
ES 8 ES 9 ES 10 ES 11 ES 12 ES 13 ES 14 ES 15 ES 16 ES 17	0 = None 1 = Time Band 1 2 = Time Band 2 3 = Time Bands 1 and 2 4 = Time Bands 1 and 3 5 = Time Bands 1 and 3 6 = Time Bands 2 and 3 7 = All time bands Tuesday energy saving time band Wednesday energy saving time band Thursday energy saving time band Friday energy saving time band Saturday energy saving time band Saturday energy saving time band Sunday energy saving time band Increase energy saving setting in chiller mode	0 0 0 0 0 0	7 7 7 7 7 7		
ES 8 ES 9 ES 10 ES 11 ES 12 ES 13 ES 14 ES 15 ES 16 ES 17	1 = Time Band 1 2 = Time Band 2 3 = Time Bands 1 and 2 4 = Time Bands 1 and 2 4 = Time Bands 1 and 3 5 = Time Bands 1 and 3 6 = Time Bands 2 and 3 7 = All time bands Tuesday energy saving time band Wednesday energy saving time band Thursday energy saving time band Friday energy saving time band Saturday energy saving time band Sunday energy saving time band Increase energy saving setting in chiller mode	0 0 0 0 0 0	7 7 7 7 7 7		
ES 8 ES 9 ES 10 ES 11 ES 12 ES 13 ES 14 ES 15 ES 16 ES 17	2 = Time Band 2 3 = Time Bands 1 and 2 4 = Time Bands 1 and 3 5 = Time Bands 1 and 3 6 = Time Bands 2 and 3 7 = All time bands Tuesday energy saving time band Wednesday energy saving time band Thursday energy saving time band Friday energy saving time band Saturday energy saving time band Saturday energy saving time band Increase energy saving setting in chiller mode	0 0 0 0 0 0	7 7 7 7 7 7		
ES 8 7 ES 9 7 ES 10 7 ES 11 1 ES 12 7 ES 13 7 ES 14 7 ES 15 7 ES 16 7 ES 17	3 = Time Bands 1 and 2 4 = Time Bands 3 5 = Time Bands 1 and 3 6 = Time Bands 2 and 3 7 = All time bands Tuesday energy saving time band Wednesday energy saving time band Thursday energy saving time band Friday energy saving time band Saturday energy saving time band Saturday energy saving time band Increase energy saving setting in chiller mode	0 0 0 0 0 0	7 7 7 7 7 7		
ES 8 ES 9 ES 10 ES 11 ES 12 ES 13 ES 14 ES 15 ES 16 ES 17	4 = Time Band 3 5 = Time Bands 1 and 3 6 = Time Bands 2 and 3 7 = All time bands Tuesday energy saving time band Wednesday energy saving time band Thursday energy saving time band Friday energy saving time band Saturday energy saving time band Sunday energy saving time band Increase energy saving setting in chiller mode	0 0 0 0 0 0	7 7 7 7 7 7		
ES 8 ES 9 ES 10 ES 11 ES 12 ES 13 ES 14 ES 15 ES 16 ES 17	5 = Time Bands 1 and 3 6 = Time Bands 2 and 3 7 = All time bands Tuesday energy saving time band Wednesday energy saving time band Thursday energy saving time band Friday energy saving time band Saturday energy saving time band Sunday energy saving time band Increase energy saving setting in chiller mode	0 0 0 0 0	7 7 7 7 7		
ES 8 ES 9 ES 10 ES 11 ES 12 ES 13 ES 14 ES 15 ES 16 ES 17	6 = Time Bands 2 and 3 7 = All time bands Tuesday energy saving time band Wednesday energy saving time band Thursday energy saving time band Friday energy saving time band Saturday energy saving time band Sunday energy saving time band Increase energy saving setting in chiller mode	0 0 0 0 0	7 7 7 7 7		
ES 8 ES 9 ES 10 ES 11 ES 12 ES 13 ES 13 ES 14 ES 15 ES 16 ES 17	7 = All time bands Tuesday energy saving time band Wednesday energy saving time band Thursday energy saving time band Friday energy saving time band Saturday energy saving time band Sunday energy saving time band Increase energy saving setting in chiller mode	0 0 0 0 0	7 7 7 7 7		
ES 8 ES 9 ES 10 ES 11 ES 12 ES 13 ES 14 ES 15 ES 16 ES 17	Tuesday energy saving time band Wednesday energy saving time band Thursday energy saving time band Friday energy saving time band Saturday energy saving time band Sunday energy saving time band Increase energy saving setting in chiller mode	0 0 0 0 0	7 7 7 7 7		
ES 9 ES 10 ES 11 ES 12 ES 13 ES 14 ES 15 ES 16 ES 17	Wednesday energy saving time band Thursday energy saving time band Friday energy saving time band Saturday energy saving time band Sunday energy saving time band Increase energy saving setting in chiller mode	0 0 0 0 0	7 7 7 7 7		
ES 10 ES 11 ES 12 ES 13 ES 14 ES 15 ES 16 ES 17	Thursday energy saving time band Friday energy saving time band Saturday energy saving time band Sunday energy saving time band Increase energy saving setting in chiller mode	0 0 0 0	7 7 7 7		+
ES 11 ES 12 ES 13 ES 14 ES 15 ES 16 ES 17	Friday energy saving time band Saturday energy saving time band Sunday energy saving time band Increase energy saving setting in chiller mode	0 0 0	7 7		
ES 12 ES 13 ES 14 ES 15 ES 16 ES 17	Saturday energy saving time band Sunday energy saving time band Increase energy saving setting in chiller mode	0	7		1
ES 13 ES 14 ES 15 ES 16 ES 17	Sunday energy saving time band Increase energy saving setting in chiller mode	0			
ES 14 ES 15 ES 16 ES 17	Increase energy saving setting in chiller mode	-			-
ES 15 ES 16 ES 17		-50.0	7	00	Dee
ES 16 ES 17	Energy saving differential in chiller mode		110	°C °F	Dec
ES 16 ES 17	Energy saving differential in chiller mode	-58	230		int
ES 17		0.1	25.0	°C °F	Dec
ES 17	France action action increases in bact surger made	1	45		int
_	Energy saving setting increase in heat pump mode	-50.0	110	°C °F	Dec
_	Energy anying differential increase in heat nume mode	-58	230 25.0	°F °C	int Doc
	Energy saving differential increase in heat pump mode	0.1 1	25.0 45	°F	Dec int
ES 18	Monday automatic shutdown time band	0	45 7	Г	
		0			+
	Tuesday automatic shutdown time band	-	7		+
	Wednesday automatic shutdown time band	0	7		+
	Thursday automatic shutdown time band	0	7		+
	Friday automatic shutdown time band				
	Saturday automatic shutdown time band	0	7		
	Sunday automatic shutdown time band	0	7		10.14
ES 25	Maximum unit working time in OFF from RTC if forced ON via a key	0	250	Min	10 Min
	Auxiliary heating		1		
	Description	min	max	um	Resolution
AH 1	Auxiliary heating function				
	0 = Disabled	0	2		
	1 = enabled with control in integration mode	0	2		
	2 = enabled with control in heating mode				
AH 2	External air set point auxiliary heating activation	-50.0	110	°C	Dec
		-58	230	°F	int
AH 3	External air differential auxiliary heating deactivation	0.1	25.0	°C	Dec
		1	45	°F	int
	Auxiliary heating activation delay time	0	250		
AH 5	External air set point that deactivates the compressors working in integration	-50.0	110	°C	Dec
	mode	-30.0		°F	int
AH 6	External air differential that activates the compressors in integration mode	0.1	25.0	°C	Dec
		1	45	°F	int
	Off compressors delay time in integration mode	0	250		1
	Thermoregulation selection set				
	0 = uses the set point (ST04) and the differential (ST08) of the HP				
	1 = uses the set point and the differential of the auxiliary heating function	0	2		
	2 = add the parameters AH9/AH11 to HP set point (ST04) and use the				
	differentials AH10/AH12			<u> </u>	<u> </u>
AH 9	Auxiliary heating set point on / off	-50.0	110	°C	Dec
		-58	230	°F	int
AH 10	Band proportional auxiliary heating ON / OFF	0.1	25.0	°C	Dec
		1	45	°F	int
AH 11	Auxiliary modulating heating set point	-50.0	110	°C	Dec
A11.42		-58	230	°F	int
AH 12	Auxiliary modulating heating proportional band	0.1	25.0	°C	Dec
		1	45	°F	int
	Auxiliary heating modulating minimum output value	0	AH14	%	
	Auxiliary heating modulating maximum output value	AH13	100	%	+
	Auxiliary Output heating minimum maintaining value of to higher temperatures				
	modulating the set point	0	1		
	0 = Not enabled	0			
	1 = Enabled				
	Enable the auxiliary heater in defrost				
	0 = Not enabled	0	1		
	1 = Enabled				
	Compressor				

CO 1	Compressor minimum ON time Determines the length of time the compressor must remain active after being switched on, even if the request ceases.	0	250	Sec	10 sec
CO 2	Minimum compressor OFF time Determines the length of time the compressor must remain deactivated even if a request is transmitted for it to switch on again. During this stage, the LED pertaining to the compressor will flash.	0	250	Sec	10 sec
CO 3	Minimum time between one activation and another on the same compressor	0	250	Sec	10 sec
CO 4	Activation delay between 2 compressors/steps With two compressors this establishes the start-up delay between the two, to reduce absorption at peaks. During this stage, the LED pertaining to the compressor will flash. (only for the compressor) With units with partialised compressor. This determines switch-on time of the unloader solenoid for start-up at minimum capacity (see compressors start-up)	1	250	Sec	
CO 5	Shut off delay between 2 compressors / steps This establishes the shut off delay between the two compressors two unloader steps	1	250	Sec	
CO 6	Not used				
CO 7	Compressor switch-on delay from power ON (power from the mains). Delays activation of all the outputs in order to distribute the mains consumption and protect the compressors from repeated activation in case of frequent power failures	0	250	Sec	10 sec
	Unloaders				
CO 8	Unloaders operation (see unloaders operation) 0 = ON/OFF step insertion 1 = continuous insertion with direct action steps 2 = continuous insertion with inverse action steps 3 = Insertion with continuous direct global steps	0	3		
CO 9	 Enabling upon operation of the minimum power of the compressor / idle start-up management 0 = Enables minimum power only upon compressor start-up (start-up upon minimum capacity/idle valve start-up in OFF with compressor off) 1 = Screw valves enable the minimum power at compressor start-up and in temperature control (start-up with minimum capacity / idle start-up valve in OFF with compressor off) 2 = Screw valves enable the minimum power at compressor start-up (start-up with minimum capacity / idle start-up valve in OFF with compressor off) 3 = Screw valves enable the minimum power at compressor start-up and in temperature control (start-up with minimum capacity / idle start-up valve in ON with compressor off) 	0	3		
	Intermittent valve function				
CO 10	Screw compressor intermittent valve control relay ON time 0 = function is disabled	0	250	Sec	
CO 11	Screw compressor intermittent valve control relay OFF time	0	250	Sec	
0011	Compressor start-up	0	200	000	
CO 12	Compressor start-up (see compressor start-up)	[Γ	1	
	0 = direct 1 = part - winding 2 = star delta	0	2		
CO 13	Start-up is part-winding or star-delta If CO12 = 1 part - winding start-up time applies. This allows you to vary the attachment of the two relays that supply the two motor coils. If CO12 = 2 star triangle start-up time applies. This allows you to vary the simultaneous operation time of the line 1 relay and the relay that closes the star centre connection. (see start-up par.)	0	250	Tenths of sec	0.1 sec
CO 14	Star - Delta start-up If CO12 = 2 star triangle start-up time applies. This allows you to vary the time from unhooking the star centre relay from the hook on the relay of line 2 (see start-up par.)	0	250	Hund. of sec	0.01 sec
CO 15	Switch-on time with gas bypass valve / idle compressor start-up valve (see unloader mode)	0	250	Sec	
	Compressors rotation – balancing – temperature co	ontrol			
CO 16	Selection criteria of compressors in the circuit 0 = Fixed sequence 1 = FIFO 2 = Balance 3 = Saturation	0	4		
CO 17	Selection criteria of circuits 0 = Fixed sequence 1 = FIFO 2 = Balance 3 = Saturation	0	4		

CO 18	Balance/saturation criteria				
00 18	0= Hours	0	1		
	1= Starts	Ŭ	•		
CO 19	Not used				
CO 20	Not used				
CO 21	Not used				
CO 22	Not used				
CO 23	Not used				
CO 24	Not used				
CO 25	Not used				
CO 26	Not used				
CO 27	Not used				
CO 28	Not used				
CO 29 CO 30	Not used				
CO 30 CO 31	Not used				
CO 31	Not used				
CO 32	Not used				
CO 34	Not used				
CO 35	Maximum n° of compressor starts after 15 minutes ON	_			
0000	0 = function disabled	0	15		
	Resource control in proportional/neutral zone mo	ode			
CO 36	Max time with no resources being inserted with at least one resource active	0	250	Min	10 Min
CO 37	Max time in a neutral zone with no resources rotating	0	999	Hr	1Hr
	Compressor in tandem forced rotation function	1			
CO 38	Maximum continuous working time for individual compressor in the circuit.	0	250	Min	
00.00	Compressor with modulating control	0	200	IVIIII	1
CO 39	Compressor operation time at maximum speed requested by temperature	1	1	-	
00 33	control	0	250	Sec	
	0 = function is disabled	Ũ	200	000	
CO 40	Minimum value for digital scroll 0-10V analogue output at peak	0	100	%	
CO 41	Power implementation interval at peak	0	250	Sec	
CO 42	Determines the minimum continuative operation percentage of the				
	modulating compressor below which the CO43 time count starts	0	100	%	
	0 = function is disabled				
CO 43	MAX continuative operation time of modulating compressor with				
	operation percentage below CO42	0	250	Min	10 Min
00.44	0 = function is disabled	0	050	0	10
CO 44 CO 45	Forced working time at maximum speed Maximum continuative operation time of modulating compressor after	0	250	Sec	10sec
CU 45	which the modulating compressor is switched off and insertion of another				
	compressor is forced depending on rotation	0	999	Hr	1Hr
	0 = function is disabled				
CO 46	Minimum value for circuit 1 inverter 0-10V analogue output	0	CO47	%	
CO 47	Maximum value for circuit 1 inverter 0-10V analogue output	CO46	100	%	
CO 48	Minimum value for circuit 2 inverter 0-10V analogue output	0	CO49	%	
CO 49	Maximum value for circuit 2 inverter 0-10V analogue output	CO48	100	%	
CO 50	Normal power implementation interval	1	250	Sec	
	Compressors liquid injection function				
CO 51	Activation set point of the liquid injection solenoid valve	-50.0	150.0	°C	Dec
		-58	302	°F	int
CO 52	Differential deactivation of the liquid injection solenoid valve	0.1	25.0	°C	Dec
		0	45	°F	int
	Loads maintenance				
CO 53	Set compressor 1 hour meter (see chap. maintenance request function)	0	999	Hr	10 Hr
CO 54	Set compressor 2 hour meter (see chap. maintenance request function)	0	999	Hr	10 Hr
CO 55	Set compressor 3 hour meter (see chap. maintenance request function)	0	999	Hr	10 Hr
CO 56	Set compressor 4 hour meter (see chap. maintenance request function)	0	999	Hr	10 Hr
CO 57	Set compressor 5 hour meter (see chap. maintenance request function)	0	999	Hr	10 Hr
CO 58	Set compressor 6 hour meter (see chap. maintenance request function)	0	999	Hr	10 Hr
CO 59	Set compressor 7 hour meter (see chap, maintenance request function)	0	999	Hr	10 Hr
CO 60	Set compressor 8 hour meter (see chap, maintenance request function)	0	999	Hr	10 Hr
CO 61	Set compressor 9 hour meter (see chap, maintenance request function)	0	999	Hr	10 Hr 10 Hr
CO 62 CO 63	Set compressor 10 hour meter (see chap, maintenance request function)	0	999 999	Hr Hr	10 Hr
CO 63 CO 64	Set compressor 11 hour meter (see chap. maintenance request function) Set compressor 12 hour meter (see chap. maintenance request function)	0	999	Hr	10 Hr
CO 64	Set compressor 12 hour meter (see chap. maintenance request function)	0	999	Hr	10 Hr
CO 65	Set compressor 14 hour meter (see chap. maintenance request function)	0	999	Hr	10 Hr
CO 67	Set compressor 15 hour meter (see chap. maintenance request function)	0	999	Hr	10 Hr
CO 68	Set compressor 16 hour meter (see chap, maintenance request function)	0	999	Hr	10 Hr
CO 69	Delay time in enabling Refcomp Inverter compressor relay based on				
	temperature control request	0	250	sec	
CO 70	Delay in VI valves activation from compressor start-up	0	250	sec	

iProCHILL

	Minimum activation time for VI valves Stepless compressor		250	Sec	
Parameter	Description	min	max	um	Resolution
SL 1	Compressors stepless adjustment				
	0 = not active function	0	0		
	1 = Bitzer compressor active function	0	2		
	2 = Fu Sheng compressor active function				
SL 2	Pulses number to consider the stepless compressors of circuit 1 to 100%	1	250		
SL 3	Pulses number to consider the stepless compressors of circuit 2 to 100%	1	250		
SL 4	Pulses number to consider the stepless compressors of circuit 3 to 100%	1	250		
SL 5	Pulses number to consider the stepless compressors of circuit 4 to 100%	1	250		
SL 6	Delay pulse valves	1	250		0.1 sec
SL 7	Minimum interval between two consecutive pulses	1	SL8	Sec	
SL 8	Maximum interval between two consecutive pulses	SL7	250	Sec	
SL 9		0.1	25.0	°C	Dec
	Dead band in chiller operation	1	45	°F	int
SL 10		0.1	25.0	°C	Dec
	Dead band in heat pump operation	1	45	°F	int
	Water pump				
NA 4	Evaporator water pump control		1	1	
PA 1	Evaporator pump/supply fan operation mode				
	0 = Absent (pump and supply fan are not controlled). 1 = Continuous operation: the pump/supply fan is activated when the				
	machine is switched on (chiller/h.p. selection).	0	2		
	2 = Working on demand of the compressors: the water pump/supply fan				
	are linked with the compressors being switched on and off.				
PA 2	Compressor ON delay from pump/ supply fan start	0	250	Sec	10 Sec
PA 3	Evaporator water pump/supply fan OFF delay from when the compressors	0	230	Sec	10 360
FAJ	are shut off	0	250	Sec	10 Sec
PA 4	Deactivation Pump Delay from when the unit is Switched Off	0	250	Sec	10 Sec
PA 5	Pump Activation and Rotation:	0	200	000	10 000
	0 = No Rotation;				
	1 = Manual Rotation;				
	2 = Start Rotation;	0	4		
	3 = Rotation at Hours:				
	4 = Rotation at Start and Hours				
PA 6	Manual Pump Inversion:				
	0= Pump 1 Ón;	0	1		
	1= Pump 2 On;				
PA 7	No. of hours for forced evaporator pump rotation	0	999	Hr	10Hr
PA 8	Simultaneous pump running time after forced pump rotation	0	250	Sec	
	Evaporator water pump operation with anti-freeze a	larm		T	F
PA9	Determines the evaporator water pump/s anti-freeze operation when the				
	device is OFF or on Stand-by				
	0 = always OFF in remote OFF or Stand-by	0	2		
	1 = ON, parallel with the anti-freeze heaters				
	2 = on in remote OFF or Stand-by, depending on the temperature control				
PA10	request Temperature control probe for anti-freeze evaporator water pump/s operation	ļ	+	+	
	0 = disabled				
	1 = evaporator input				
	2 = evaporator output 1/2				
			6	1	
		0	0		
	3 = evaporator output 3/4	0	0		
	3 = evaporator output 3/4 4 = evaporator output 1/2/3/4	0	0		
	3 = evaporator output 3/4 4 = evaporator output 1/2/3/4 5 = evaporator output 1/2/3/4 and common output	0	0		
PA11	3 = evaporator output 3/4 4 = evaporator output 1/2/3/4	-50.0	110	°C	Dec
PA11	3 = evaporator output 3/4 4 = evaporator output 1/2/3/4 5 = evaporator output 1/2/3/4 and common output 6 = external air temperature			°C °F	Dec int
	 3 = evaporator output 3/4 4 = evaporator output 1/2/3/4 5 = evaporator output 1/2/3/4 and common output 6 = external air temperature Evaporator water pump activation set point in anti-freeze mode on the temperature control probe Evaporator water pump differential deactivation in anti-freeze mode on the 	-50.0	110	°F °C	
	 3 = evaporator output 3/4 4 = evaporator output 1/2/3/4 5 = evaporator output 1/2/3/4 and common output 6 = external air temperature Evaporator water pump activation set point in anti-freeze mode on the temperature control probe Evaporator water pump differential deactivation in anti-freeze mode on the temperature control probe 	-50.0 -58	110 230	°F	int
PA12	3 = evaporator output 3/4 4 = evaporator output 1/2/3/4 5 = evaporator output 1/2/3/4 and common output 6 = external air temperature Evaporator water pump activation set point in anti-freeze mode on the temperature control probe Evaporator water pump differential deactivation in anti-freeze mode on the temperature control probe Evaporator water pump differential deactivation in anti-freeze mode on the temperature control probe	-50.0 -58 0.1 0	110 230 25.0 45	°F ℃ °F	int Dec int
PA12 PA 13	3 = evaporator output 3/4 4 = evaporator output 1/2/3/4 5 = evaporator output 1/2/3/4 and common output 6 = external air temperature Evaporator water pump activation set point in anti-freeze mode on the temperature control probe Evaporator water pump differential deactivation in anti-freeze mode on the temperature control probe Evaporator water pump differential deactivation in anti-freeze mode on the temperature control probe Evaporator water pump maintenance request Main pump/supply fan timer setting	-50.0 -58 0.1 0	110 230 25.0 45 999	°F °C °F Hr	int Dec int 10 Hr
PA12 PA 13	3 = evaporator output 3/4 4 = evaporator output 1/2/3/4 5 = evaporator output 1/2/3/4 and common output 6 = external air temperature Evaporator water pump activation set point in anti-freeze mode on the temperature control probe Evaporator water pump differential deactivation in anti-freeze mode on the temperature control probe Evaporator water pump differential deactivation in anti-freeze mode on the temperature control probe Evaporator water pump maintenance request Main pump/supply fan timer setting Evaporator no. 2 pump timer setting	-50.0 -58 0.1 0 0	110 230 25.0 45	°F ℃ °F	int Dec int
PA11 PA12 PA 13 PA 14 PA 15	3 = evaporator output 3/4 4 = evaporator output 1/2/3/4 5 = evaporator output 1/2/3/4 and common output 6 = external air temperature Evaporator water pump activation set point in anti-freeze mode on the temperature control probe Evaporator water pump differential deactivation in anti-freeze mode on the temperature control probe Evaporator water pump differential deactivation in anti-freeze mode on the temperature control probe Evaporator water pump maintenance request Main pump/supply fan timer setting Evaporator no. 2 pump timer setting Hot start function of the supply fan air/air unit	-50.0 -58 0.1 0 0 0	110 230 25.0 45 999 999	°F °C °F Hr 10 Hr	int Dec int 10 Hr 10 Hr
PA12 PA 13	3 = evaporator output 3/4 4 = evaporator output 1/2/3/4 5 = evaporator output 1/2/3/4 and common output 6 = external air temperature Evaporator water pump activation set point in anti-freeze mode on the temperature control probe Evaporator water pump differential deactivation in anti-freeze mode on the temperature control probe Evaporator water pump differential deactivation in anti-freeze mode on the temperature control probe Evaporator water pump maintenance request Main pump/supply fan timer setting Evaporator no. 2 pump timer setting	-50.0 -58 0.1 0 0 -50.0	110 230 25.0 45 999 999 110	°F °C °F Hr 10 Hr	int Dec int 10 Hr 10 Hr Dec
PA12 PA 13 PA 14	3 = evaporator output 3/4 4 = evaporator output 1/2/3/4 5 = evaporator output 1/2/3/4 and common output 6 = external air temperature Evaporator water pump activation set point in anti-freeze mode on the temperature control probe Evaporator water pump differential deactivation in anti-freeze mode on the temperature control probe Evaporator water pump differential deactivation in anti-freeze mode on the temperature control probe Evaporator water pump maintenance request Main pump/supply fan timer setting Evaporator no. 2 pump timer setting Hot start function of the supply fan air/air unit	-50.0 -58 0.1 0 0 0	110 230 25.0 45 999 999	°F °C °F Hr 10 Hr	int Dec int 10 Hr 10 Hr

PA 17	Condenser pump operation mode 0 = Absent (pump not controlled).				
	1 = Continuous operation: the pump being switched on and off is linked with the unit being switched on and off.	0	2		
	2 = Working on demand of the compressors: pump switch-on and off is linked with the compressors being switched on and off.				
PA 18	Compressor ON delay from condenser pump start-up	0	250	Sec	10 Sec
PA 19	Condenser pump OFF delay from compressor shut off	0	250	Sec	10 Sec
PA 20	Deactivation pump delay from when the unit is switched off	0	250	Sec	10 Sec
PA 21	Pump activation and rotation:	-			
	0 = No Rotation;				
	1 = Manual Rotation;	0	4		
	2 = Start Rotation;	0	4		
	3 = Rotation at Hours;				
	4 = Rotation at Start and Hours				
PA 22	Manual pump inversion:	-			
	0 = Pump 1 On;	0	1		
	1 = Pump 2 On	-			
PA 23	No. of hours for forced condenser pump rotation	0	999	Hr	10Hr
PA 24	Simultaneous pump running time after forced condenser pump rotation	0	250	Sec	
	Condenser water pump operation with anti-freeze a	larm	-	[
PA 25	Condenser water pump/s anti-freeze operation when the device is OFF or on				
	Stand-by				
	0 = always OFF in remote OFF or Stand-by	0	2		
	1 = ON, parallel with the anti-freeze heaters				
	2 = on in remote OFF or Stand-by, depending on the temperature control				
PA 26	Condenser anti-freeze temperature control probe alarm				
FA 20	0 = disabled				
	1 = common condenser water input probe				
	2 = common condenser water input probe and condenser input 1/2				
	3 = common condenser water input probe and condenser input $3/4$				
	4 = condenser water output probe 1/2	0	8		
	5 = condenser water output probe 3/4				
	6 = condenser output 1/2/3/4				
	7 = condenser output $1/2/3/4$ and common output				
	8 = external air temperature				
PA 27	Condenser water pump activation set point in anti-freeze mode on the temperature control probe	-50.0 -58	110 230	℃ °F	Dec int
PA 28	Condenser water pump differential deactivation in anti-freeze mode on the temperature control probe	0.1	25.0 45	℃ °F	Dec int
	Condenser water pump maintenance request				
PA 29	Condenser pump timer setting	0	999	Hr	10 Hr
PA 30	Condenser no. 2 pump timer setting	0	999	Hr	10 Hr
	Pump down function				
	Pump down				
Pd 1	Pump down operation				
	0= function disabled				
	1= disabled with pump down				
	2= disabled and enabled with pump down	0	4		
	3= disabled with pump down only in chiller mode				
	4= enabled with pump down and disabled with pump down only in chiller				
B 1 A	mode		50.0		
Pd 2	Pump down pressure setting (see pump down chapter)	0.0	50.0	Bar	Dec
Pd 3	Dump down processes differential (and process down aborter)	0 0.1	725	psi Dor	int Dec
Pu S	Pump down pressure differential (see pump down chapter)		14.0	Bar Psi	Dec
Pd 4	Maximum time in Pump down when started-up and stopped (see pump down	1	203	F3I	int
Fu 4	chapter)	0	250	Sec	
	Timed pump down				
DJE	· · ·			[
Pd 5	Pump down time upon start-up	0	250	Sec	
Pd 6	0 = function disabled	1			
ruo	Pump down time upon shutdown 0 = function disabled	0	250	Sec	
					1
Del 7	Pump down alarm				
Pd 7	Maximum number of pump down alarm interventions per hour, at stopped.				
	When exceeded, the alarm is recorded and displayed on the				
	screen with a code and the relay alarm + buzzer is activated Reset is always manual if Pd7 = 0	0	60		
	Reset is always manual if $Pd7 = 0$ Reset is always automatic if Pd7 =60				
	Reset switches from automatic to manual if Pd7 falls between 1 and 59				
	record similarios from adiomatio to mandal in 1 dr fails between 1 and 35				

Pd 8	Maximum number of pump down alarm interventions per hour, at started-up. Exceeding this limit, the alarm must be reset manually, it will be saved in the log and the alarm relay + buzzer will be activated Reset is always manual if Pd8 = 0 Reset is always automatic if Pd8 =60 Reset switches from automatic to manual if Pd8 falls between 1 and 59 and based on the configuration of Par. Pd9	0	60		
Pd 9	Pump down alarm automatic or manual reset activation upon start-up O= the alarm remains in automatic reset even if the number of interventions per hour is met 1=enables manual reset when the number of interventions per hour is met	0	1		
	Unloading Function				
	Evaporator water high temperate unloading				
Un 1	Comp. unloading set point of the evaporator input high water temperature in chiller mode	-50.0 -58	110.0 230	°C °F	Dec int
Un 2	Compressor unloading differential from the evaporator input high water temperature	0.1 0	25.0 45	°C °F	Dec int
Un 3	Delay for the compressor unloading function to be inserted by an evaporator input high water temperature	0	250	Sec	10 sec
Un 4	MAX time in compressor unloading function by an evaporator input high water temperature	0	250	Min	
Un 5	Analogue input configuration for control of the unloading function of the evaporator high water temperature	1	51		
	Evaporator water low temperate unloading			I	1
Un 6	Compressor unloading set point from the evaporator low water temperature	-50.0	110.0	°C	Dec
		-58	230	°F	int
Un 7	Compressor unloading differential from the evaporator low water temperature	0.1 0	25.0 45	°C °F	Dec int
Un 8	Delay for the compressor unloading function to be inserted by an evaporator input low water temperature	0	250	Sec	10 sec
Un 9	MAX time in compressor unloading status due to the evaporator low water temperature	0	250	Min	
Un 10	Analogue input configuration for control of the unloading function of the evaporator low water temperature	1	51		
	Chiller condensation unloading				
Un 11	Condensing temperature/pressure compressor unloading set point	-50.0	110.0	°C	Dec
		-58 0.0	230 50.0	°F Bar	int Dec
Un 12	Condensing temperature/pressure compressor unloading differential	0.1	725 25.0	Psi °C	int Dec
		0 0.1	45 14.0	°F Bar	int Dec
	Evaporation unloading	1	203	Psi	int
Un 13	Evaporation pressure compressor unloading set point	-1.0	50.0	Bar	Dec
Un 14	Evaporation pressure compressor unloading differential	-14 0.1	725 14.0	Psi Bar	int Dec
Un 15	MAX time in temperature / pressure compressor unloading status	1 0	203 250	Psi Min	int
Un 16	Choice of steps for circuit to insert in unloading mode	1	8	11111	
Un 17	Not used				<u> </u>
	Condensing fan				
Parameter	Description	min	max	um	Resolution
FA1	Fan regulation 0= absent				
	1= always ON 2 =ON/OFF step insertion 3= continuous ON/OFF step insertion	0	4		
FA2	1= always ON 2 =ON/OFF step insertion 3= continuous ON/OFF step insertion 4= speed proportional regulator Fan working mode 0= depending on the compressor	0	4		
FA2 FA3	1= always ON 2 =ON/OFF step insertion 3= continuous ON/OFF step insertion 4= speed proportional regulator Fan working mode 0= depending on the compressor 1= independent from the compressor MAX speed fan peak time after ON (TRIAC) At every start-up the fan is powered at maximum voltage for time FA03, irrespective of the condensation temperature/pressure. When this elapses, the fan	-		Sec	
	1= always ON 2 =ON/OFF step insertion 3= continuous ON/OFF step insertion 4= speed proportional regulator Fan working mode 0= depending on the compressor 1= independent from the compressor MAX speed fan peak time after ON (TRIAC) At every start-up the fan is powered at maximum voltage for time FA03, irrespective of the	0	1	Sec micro sec	250µs

		1			
FA6	Single or separate condensation fan 0= unique condensation (1 / 2 / 3 / 4)	0	2		
	1= separate condensers 2= unique by circuits $(1 - 2) / (3 - 4)$				
FA7	Pre ventilation before switching compressor ON. It allows you to set a start up time for the fans at the maximum speed in chiller mode before the compressor is switched on, in order to prepare for the sudden increase in condensation temperature / pressure (that starting up the compressor entails) and improving regulation. (only if FA01 = 4)	0	250	Sec	
	Chiller mode				
FA8	Minimum operation speed of the chiller fans. This allows you to set a minimum value for proportional fan regulation in chiller mode. It is expressed as a percentage of the maximum voltage allowed.	0	FA16	%	
FA9	Maximum operation speed of the chiller fans. This allows you to set a maximum value for proportional fan regulation in chiller mode. It is expressed as a percentage of the maximum voltage allowed.	FA16	100	%	
FA10	Proportional regulation Minimum fan speed Set temperature/pressure in chiller mode. This allows you to set the condensation temperature / pressure value in chiller that corresponds to the minimum fan speed. Step regulation SET 1st STEP This allows you to set the condensation temperature / pressure value in chiller mode that corresponds to operation in ON of the relay output, configured as the 1st condensation fan speed step.	-50.0 -58 0.0 0	110 230 50.0 725	°C °F Bar Psi	Dec int Dec int
FA11	Proportional regulation Set maximum fan speed temperature/pressure in chiller mode. This allows you to set the condensation temperature / pressure value in chiller that corresponds to the maximum fan speed. Step regulation SET 2nd STEP This allows you to set the condensation temperature / pressure value in chiller mode that corresponds to the operation in ON of the relay output, configured as the 2nd condensation fan speed step.	-50.0 -58 0.0 0	110 230 50.0 725	°C °F Bar Psi	Dec int Dec int
FA12	Proportional regulation Proportional band regulation of fans in chiller mode This allows you to set a temperature / pressure differential that corresponds to a variation from minimum to maximum fan speed. Step regulation With Par. FA01=2/3 becomes the differential on the step itself of circuit 1 in chiller (see fans regulation graph).	0.1 0 0.1 1	25.0 45 14.0 203	°C °F Bar Psi	Dec int Dec int
FA13	Proportional regulation Differential CUT- OFF in chiller. This allows you to set a temperature / pressure differential in chiller mode to shut off the fan. Step regulation With Par. FA01=2/3 becomes the differential on the step itself of circuit 2 in chiller (see fans regulation graph).	0.1 0 0.1 1	25.0 45 14.0 203	°C °F Bar Psi	Dec int Dec int
FA14	Over ride CUT- OFF in chiller. This allows you to set a temperature / pressure differential in chiller mode, where the fan maintains minimum speed.	0.1 0 0.1 1	25.0 45 14.0 203	°C °F Bar Psi	Dec int Dec int
FA15	CUT-OFF delay when fans are activated. This allows you to set a delay time for the activation of the CUT - OFF function at fan start-up. If at compressor start-up the proportional regulator requests the fans to be shut off and FA15≠ 0, the fan will be forced at minimum speed for the set time. If FA15=0, the function is not enabled.	0	250	Sec	
FA16	Night function speed in chiller mode. This allows you to set a maximum value for proportional regulation of the fans in chiller mode. It is expressed as a percentage of the maximum voltage allowed.	FA8	FA9	%	
	Heat pump mode		1		
FA17	Minimum fan speed in heat pump mode. This allows you to set a minimum value for the proportional regulation of the fans in h.p. It is expressed as a percentage of the maximum voltage allowed.	0	FA24	%	
FA18	Maximum fan speed in heat pump mode. This allows you to set a maximum value for the proportional regulation of the fans in h.p. It is expressed as a percentage of the maximum voltage allowed.	FA24	100	%	

	Proportional regulation Set temperature / pressure for maximum fan speed in h.p. mode. This				
	allows you to set the condensation temperature / pressure value in h.p.	50.0	110	°C	Dee
	mode that corresponds to minimum fan speed.	-50.0 -58	110 230	°F	Dec int
	Step regulation SET 4th STEP This allows you to set the condensation temperature /	0.0	50.0	Bar	Dec
	pressure value in heat pump mode that corresponds to the operation of	0	725	Psi	int
	the relay output in ON configured as the 4th condensation fan speed				
=	step.				
FA20	Proportional regulation Set temperature / pressure for minimum fan speed in h.p. mode. This				
	allows you to set the condensation temperature / pressure value in h.p.	50.0	110	°C	Dec
	mode that corresponds to maximum fan speed.	-50.0 -58	110 230	°F	int
	Step regulation SET 3rd STEP This allows you to set the condensation temperature /	0.0	50.0	Bar	Dec
	pressure value in heat pump mode that corresponds to the operation of	0	725	Psi	int
	the relay output in ON configured as the 3rd condensation fan speed				
FA21	step. Proportional regulation				
FAZI	Proportional band regulation of fans in heat pump mode This allows you		05.0		5
	to set a temperature / pressure differential that corresponds to a variation	0.1 0	25.0 45	°C °F	Dec int
	from minimum to maximum fan speed.	0.1	14.0	Bar	Dec
	Step regulation With Par. FA01=2/3 becomes the differential on the step itself of circuit 1	1	203	Psi	int
	in heat pump (see fans regulation graph).				
FA22	Proportional regulation	<u> </u>	05.0	~~~	
	Differential CUT- OFF in heat pump. This allows you to set a temperature / pressure differential in h.p. mode to shut off the fan.	0.1 0	25.0 45	°C °F	Dec int
	Step regulation	0.1	14.0	Bar	Dec
	With Par. FA01=2/3 becomes the differential on the step itself of circuit 2	1	203	Psi	int
FA23	in heat pump mode (see fans regulation graph). Over ride CUT- OFF in h.p. This allows you to set a temperature /	0.1	25.0	°C	Dee
FAZJ	pressure differential in h.p. mode, where the fan maintains minimum	0.1 0	25.0 45	°F	Dec int
	speed.	0.1	14.0	Bar	Dec
5404		1	203	Psi	int
FA24	Night function speed in HP mode. This allows you to set a maximum value for the proportional regulation of the fans in h.p. It is expressed as a	FA17	FA18	%	
	percentage of the maximum voltage allowed.	.,	17110	70	
	Condensation fan step 3 / 4 in chiller mode				
FA25	Third step setting in chiller mode	-50.0	110	°C °F	Dec
FA25	Third step setting in chiller mode SET 3rd STEP This allows you to set the condensation temperature /	-50.0 -58 0.0	110 230 50.0	°C °F Bar	Dec int Dec
-	Third step setting in chiller mode SET 3rd STEP This allows you to set the condensation temperature / pressure value in chiller mode that corresponds to the operation in ON of the relay output, configured as the 3rd condensation fan speed step.	-58 0.0 0	230 50.0 725	°F Bar Psi	int Dec int
FA25 FA26	Third step setting in chiller mode SET 3rd STEP This allows you to set the condensation temperature / pressure value in chiller mode that corresponds to the operation in ON of the relay output, configured as the 3rd condensation fan speed step. Fourth step setting in chiller mode	-58 0.0 0 -50.0	230 50.0 725 110	°F Bar Psi ℃	int Dec int Dec
-	Third step setting in chiller mode SET 3rd STEP This allows you to set the condensation temperature / pressure value in chiller mode that corresponds to the operation in ON of the relay output, configured as the 3rd condensation fan speed step. Fourth step setting in chiller mode SET 4th STEP This allows you to set the condensation temperature /	-58 0.0 0 -50.0 -58	230 50.0 725 110 230	°F Bar Psi ℃ °F	int Dec int Dec int
FA26	Third step setting in chiller mode SET 3rd STEP This allows you to set the condensation temperature / pressure value in chiller mode that corresponds to the operation in ON of the relay output, configured as the 3rd condensation fan speed step. Fourth step setting in chiller mode	-58 0.0 0 -50.0	230 50.0 725 110	°F Bar Psi ℃	int Dec int Dec
-	Third step setting in chiller mode SET 3rd STEP This allows you to set the condensation temperature / pressure value in chiller mode that corresponds to the operation in ON of the relay output, configured as the 3rd condensation fan speed step. Fourth step setting in chiller mode SET 4th STEP This allows you to set the condensation temperature / pressure value in chiller mode that corresponds to operation in ON of the relay output, configured as the 4th condensation fan speed step. Differential on circ.3 steps in chiller mode	-58 0.0 0 -50.0 -58 0.0 0 0	230 50.0 725 110 230 50.0 725 25.0	°F Bar Psi °C °F Bar Psi °C	int Dec int Dec int Dec int Dec
FA26	Third step setting in chiller mode SET 3rd STEP This allows you to set the condensation temperature / pressure value in chiller mode that corresponds to the operation in ON of the relay output, configured as the 3rd condensation fan speed step. Fourth step setting in chiller mode SET 4th STEP This allows you to set the condensation temperature / pressure value in chiller mode that corresponds to operation in ON of the relay output, configured as the 4th condensation fan speed step. Differential on circ.3 steps in chiller mode With Par. FA01=2/3 becomes the differential on the step itself of circuit	-58 0.0 0 -50.0 -58 0.0 0 0 0.1 0	230 50.0 725 110 230 50.0 725 25.0 45	°F Bar Psi °C Bar Psi ℃ °F	int Dec int Dec int Dec int Dec int
FA26	Third step setting in chiller mode SET 3rd STEP This allows you to set the condensation temperature / pressure value in chiller mode that corresponds to the operation in ON of the relay output, configured as the 3rd condensation fan speed step. Fourth step setting in chiller mode SET 4th STEP This allows you to set the condensation temperature / pressure value in chiller mode that corresponds to operation in ON of the relay output, configured as the 4th condensation fan speed step. Differential on circ.3 steps in chiller mode	-58 0.0 0 -50.0 -58 0.0 0 0	230 50.0 725 110 230 50.0 725 25.0	°F Bar Psi °C °F Bar Psi °C	int Dec int Dec int Dec int Dec
FA26	Third step setting in chiller mode SET 3rd STEP This allows you to set the condensation temperature / pressure value in chiller mode that corresponds to the operation in ON of the relay output, configured as the 3rd condensation fan speed step. Fourth step setting in chiller mode SET 4th STEP This allows you to set the condensation temperature / pressure value in chiller mode that corresponds to operation in ON of the relay output, configured as the 4th condensation fan speed step. Differential on circ.3 steps in chiller mode With Par. FA01=2/3 becomes the differential on the step itself of circuit 3 chiller (see fans regulation graph). Differential on circ.4 steps in chiller mode	-58 0.0 0 -50.0 -58 0.0 0 0.1 0 0.1 1 0.1	230 50.0 725 110 230 50.0 725 25.0 45 14.0 203 25.0	°F Bar Psi °C Psi Psi Psi Psi Psi ℃	int Dec int Dec int Dec int Dec int Dec int Dec
FA26 FA27	Third step setting in chiller mode SET 3rd STEP This allows you to set the condensation temperature / pressure value in chiller mode that corresponds to the operation in ON of the relay output, configured as the 3rd condensation fan speed step. Fourth step setting in chiller mode SET 4th STEP This allows you to set the condensation temperature / pressure value in chiller mode that corresponds to operation in ON of the relay output, configured as the 4th condensation fan speed step. Differential on circ.3 steps in chiller mode With Par. FA01=2/3 becomes the differential on the step itself of circuit 3 chiller (see fans regulation graph). Differential on circ.4 steps in chiller mode With Par. FA01=2/3 becomes the differential on the step itself of circuit	-58 0.0 0 -50.0 -58 0.0 0 0.1 0.1 0.1 1 0.1 0.1 0	230 50.0 725 110 230 50.0 725 25.0 45 14.0 203 25.0 45	°F Bar Psi °C Par Psi Psi Psi Psi Psi Psi Psi Psi °F	int Dec int Dec int Dec int Dec int Dec int Dec int
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FA26 FA27 FA28	Third step setting in chiller mode SET 3rd STEP This allows you to set the condensation temperature / pressure value in chiller mode that corresponds to the operation in ON of the relay output, configured as the 3rd condensation fan speed step. Fourth step setting in chiller mode SET 4th STEP This allows you to set the condensation temperature / pressure value in chiller mode that corresponds to operation in ON of the relay output, configured as the 4th condensation fan speed step. Differential on circ.3 steps in chiller mode With Par. FA01=2/3 becomes the differential on the step itself of circuit 3 chiller (see fans regulation graph). Differential on circ.4 steps in chiller mode With Par. FA01=2/3 becomes the differential on the step itself of circuit 4 chiller (see fans regulation graph). Condensation fan step 3 / 4 in heat pump mode SET 2nd STEP This allows you to set the condensation temperature / pressure value in heat pump mode that corresponds to the operation of	-58 0.0 0 -50.0 -58 0.0 0 0.1 1 0.1 0.1 0.1 1 0.1 0.1 1 -50.0 -58	230 50.0 725 110 230 50.0 725 25.0 45 14.0 203 25.0 45 14.0 203	°F Bar Psi °C Bar Psi °F Bar Psi °F Bar Psi °F Bar Psi °C °F	int Dec int Dec int Dec int Dec int Dec int Dec int Dec int Dec int
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FA26 FA27 FA28 FA29 FA30	Third step setting in chiller mode SET 3rd STEP This allows you to set the condensation temperature / pressure value in chiller mode that corresponds to the operation in ON of the relay output, configured as the 3rd condensation fan speed step. Fourth step setting in chiller mode SET 4th STEP This allows you to set the condensation temperature / pressure value in chiller mode that corresponds to operation in ON of the relay output, configured as the 4th condensation fan speed step. Differential on circ.3 steps in chiller mode With Par. FA01=2/3 becomes the differential on the step itself of circuit 3 chiller (see fans regulation graph). Differential on circ.4 steps in chiller mode With Par. FA01=2/3 becomes the differential on the step itself of circuit 4 chiller (see fans regulation graph). Condensation fan step 3 / 4 in heat pump mode SET 2nd STEP This allows you to set the condensation fan speed step. Differential on circ.3 steps in chiller mode With Par. FA01=2/3 becomes the differential on the step itself of circuit 4 chiller (see fans regulation graph). Condensation fan step 3 / 4 in heat pump mode SET 2nd STEP This allows you to set the condensation temperature / pressure value in heat pump mode that corresponds to the operation of the relay output in ON configured as the 2nd condensation fan speed step. SET 1st STEP This allows you to set the condensation temperature / pressure value in heat pump mode that corresponds to the operation of the relay output in ON configured as the 1st condensation fan speed s	-58 0.0 0 -50.0 -58 0.0 0 0.1 0 0.1 1 0.1 0 0.1 1 -50.0 -58 0.0 0 -58 0.0 0 0 -58 0.0 0 0 -58 0.0 0 0 -58 0.0 0 0.1 0 0.5 0 0 0.0 0.0 0 0.0 0.0 0.0 0.0 0.0	230 50.0 725 110 230 50.0 725 25.0 45 14.0 203 25.0 45 14.0 203 25.0 45 14.0 203 25.0 45 14.0 203 25.0 45 110 230 50.0 725 25.0 45	°F Bar Psi °C Par Psi °F Bar Psi °F Bar Psi °F Bar Psi °C F ar Psi °C F ar Psi Psi °C F ar Psi Psi Psi Psi Psi Psi Psi Psi Psi Psi	int Dec int Dec int Dec int Dec int Dec int Dec int Dec int Dec int Dec int Dec int Dec int Dec int
FA26 FA27 FA28 FA29 FA30	Third step setting in chiller mode SET 3rd STEP This allows you to set the condensation temperature / pressure value in chiller mode that corresponds to the operation in ON of the relay output, configured as the 3rd condensation fan speed step. Fourth step setting in chiller mode SET 4th STEP This allows you to set the condensation temperature / pressure value in chiller mode that corresponds to operation in ON of the relay output, configured as the 4th condensation fan speed step. Differential on circ.3 steps in chiller mode With Par. FA01=2/3 becomes the differential on the step itself of circuit 3 chiller (see fans regulation graph). Differential on circ.4 steps in chiller mode With Par. FA01=2/3 becomes the differential on the step itself of circuit 4 chiller (see fans regulation graph). Condensation fan step 3 / 4 in heat pump mode SET 2nd STEP This allows you to set the condensation fan speed step. Differential on circ.4 steps in chiller mode With Par. FA01=2/3 becomes the differential on the step itself of circuit 4 chiller (see fans regulation graph). Condensation fan step 3 / 4 in heat pump mode SET 2nd STEP This allows you to set the condensation temperature / pressure value in heat pump mode that corresponds to the operation of the relay output in ON configured as the 2nd condensation fan speed step. SET 1st STEP This allows you to set the condensation temperature / pressure value in heat pump mode that corresponds to the operation of the relay output in ON configured as the 1st condensation fan speed s	-58 0.0 0 -50.0 -58 0.0 0 0.1 0 0.1 1 0.1 0 0.1 1 -50.0 -58 0.0 0 -58 0.0 0 0 -58 0.0 0 0 -58 0.0 0 0 -58 0.0 0 0.1 0 0.5 0 0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	230 50.0 725 110 230 50.0 725 25.0 45 14.0 203 25.0 45 14.0 203 25.0 45 14.0 203 25.0 45 14.0 230 50.0 725 110 230 50.0 725 110 230 50.0 725	°F Bar Psi °C Par Psi °F Bar Psi °F Bar Psi °C F ar Psi °C F ar Psi Psi Psi Psi Psi Psi Psi Psi Psi Psi	int Dec Dec Dec Dec Dec Dec Dec Dec Dec Dec
FA26 FA27 FA28 FA29 FA30 FA31	Third step setting in chiller mode SET 3rd STEP This allows you to set the condensation temperature / pressure value in chiller mode that corresponds to the operation in ON of the relay output, configured as the 3rd condensation fan speed step. Fourth step setting in chiller mode SET 4th STEP This allows you to set the condensation temperature / pressure value in chiller mode that corresponds to operation in ON of the relay output, configured as the 4th condensation fan speed step. Differential on circ.3 steps in chiller mode With Par. FA01=2/3 becomes the differential on the step itself of circuit 3 chiller (see fans regulation graph). Differential on circ.4 steps in chiller mode With Par. FA01=2/3 becomes the differential on the step itself of circuit 4 chiller (see fans regulation graph). Differential on circ.4 steps in chiller mode With Par. FA01=2/3 becomes the differential on the step itself of circuit 4 chiller (see fans regulation graph). Differential on circ.3 steps in chiller mode With Par. FA01=2/3 becomes the differential on the step itself of circuit 4 chiller (see fans regulation graph). Differential on circ.4 steps in chiller mode SET 2nd STEP This allows you to set the condensation temperature / pressure value in heat pump mode that corresponds to the operation of the relay output in ON configured as the 2nd condensation fan speed step. SET 1st STEP This allows you to set the condensation temperature / pressure value in heat pump mode that corresponds to the operation of the relay output in ON configured as the 1st c	-58 0.0 0 -50.0 -58 0.0 0 0.1 1 0.1 0.1 1 0.1 0.1 1 -50.0 -58 0.0 0 0 -58 0.0 0 0 -58 0.0 0 0 -58 0.0 0 0 -58 0.0 0 0.1 1 1 0 0 0.1 1 0 0.0 0.	230 50.0 725 110 230 50.0 725 25.0 45 14.0 203 25.0 45 14.0 203 25.0 45 14.0 203 50.0 725 110 230 50.0 725 110 230 50.0 725 110 230 50.0 725	°F Bari Psi °C Bari Psi °F Bari Psi °F Bari Psi °F Bari Psi °F Bari Psi °F Bari Psi °F Bari Psi °C F Psi °C F Bari Psi °C F Psi °C F Psi °C F Psi °C F Psi °C F Psi °C F Psi °C F Psi °C F Psi °C F Psi °C F Psi °C F Psi °C F Psi °C F Psi °C F Psi °C F Psi °C F Psi °C F Psi °C F Psi °C F Psi °C Psi Psi Psi °C Psi Psi Psi Psi Psi Psi Psi Psi Psi Psi	int Dec int Dec int Dec int Dec int Dec int Dec int Dec int Dec int Dec int Dec int Dec int Dec int Dec int Dec int Dec int
FA26 FA27 FA28 FA29 FA30	Third step setting in chiller mode SET 3rd STEP This allows you to set the condensation temperature / pressure value in chiller mode that corresponds to the operation in ON of the relay output, configured as the 3rd condensation fan speed step. Fourth step setting in chiller mode SET 4th STEP This allows you to set the condensation temperature / pressure value in chiller mode that corresponds to operation in ON of the relay output, configured as the 4th condensation fan speed step. Differential on circ.3 steps in chiller mode With Par. FA01=2/3 becomes the differential on the step itself of circuit 3 chiller (see fans regulation graph). Differential on circ.4 steps in chiller mode With Par. FA01=2/3 becomes the differential on the step itself of circuit 4 chiller (see fans regulation graph). Differential on circ.4 steps in chiller mode With Par. FA01=2/3 becomes the differential on the step itself of circuit 4 chiller (see fans regulation graph). Differential on circ.4 steps in chiller mode With Par. FA01=2/3 becomes the differential on the step itself of circuit 4 chiller (see fans regulation graph). Condensation fan step 3 / 4 in heat pump mode SET 1nd STEP This allows you to set the condensation temperature / pressure value in heat pump mode that corresponds to the operation of the relay output in ON configured as the 2nd condensation fan speed step. SET 1st STEP This allows you to set the condensation temperature / pressure value in heat pump mode that corresponds to the operation of the relay output in ON c	-58 0.0 0 -50.0 -58 0.0 0 0.1 0 0.1 1 0.1 0 0.1 1 -50.0 -58 0.0 0 -58 0.0 0 0 -58 0.0 0 0 -58 0.0 0 0 -58 0.0 0 0.1 0 0.5 0 0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0	230 50.0 725 110 230 50.0 725 25.0 45 14.0 203 25.0 45 14.0 203 25.0 45 14.0 203 25.0 45 14.0 230 50.0 725 110 230 50.0 725 110 230 50.0 725	°F Bar Psi °C Par Psi °F Bar Psi °F Bar Psi °C F ar Psi °C F ar Psi Psi Psi Psi Psi Psi Psi Psi Psi Psi	int Dec Dec Dec Dec Dec Dec Dec Dec Dec Dec
FA26 FA27 FA28 FA29 FA30 FA31	Third step setting in chiller mode SET 3rd STEP This allows you to set the condensation temperature / pressure value in chiller mode that corresponds to the operation in ON of the relay output, configured as the 3rd condensation fan speed step. Fourth step setting in chiller mode SET 4th STEP This allows you to set the condensation temperature / pressure value in chiller mode that corresponds to operation in ON of the relay output, configured as the 4th condensation fan speed step. Differential on circ.3 steps in chiller mode With Par. FA01=2/3 becomes the differential on the step itself of circuit 3 chiller (see fans regulation graph). Differential on circ.4 steps in chiller mode With Par. FA01=2/3 becomes the differential on the step itself of circuit 4 chiller (see fans regulation graph). Differential on circ.4 steps in chiller mode With Par. FA01=2/3 becomes the differential on the step itself of circuit 4 chiller (see fans regulation graph). Differential on circ.4 steps in chiller mode With Par. FA01=2/3 becomes the differential on the step itself of circuit 4 chiller (see fans regulation graph). Condensation fan step 3 / 4 in heat pump mode SET 2nd STEP This allows you to set the condensation temperature / pressure value in heat pump mode that corresponds to the operation of the relay output in ON configured as the 2nd condensation fan speed step. SET 1st STEP This allows you to set the condensation temperature / pressure value in heat pump mode that corresponds to the operation of the relay output in ON c	-58 0.0 0 -50.0 -58 0.0 0 0.1 1 0.1 0 0.1 1 0.1 0 0.1 1 0 -50.0 -58 0.0 0 0 -58 0.0 0 0 -58 0.0 0 0 -58 0.0 0 0 -58 0.0 0 0.1 1 0 0.1 1 0 0.1 1 0 0.0 0 0.0 0.	230 50.0 725 110 230 50.0 725 25.0 45 14.0 203 25.0 45 14.0 203 25.0 45 14.0 203 50.0 725 110 230 50.0 725 110 230 50.0 725 110 230 50.0 725	°F Bar Psi °C Bar Psi °C F Bar Si °C F Si Si Si Si Si Si Si Si Si Si Si Si Si	int Dec int Dec

			r	1	1
FA33	Minimum fan speed in defrost mode. This allows you to set a minimum value for proportional regulation of the fans in defrost mode. It is expressed as a percentage of the maximum voltage allowed.	0	FA40	%	
FA34	Maximum fan speed in defrost mode. This allows you to set a maximum value for proportional regulation of the fans in defrost mode. It is expressed as a percentage of the maximum voltage allowed.	FA40	100	%	
FA35	Proportional regulation Set maximum fan speed temperature/pressure in defrost mode. This allows you to set the condensation temperature / pressure value in defrost mode that corresponds to the minimum fan speed. Step regulation SET 4th STEP This allows you to set the condensation temperature / pressure value in defrost mode that corresponds to operation in ON of the relay output, configured as the 4th condensation fan speed step.	-50.0 -58 0.0 0	110 230 50.0 725	°C °F Bar Psi	Dec int Dec int
FA36	Proportional regulation Set minimum fan speed temperature/pressure in defrost mode. This allows you to set the condensation temperature / pressure value in defrost mode that corresponds to the maximum fan speed. Step regulation SET 3rd STEP This allows you to set the condensation temperature / pressure value in defrost mode that corresponds to operation in ON of the relay output, configured as the 3rd condensation fan speed step.	-50.0 -58 0.0 0	110 230 50.0 725	°C °F Bar Psi	Dec int Dec int
FA37	Proportional regulation Proportional band regulation of fans in defrost. This allows you to set a temperature / pressure differential that corresponds to a variation from minimum to maximum fan speed. Step regulation With Par. FA01=2/3 becomes the differential on the step itself of circuit 1 in defrost mode (see fans regulation graph).	0.1 0 0.1 1	25.0 45 14.0 203	°C °F Bar Psi	Dec int Dec int
FA38	Proportional regulation Differential CUT- OFF in defrost. This allows you to set a temperature / pressure differential in defrost mode to shut off the fan. Step regulation With Par. FA01=2/3 becomes the differential on the step itself of circuit 2 in defrost mode (see fans regulation graph).	0.1 0 0.1 1	25.0 45 14.0 203	°C °F Bar Psi	Dec int Dec int
FA39	Over ride CUT- OFF in defrost. This allows you to set a temperature / pressure differential in defrost where the fan maintains minimum speed.	0.1 0 0.1 1	25.0 45 14.0 203	°C °F Bar Psi	Dec int Dec int
FA40	Night function speed in defrost mode. This allows you to set a maximum value for proportional regulation of the fans in defrost mode. It is expressed as a percentage of the maximum voltage allowed.	FA33	FA34	%	
FA41	Third step setting in defrosting mode SET 2nd STEP This allows you to set the condensation temperature / pressure value in defrost mode that corresponds to relay output operation in ON configured as the 2nd condensation fan speed step.	-50.0 -58 0.0 0	110 230 50.0 725	°C °F Bar Psi	Dec int Dec int
FA42	Fourth step setting in defrosting mode SET 1st STEP This allows you to set the condensation temperature / pressure value in defrost mode that corresponds to relay output operation in ON configured as the 1st condensation fan speed step.	-50.0 -58 0.0 0	110 230 50.0 725	°C °F Bar Psi	Dec int Dec int
FA43	Differential on circ.3 steps in defrosting mode With Par. FA01=2/3 becomes the differential on the step itself of circuit 3 defrost mode	0.1 0 0.1 1	25.0 45 14.0 203	°C °F Bar Psi	Dec int Dec int
FA44	Differential on circ.4 steps in defrosting mode With Par. FA01=2/3 becomes the differential on the step itself of circuit 4 defrost mode	0.1 0 0.1 1	25.0 45 14.0 203	°C °F Bar Psi	Dec int Dec int
	Anti-freeze heaters – support	<u> </u>			<u> </u>
Parameter	Description	min	max	um	Resolution
Ar 1	Antifreeze/support heaters (air/air units) set point in chiller mode. The temperature value below which the heaters start up.	-50.0 -58	110 230	°C °F	Dec int
Ar 2	Anti-freeze/support heaters band regulation in chiller mode	0.1	25.0	°C °F	Dec
Ar 3	Antifreeze/support heaters (air/air units) set point in heat pump mode	-50.0	45 110	°C	Int Dec
Ar 4	The temperature value below which the heaters start up. Anti-freeze/support heaters band regulation in heat pump mode	-58	230 25.0	°F	int Dec
		1	45	°F	int

Ar 5			1		
	Anti-freeze/support heaters operation in defrosting mode				
	0 = activated according to temperature control demand	0	1		
	1 = activated according to temperature control demand and during defrost	0	1		
	cycle				
Ar 6	Anti-freeze/support heaters alarm temperature control probe in chiller				
	mode				
	0 = disabled				
	1 = evaporator input				
		0	5		
	2 = evaporator output 1/2				
	3 = evaporator output 3 / 4				
	4 = evaporator output 1 / 2 / 3 / 4				
	5 = evaporator output 1 / 2 / 3 / 4 and common output				
Ar 7	Anti-freeze/support heaters temperature control probe in heat pump				
	mode				
	0 = disabled				
	1 = evaporator input				
	2 = evaporator output 1 / 2	0	5		
	3 = evaporator output 3 / 4				
	4 = evaporator output 1/2/3/4				
	5 = evaporator output 1 / 2 / 3 / 4 and common output				
Ar 8	Condenser anti-freeze heaters temperature control probe				
	0 = disabled				
	1 = common condenser water input probe				
	2 = common condenser water input probe and condenser input 1 / 2				
	3 = common condenser water input probe and condenser input 3 / 4	0	7		
	4 = condenser water output probe 1 / 2	Ŭ	'		
	5 = condenser water output probe $3/4$				
	6 = condenser output 1/2/3/4				
	7 = condenser output 1 / 2 / 3 / 4 and common output		ļ		
Ar 9	Determines the evaporator/condenser anti-freeze heaters function if a probe				
	that is set to control them malfunctions	0	1		
	0 = OFF if the probe malfunctions	0			
	1 = ON if the probe malfunctions				
Ar 10	Determines the anti-freeze heaters operation when the device is in chiller or				
	heat pump mode.				
	0 = always OFF (chiller and h.p.)				
	1 = ON only in chiller mode, depending on the temperature control	0	3		
	request	-	-		
	2 = ON only in h.p. mode, depending on the temperature control request				
	3 = ON in chiller and h.p. mode, depending on the temperature control				
	5 = ON IT CHINELAND T.P. THODE, DEPENDING OF THE TEMPERATURE CONTON				
	request				
Ar 11	request				
Ar 11	request Determines the evaporator/condenser anti-freeze heaters operation				
Ar 11	request Determines the evaporator/condenser anti-freeze heaters operation depending on the remote Off Stand-by mode	0	1		
Ar 11	request Determines the evaporator/condenser anti-freeze heaters operation depending on the remote Off Stand-by mode 0 = Always OFF	0	1		
Ar 11	request Determines the evaporator/condenser anti-freeze heaters operation depending on the remote Off Stand-by mode 0 = Always OFF 1 = ON via temperature control	0	1		
Ar 11	request Determines the evaporator/condenser anti-freeze heaters operation depending on the remote Off Stand-by mode 0 = Always OFF	0	1		
Ar 11 Parameter	request Determines the evaporator/condenser anti-freeze heaters operation depending on the remote Off Stand-by mode 0 = Always OFF 1 = ON via temperature control	0 min	1 max	um	Resolution
Parameter	request Determines the evaporator/condenser anti-freeze heaters operation depending on the remote Off Stand-by mode 0 = Always OFF 1 = ON via temperature control Defrost Description			um	Resolution
	request Determines the evaporator/condenser anti-freeze heaters operation depending on the remote Off Stand-by mode 0 = Always OFF 1 = ON via temperature control Defrost Defrost Defrost Defrost Defrost mode:			um	Resolution
Parameter	request Determines the evaporator/condenser anti-freeze heaters operation depending on the remote Off Stand-by mode 0 = Always OFF 1 = ON via temperature control Defrost Defrost Defrost 0 = defrost disabled			um	Resolution
Parameter	request Determines the evaporator/condenser anti-freeze heaters operation depending on the remote Off Stand-by mode 0 = Always OFF 1 = ON via temperature control Defrost Defrost Defrost Defrost mode: 0 = defrost disabled 1 = temperature / pressure			um	Resolution
Parameter	request Determines the evaporator/condenser anti-freeze heaters operation depending on the remote Off Stand-by mode 0 = Always OFF 1 = ON via temperature control Defrost Defrost Defrost Defrost mode: 0 = defrost disabled 1 = temperature / pressure 2 = starts according to the value of parameter dF28 and ends according			um	Resolution
Parameter	request Determines the evaporator/condenser anti-freeze heaters operation depending on the remote Off Stand-by mode 0 = Always OFF 1 = ON via temperature control Defrost Description Defrost mode: 0 = defrost disabled 1 = temperature / pressure 2 = starts according to the value of parameter dF28 and ends according to the time	min	max	um	Resolution
Parameter	request Determines the evaporator/condenser anti-freeze heaters operation depending on the remote Off Stand-by mode 0 = Always OFF 1 = ON via temperature control Defrost Description Defrost mode: 0 = defrost disabled 1 = temperature / pressure 2 = starts according to the value of parameter dF28 and ends according to the time 3 = starts according to the value of parameter dF28 and ends due to an	min	max	um	Resolution
Parameter	request Determines the evaporator/condenser anti-freeze heaters operation depending on the remote Off Stand-by mode 0 = Always OFF 1 = ON via temperature control Defrost Description Defrost mode: 0 = defrost disabled 1 = temperature / pressure 2 = starts according to the value of parameter dF28 and ends according to the time 3 = starts according to the value of parameter dF28 and ends due to an external contact	min	max	um	Resolution
Parameter dF 1	request Determines the evaporator/condenser anti-freeze heaters operation depending on the remote Off Stand-by mode 0 = Always OFF 1 = ON via temperature control Defrost Defrost Defrost mode: 0 = defrost disabled 1 = temperature / pressure 2 = starts according to the value of parameter dF28 and ends according to the time 3 = starts according to the value of parameter dF28 and ends due to an external contact 4 = with a condensation fan	min	max		Resolution
Parameter	request Determines the evaporator/condenser anti-freeze heaters operation depending on the remote Off Stand-by mode 0 = Always OFF 1 = ON via temperature control Defrost Description Defrost mode: 0 = defrost disabled 1 = temperature / pressure 2 = starts according to the value of parameter dF28 and ends according to the time 3 = starts according to the value of parameter dF28 and ends due to an external contact	min	max	um	Resolution
Parameter dF 1	request Determines the evaporator/condenser anti-freeze heaters operation depending on the remote Off Stand-by mode 0 = Always OFF 1 = ON via temperature control Defrost Defrost Defrost mode: 0 = defrost disabled 1 = temperature / pressure 2 = starts according to the value of parameter dF28 and ends according to the time 3 = starts according to the value of parameter dF28 and ends due to an external contact 4 = with a condensation fan	min 0	max		
Parameter dF 1	request Determines the evaporator/condenser anti-freeze heaters operation depending on the remote Off Stand-by mode 0 = Always OFF 1 = ON via temperature control Defrost Defrost Defrost mode: 0 = defrost disabled 1 = temperature / pressure 2 = starts according to the value of parameter dF28 and ends according to the time 3 = starts according to the value of parameter dF28 and ends due to an external contact 4 = with a condensation fan	min 0 -50.0 -58	max 4 110 230	°C °F	Dec int
Parameter dF 1	request Determines the evaporator/condenser anti-freeze heaters operation depending on the remote Off Stand-by mode 0 = Always OFF 1 = ON via temperature control Defrost Defrost Defrost mode: 0 = defrost disabled 1 = temperature / pressure 2 = starts according to the value of parameter dF28 and ends according to the time 3 = starts according to the value of parameter dF28 and ends due to an external contact 4 = with a condensation fan	min 0 -50.0 -58 0.0	max 4 110 230 50.0	°C °F bar	Dec int Dec
Parameter dF 1 dF 2	request Determines the evaporator/condenser anti-freeze heaters operation depending on the remote Off Stand-by mode 0 = Always OFF 1 = ON via temperature control Defrost Defrost Defrost mode: 0 = defrost disabled 1 = temperature / pressure 2 = starts according to the value of parameter dF28 and ends according to the time 3 = starts according to the value of parameter dF28 and ends due to an external contact 4 = with a condensation fan Defrost begins by temperature/pressure	-50.0 -58 0.0 0	max 4 110 230 50.0 725	°C °F bar psi	Dec int Dec Int
Parameter dF 1 dF 2	request Determines the evaporator/condenser anti-freeze heaters operation depending on the remote Off Stand-by mode 0 = Always OFF 1 = ON via temperature control Defrost Defrost Defrost mode: 0 = defrost disabled 1 = temperature / pressure 2 = starts according to the value of parameter dF28 and ends according to the time 3 = starts according to the value of parameter dF28 and ends due to an external contact 4 = with a condensation fan	-50.0 -58 0.0 0 -50.0	max 4 110 230 50.0 725 110	°C °F bar psi °C	Dec int Dec Int Dec
Parameter dF 1 dF 2	request Determines the evaporator/condenser anti-freeze heaters operation depending on the remote Off Stand-by mode 0 = Always OFF 1 = ON via temperature control Defrost Defrost Defrost mode: 0 = defrost disabled 1 = temperature / pressure 2 = starts according to the value of parameter dF28 and ends according to the time 3 = starts according to the value of parameter dF28 and ends due to an external contact 4 = with a condensation fan Defrost begins by temperature/pressure	min 0 -50.0 -58 0.0 0 -50.0 -58	max 4 110 230 50.0 725 110 230	°C °F bar psi °C °F	Dec int Dec Int Dec int
Parameter dF 1	request Determines the evaporator/condenser anti-freeze heaters operation depending on the remote Off Stand-by mode 0 = Always OFF 1 = ON via temperature control Defrost Defrost Defrost mode: 0 = defrost disabled 1 = temperature / pressure 2 = starts according to the value of parameter dF28 and ends according to the time 3 = starts according to the value of parameter dF28 and ends due to an external contact 4 = with a condensation fan Defrost begins by temperature/pressure	-50.0 -58 0.0 -58 0.0 0 -50.0 -58 0.0	max 4 110 230 50.0 725 110 230 50.0	°C °F bar psi °C °F bar	Dec int Dec Int Dec int Dec
Parameter dF 1 dF 2 dF 3	request Determines the evaporator/condenser anti-freeze heaters operation depending on the remote Off Stand-by mode 0 = Always OFF 1 = ON via temperature control Defrost Defrost Defrost Defrost mode: 0 = defrost disabled 1 = temperature / pressure 2 = starts according to the value of parameter dF28 and ends according to the time 3 = starts according to the value of parameter dF28 and ends due to an external contact 4 = with a condensation fan Defrost begins by temperature/pressure Defrost ends by temperature/pressure	-50.0 -58 0.0 -58 0.0 -58 0.0 0	max 4 110 230 50.0 725 110 230 50.0 725 100 230 50.0 725	°C °F bar psi °C °F bar psi	Dec int Dec Int Dec int
Parameter dF 1 dF 2 dF 3 dF 4	request Determines the evaporator/condenser anti-freeze heaters operation depending on the remote Off Stand-by mode 0 = Always OFF 1 = ON via temperature control Defrost Defrost Defrost mode: 0 = defrost disabled 1 = temperature / pressure 2 = starts according to the value of parameter dF28 and ends according to the time 3 = starts according to the value of parameter dF28 and ends due to an external contact 4 = with a condensation fan Defrost begins by temperature/pressure	-50.0 -58 0.0 -58 0.0 0 -50.0 -58 0.0	max 4 110 230 50.0 725 110 230 50.0	°C °F bar psi °C °F bar	Dec int Dec Int Dec int Dec
Parameter dF 1 dF 2 dF 3	request Determines the evaporator/condenser anti-freeze heaters operation depending on the remote Off Stand-by mode 0 = Always OFF 1 = ON via temperature control Defrost Defrost Defrost Defrost mode: 0 = defrost disabled 1 = temperature / pressure 2 = starts according to the value of parameter dF28 and ends according to the time 3 = starts according to the value of parameter dF28 and ends due to an external contact 4 = with a condensation fan Defrost begins by temperature/pressure Defrost ends by temperature/pressure	-50.0 -58 0.0 -58 0.0 -58 0.0 0	max 4 110 230 50.0 725 110 230 50.0 725 230 50.0 725 230 50.0 725 250	°C °F bar psi °C °F bar psi	Dec int Dec Int Dec int Dec
Parameter dF 1 dF 2 dF 3 dF 3 dF 4 dF 5	request Determines the evaporator/condenser anti-freeze heaters operation depending on the remote Off Stand-by mode 0 = Always OFF 1 = ON via temperature control Defrost Defrost Defrost mode: 0 = defrost disabled 1 = temperature / pressure 2 = starts according to the value of parameter dF28 and ends according to the time 3 = starts according to the value of parameter dF28 and ends due to an external contact 4 = with a condensation fan Defrost begins by temperature/pressure Defrost ends by temperature/pressure Minimum defrost duration Maximum defrost duration	-50.0 -58 0.0 0 -58 0.0 0 -50.0 -58 0.0 0 0 1	max 4 110 230 50.0 725 110 230 50.0 725 230 50.0 725 230 50.0 725 250	°C °F bar psi °F bar psi Sec Min	Dec int Dec Int Dec int Dec
Parameter dF 1 dF 2 dF 3 dF 3 dF 4 dF 5 dF 6	request Determines the evaporator/condenser anti-freeze heaters operation depending on the remote Off Stand-by mode 0 = Always OFF 1 = ON via temperature control Defrost Defrost Defrost Defrost mode: 0 = defrost disabled 1 = temperature / pressure 2 = starts according to the value of parameter dF28 and ends according to the time 3 = starts according to the value of parameter dF28 and ends due to an external contact 4 = with a condensation fan Defrost begins by temperature/pressure Defrost ends by temperature/pressure Minimum defrost duration Maximum defrost duration Defrost delay between two circuits	-50.0 -58 0.0 0 -50.0 -50.0 -50.0 0 0 0 0 1 0	max 4 110 230 50.0 725 110 230 50.0 725 250 250 250	°C °F bar psi °F bar psi Sec Min Min	Dec int Dec Int Dec int Dec
Parameter dF 1 dF 2 dF 2 dF 3 dF 4 dF 5 dF 6 dF 7	request Determines the evaporator/condenser anti-freeze heaters operation depending on the remote Off Stand-by mode 0 = Always OFF 1 = ON via temperature control Defrost Defrost Defrost Defrost mode: 0 = defrost disabled 1 = temperature / pressure 2 = starts according to the value of parameter dF28 and ends according to the time 3 = starts according to the value of parameter dF28 and ends due to an external contact 4 = with a condensation fan Defrost begins by temperature/pressure Defrost ends by temperature/pressure Minimum defrost duration Maximum defrost duration Defrost delay between two circuits Idle time in compressor OFF mode before defrosting	-50.0 -58 0.0 -58 0.0 -58 0.0 0 -58 0.0 0 -58 0.0 0 1 0 0 0	max 4 110 230 50.0 725 110 230 520 250 250 250 250 250 250 250 250	°C °F bar psi °F bar psi Sec Min Sec	Dec int Dec Int Dec int Dec
Parameter dF 1 dF 2 dF 2 dF 3 dF 4 dF 5 dF 6 dF 6 dF 7 dF 8	request Determines the evaporator/condenser anti-freeze heaters operation depending on the remote Off Stand-by mode 0 = Always OFF 1 = ON via temperature control Defrost Defrost Defrost Defrost mode: 0 = defrost disabled 1 = temperature / pressure 2 = starts according to the value of parameter dF28 and ends according to the time 3 = starts according to the value of parameter dF28 and ends due to an external contact 4 = with a condensation fan Defrost begins by temperature/pressure Defrost ends by temperature/pressure Minimum defrost duration Maximum defrost duration Defrost delay between two circuits Idle time in compressor OFF mode before defrosting Idle time in compressor OFF mode after defrosting	-50.0 -58 0.0 0 -50.0 -50.0 -50.0 0 0 0 0 1 0	max 4 110 230 50.0 725 110 230 50.0 725 250 250 250	°C °F bar psi °F bar psi Sec Min Min	Dec int Dec Int Dec int Dec
Parameter dF 1 dF 2 dF 2 dF 3 dF 4 dF 5 dF 6 dF 7	request Determines the evaporator/condenser anti-freeze heaters operation depending on the remote Off Stand-by mode 0 = Always OFF 1 = ON via temperature control Defrost Defrost Defrost Defrost mode: 0 = defrost disabled 1 = temperature / pressure 2 = starts according to the value of parameter dF28 and ends according to the time 3 = starts according to the value of parameter dF28 and ends due to an external contact 4 = with a condensation fan Defrost begins by temperature/pressure Defrost ends by temperature/pressure Minimum defrost duration Maximum defrost duration Defrost delay between two circuits Idle time in compressor OFF mode before defrosting	min 0 -50.0 -58 0.0 0 -58 0.0 0 -58 0.0 0 0 1 0 0 1 0 0 0 0	max 4 110 230 50.0 725 110 230 50.0 725 250 250 250 250 250 250 250 250 250 250 250 250 250 250	°C °F bar psi °F bar psi Sec Min Sec Sec	Dec int Dec Int Dec int Dec
Parameter dF 1 dF 2 dF 2 dF 3 dF 4 dF 5 dF 6 dF 7 dF 8 dF 9	request Determines the evaporator/condenser anti-freeze heaters operation depending on the remote Off Stand-by mode 0 = Always OFF 1 = ON via temperature control Defrost Defrost Defrost Defrost Defrost disabled 1 = temperature / pressure 2 = starts according to the value of parameter dF28 and ends according to the time 3 = starts according to the value of parameter dF28 and ends due to an external contact 4 = with a condensation fan Defrost begins by temperature/pressure Defrost ends by temperature/pressure Minimum defrost duration Maximum defrost duration Defrost delay between two circuits Idle time in compressor OFF mode before defrosting Idle time in compressor OFF mode after defrosting Defrost interval in the same circuit	-50.0 -58 0.0 -58 0.0 -58 0.0 0 -58 0.0 0 -58 0.0 0 1 0 0 0	max 4 110 230 50.0 725 110 230 50.0 725 250 250 250 250 250 250 250 250 99	°C °F bar psi °F bar psi Sec Min Sec Sec Min	Dec int Dec Int Dec int Dec
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dF 13	Defrosting cycle start temperature setting together with circuit 4 after the	-50.0	110	°C	Dec
	count of parameter dF09 elapses	-58	230	°F	int
dF 14	End temperature setting of circuit 1 with defrost cycle The actual defrost cycle on circuit 1 terminates when the temperature sensed	-50.0 -58	110 230	°C °F	Dec int
	by the combined defrost temperature probe exceeds the dF14 limit.				
dF 15	End temperature setting of circuit 2 with defrost cycle	-50.0 -58	110 230	°C °F	Dec int
dF 16	End temperature setting of circuit 3 with defrost cycle	-56	110	°C	Dec
		-58	230	°F	int
dF 17	End temperature setting of circuit 4 with defrost cycle	-50.0 -58	110 230	°C °F	Dec int
dF 18	Forcing by switching ON activates all steps in defrosting mode in circuit 1 0 = disabled 1 = enabled	0	1		
dF 19	Forcing by switching ON activates all steps in defrosting mode in circuit 2	0	1		
dF 20	Forcing by switching ON activates all steps in defrosting mode in circuit 3	0	1		
dF 21	Forcing by switching ON activates all steps in defrosting mode in circuit 4	0	1	-	
dF 22	ON delay between two compressors in defrosting mode	1	250	Sec	
dF 23	Fan ON activation during defrosting/dripping 0 = disabled 1 = enabled only during defrost 2 = enabled during defrosting/dripping	0	2		
dF 24	Temperature/pressure setting that forces the fan ON in defrosting mode	-50.0	110	°C	Dec
		-58	230	°F	int
		0.0	50.0	bar	Dec
	Defrost with condensation fans	0	725	psi	Int
dF 25	Defrost activation setting with condensation fans	-50.0	110	°C	Dec
	The function defrost with outdoor fans is enabled if the external temperature is above the dF25 level.	-58	230	°F	int
	Defrost Start/Stop				
dF 26	Defrosting cycle start in unit				
	0 = independent 1 = if both have reached the request for defrosting to start	0	2		
	2 = if at least one has reached the request for defrosting to start				
dF 27	Defrosting cycle end in unit 0 = independent 1 = if both have reached the defrost end status	0	2		
	2 = if at least one has reached the defrost end status				
	Begin end defrost from analog input		1		
dF 28	Probe that determines the defrost start and end 0= start and end with condensation temperature / pressure probe 1= start with evaporation pressure probe - end with condensation temperature / pressure probe 2= start with condensation temperature / pressure probe - end with evaporation pressure probe 3= start and end by evaporation pressure	0	4		
	4=start and end by auxiliary probe 1				
	Forced defrost				
dF 29	Minimum idle time before forced defrosting The device wait the delay time dF29 before starting a forced defrost cycle after the relevant conditions have reached	0	250	Sec	
dF 30	Forced defrosting temperature/pressure setting	-50.0	110	°C	Dec
-		-58	230	°F	int
		0.0	50.0	bar	Dec
15 24		0	725	psi	Int
dF 31	Forced defrosting differential	0.1 1	25.0 45	°C °F	Dec int
		0.1	45 14.0	Bar	Dec
		1	203	Psi	int
	Supply fan working in defrost mode				
dF 32	Supply fan block in defrosting mode 0 = Not enabled – Supply fan works during defrost	0	1		
	1 = Enabled – Supply fan doesn't work during defrost		I		
dF 33	Anti-freeze security for multi circuit units				
นา วว	Forcing circuits that are not defrosting ON 0 –function is disabled				
	1 –function is enabled with the fan off	0	2		
	2 –function is enabled with fan controlled by HP circuit				
	Heat recovery				

10 0 3 11 0 3 12	rC 1	Recovery function	1			
1 = separate hydraulic circuits 0 3 2 = hydraulic circuits 0 1 3 = total recovery gas ade 0 1 7C2 Choice of recovery function priority 0 250 C3 Forced step deschalation time after rotation of recovery value 0 250 See 7C4 Forced step deschalation time after rotation of neareery value 0 250 Min 7C6 Minimum delay batewise nearcowary and and reat recovery function once enabled 0 250 Min 7C6 Minimum delay batewise nearcowary and and reat recovery function once enabled 0 250 Min 7C7 Minimum delay batewise exceeds the C47 level the theat recovery function is reactivated on the totare covery function is reactivated if the condensing pressure exceeds the C47 level the theat recovery function is reactivated if the condensing pressure texceeds the C47 level the theat recovery function is reactivated if the condensing pressure texceeds the C47 level the theat recovery function is reactivated if the condensing pressure texceeds the C47 level the theat recovery function is reactivated if the condensing pressure texceeds the C47 level the theat recovery function is reactivated if the condensing pressure texceeds the C47 level the theat recovery function is reactivated if the condensing pressure texceeds the C47 level the text text text text text text text	101					
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Image: network state detactivation time Image: network state detactivation time after rotation of recovery value Image: network state detactivation time in recovery mode Image: network state detactivation of recovery duration on the activation of recovery duration is reactivated if the condensing pressure/rempetature level for disabiling theat recovery duration is near divated if the condensing pressure/rempetature recovery disabiling theat recovery duration is reactivated if the condensing pressure/rempetature recovery disabiling time divation is reactivated if the condensing pressure / recovery disabiling time divation of recovery mode Image: network divation divation of recovery mode Image: network divation divation of recovery mode Image: network divation divatina divatina divation divation divation divation divatina divation	rC 2	Choice of recovery function priority				
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0 = activates all the compressors 1 = activates the compressors and heaters 0 1 FS 8 Connection of the domestic water temperature control heaters 0 = no 0 1	FS 3 FS 4 FS 5	 2 = with dedicated return – User and domestic hot water heat exchanger and water piping are physically separated Operation priorities 0 = domestic water 1 = heating / cooling Domestic water set point. Defines the working set point for the production of domestic hot water. Domestic water regulation steps intervention band Minimum domestic water set point value. Minimum limit for the domestic water set point Maximum domestic water set point value. 	FS05 0.1 1 -50.0 -58	FS06 25.0 45 FS06 110	°F ℃ °F °C °F °C	int dec int dec int dec
I = activates the compressors and heaters Image: Complexity of the domestic water temperature control heaters FS 8 Connection of the domestic water temperature control heaters 0 1	FS 3 FS 4 FS 5 FS 6	 2 = with dedicated return – User and domestic hot water heat exchanger and water piping are physically separated Operation priorities 0 = domestic water 1 = heating / cooling Domestic water set point. Defines the working set point for the production of domestic hot water. Domestic water regulation steps intervention band Minimum domestic water set point value. Minimum limit for the domestic water set point Maximum domestic water set point value. Maximum limit for the domestic water set point 	FS05 0.1 1 -50.0 -58	FS06 25.0 45 FS06 110	°F ℃ °F °C °F °C	int dec int dec int dec
FS 8 Connection of the domestic water temperature control heaters 0 1	FS 3 FS 4 FS 5 FS 6	 2 = with dedicated return – User and domestic hot water heat exchanger and water piping are physically separated Operation priorities 0 = domestic water 1 = heating / cooling Domestic water set point. Defines the working set point for the production of domestic hot water. Domestic water regulation steps intervention band Minimum domestic water set point value. Minimum domestic water set point value. Maximum domestic water set point value. Maximum limit for the domestic water set point Activation of the steps to reach the domestic water set point 	FS05 0.1 1 -50.0 -58 FS05	FS06 25.0 45 FS06 110 230	°F ℃ °F °C °F °C	int dec int dec int dec
0 = no 0 1	FS 3 FS 4 FS 5 FS 6	 2 = with dedicated return – User and domestic hot water heat exchanger and water piping are physically separated Operation priorities 0 = domestic water 1 = heating / cooling Domestic water set point. Defines the working set point for the production of domestic hot water. Domestic water regulation steps intervention band Minimum domestic water set point value. Minimum limit for the domestic water set point Maximum domestic water set point value. Maximum limit for the domestic water set point Activation of the steps to reach the domestic water set point 0 = activates all the compressors 	FS05 0.1 1 -50.0 -58 FS05	FS06 25.0 45 FS06 110 230	°F ℃ °F °C °F °C	int dec int dec int dec
	FS 3 FS 4 FS 5 FS 6 FS 7	 2 = with dedicated return – User and domestic hot water heat exchanger and water piping are physically separated Operation priorities 0 = domestic water 1 = heating / cooling Domestic water set point. Defines the working set point for the production of domestic hot water. Domestic water regulation steps intervention band Minimum domestic water set point value. Minimum limit for the domestic water set point Maximum domestic water set point value. Maximum limit for the domestic water set point Activation of the steps to reach the domestic water set point 0 = activates all the compressors 1 = activates the compressors and heaters 	FS05 0.1 1 -50.0 -58 FS05	FS06 25.0 45 FS06 110 230	°F ℃ °F °C °F °C	int dec int dec int dec
	FS 3 FS 4 FS 5 FS 6 FS 7	 2 = with dedicated return – User and domestic hot water heat exchanger and water piping are physically separated Operation priorities 0 = domestic water 1 = heating / cooling Domestic water set point. Defines the working set point for the production of domestic hot water. Domestic water regulation steps intervention band Minimum domestic water set point value. Minimum limit for the domestic water set point Maximum limit for the domestic water set point Activation of the steps to reach the domestic water set point 0 = activates all the compressors 1 = activates the compressors and heaters Connection of the domestic water temperature control heaters 	FS05 0.1 1 -50.0 -58 FS05 0	FS06 25.0 45 FS06 110 230 1	°F ℃ °F °C °F °C	int dec int dec int dec

				<u> </u>	<u> </u>
FS 9	Time to activate maximum power/heaters insertion Delay time from domestic hot water production and electric heaters activation for reaching the domestic hot water set point	0	250	min	
FS 10	Delay in activating outputs for domestic water production	0	999	600	
FS 10		0	999	Sec	
FS 12	Delay in cycle inversion during domestic water production Type of Anti-legionella activation 0 = timed. The antliegionella cycle is activated every FS13 time period. 1 = time band. The antliegionella cycle occurs on the day defined on FS18 and hour defined on FS17	0	1	Sec	
FS 13	Delay between two Anti-legionella production cycles. 0 = function disabled	0	250	Hr	
FS 14	Anti legionella set point.	FS15	FS16	°C °F	dec int
FS 15	Minimum Anti-legionella set point value	-50.0 -58	FS16	°C °F	dec int
FS 16	Maximum Anti-legionella set point value	FS15	110 230	°C °F	dec int
FS 17	Anti-legionella activation time	0.00	24.00	Hr	10 min
FS 18	Day of activation Anti-legionella 0 = Disabled 1 = Sunday 7 = Saturday	0	7		
FS 19	Time in anti-legionella production Once reached the antilegionella set point the antilegionella function is kept active for the FS19 time.	0	250	min	
FS 20	Maximum idle time in Anti-legionella mode The antilegionella cycle is disabled after the time FS20 even though the working set point is not achieved.	0	250	min	
FS 21	Heaters OFF band in Anti-legionella mode The electric heaters activated for the antilegionella function are disabled (before expiration of FS20) if the water temperature exceeds FS14 (antilegionella set)+FS21	0.1 1	25.0 45	°C °F	dec int
FS 22	Water set point for solar panel integration	FS24	FS25	°C °F	dec int
FS 23	Intervention band for solar panel integration.	0.1 1	25.0 45	°C °F	Dec
FS 24	Solar panel water minimum setting	-50.0 -58	FS25	°C °F	Dec int
FS 25	Solar panel water maximum setting	FS24	110 230	°C °F	Dec int
FS 26	Domestic water output inversion delay from when the domestic water pump is activated	0	250	sec	
FS 27	Domestic water pump deactivation delay from when the domestic water output is inverted	0	250	sec	
FS 28	Domestic water pump operation mode 0 = operation on demand. The pump is activated only when domestic hot water is required. 1 = continuous operation. The pump is always active when the unit is active. FS26 and FS27 delays are ignored	0	1		
FS 29	Minimum interruption (time) during domestic water production by probe no. 2 and minimum time between two interruptions	0	250	sec	
FS 30	Domestic water probe set point no. 2 to interrupt domestic water production	-50.0 -58	110 230	°C °F	dec int
FS 31	Domestic water probe differential no. 2 to interrupt domestic water production	0.1 1	25.0 45	°C °F	dec int
FS 32	Overheating set point to activate the charge modulating valve. After activation of the cooling + sanitary water function the circuit charge modulating valve is activated if the superheating is higher than FS32	-50.0 -58	110 230	°C °F	dec int
FS 33	Overheating band for the charge modulating valve	0.1 1	25.0 45	°C °F	dec int
FS 34	Maximum charge modulating valve time	1	250	min	10 min
FS 35	Water set point to change activation setting and band of the charge modulating valve	-50.0 -58	110 230	°C °F	dec int
FS 36	Water band to change activation setting and band of the charge modulating valve	0.1	25.0 45	°C °F	dec int
FS 37	New overheating set point	-50.0 -58	110 230	°C °F	dec int
FS 38	New overheating band	0.1	25.0 45	°C °F	dec int
	Charge modulating valve ON time	1	250	sec	
FS 39					

Parameter	Description	min	max	um	Resolution
	2 = 100% enabling of power available (only HP) Free-cooling				
	0 = the temperature control satisfies the domestic water demand 1 = enabling of max number of steps between domestic water and user side	0	2		
FS 56	Power modulation if the user side and domestic water side are demanded simultaneously.				
	domestic water production (with HP priority). In case the domestic hot water production function is active any heating demand for less than the number of steps defined on FS55 is neglected.	1	16		
-S 55	hot water production function is active any cooling demand for less than the number of steps defined on FS54 is neglected. Minimum heat pump demand threshold (power steps) before stopping the				
FS 54	Minimum chiller demand threshold (power steps) before starting in chiller + domestic water mode. Defines the number of cooling demand capacity steps necessary for activation of cooling + domestic hot water production. In case the domestic	1	16		
	In case of demand of both domestic hot water and cooling the unit is forced to work for FS53 in cooling mode only to ensure enough refrigerant is stored in the condenser.	0	250	sec	10 sec
FS 53	Minimum operation time in chiller mode before switching to domestic water production.		050		10
FS 52	Not used				
FS 51	domestic hot water pump Standby time before switching inversion valves from chiller to heat pump .Delay time before actual begin of a domestic hot water production	0	250	sec	
FS 50	Overlapping time between evaporator water pump and domestic water pump. If the evaporator water pump is disabled during domestic hot water production only (FS49=1) it is switched OFF FS50 seconds after the activation of the domestic hot water pump.	0	250	sec	
	dedicated return. 0= function is disabled 1=function is enabled If the function is active during production of domestic hot water only (no cooling or heating demand) the evaporator pump is switched OFF.	0	1		
FS 49	position and only the domestic hot water pump is activated. Switch off evaporator water pump in production of domestic water only with				
	0= function is disabled 1=function is enabled If the function is active during production of domestic hot water only (no cooling or heating demand) the solenoid valves remain in their standard	0	1		
FS 48	Do not turn the valves in production of domestic water only with dedicated return.				
FS 47	External air set point to prevent anti-freeze	-50.0 -58	110 230	°C °F	dec int
FS 46	Band to prevent anti-freeze	0.1 1	25.0 45	°C °F	dec int
FS 45	Evaporator outlet water set point to prevent anti-freeze	-50.0 -58	110 230	°C °F	dec int
	1=function is enabled For preventing for possible antifreeze alarms due to defrost cycles, if the evaporator water outlet temperature drops below the value defined on parameter FS45 and the external temperature is lower than FS47 the unit is switched to heating function until the water temperature goes higher than FS45+FS46	0	1		
FS 44	Evaporator anti-freeze prevention during domestic water production with a single-circuit machine. 0= function is disabled	-			
-S 43	Low evaporating pressure threshold to bypass the ON time of the domestic water pump before the commutation of the valves. If the evaporating pressure/temperature drops below the FS42 level during outdoor fans forced activation the same is disabled	-50.0 -58 0.0 0	110 230 50.0 725	°C °F Bar Psi	dec int dec int
-	Low condensing temperature/pressure threshold to by-pass the ON time of the domestic water pump before the commutation of the valves. If the condensing pressure/temperature drops below the FS42 level during outdoor fans forced activation the same is disabled	-50.0 -58 0.0 0	110 230 50.0 725	°F Bar Psi	dec int dec int
-S 42	 1 = during the FS26 time, the ventilation modulates according to the condensing temperature/pressure 2 = during the FS26 time, the ventilation is forced to operate at the night function speed 	0	2	°C	des
S 41	Condensation fan forced ON during the production of domestic water $0 =$ function is disabled				

0 = *100% on demand 0 = 1 1 1 = with step/proprioral regulation -50.0 11 *C Dec FC 7 Anil-freeze prevention setting with unit in free cooling mode -50.0 110 *C Dec FC 8 Free cooling antil-freeze alarm prevention differential 0.1 25.0 *C Dec FC 9 Minimum operation speed of the fans in free cooling mode 0 100 % FC 10 Maximum operation speed after switch-on 0 258 230 *F int FC 11 Peak time at maximum speed after switch-on 0 258 230 *F int FC 13 Circuit 1 - 2 - 3 - 4 1st step split coil differential 0.1 283 Psi int FC 14 Circuit 1 - 2 - 3 - 4 2nd step split coil setting -50.0 110 *C Dec FC 15 Circuit 1 - 2 - 3 - 4 2nd step split coil differential 0.1 230 *F int FC 14 Circuit 1 - 2 - 3 - 4 2nd step split coil setting -50.0 110 *C Dec FC 1						
0 = Disabled 0 4 1 = enabled fin control priority with free cooling priority 0 4 2 = enabled fin control priority with free cooling priority 0 1 2.6. °C 6 = anabled fin vectors intervision 0 1 2.6. °C Durc 7 = For cooling mode input/input differential 0 2.60 For Could in put/orapid differential 0 1 2.6. °C Dec 7 = 6 = cooling mode input/orapid differential free cooling mode 0.1 2.6. °C Dec 7 = 6 = cooling mode input/orapid differential free cooling mode 0.1 4.5. °F Int 7 = 6 = cooling mode input/orapid differential 0 1 4.5. °F Int 7 = cooling mode input/orapid differential 0.1 2.6. °C Dec °F Int 7 = cooling anti-freeze alarm prevention differential 0.1 2.6. °F Int 7 = 1 Prevention setting with unit in free cooling mode 0 100 %. °F Int 7 = 1 Prevenoli	FC 1	Activation of free cooling				
2 = enabled model cannot priority in their cooling profit (second) 0 4 4 F02 Free cooling and involutual differential 0.1 25.0 °C Dec F03 Free cooling model model public differential/free cooling mode 0.1 25.0 °C Dec F04 Free cooling public divelopt flee dissife C03 0.1 25.0 °C Dec F05 Free cooling public divelopt 0.1 25.0 °C Dec F05 Band regulation steps/ventilation modulating output in free cooling mode 0.1 1 45 °F Int F05 Band regulation steps/ventilation modulating output in free cooling mode 0.1 1 C Dec F05 Free cooling anti-freeze paremin unit in the cooling mode -50.0 1100 °C Dec F05 Free cooling anti-freeze paremin the cooling mode 0 100 °C Dec F05 Anti-freeze paremin to attep split coil differential 0.1 25.0 Bea Dec F05 Maimum preatosaged of the fasis in free cooling mode						
2 = enabled in control proofly with free cooling protify 1 1 1 1 1 FC 2 Free cooling model input/output differential temperature drops at least FC02 0.1 25.0 °C Dec FC 3 Free cooling model input/output differential temperature for at least FC03 0 250 eace 10 sec. FC 4 Damper closing/suburgature latest encore at least FC03 0.1 25.0 °C Dec FC 4 Damper closing/suburgature latest encore at least FC03 0.1 45.0 °F Int FC 5 Band regulation steps/ventilation modulating output in free cooling mode 0.1 25.0 °C Dec FC 6 Regulation steps/ventilation modulating output in free cooling mode 0 1 1 F FC 6 Regulation steps/ventilation modulating output in free cooling mode 0.1 25.0 °C Dec FC 7 Anth-freez provention eling with rule in a in free cooling mode 0 100 % F FC 1 Asset in a similar with in the cooling mode 0 100 % F FC 1 Anth-freez provention eling with rule reaconing mode 0 100 % F FC 1 Asset in a similar with in the cooling mode 0 100 % <t< td=""><td></td><td></td><td>0</td><td>1</td><td></td><td></td></t<>			0	1		
4 = enabled in water/water unit - - - - FC 2 Free coling mode input/dupt delay 0.1 2.5.0 "C" Dec FC 3 Free coling mode input/dupt delay - - 0.1 2.5.0 "C" Dec FC 4 Emperations (2-non-interval) - 0.1 1.5.0 "C" Dec FC 5 Bard regulation steps/ventilation modulating output in free cooling mode 0.1 4.5.0 "F" Int FC 6 Regulation steps/ventilation modulating output in free cooling mode 0.1 4.5.0 "C" Dec FC 7 Anti-freeze prevention setting with unit in free cooling mode 0.1 4.5.0 "C" Dec FC 8 Regulation steps/ventilation modulating output in free cooling mode 0.1 2.5.0 "C" Dec FC 1 Park time at maximum special differentilal 0.1 2.5.0 "C" Dec FC 1 Park time at maximum special differentilal 0.1 4.5.0 "F" Int FC 1 Minimum operation speed of the fans in free coolin			0	4		
FC 2 The FC function is enabled if the external emperature drops at least FC02 below the exponet rind water temperature of the set FC03 of the cooling involution temperature of at least FC03 FC 4 0.1 25.0 *C Dec trint FC 3 FC 4 Damper closing 3-way water value differential temperature control below the exponent of the set of the temperature control below satisfied to the temperature for the below satisfied to the temperature for the below satisfied to the temperature for temper						
The FC function is enabled if the external temperature drops at least FCo2 0.1 25.0 7 Dec FG 1 Error cooling input/duptidally 0 220 sec 10 sec FG 2 Error cooling input/duptidally 0 250 sec 10 sec FG 4 Damper dating 3-way water valve differential/rec cooling ON-OFF relay with temperature control being satisfied 1 45.0 °C Dec FG 5 Band regulation steps/ventilation modulating output in free cooling mode 0 1 45.0 °C Dec FG 6 Regulation steps/ventilation modulating output in free cooling mode 0 1 45.0 °C Dec FG 7 Anti-freeze prevention setting with unit in free cooling mode 0 1 1 25.0 °C Dec FG 8 Free cooling mode 0 100 % Dec Dec Dec FG 10 Pak time at maximum speed of the fams in free cooling mode 0 100 5% Dec FG 11 Pak time at maximum speed of the fams Dec Sec -C						
The PL thindon's enabled in the external temperature for al seat FC02 1 45 * int FG3 External temperature for al seat FC03 0 250 sec 10 sec FC4 Damper disting?-way water value differential/free cooling ON-OFF relay with temperature control being satisfied 0.1 225.0 *C Dec FC5 Band regulation steps/ventilation modulating output in free cooling mode 1 45.0 *C Dec FC6 Regulation steps/ventilation modulating output in free cooling mode 0 1 *C Dec FC6 Regulation steps/ventilation modulating output in free cooling mode 0.1 25.0 *C Dec FC7 Anti-freeze prevention setting with runt in free cooling mode 0.1 25.0 *C Dec FC8 Free cooling anode 0.1 25.0 *C Dec FC10 Maximum operation speed of the fans in free cooling mode 0.100 %. * FC11 Peak time at maximum speed after studied 0.1 25.0 *C Dec FC13 Circuit 1 · 2 · 3 · 4 1st step spl	FC 2		0.1	25.0	°C	Dec
FG 3 Free cooling input/output delay 0 250 sec 10 sec FC 4 Damper closing 3-way water value differential/free cooling ON-OFF relay with temperature control being satisfied 0.1 25.0 "C Dec FC 5 Band regulation steps/ventilation modulating output in free cooling mode 1 4.5 "F Int. FC 6 Regulation steps/ventilation modulating output in free cooling mode 1 4.5 "F" Int. FC 7 Anti-freeze prevention setting with unit in free cooling mode 0 1 "C Dec FC 8 Free cooling and-freeze alarm prevention differential 0.1 25.0 "C Dec FC 9 Minimum operation speed of the fans in free cooling mode 0 100 % E FC 10 Maximum operation speed of the fans in free cooling mode 0 100 % E FC 11 Peak time at maximum speed after switch-on 0 250 sec Int 45 "F" Int FC 13 Circuit 1 - 2 - 3 - 4 3rt step split coil setting -50.0 110 "C						
FC 4 Damper closing?-way water valve differential/free cooling ON-OFF relay with temperature control being satisfired 0.1 25.0 *C Dec int FC 5 Bard regulation steps/ventilation modulating output in free cooling mode 1 45.0 *C Int FC 6 Regulation steps/ventilation modulating output in free cooling mode 0 1 *C Dec FC 7 Anni-freeze prevention setting with unit in free cooling mode -50.0 110 *C Dec FC 8 Free cooling and-freeze alarm prevention differential 0.1 25.0 *C Dec FC 10 Mainimum operation speed of the fans in free cooling mode 0 100 %. Int FC 11 Peak time at maximum speed fars switch-on 0 250.0 *C Dec FC 12 Circuit 1 - 2 - 3 - 4 1st step split coil setting -50.0 110 *C Dec FC 14 Circuit 1 - 2 - 3 - 4 1st step split coil setting -50.0 110 *C Dec FC 14 Circuit 1 - 2 - 3 - 4 2nd step split coil setting -50.0 TC Dec TC D				050		10
temperature control being satisfied 0 1 45 76 Int FC 5 Band regulation steps/ventilation modulating output in free cooling mode 0.1 25.0 77 Int 76 Dec FC 6 Regulation steps/ventilation modulating output in free cooling mode 0 1			0	250	sec	10 sec
C 1 4-3 F III FC 5 Band regulation steps/ventilation modulating output in free cooling mode 0 = 100% on demand 1 = with stepp?ortonal regulation 0 1 45 7°C Dec int FC 6 Regulation steps/ventilation modulating output in free cooling mode 1 = with stepp?ortonal regulation 500 100 1 45 100 Per int FC 7 Anti-freeze prevention seting with unit in free cooling mode 56 100 250 7°C Int FC 8 Free cooling anti-freeze alarm prevention differential 56 0 100 3% FC 10 Maximum operation speed of the fans in free cooling mode 0 0 100 3% FC 11 Peak time at maximum speed after systeh-on 0 0 100 7C Dec int FC 12 Circuit 1 - 2 - 3 - 4 1st step split coil setting 76 50.0 110 7C Dec int FC 14 Circuit 1 - 2 - 3 - 4 2nd step split coil setting 76 58 230 °F int FC 14 Circuit 1 - 2 - 3 - 4 2nd step split coil setting 76 58 230 °F int FC 16	FC 4		0.1	25.0		Dec
FC 6 Regulation stepsychentilation modulating output in free cooling mode 1 = with step/proprotional regulation 1 45 *F int FC 7 Anti-freeze prevention setting with unit in free cooling mode 5.80 5.00 110 *C Dec FC 8 Free cooling anti-freeze alarm prevention differential 0.1 25.0 *C Dec FC 9 Minimum operation speed of the fans in free cooling mode 0 1000 % *C Dec FC 10 Minimum operation speed of the fans in free cooling mode 0 1000 % *C Dec ** T ** ** T C Dec ** T ** T ** T ** ** T T T		temperature control being satisfied	1	45	°F	int
FC 6 Regulation stepsychentilation modulating output in free cooling mode 1 = with step/proprotional regulation 1 45 *F int FC 7 Anti-freeze prevention setting with unit in free cooling mode 5.80 5.00 110 *C Dec FC 8 Free cooling anti-freeze alarm prevention differential 0.1 25.0 *C Dec FC 9 Minimum operation speed of the fans in free cooling mode 0 1000 % *C Dec FC 10 Minimum operation speed of the fans in free cooling mode 0 1000 % *C Dec ** T ** ** T C Dec ** T ** T ** T ** ** T T T	FC 5	Band regulation steps/ventilation modulating output in free cooling mode	0.1	25.0	°C	Dec
FC 6 0 = 100% on demand 1 = with steps/ventional regulation 0 1 FC 7 Arti-freeze prevention atting with unit in free cooling mode -5.0 110 *C Dec int FC 8 Free cooling anti-freeze atarm prevention differential 0.1 25.0 *C Dec FC 9 Minimum operation speed of the fans in free cooling mode 0 100 % FC 10 Maximum operation speed of the fans in free cooling mode 0 100 % FC 11 Peak firme at maximum speed firs work-on 0 250 8cc FC 12 Circuit 1 - 2 - 3 - 4 1st step split coil setting -50.0 110 *C Dec FC 14 Circuit 1 - 2 - 3 - 4 1st step split coil differential 0.1 4.5 *F int FC 14 Circuit 1 - 2 - 3 - 4 2nd step split coil setting -50.0 110 *C Dec FC 14 Circuit 1 - 2 - 3 - 4 2nd step split coil setting -50.0 110 *C Dec FC 15 Circuit 1 - 2 - 3 - 4 2nd step split coil setting -50.0 110 *C Dec FC						
0 = 100% on demand 0 1 1 = with step/proprioral regulation -50.0 110 *C Dec FC 7 Anti-Freeze prevention still with unit in free cooling mode -50.0 110 *C Dec FC 8 Free cooling anti-freeze alarm prevention differential 0.1 25.0 *C Dec FC 9 Minimum operation speed of the fans in free cooling mode 0 100 % FC 10 Maximum operation speed after switch-on 0 25.0 Sec FC FC 11 Peak time at maximum speed after switch-on 0 0 25.0 FC Dec FC 13 Circuit 1 - 2 - 3 - 4 1st step split coil setting -50.0 110 *C Dec 1 4.0 Bar Dec 1 1.00 Sec FC Int 5.0 1 1.00 Sc FC Dec 1 1.00 Sc Dec 1 1.00 Sc Dec 1 1.00 Sc Dec 1 1.00 Sc Dec 1 <td>FC 6</td> <td>Regulation steps/ventilation modulating output in free cooling mode</td> <td></td> <td></td> <td></td> <td></td>	FC 6	Regulation steps/ventilation modulating output in free cooling mode				
FC 7 Anti-freeze prevention setting with unit in free cooling mode -50.0 110 *C Dec int FC 8 Free cooling anti-freeze alarm prevention differential 0.1 25.0 *C Dec FC 9 Minimum operation speed of the fans in free cooling mode 0 100 % *C Dec FC 10 Maximum operation speed of the fans in free cooling mode 0 100 % *C Dec FC 11 Peak time at maximum speed after switch-on 0 25.8 23.0 #F int FC 13 Circuit 1 - 2 - 3 - 4 1st step split coil setting -50.0 100 % *C Dec FC 14 Circuit 1 - 2 - 3 - 4 2nd step split coil setting -50.0 110 *C Dec 1 23.0 Psi int FC 14 Circuit 1 - 2 - 3 - 4 2nd step split coil setting -50.0 10.0 *C Dec 10.0 7.5 int *T int FC 15 Circuit 1 - 2 - 3 - 4 2nd step split coil setting -50.0 110 *C Dec *F			0	1		
Control -58 250 ** int FC 3 Free cooling anti-freeze alarm prevention differential 1,1 45,0 ** int FC 10 Maximum operation speed of the fans in free cooling mode 0 100 % * FC 10 Maximum operation speed of the fans in free cooling mode 0 100 % * FC 11 Peak time at maximum speed afters witch-on 0 280 see * FC 12 Circuit 1 - 2 - 3 - 4 1st step split coil setting -50,0 110 *C Dec TG 13 Circuit 1 - 2 - 3 - 4 1st step split coil setting -50,0 110 *C Dec TG 14 Circuit 1 - 2 - 3 - 4 2nd step split coil setting -50,0 110 *C Dec TG 14 Circuit 1 - 2 - 3 - 4 2nd step split coil setting -50,0 110 *C Dec TG 14 Circuit 1 - 2 - 3 - 4 2nd step split coil differential 0,1 23,0 *F Int FC 15 Circuit 1 - 2 - 3 - 4 2nd step split coil setting -50,0 110 23,0 <td< td=""><td></td><td>1 = with step/proportional regulation</td><td></td><td></td><td></td><td></td></td<>		1 = with step/proportional regulation				
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Construction 1 4.5 °F int FC 9 Minimum operation speed of the fans in free cooling mode 0 100 % FC 10 Maximum operation speed of the fans in free cooling mode 0 100 % FC 11 Peak time at maximum speed after switch-on 0 250 see FC 12 Circuit 1 - 2 - 3 - 4 1st step split coil setting -50.0 110 °C Dec 0 725 Psi int 0 725.0 °C Dec 1 4.6 6.7 Circuit 1 - 2 - 3 - 4 1st step split coil setting -50.0 110 °C Dec 1 2.3 Psi int 0 725 Psi int 1 2.3 4.2 10 °C Dec 0 725 Psi int 1 2.4 2.3 4.2 3.4 St St 2.30 °F int 1 1.4 4.5 °F int 0.1 12.0						
FC 3 Minimum operation speed of the fans in free cooling mode 0 100 % FC 10 Maximum operation speed of the fans in free cooling mode 0 100 % FC 11 Peak time at maximum opeed after switch-on 0 250 see	FC 8	Free cooling anti-freeze alarm prevention differential				
FC 10 Maximum operation speed of the fans in free cooling mode 0 0 0 % FC 11 Peak lime at maximum speed after switch-on 0 250 sec - FC 12 Circuit 1 - 2 - 3 - 4 1st step split coil setting -50.0 110 °C Dec 0.0 50.0 Bar Dec 0 725 Psi int FC 13 Circuit 1 - 2 - 3 - 4 1st step split coil differential 0.1 2.50 °C Dec 0 725 Psi int FC 14 Circuit 1 - 2 - 3 - 4 2nd step split coil setting -50.0 110 °C Dec 0.0 50.0 Bar Dec 1.1 14.40 Bar Dec 0.0 50.0 Bar Dec 1.1 1.40 Bar Dec 0.0 50.0 Bar Dec 1.1 1.44 Bar </td <td></td> <td></td> <td></td> <td></td> <td></td> <td>int</td>						int
FC 11 Peak time at maximum speed after switch-on 0 0 250 sec FC 12 Circuit 1 - 2 - 3 - 4 1st step split coil setting -500 110 *C Dec FC 13 Circuit 1 - 2 - 3 - 4 1st step split coil differential 0.1 250 sec - FC 13 Circuit 1 - 2 - 3 - 4 1st step split coil differential 0.1 250 *C Dec FC 14 Circuit 1 - 2 - 3 - 4 2nd step split coil setting -500 110 *C Dec FC 14 Circuit 1 - 2 - 3 - 4 2nd step split coil differential -58 230 *F int FC 15 Circuit 1 - 2 - 3 - 4 2nd step split coil differential 0.1 250 sec - FC 15 Circuit 1 - 2 - 3 - 4 2nd step split coil differential 0.1 250 sec - FC 16 Delay for valve exchange of the split coils 0 275 Psi int FC 16 Delay skitching on / of valves free cooling enable -500 110 *C Dec FC 16 Delay skitching on / of valves free cooling rot for activation free coo			-			
FC 12 Circuit 1 - 2 - 3 - 4 1st step split coil setting -50.0 -58 230. °F int FC 13 Circuit 1 - 2 - 3 - 4 1st step split coil differential 0.1 45.0 °F int FC 13 Circuit 1 - 2 - 3 - 4 1st step split coil differential 0.1 45.0 °F int FC 14 Circuit 1 - 2 - 3 - 4 2nd step split coil setting -56.0 110 °C Dec FC 14 Circuit 1 - 2 - 3 - 4 2nd step split coil setting -56.0 100 °C Dec FC 15 Circuit 1 - 2 - 3 - 4 2nd step split coil differential 0.1 22.0 °C Dec FC 15 Circuit 1 - 2 - 3 - 4 2nd step split coil differential 0.1 2.00 °C Dec FC 15 Circuit 1 - 2 - 3 - 4 2nd step split coil differential 0.1 14.0 Bar Dec FC 16 Delay for valve exchange of the split coils 0 22.0 °C Dec FC 16 Delay for valve exchange of the split coils 0 25.0 °C Dec Tht FC			-			
-588 230 *F int 0.0 50.0 50.0 Bar Dec 7C 13 Circuit 1 - 2 - 3 - 4 1st step split coil differential 0.1 25 Pai int 1 145 *F int 45 *F int 7C 13 Circuit 1 - 2 - 3 - 4 2nd step split coil setting -50.0 110 *C Dec 7S 1 203 Psi int 45 *F int 7C 15 Circuit 1 - 2 - 3 - 4 2nd step split coil differential 0.1 25.0 *C Dec 7C 15 Circuit 1 - 2 - 3 - 4 2nd step split coil differential 0.1 25.0 *F int 7C 15 Circuit 1 - 2 - 3 - 4 2nd step split coils 0 250 sec *F 7C 16 Delay for valve exchange of the split coils 0 250 sec *F 7C 16 Delay for valve exchange of the split coils 0 250 sec * 7C 16 Delay for valve exchange of the split coils 0 250.0 * <td></td> <td></td> <td>-</td> <td></td> <td></td> <td>Dee</td>			-			Dee
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US 1 Auxiliary relay 1 operation 0 = not enabled 1 = always enabled with direct action 2 = enabled with direct action only with the unit ON 3 = always enabled with inverse action	Parameter		min	max	um	Resolution
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2 = enabled with direct action only with the unit ON 0 4 3 = always enabled with inverse action 4						
2 = enabled with direct action only with the unit ON 3 = always enabled with inverse action			0	4		
			-			
		 3 = always enabled with inverse action 4 = enabled with inverse action only with the unit ON 				

US 2	Analogue input configuration for control of the auxiliary relay 1	1	66		
US 3	Set point of auxiliary relay 1	-50.0	110	°C	Dec
		-58	230	°F	int
		0.0	50.0	Bar	Dec
		0	725	Psi	Int
US 4	Auxiliary relay 1 differential	0.1	25.0	°C	Dec
		1	45	°F	int
		0.1	14.0	Bar	Dec
		1	203	Psi	Int
	Auxiliary relay n° 2	-	1	1	
US 5	Auxiliary relay 2 operation				
	0 = not enabled 1 = always enabled with direct action				
	2 = enabled with direct action only with the unit ON	0	4		
	3 = always enabled with inverse action				
	4 = enabled with inverse action only with the unit ON				
US 6	Analogue input configuration for control of the auxiliary relay 2	1	66		
US 7	Set point of auxiliary relay 2	-50.0	110	°C	Dec
		-58	230	°F	int
		0.0	50.0	Bar	Dec
		0	725	Psi	Int
US 8	Auxiliary relay 2 differential	0.1	25.0	°C	Dec
		1	45	°F	int
		0.1	14.0	Bar	Dec
		1	203	Psi	Int
	Auxiliary relay n° 3	-	1	1	
US 9	Auxiliary relay 3 operation				
	0 = not enabled				
	1 = always enabled with direct action 2 = enabled with direct action only with the unit ON	0	4		
	3 = always enabled with inverse action				
	4 = enabled with inverse action only with the unit ON				
US 10	Analogue input configuration for control of the auxiliary relay 3	1	66		
US 11	Set point of auxiliary relay 3	-50.0	110	°C	Dec
0311	Set point of advinary relay 5	-58	230	°F	int
		0.0	50.0	Bar	Dec
		0	725	Psi	Int
US 12	Auxiliary relay 3 differential	0.1	25.0	°C	Dec
		1	45	°F	int
		0.1	14.0	Bar	Dec
		1	203	Psi	Int
	Auxiliary relay n° 4				
US 13	Auxiliary relay 4 operation				
	0 = not enabled				
	1 = always enabled with direct action	0	4		
	2 = enabled with direct action only with the unit ON	-			
	3 = always enabled with inverse action				
110.44	4 = enabled with inverse action only with the unit ON	4	<u> </u>		
US 14 US 15	Analogue input configuration for control of the auxiliary relay 4	-50.0	66 110	°C	Dee
05 15	Set point of auxiliary relay 4	-50.0	230	°F	Dec
		-58	50.0	Bar	int Dec
		0.0	725	Psi	Int
US 16	Auxiliary relay 4 differential	0.1	25.0	°C	Dec
		1	45	°F	int
		0.1	14.0	Bar	Dec
		1	203	Psi	Int
	Auxiliary proportional output n°1 (0÷10V DC)			•	
US 17	Proportional auxiliary output 1 operation				
	0 = not enabled				
	1 = always enabled with direct action	0	4		
	2 = enabled with direct action only with the unit ON		-		
	3 = always enabled with inverse action				
	4 = enabled with inverse action only with the unit ON				
110 40		4		1	_
US 18	Analogue input configuration for control of the proportional auxiliary relay 1	1	66	°C	
US 18 US 19		-50.0	110	°C °F	Dec
US 18 US 19	Analogue input configuration for control of the proportional auxiliary relay 1	-50.0 -58	110 230	°F	int
US 18 US 19	Analogue input configuration for control of the proportional auxiliary relay 1	-50.0 -58 0.0	110 230 50.0	°F Bar	int Dec
US 19	Analogue input configuration for control of the proportional auxiliary relay 1 Set point of proportional auxiliary output 1	-50.0 -58 0.0 0	110 230 50.0 725	°F Bar Psi	int Dec Int
US 18 US 19 US 20	Analogue input configuration for control of the proportional auxiliary relay 1	-50.0 -58 0.0 0 0.1	110 230 50.0 725 25.0	°F Bar Psi °C	int Dec Int Dec
US 19	Analogue input configuration for control of the proportional auxiliary relay 1 Set point of proportional auxiliary output 1	-50.0 -58 0.0 0 0.1 1	110 230 50.0 725 25.0 45	°F Bar Psi °C °F	int Dec Int Dec int
US 19	Analogue input configuration for control of the proportional auxiliary relay 1 Set point of proportional auxiliary output 1	-50.0 -58 0.0 0 0.1	110 230 50.0 725 25.0 45 14.0	°F Bar Psi °C °F Bar	int Dec Int Dec int Dec
US 19 US 20	Analogue input configuration for control of the proportional auxiliary relay 1 Set point of proportional auxiliary output 1 Differential of proportional auxiliary output 1	-50.0 -58 0.0 0 0.1 1 0.1 1	110 230 50.0 725 25.0 45 14.0 203	°F Bar Psi ℃ °F Bar Psi	int Dec Int Dec int
US 19	Analogue input configuration for control of the proportional auxiliary relay 1 Set point of proportional auxiliary output 1	-50.0 -58 0.0 0 0.1 1 0.1	110 230 50.0 725 25.0 45 14.0	°F Bar Psi °C °F Bar	int Dec Int Dec int Dec

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110.00		1	1	1	
US 23	Analog output 1 maintaining minimum value $0 = no$	0	1		
	0 = 10 1 = yes	0			
	Auxiliary proportional output n°2 (0÷10V DC)	1		1	
US 24	Proportional auxiliary output 2 operation	1			
	0 = not enabled				
	1 = always enabled with direct action	0	4		
	2 = enabled with direct action only with the unit ON	0	4		
	3 = always enabled with inverse action				
US 25	4 = enabled with inverse action only with the unit ON	4			
US 26	Analogue input configuration for control of the proportional auxiliary relay 2 Set point of proportional auxiliary output 2	1 -50.0	66 110	°C	Dec
05 20		-58	230	°F	int
		0.0	50.0	Bar	Dec
		0	725	Psi	int
US 27	Differential of proportional auxiliary output 2	0.1	25.0	°C	Dec
		1	45	°F	int
		0.1	14.0 203	Bar	Dec
US 28	Minimum value for 0-10V analogue 2 output	1	US29	Psi %	int
US 29	Maximum value for 0-10V 1 analogue 2 output	US28	100	%	
US 30	Analog output 2 maintaining minimum value	0020	100	70	
	0 = no	0	1		
	1 = yes				
	Auxiliary proportional output n°3 (0÷10V DC)				
US 31	Proportional auxiliary output 3 operation				
	0 = not enabled				
	1 = always enabled with direct action	0	4		
	2 = enabled with direct action only with the unit ON 3 = always enabled with inverse action				
	4 = enabled with inverse action only with the unit ON				
US 32	Analogue input configuration for control of the proportional auxiliary relay 3	1	66		
US 33	Set point of proportional auxiliary output 3	-50.0	110	°C	Dec
		-58	230	°F	int
		0.0	50.0	Bar	Dec
		0	725	Psi	int
US 34	Differential of proportional auxiliary output 3	0.1	25.0	°C	Dec
		0.1	45 14.0	°F Bar	int Dec
		1	203	Psi	int
US 35	Minimum value for 0-10V analogue 3 output	0	US36	%	
US 36	Maximum value for 0-10V 1 analogue 3 output	US35	100	%	
US 37	Analog output 3 maintaining minimum value				
	0 = no	0	1		
	1 = yes				
110.00	Auxiliary proportional output n°4 (0÷10V DC)	1	1	1	
US 38	Proportional auxiliary output 4 operation 0 = not enabled				
	1 = always enabled with direct action				
	2 = enabled with direct action only with the unit ON	0	4		
	3 = always enabled with inverse action				
	4 = enabled with inverse action only with the unit ON				
US 39	Analogue input configuration for control of the proportional auxiliary relay 4	1	66		<u> </u>
US 40	Set point of proportional auxiliary output 4	-50.0	110	°C °F	Dec
		-58 0.0	230 50.0		int Dec
		0.0	50.0 725	Bar Psi	Dec int
US 41	Differential of proportional auxiliary output 4	0.1	25.0	°C	Dec
		1	45	°F	int
		0.1	14.0	Bar	Dec
		1	203	Psi	int
US 42	Minimum value for 0-10V analogue 4 output	0	US43	%	
US 43	Maximum value for 0-10V 1 analogue 4 output	US42	100	%	
US 44	Analog output 4 maintaining minimum value 0 = no	0	1		
	0 = 10 1 = yes				
	Alarms		1	1	
Parameter	Description	min	max	um	Resolution
anameter	Low pressure alarm		max		noonation
		0	250	Sec	1
ΔΙ 1	I ow pressure alarm delay from a digital/analogue popul			000	
AL 1 AL 2	Low pressure alarm delay from a digital/analogue input	0	230		
AL 1 AL 2	Defines low pressure alarm operation with pump-down enabled				
		0	230		

AL 3					
	Low pressure alarm set point from an analogue input	-50.0 -58 -1.0	110 230 50.0	°C °F bar	Dec int Dec
		14	725	psi	int
AL 4	Low pressure alarm differential from an analogue input	0.1	25.0	°C	Dec
	zon procedio didini direferitari feri di dideogue input	1	45	°F	int
		0.1	14.0	bar	Dec
		1	203	psi	Int
AL 5	Maximum number of interventions per hour of the low pressure alarm from a				
	digital/analogue input. If the number exceeds AL05 the alarm becomes				
	manual reset.	0	<u></u>		
	Reset is always manual if AL05 = 0	0	60		
	Reset is always automatic if $AL05 = 60$				
	Reset moves from automatic to manual if AL05 moves from 1 to 59				
AL 6	Low temperature / pressure alarm in defrost mode				
	0 = not enabled	0	1		
	1 = enabled				
AL 7	Low temperature / pressure alarm delay in defrost mode	0	250	Sec	
	Delay time between alarm condition occurrence and reaction by device	0	230	Sec	
AL 8	Low temperature/pressure alarm with the unit in remote OFF or Stand-by				
	mode	0	1		
	0 = alarm detection disabled	0			
	1 = alarm detection enabled				
	High pressure alarm				
AL 9	High condensing pressure/temperature alarm set point from an analogue	-50.0	110	°C	Dec
	input	-58	230	°F	int
		0.0	50.0	bar	Dec
		0	725	psi	Int
AL 10	High condensing pressure/temperature differential from an analogue input	0.1	25.0	°C	Dec
		1	45	°F	int
		0.1	14.0	bar	Dec
		1	203	psi	Int
AL 11	Maximum number of high condensing pressure/temperature interventions per				
	hour from a digital/analogue input. If the number exceeds AL11 the alarm				
	becomes manual reset.	0	60		
	Reset is always manual if AL11 = 0	0	00		
	Reset is always automatic if AL11 = 60				
	Reset moves from automatic to manual if AL11 moves from 1 to 59				
	Oil pressure/level alarm				
AL 12	Low pressure / oil level alarm delay from a digital input	0	250	Sec	
AL 13	Low pressure / oil level alarm input duration from digital input in normal				
	working conditions.	0	250	Sec	
	After expiration of AL12 the unit waits further AL13 delay before detecting the	U	200	000	
	alarm				
AL 14	Low pressure/oil level maximum number of interventions per hour				
AL 14	Reset is always manual if AL14 = 0	0	60		
AL 14	Reset is always manual if AL14 = 0 Reset is always automatic if AL14 = 60	0	60		
	Reset is always manual if AL14 = 0 Reset is always automatic if AL14 = 60 Reset moves from automatic to manual if AL14 moves from 1 to 59	0	60		
AL 14 AL 15	Reset is always manual if AL14 = 0 Reset is always automatic if AL14 = 60 Reset moves from automatic to manual if AL14 moves from 1 to 59 Oil pressure switch/float alarm with compressor OFF				
	Reset is always manual if AL14 = 0 Reset is always automatic if AL14 = 60 Reset moves from automatic to manual if AL14 moves from 1 to 59 Oil pressure switch/float alarm with compressor OFF 0 = alarm detection disabled	0	60 1		
	Reset is always manual if AL14 = 0 Reset is always automatic if AL14 = 60 Reset moves from automatic to manual if AL14 moves from 1 to 59 Oil pressure switch/float alarm with compressor OFF 0 = alarm detection disabled 1 = alarm detection enabled	0			
AL 15	Reset is always manual if AL14 = 0 Reset is always automatic if AL14 = 60 Reset moves from automatic to manual if AL14 moves from 1 to 59 Oil pressure switch/float alarm with compressor OFF 0 = alarm detection disabled 1 = alarm detection enabled Evaporator flow / supply fan overload alarm working	0			
	Reset is always manual if AL14 = 0 Reset is always automatic if AL14 = 60 Reset moves from automatic to manual if AL14 moves from 1 to 59 Oil pressure switch/float alarm with compressor OFF 0 = alarm detection disabled 1 = alarm detection enabled Evaporator flow / supply fan overload alarm working Evaporator flow switch/thermal overload supply fan alarm by-pass by	0 mode	1	Sec	
AL 15	Reset is always manual if AL14 = 0 Reset is always automatic if AL14 = 60 Reset moves from automatic to manual if AL14 moves from 1 to 59 Oil pressure switch/float alarm with compressor OFF 0 = alarm detection disabled 1 = alarm detection enabled Evaporator flow / supply fan overload alarm working Evaporator flow switch/thermal overload supply fan alarm by-pass by activating the evaporator pump/supply fan	0		Sec	
AL 15	Reset is always manual if AL14 = 0 Reset is always automatic if AL14 = 60 Reset moves from automatic to manual if AL14 moves from 1 to 59 Oil pressure switch/float alarm with compressor OFF 0 = alarm detection disabled 1 = alarm detection enabled Evaporator flow / supply fan overload alarm working Evaporator flow switch/thermal overload supply fan alarm by-pass by activating the evaporator pump/supply fan Maximum time in evaporator flow switch alarm before switching to manual	0 mode 0	1 250		
AL 15 AL 16 AL 17	Reset is always manual if AL14 = 0 Reset is always automatic if AL14 = 60 Reset moves from automatic to manual if AL14 moves from 1 to 59 Oil pressure switch/float alarm with compressor OFF 0 = alarm detection disabled 1 = alarm detection enabled Evaporator flow / supply fan overload alarm working Evaporator flow switch/thermal overload supply fan alarm by-pass by activating the evaporator pump/supply fan Maximum time in evaporator flow switch alarm before switching to manual mode and blocking the evaporator water pump.	0 mode 0 0	1 250 250	Sec	
AL 15 AL 16 AL 17 AL 18	Reset is always manual if AL14 = 0 Reset is always automatic if AL14 = 60 Reset moves from automatic to manual if AL14 moves from 1 to 59 Oil pressure switch/float alarm with compressor OFF 0 = alarm detection disabled 1 = alarm detection enabled Evaporator flow / supply fan overload alarm working Evaporator flow switch/thermal overload supply fan alarm by-pass by activating the evaporator pump/supply fan Maximum time in evaporator flow switch alarm before switching to manual mode and blocking the evaporator water pump. Evaporator flow switch / thermal overload supply fan input active duration	0 mode 0	1 250		
AL 15 AL 16 AL 17	Reset is always manual if AL14 = 0 Reset is always automatic if AL14 = 60 Reset moves from automatic to manual if AL14 moves from 1 to 59 Oil pressure switch/float alarm with compressor OFF 0 = alarm detection disabled 1 = alarm detection enabled Evaporator flow / supply fan overload alarm working Evaporator flow switch/thermal overload supply fan alarm by-pass by activating the evaporator pump/supply fan Maximum time in evaporator flow switch alarm before switching to manual mode and blocking the evaporator water pump. Evaporator flow switch / thermal overload supply fan input active duration Evaporator flow switch / thermal overload supply fan input active duration	0 mode 0 0 0	1 250 250 250	Sec Sec	
AL 15 AL 16 AL 17 AL 18 AL 19	Reset is always manual if AL14 = 0 Reset is always automatic if AL14 = 60 Reset moves from automatic to manual if AL14 moves from 1 to 59 Oil pressure switch/float alarm with compressor OFF 0 = alarm detection disabled 1 = alarm detection enabled Evaporator flow / supply fan overload alarm working Evaporator flow switch/thermal overload supply fan alarm by-pass by activating the evaporator pump/supply fan Maximum time in evaporator flow switch alarm before switching to manual mode and blocking the evaporator water pump. Evaporator flow switch / thermal overload supply fan input active duration Evaporator flow switch / thermal overload supply fan input not active duration	0 mode 0 0	1 250 250	Sec	
AL 15 AL 16 AL 17 AL 18	Reset is always manual if AL14 = 0 Reset is always automatic if AL14 = 60 Reset moves from automatic to manual if AL14 moves from 1 to 59 Oil pressure switch/float alarm with compressor OFF 0 = alarm detection disabled 1 = alarm detection enabled Evaporator flow / supply fan overload alarm working Evaporator flow switch/thermal overload supply fan alarm by-pass by activating the evaporator pump/supply fan Maximum time in evaporator flow switch alarm before switching to manual mode and blocking the evaporator water pump. Evaporator flow switch / thermal overload supply fan input active duration Evaporator flow switch / thermal overload supply fan input not active duration Evaporator flow switch / thermal overload supply fan input not active duration Evaporator flow switch / thermal overload supply fan input not active duration Evaporator flow switch / thermal overload supply fan input not active duration Evaporator flow switch / thermal overload supply fan input not active duration Evaporator flow switch / thermal overload supply fan input not active duration Kashed if the alarm has turned to manual reset) Evaporator flow switch alarm operating logic. If the polarity detection is	0 mode 0 0 0	1 250 250 250	Sec Sec	
AL 15 AL 16 AL 17 AL 18 AL 19	Reset is always manual if AL14 = 0 Reset is always automatic if AL14 = 60 Reset moves from automatic to manual if AL14 moves from 1 to 59 Oil pressure switch/float alarm with compressor OFF 0 = alarm detection disabled 1 = alarm detection enabled Evaporator flow / supply fan overload alarm working Evaporator flow switch/thermal overload supply fan alarm by-pass by activating the evaporator pump/supply fan Maximum time in evaporator flow switch alarm before switching to manual mode and blocking the evaporator water pump. Evaporator flow switch / thermal overload supply fan input active duration Evaporator flow switch / thermal overload supply fan input not active duration Evaporator flow switch / thermal overload supply fan input not active duration Evaporator flow switch / thermal overload supply fan input not active duration Evaporator flow switch / thermal overload supply fan input not active duration Evaporator flow switch / thermal overload supply fan input not active duration Evaporator flow switch / thermal overload supply fan input not active duration Evaporator flow switch alarm operating logic. If the polarity detection is enabled the alarm occurs if the polarity doesn't change after the pump start	0 mode 0 0 0 0	1 250 250 250 250	Sec Sec	
AL 15 AL 16 AL 17 AL 18 AL 19	Reset is always manual if AL14 = 0 Reset is always automatic if AL14 = 60 Reset moves from automatic to manual if AL14 moves from 1 to 59 Oil pressure switch/float alarm with compressor OFF 0 = alarm detection disabled 1 = alarm detection enabled Evaporator flow / supply fan overload alarm working Evaporator flow switch/thermal overload supply fan alarm by-pass by activating the evaporator pump/supply fan Maximum time in evaporator flow switch alarm before switching to manual mode and blocking the evaporator water pump. Evaporator flow switch / thermal overload supply fan input active duration Evaporator flow switch / thermal overload supply fan input active duration Evaporator flow switch / thermal overload supply fan input not active duration Evaporator flow switch / thermal overload supply fan input not active duration Evaporator flow switch / thermal overload supply fan input not active duration Evaporator flow switch / thermal overload supply fan input not active duration Evaporator flow switch / thermal overload supply fan input not active duration Evaporator flow switch / thermal overload supply fan input not active duration Gisabled if the alarm has turned to manual reset) Evaporator flow switch alarm operating logic. If the polarity detection is enabled the alarm occurs if the polarity doesn't change after the pump start regardless the polarity configuration.<	0 mode 0 0 0	1 250 250 250	Sec Sec	
AL 15 AL 16 AL 17 AL 18 AL 19	Reset is always manual if AL14 = 0 Reset is always automatic if AL14 = 60 Reset moves from automatic to manual if AL14 moves from 1 to 59 Oil pressure switch/float alarm with compressor OFF 0 = alarm detection disabled 1 = alarm detection enabled Evaporator flow / supply fan overload alarm working Evaporator flow switch/thermal overload supply fan alarm by-pass by activating the evaporator pump/supply fan Maximum time in evaporator flow switch alarm before switching to manual mode and blocking the evaporator water pump. Evaporator flow switch / thermal overload supply fan input active duration Evaporator flow switch / thermal overload supply fan input not active duration Evaporator flow switch / thermal overload supply fan input not active duration Evaporator flow switch / thermal overload supply fan input not active duration Evaporator flow switch / thermal overload supply fan input not active duration Evaporator flow switch / thermal overload supply fan input not active duration Giabled if the alarm has turned to manual reset) Evaporator flow switch alarm operating logic. If the polarity detection is enabled the alarm occurs if the polarity doesn't change after the pump start regardless the polarity configuration. 0 = polarity control enabled	0 mode 0 0 0 0	1 250 250 250 250	Sec Sec	
AL 15 AL 16 AL 17 AL 18 AL 19	Reset is always manual if AL14 = 0 Reset is always automatic if AL14 = 60 Reset moves from automatic to manual if AL14 moves from 1 to 59 Oil pressure switch/float alarm with compressor OFF 0 = alarm detection disabled 1 = alarm detection enabled Evaporator flow / supply fan overload alarm working Evaporator flow switch/thermal overload supply fan alarm by-pass by activating the evaporator pump/supply fan Maximum time in evaporator flow switch alarm before switching to manual mode and blocking the evaporator water pump. Evaporator flow switch / thermal overload supply fan input active duration Evaporator flow switch / thermal overload supply fan input not active duration Evaporator flow switch / thermal overload supply fan input not active duration Evaporator flow switch / thermal overload supply fan input not active duration Evaporator flow switch / thermal overload supply fan input not active duration Evaporator flow switch / thermal overload supply fan input not active duration (disabled if the alarm has turned to manual reset) Evaporator flow switch alarm operating logic. If the polarity detection is enabled the alarm occurs if the polarity doesn't change after the pump start regardless the polarity configuration. 0 = polarity control enabled 1 = polarity control disabled	0 mode 0 0 0 0	1 250 250 250 250	Sec Sec	
AL 15 AL 16 AL 17 AL 18 AL 19 AL 20	Reset is always manual if AL14 = 0 Reset is always automatic if AL14 = 60 Reset moves from automatic to manual if AL14 moves from 1 to 59 Oil pressure switch/float alarm with compressor OFF 0 = alarm detection disabled 1 = alarm detection enabled Evaporator flow / supply fan overload alarm working Evaporator flow switch/thermal overload supply fan alarm by-pass by activating the evaporator pump/supply fan Maximum time in evaporator flow switch alarm before switching to manual mode and blocking the evaporator water pump. Evaporator flow switch / thermal overload supply fan input active duration Evaporator flow switch / thermal overload supply fan input active duration Gisabled if the alarm has turned to manual reset) Evaporator flow switch alarm operating logic. If the polarity detection is enabled the alarm occurs if the polarity doesn't change after the pump start regardless the polarity configuration. 0 = polarity control enabled 1 = polarity control disabled	0 mode 0 0 0 0	1 250 250 250 250	Sec Sec	
AL 15 AL 16 AL 17 AL 18 AL 19	Reset is always manual if AL14 = 0 Reset is always automatic if AL14 = 60 Reset moves from automatic to manual if AL14 moves from 1 to 59 Oil pressure switch/float alarm with compressor OFF 0 = alarm detection disabled 1 = alarm detection enabled Evaporator flow / supply fan overload alarm working Evaporator flow switch/thermal overload supply fan alarm by-pass by activating the evaporator pump/supply fan Maximum time in evaporator flow switch alarm before switching to manual mode and blocking the evaporator water pump. Evaporator flow switch / thermal overload supply fan input active duration Evaporator flow switch / thermal overload supply fan input active duration Gisabled if the alarm has turned to manual reset) Evaporator flow switch alarm operating logic. If the polarity detection is enabled the alarm occurs if the polarity doesn't change after the pump start regardless the polarity configuration. 0 = polarity control enabled 1 = polarity control disabled 0 = polarity control enabled 1 = polarity control disabled	0 mode 0 0 0 0	1 250 250 250 250	Sec Sec	
AL 15 AL 16 AL 17 AL 18 AL 19 AL 20	Reset is always manual if AL14 = 0 Reset is always automatic if AL14 = 60 Reset moves from automatic to manual if AL14 moves from 1 to 59 Oil pressure switch/float alarm with compressor OFF 0 = alarm detection disabled 1 = alarm detection enabled Evaporator flow / supply fan overload alarm working Evaporator flow switch/thermal overload supply fan alarm by-pass by activating the evaporator pump/supply fan Maximum time in evaporator flow switch alarm before switching to manual mode and blocking the evaporator water pump. Evaporator flow switch / thermal overload supply fan input active duration Evaporator flow switch / thermal overload supply fan input not active duration Giabled if the alarm has turned to manual reset) Evaporator flow switch alarm operating logic. If the polarity detection is enabled the alarm occurs if the polarity doesn't change after the pump start regardless the polarity configuration. 0 = polarity control enabled 1 = polarity control disabled 0 = polarity control disabled 1 = polarity control disabled	0 mode 0 0 0 0	1 250 250 250 250 1	Sec Sec	
AL 15 AL 16 AL 17 AL 18 AL 19 AL 20	Reset is always manual if AL14 = 0 Reset is always automatic if AL14 = 60 Reset moves from automatic to manual if AL14 moves from 1 to 59 Oil pressure switch/float alarm with compressor OFF 0 = alarm detection disabled 1 = alarm detection enabled Evaporator flow / supply fan overload alarm working Evaporator flow switch/thermal overload supply fan alarm by-pass by activating the evaporator pump/supply fan Maximum time in evaporator flow switch alarm before switching to manual mode and blocking the evaporator water pump. Evaporator flow switch / thermal overload supply fan input active duration Evaporator flow switch / thermal overload supply fan input not active duration (disabled if the alarm has turned to manual reset) Evaporator flow switch alarm operating logic. If the polarity detection is enabled the alarm occurs if the polarity doesn't change after the pump start regardless the polarity configuration. 0 = polarity control enabled 1 = polarity control enabled 1 = polarity control disabled 1 = polarity control disabled 1 = align of the switch operation 0 = disabled 1 = chiller only	0 mode 0 0 0 0	1 250 250 250 250	Sec Sec	
AL 15 AL 16 AL 17 AL 18 AL 19 AL 20	Reset is always manual if AL14 = 0 Reset is always automatic if AL14 = 60 Reset moves from automatic to manual if AL14 moves from 1 to 59 Oil pressure switch/float alarm with compressor OFF 0 = alarm detection disabled 1 = alarm detection analed Evaporator flow / supply fan overload alarm working Evaporator flow switch/thermal overload supply fan alarm by-pass by activating the evaporator pump/supply fan Maximum time in evaporator flow switch alarm before switching to manual mode and blocking the evaporator water pump. Evaporator flow switch / thermal overload supply fan input active duration Evaporator flow switch / thermal overload supply fan input not active duration (disabled if the alarm has turned to manual reset) Evaporator flow switch alarm operating logic. If the polarity detection is enabled the alarm occurs if the polarity doesn't change after the pump start regardless the polarity configuration. 0 = polarity control enabled 1 = polarity control disabled 1 = polarity control disabled 1 = chiller only 2 = heat pump only	0 mode 0 0 0 0	1 250 250 250 250 1	Sec Sec	
AL 15 AL 16 AL 17 AL 18 AL 19 AL 20 AL 21	Reset is always manual if AL14 = 0 Reset is always automatic if AL14 = 60 Reset moves from automatic to manual if AL14 moves from 1 to 59 Oil pressure switch/float alarm with compressor OFF 0 = alarm detection disabled 1 = alarm detection enabled Evaporator flow / supply fan overload alarm working Evaporator flow switch/thermal overload supply fan alarm by-pass by activating the evaporator pump/supply fan Maximum time in evaporator flow switch alarm before switching to manual mode and blocking the evaporator water pump. Evaporator flow switch / thermal overload supply fan input active duration (disabled if the alarm has turned to manual reset) Evaporator flow switch alarm operating logic. If the polarity detection is enabled the alarm occurs if the polarity doesn't change after the pump start regardless the polarity configuration. 0 = polarity control enabled 1 = polarity control enabled 1 = polarity control enabled 1 = chiller only 2 = heat pump only 3 = chiller and heat pump	0 mode 0 0 0 0	1 250 250 250 250 1	Sec Sec	
AL 15 AL 16 AL 17 AL 18 AL 19 AL 20	Reset is always manual if AL14 = 0 Reset is always automatic if AL14 = 60 Reset moves from automatic to manual if AL14 moves from 1 to 59 Oil pressure switch/float alarm with compressor OFF 0 = alarm detection disabled 1 = alarm detection enabled Evaporator flow / supply fan overload alarm working Evaporator flow switch/thermal overload supply fan alarm by-pass by activating the evaporator pump/supply fan Maximum time in evaporator flow switch alarm before switching to manual mode and blocking the evaporator water pump. Evaporator flow switch / thermal overload supply fan input active duration Evaporator flow switch / thermal overload supply fan input not active duration (disabled if the alarm has turned to manual reset) Evaporator flow switch alarm operating logic. If the polarity detection is enabled the alarm occurs if the polarity doesn't change after the pump start regardless the polarity configuration. 0 = polarity control enabled 1 = polarity control disabled 1 = chiller only 2 = heat pump only 3 = chiller and heat pump Condenser flow switch alarm delay from when condenser water pump is	0 mode 0 0 0 0	1 250 250 250 1 1	Sec Sec	
AL 15 AL 16 AL 17 AL 18 AL 19 AL 20 AL 21 AL 21	Reset is always manual if AL14 = 0 Reset is always automatic if AL14 = 60 Reset moves from automatic to manual if AL14 moves from 1 to 59 Oil pressure switch/float alarm with compressor OFF 0 = alarm detection disabled 1 = alarm detection enabled Evaporator flow / supply fan overload alarm working Evaporator flow switch/thermal overload supply fan alarm by-pass by activating the evaporator pump/supply fan Maximum time in evaporator flow switch alarm before switching to manual mode and blocking the evaporator water pump. Evaporator flow switch / thermal overload supply fan input active duration Evaporator flow switch / thermal overload supply fan input not active duration (disabled if the alarm has turned to manual reset) Evaporator flow switch alarm operating logic. If the polarity detection is enabled the alarm occurs if the polarity doesn't change after the pump start regardless the polarity configuration. 0 = polarity control enabled 1 = polarity control disabled Condenser flow switch operation 0 = disabled 1 = chiller only 2 = heat pump only 3 = chiller and heat pump Condenser flow switch alarm delay from when condenser water pump is activated	0 mode 0 0 0 0	1 250 250 250 250 1	Sec Sec	
AL 15 AL 16 AL 17 AL 18 AL 19 AL 20 AL 21	Reset is always manual if AL14 = 0 Reset is always automatic if AL14 = 60 Reset moves from automatic to manual if AL14 moves from 1 to 59 Oil pressure switch/float alarm with compressor OFF 0 = alarm detection disabled 1 = alarm detection enabled Evaporator flow / supply fan overload alarm working Evaporator flow switch/thermal overload supply fan alarm by-pass by activating the evaporator pump/supply fan Maximum time in evaporator flow switch alarm before switching to manual mode and blocking the evaporator water pump. Evaporator flow switch / thermal overload supply fan input active duration Evaporator flow switch / thermal overload supply fan input not active duration (disabled if the alarm has turned to manual reset) Evaporator flow switch alarm operating logic. If the polarity detection is enabled the alarm occurs if the polarity doesn't change after the pump start regardless the polarity configuration. 0 = polarity control enabled 1 = polarity control disabled 1 = chiller only 2 = heat pump only 3 = chiller and heat pump Condenser flow switch alarm delay from when condenser water pump is activated	0 mode 0 0 0 0 0	1 250 250 250 1 1 3 250	Sec Sec Sec	
AL 15 AL 16 AL 17 AL 18 AL 19 AL 20 AL 21 AL 21	Reset is always manual if AL14 = 0 Reset is always automatic if AL14 = 60 Reset moves from automatic to manual if AL14 moves from 1 to 59 Oil pressure switch/float alarm with compressor OFF 0 = alarm detection disabled 1 = alarm detection enabled Evaporator flow / supply fan overload alarm working Evaporator flow switch/thermal overload supply fan alarm by-pass by activating the evaporator pump/supply fan Maximum time in evaporator flow switch alarm before switching to manual mode and blocking the evaporator water pump. Evaporator flow switch / thermal overload supply fan input active duration Evaporator flow switch / thermal overload supply fan input not active duration (disabled if the alarm has turned to manual reset) Evaporator flow switch alarm operating logic. If the polarity detection is enabled the alarm occurs if the polarity doesn't change after the pump start regardless the polarity configuration. 0 = polarity control enabled 1 = polarity control disabled Condenser flow switch operation 0 = disabled 1 = chiller only 2 = heat pump only 3 = chiller and heat pump Condenser flow switch alarm delay from when condenser water pump is activated	0 mode 0 0 0 0	1 250 250 250 1 1	Sec Sec	

Non-active condenser flow switch input duration (disabled if the alarm has				
turned to manual reset)	0	250	Sec	
Condenser flow switch alarm operating logic. If the polarity detection is enabled the alarm occurs if the polarity doesn't change after the pump start regardless the polarity configuration. 0 = polarity control enabled 1 = polarity control disabled	0	1		
		I		
	0	250	Sec	
Maximum number of compressor thermal overload interventions per hour Reset is always manual if AL28 = 0 Reset is always automatic if AL28 = 60	0	60	000	
Compressor thermal overload alarm function 0 = blocks the individual compressor	0	1		
Compressor thermal overload alarm with compressor OFF 0 = alarm detection disabled	0	1		
	0	999		
	working		ing mode	
Anti-freeze minimum set point limit in chiller mode	-50.0	AL33	°C	Dec int
Anti-freeze maximum set point limit in chiller mode	-56 AL32	110	°C	Dec
Chiller anti-freeze alarm setting Defines the temperature value below which the antifreeze / low room air temperature / low outlet air temperature alarm is activated	AL32	230 AL33	°F °C/°F	int Dec / int
Anti-freeze alarm differential in chiller-low environmental air temperature-low	0.1	25.0	°C	Dec
Alarm delay anti-freeze -low environmental air temperature-low air temperature output in chiller mode. Delay on activation of the antifreeze / low room air temperature / low outlet air temperature alarm from the occurrence of the alarm condition (temperature	0	250	Sec	int
Maximum number of interventions per hour of the anti-freeze-low environmental air temperature in chiller mode alarm. Defines the maximum number of antifreeze / low room air temperature / low outlet air temperature alarms per hour. When this number is exceeded the alarm moves from automatic to manual reset. Reset is always manual if AL37 = 0 Reset is always automatic if AL37 = 60	0	60		
Anti-freeze alarm operation in chiller mode 0 = it switches off ONLY the compressors, indicates the alarm but does not trigger the buzzer or the alarm relay	0	1		
Antifreeze alarm working in heating mode				
Anti-freeze minimum set point limit in heat pump mode	-50.0 -58	AL40	ů ů	Dec int
Anti-freeze maximum set point limit in heat pump mode	AL39	110 230	°C °F	Dec int
Anti-freeze alarm setting in heat pump mode	AL39	AL40	°C/°F	Dec / int
Anti-freeze alarm differential in heat pump-low environmental air temperature-	0.1 1	25.0 45	°C °F	Dec int
Anti-freeze alarm delay when unit starts in heat pump mode <u>Warning</u> In case of alarm condition (control probe temperature lower than AL41) in Stand-by or remote OFF status and AL43 not zero, if the unit is activated in heating mode the antifreeze condition is neglected in order to allow the compressors to start at least for the delay AL43 as the unit heats-up the water or the air. On expiry of the AL43 delay time, if the antifreeze condition is still	0	250	Sec	
Alarm delay of the anti-freeze-low environmental air temperature-low air	0	250	Sec	
Temperature output in normal operation in neat pump mode. Maximum number of interventions per hour of the anti-freeze-low environmental air temperature in heat pump mode alarm. When this number is exceeded the alarm moves from automatic to manual reset. Reset is always manual if AL45 = 0 Reset is always automatic if AL45 = 60	0	60		
	Condenser flow switch alarm operating logic. If the polarity detection is enabled the alarm occurs if the polarity doesn't change after the pump start regardless the polarity configuration. 0 = polarity control enabled Compressor thermal overload alarm delay at start-up Maximum number of compressor thermal overload interventions per hour Reset is always automatic if AL28 = 0 Reset is always automatic or manual if AL28 moves from 1 to 59 Compressor thermal overload alarm function 0 = blocks the circuit Compressor thermal overload alarm function 0 = blocks the circuit Compressor thermal overload alarm start function 0 = blocks the dircuit Compressor thermal overload alarm test password value (see procedures) Antifreeze I Low room air temperature / Low outlet air temperature alarm Anti-freeze alarm detection enabled Compressor thermal overload alarm reset password value (see procedures) Antifreeze / Low room air temperature / Low outlet air temperature alarm Anti-freeze alarm setting Defines the temperature value below which the antifreeze / low room air temperature/low outlet air temperature-low air temperature / low outlet air temperature-low air temperature value below any in temperature-low air temperature value below alarm. Anti-freeze alarm differential in chiller-low environmental air temperature-low air temperature output Alarm delay anti-freeze / low room air temperature-low air temperature value to the antifreeze / low room air temperature output Alarm delay anti-freeze / low room air temperature / low outlet air temperature alarm from the occurrence of the alarm condition (temperature below alarm. Defines the maximum number of antifreeze / low room air temperature / low outlet air temperature alarms per hour. When this number is exceeded the alarm condition in chiller mode Anti-freeze alarm differential in heat pump. Maximum number of interventions per hour of the anti-freeze-low environmental air temperature output in Alarg = 0 Reset is always antonalic if AL37 = 0 Reset	Condenser flow switch alarm operating logic. If the polarity detection is enabled the alarm occurs if the polarity cosn't change after the pump start regardless the polarity configuration. 0 0 = polarity control disabled Compressor thermal overload alarm 0 1 = polarity control disabled Compressor thermal overload interventions per hour Reset is always manual if AL28 = 0 0 Reset newsy manual if AL28 = 0 0 0 Reset newsy manual if AL28 = 0 0 0 Reset newsy from automatic to manual if AL28 moves from 1 to 59 0 0 Compressor thermal overload alarm function 0 0 0 0 = blocks the individual compressor 0 0 1 alarm detection disabled 0 1 = alarm detection disabled 0 0 -58 0 -58 Anti-freeze minimum set point limit in chiller mode -58 -58 Anti-freeze alarm differential in chiller mode -61 Anti-freeze alarm differential in chiller one environmental air temperature-low air temperature output in chiller mode. 0 1.32 Anti-freeze alarm differential in chiller mode -61 0 1.32 Compressor thermal overload alarm reset point limit not hiller mode. 0 1.32 D	Condenser flow switch alarm operating logic. If the polarity detection is enabled the alarm occurs if the polarity doesn't change after the pump start regardless the polarity control enabled 0 1 Compressor thermal overload alarm delay at start-up 0 250 Maximum number of compressor thermal overload alarm for the number of compressor thermal overload alarm function 0 60 Reset is always automatic if AL28 = 00 0 60 60 Reset is always manual if AL28 = 00 0 1 1 Compressor thermal overload alarm function 0 1 1 1 0 1 blocks the circuit 0 1	Condenser flow switch alarm operating logic. If the polarity detection is enabled the alarm occurs if the polarity configuration. 0 1 Image: Control enabled to control enabled to polarity control disabled 0 1 Compressor thermal overload alarm delay at start-up 0 250 Sec Maximum number of compressors thermal overload alarm undersy at start-up 0 60 60 Reset is always manual if AL28 = 60 0 60 1 1 Compressor thermal overload alarm fuely at start-up 0 1 <t< td=""></t<>

AL 46			1		
	Anti-freeze alarm operation in heat pump mode 0 = it switches off ONLY the compressors, indicates the alarm but does not				
	trigger the buzzer or the alarm relay	0	1		
	1 = shuts off compressors and activates the buzzer and alarm relay				
=	Control probe for antifreeze alarm	1		1 1	
AL 47	Anti-freeze temperature control probe alarm in chiller mode				
	0 = disabled 1 = evaporator input				
	2 = evaporator output 1 / 2	0	5		
	3 = evaporator output 3 / 4	0	Ŭ		
	4 = evaporator output 1 / 2 / 3 / 4				
	5 = evaporator output 1 / 2 / 3 / 4 and common output				
AL 48	Anti-freeze temperature control probe alarm in heat pump mode				
	0 = disabled 1 = evaporator input				
	2 = evaporator output 1 / 2	0	5		
	3 = evaporator output 3 / 4	0	Ŭ		
	4 = evaporator output 1 / 2 / 3 / 4				
	5 = evaporator output 1 / 2 / 3 / 4 and common output				
AL 49	Condenser anti-freeze temperature control probe alarm				
	0 = disabled				
	1 = common condenser water input probe 2 = common condenser water input probe and condenser input 1 / 2				
	3 = common condenser water input probe and condenser input 1/2	0	7		
	4 = condenser water output probe 1 / 2	-			
	5 = condenser water output probe 3 / 4				
	6 = condenser output 1/2/3/4				
	7 = condenser output $1/2/3/4$ and common output			I I	
AL 50	Compressors high discharge temperature	50	450		<u> </u>
AL 50	Compressor high discharge temperature alarm setting	-50 -58	150 302	°C °F	Dec / int Int
AL 51	Compressor high discharge temperature alarm differential	0.1	25.0	г °C	Dec
		1	45	°F	Int
AL 52	Maximum number of compressor high discharge temperature alarm	-			
	interventions per hour				
	When this number is exceeded the alarm moves from automatic to manual				
	reset.	0	60		
	Reset is always manual if $AL52 = 0$ Reset is always automatic if $AL52 = 60$				
	Reset moves from automatic to manual reset if AL52 moves from 1 to 59				
	Unit general block alarm n°1				
AL 53	Unit general block alarm n°1 Maximum number of unit general block alarm interventions per hour.				
AL 53	Unit general block alarm n°1 Maximum number of unit general block alarm interventions per hour. Reset is always manual if AL53 = 0	0	60		
AL 53	Maximum number of unit general block alarm interventions per hour. Reset is always manual if AL53 = 0 Reset is always automatic if AL53 = 60	0	60		
	Maximum number of unit general block alarm interventions per hour. Reset is always manual if AL53 = 0 Reset is always automatic if AL53 = 60 Reset moves from automatic to manual reset if AL53 moves from 1 to 59	-			
AL 54	Maximum number of unit general block alarm interventions per hour. Reset is always manual if AL53 = 0 Reset is always automatic if AL53 = 60 Reset moves from automatic to manual reset if AL53 moves from 1 to 59 Unit general block alarm delay with digital input activated	0	250	Sec	10
	Maximum number of unit general block alarm interventions per hour. Reset is always manual if AL53 = 0 Reset is always automatic if AL53 = 60 Reset moves from automatic to manual reset if AL53 moves from 1 to 59 Unit general block alarm delay with digital input activated Unit general block alarm delay with digital input deactivated	-		Sec 10 Sec	10 sec
AL 54 AL 55	Maximum number of unit general block alarm interventions per hour. Reset is always manual if AL53 = 0 Reset is always automatic if AL53 = 60 Reset moves from automatic to manual reset if AL53 moves from 1 to 59 Unit general block alarm delay with digital input activated Unit general block alarm delay with digital input deactivated Unit general block alarm n° 2	0	250		10 sec
AL 54	Maximum number of unit general block alarm interventions per hour. Reset is always manual if AL53 = 0 Reset is always automatic if AL53 = 60 Reset moves from automatic to manual reset if AL53 moves from 1 to 59 Unit general block alarm delay with digital input activated Unit general block alarm delay with digital input deactivated Unit general block alarm n° 2 General alarm no. 2 operation	0	250 250		10 sec
AL 54 AL 55	Maximum number of unit general block alarm interventions per hour. Reset is always manual if AL53 = 0 Reset is always automatic if AL53 = 60 Reset moves from automatic to manual reset if AL53 moves from 1 to 59 Unit general block alarm delay with digital input activated Unit general block alarm delay with digital input deactivated Unit general block alarm n° 2	0	250		10 sec
AL 54 AL 55	Maximum number of unit general block alarm interventions per hour. Reset is always manual if AL53 = 0 Reset is always automatic if AL53 = 60 Reset moves from automatic to manual reset if AL53 moves from 1 to 59 Unit general block alarm delay with digital input activated Unit general block alarm delay with digital input deactivated Unit general block alarm n° 2 General alarm no. 2 operation 0 = only signals; it does not depend on AL57 (alarm relay and buzzer	0	250 250		10 sec
AL 54 AL 55 AL 56	Maximum number of unit general block alarm interventions per hour. Reset is always manual if AL53 = 0 Reset is always automatic if AL53 = 60 Reset moves from automatic to manual reset if AL53 moves from 1 to 59 Unit general block alarm delay with digital input activated Unit general block alarm delay with digital input deactivated Unit general block alarm delay with digital input deactivated Unit general block alarm no. 2 operation 0 = only signals; it does not depend on AL57 (alarm relay and buzzer activated); always resets automatically 1 = the alarm blocks the unit; alarm reset depends on the value of par AL57 Maximum number of unit general block alarm no. 2 interventions per hour	0	250 250		10 sec
AL 54 AL 55 AL 56	Maximum number of unit general block alarm interventions per hour. Reset is always manual if AL53 = 0 Reset is always automatic if AL53 = 60 Reset moves from automatic to manual reset if AL53 moves from 1 to 59 Unit general block alarm delay with digital input activated Unit general block alarm delay with digital input deactivated Unit general block alarm no. 2 operation 0 = only signals; it does not depend on AL57 (alarm relay and buzzer activated); always resets automatically 1 = the alarm blocks the unit; alarm reset depends on the value of par AL57 Maximum number of unit general block alarm no. 2 interventions per hour When this number is exceeded the alarm moves from automatic to manual	0	250 250		10 sec
AL 54 AL 55	Maximum number of unit general block alarm interventions per hour. Reset is always manual if AL53 = 0 Reset is always automatic if AL53 = 60 Reset moves from automatic to manual reset if AL53 moves from 1 to 59 Unit general block alarm delay with digital input activated Unit general block alarm delay with digital input deactivated Unit general block alarm no. 2 operation 0 = only signals; it does not depend on AL57 (alarm relay and buzzer activated); always resets automatically 1 = the alarm blocks the unit; alarm reset depends on the value of par AL57 Maximum number of unit general block alarm no. 2 interventions per hour When this number is exceeded the alarm moves from automatic to manual reset.	0	250 250		10 sec
AL 54 AL 55 AL 56	Maximum number of unit general block alarm interventions per hour. Reset is always manual if AL53 = 0 Reset is always automatic if AL53 = 60 Reset moves from automatic to manual reset if AL53 moves from 1 to 59 Unit general block alarm delay with digital input activated Unit general block alarm delay with digital input deactivated Unit general block alarm no. 2 operation 0 = only signals; it does not depend on AL57 (alarm relay and buzzer activated); always resets automatically 1 = the alarm blocks the unit; alarm reset depends on the value of par AL57 Maximum number of unit general block alarm no. 2 interventions per hour When this number is exceeded the alarm moves from automatic to manual reset. Reset is always manual if AL57 = 0	0	250 250		10 sec
AL 54 AL 55 AL 56	Maximum number of unit general block alarm interventions per hour. Reset is always manual if AL53 = 0 Reset is always automatic if AL53 = 60 Reset moves from automatic to manual reset if AL53 moves from 1 to 59 Unit general block alarm delay with digital input activated Unit general block alarm delay with digital input deactivated Unit general block alarm no. 2 operation 0 = only signals; it does not depend on AL57 (alarm relay and buzzer activated); always resets automatically 1 = the alarm blocks the unit; alarm reset depends on the value of par AL57 Maximum number of unit general block alarm no. 2 interventions per hour When this number is exceeded the alarm moves from automatic to manual reset. Reset is always manual if AL57 = 0 Reset is always automatic if AL57 = 60	0	250 250		10 sec
AL 54 AL 55 AL 56 AL 57	Maximum number of unit general block alarm interventions per hour. Reset is always manual if AL53 = 0 Reset is always automatic if AL53 = 60 Reset moves from automatic to manual reset if AL53 moves from 1 to 59 Unit general block alarm delay with digital input activated Unit general block alarm delay with digital input activated Unit general block alarm no. 2 operation 0 = only signals; it does not depend on AL57 (alarm relay and buzzer activated); always resets automatically 1 = the alarm blocks the unit; alarm reset depends on the value of par AL57 Maximum number of unit general block alarm no. 2 interventions per hour When this number is exceeded the alarm moves from automatic to manual reset. Reset is always manual if AL57 = 0 Reset is always automatic if AL57 = 60 Reset moves from automatic to manual reset if AL57 moves from 1 to 59	000000000000000000000000000000000000000	250 250 1	10 Sec	
AL 54 AL 55 AL 56 AL 57 AL 57	Maximum number of unit general block alarm interventions per hour. Reset is always manual if AL53 = 0 Reset is always automatic if AL53 = 60 Reset moves from automatic to manual reset if AL53 moves from 1 to 59 Unit general block alarm delay with digital input activated Unit general block alarm delay with digital input deactivated Unit general block alarm no. 2 operation 0 = only signals; it does not depend on AL57 (alarm relay and buzzer activated); always resets automatically 1 = the alarm blocks the unit; alarm reset depends on the value of par AL57 Maximum number of unit general block alarm no. 2 interventions per hour When this number is exceeded the alarm moves from automatic to manual reset. Reset is always manual if AL57 = 0 Reset is always automatic if AL57 = 60	0	250 250		10 sec 10 sec 10 sec
AL 54 AL 55 AL 56 AL 57 AL 57	Maximum number of unit general block alarm interventions per hour. Reset is always manual if AL53 = 0 Reset is always automatic if AL53 = 60 Reset moves from automatic to manual reset if AL53 moves from 1 to 59 Unit general block alarm delay with digital input activated Unit general block alarm delay with digital input deactivated Unit general block alarm no. 2 operation 0 = only signals; it does not depend on AL57 (alarm relay and buzzer activated); always resets automatically 1 = the alarm blocks the unit; alarm reset depends on the value of par AL57 Maximum number of unit general block alarm no. 2 interventions per hour When this number is exceeded the alarm moves from automatic to manual reset. Reset is always manual if AL57 = 0 Reset is always automatic if AL57 = 60 Reset is always automatic if AL57 = 60 Reset moves from automatic to manual reset if AL57 moves from 1 to 59 Unit general block alarm no. 2 delay with digital input activated	000000000000000000000000000000000000000	250 250 1 60 250	10 Sec	10 sec
AL 54 AL 55 AL 56 AL 57 AL 57 AL 58 AL 59	Maximum number of unit general block alarm interventions per hour. Reset is always manual if AL53 = 0 Reset is always automatic if AL53 = 60 Reset moves from automatic to manual reset if AL53 moves from 1 to 59 Unit general block alarm delay with digital input activated Unit general block alarm delay with digital input deactivated Unit general block alarm no. 2 operation 0 = only signals; it does not depend on AL57 (alarm relay and buzzer activated); always resets automatically 1 = the alarm blocks the unit; alarm reset depends on the value of par AL57 Maximum number of unit general block alarm no. 2 interventions per hour When this number is exceeded the alarm moves from automatic to manual reset. Reset is always manual if AL57 = 0 Reset is always automatic if AL57 = 60 Reset is always automatic to manual reset if AL57 moves from 1 to 59 Unit general block alarm no. 2 delay with digital input activated Unit general block alarm no. 2 delay with digital input deactivated	000000000000000000000000000000000000000	250 250 1 60 250	10 Sec	10 sec
AL 54 AL 55 AL 56 AL 57 AL 57 AL 58 AL 59	Maximum number of unit general block alarm interventions per hour. Reset is always manual if AL53 = 0 Reset is always automatic if AL53 = 60 Reset moves from automatic to manual reset if AL53 moves from 1 to 59 Unit general block alarm delay with digital input activated Unit general block alarm delay with digital input deactivated Unit general block alarm no. 2 operation 0 = only signals; it does not depend on AL57 (alarm relay and buzzer activated); always resets automatically 1 = the alarm blocks the unit; alarm reset depends on the value of par AL57 Maximum number of unit general block alarm no. 2 interventions per hour When this number is exceeded the alarm moves from automatic to manual reset. Reset is always manual if AL57 = 0 Reset is always automatic if AL57 = 60 Reset moves from automatic to manual reset if AL57 moves from 1 to 59 Unit general block alarm no. 2 delay with digital input activated Unit general block alarm no. 2 delay with digital input activated Unit general block alarm no. 2 delay with digital input deactivated Maximum number of system input high water temperature probe alarm interventions per hour	000000000000000000000000000000000000000	250 250 1 60 250 250	10 Sec	10 sec
AL 54 AL 55 AL 56 AL 57 AL 57 AL 58 AL 59	Maximum number of unit general block alarm interventions per hour. Reset is always manual if AL53 = 0 Reset is always automatic if AL53 = 60 Reset moves from automatic to manual reset if AL53 moves from 1 to 59 Unit general block alarm delay with digital input activated Unit general block alarm delay with digital input deactivated Unit general block alarm no. 2 operation 0 = only signals; it does not depend on AL57 (alarm relay and buzzer activated); always resets automatically 1 = the alarm blocks the unit; alarm reset depends on the value of par AL57 Maximum number of unit general block alarm no. 2 interventions per hour When this number is exceeded the alarm moves from automatic to manual reset. Reset is always manual if AL57 = 0 Reset moves from automatic to manual reset if AL57 moves from 1 to 59 Unit general block alarm no. 2 delay with digital input activated Unit general block alarm no. 2 delay with digital input activated Unit general block alarm no. 2 delay with digital input deactivated Unit general block alarm no. 2 delay with digital input deactivated Unit general block alarm no. 2 delay with digital input deactivated Unit general block alarm no. 2 delay with digital input deactivated Unit general block alarm no. 2 delay with digital input deactivated Unit general block alarm no. 2 delay with digital	000000000000000000000000000000000000000	250 250 1 60 250	10 Sec	10 sec
AL 54 AL 55 AL 56 AL 57 AL 57 AL 58 AL 59	Maximum number of unit general block alarm interventions per hour. Reset is always manual if AL53 = 0 Reset is always automatic if AL53 = 60 Reset moves from automatic to manual reset if AL53 moves from 1 to 59 Unit general block alarm delay with digital input activated Unit general block alarm delay with digital input deactivated Unit general block alarm no. 2 operation 0 = only signals; it does not depend on AL57 (alarm relay and buzzer activated); always resets automatically 1 = the alarm blocks the unit; alarm reset depends on the value of par AL57 Maximum number of unit general block alarm no. 2 interventions per hour When this number is exceeded the alarm moves from automatic to manual reset. Reset is always manual if AL57 = 0 Reset is always manual if AL57 = 60 Reset moves from automatic to manual reset if AL57 moves from 1 to 59 Unit general block alarm no. 2 delay with digital input activated Unit general block alarm no. 2 delay with digital input deactivated Unit general block alarm no. 2 delay with digital input deactivated Unit general block alarm no. 2 delay with digital input deactivated Unit general block alarm no. 2 delay with digital input deactivated Unit general block alarm no. 2 delay with digital input deactivated Evaporator inlet high temperature alarm Maxi	000000000000000000000000000000000000000	250 250 1 60 250 250	10 Sec	10 sec
AL 54 AL 55 AL 56 AL 57 AL 58 AL 59 AL 60	Maximum number of unit general block alarm interventions per hour. Reset is always manual if AL53 = 0 Reset is always automatic if AL53 = 60 Reset moves from automatic to manual reset if AL53 moves from 1 to 59 Unit general block alarm delay with digital input activated Unit general block alarm delay with digital input deactivated Unit general block alarm no. 2 operation 0 = only signals; it does not depend on AL57 (alarm relay and buzzer activated); always resets automatically 1 = the alarm blocks the unit; alarm reset depends on the value of par AL57 Maximum number of unit general block alarm no. 2 interventions per hour When this number is exceeded the alarm moves from automatic to manual reset. Reset is always manual if AL57 = 0 Reset is always manual if AL57 = 60 Reset moves from automatic to manual reset if AL57 moves from 1 to 59 Unit general block alarm no. 2 delay with digital input activated Unit general block alarm no. 2 delay with digital input deactivated Unit general block alarm no. 2 delay with digital input deactivated Reset is always manual if AL67 = 0 Reset moves from automatic to manual reset if AL57 moves from 1 to 59 Unit general block alarm no. 2 delay with digital input deactivated Unit general block alarm no. 2 delay with digital input deactivated Unit ge	000000000000000000000000000000000000000	250 250 1 60 250 250	10 Sec	10 sec
AL 54 AL 55 AL 56 AL 57 AL 58 AL 59 AL 60	Maximum number of unit general block alarm interventions per hour. Reset is always manual if AL53 = 0 Reset is always automatic if AL53 = 60 Reset moves from automatic to manual reset if AL53 moves from 1 to 59 Unit general block alarm delay with digital input activated Unit general block alarm delay with digital input deactivated Unit general block alarm no. 2 operation 0 = only signals; it does not depend on AL57 (alarm relay and buzzer activated); always resets automatically 1 = the alarm blocks the unit; alarm reset depends on the value of par AL57 Maximum number of unit general block alarm no. 2 interventions per hour When this number is exceeded the alarm moves from automatic to manual reset. Reset is always manual if AL57 = 0 Reset is always automatic if AL57 = 60 Reset moves from automatic to manual reset if AL57 moves from 1 to 59 Unit general block alarm no. 2 delay with digital input activated Unit general block alarm no. 2 delay with digital input activated Unit general block alarm no. 2 delay with digital input activated Reset is always automatic if AL57 = 60 Reset moves from automatic to manual reset if AL57 moves from 1 to 59 Unit general block alarm no. 2 delay with digital input activated Linit general block alarm no. 2 delay with digital input deactivated Reset i	000000000000000000000000000000000000000	250 250 1 60 250 250	10 Sec	10 sec
AL 54 AL 55 AL 56 AL 57 AL 57 AL 58 AL 59 AL 60 AL 61	Maximum number of unit general block alarm interventions per hour. Reset is always manual if AL53 = 0 Reset is always automatic if AL53 = 60 Reset moves from automatic to manual reset if AL53 moves from 1 to 59 Unit general block alarm delay with digital input activated Unit general block alarm delay with digital input deactivated Unit general block alarm no. 2 operation 0 = only signals; it does not depend on AL57 (alarm relay and buzzer activated); always resets automatically 1 = the alarm blocks the unit; alarm reset depends on the value of par AL57 Maximum number of unit general block alarm no. 2 interventions per hour When this number is exceeded the alarm moves from automatic to manual reset. Reset is always manual if AL57 = 0 Reset is always automatic if AL57 = 60 Reset moves from automatic to manual reset if AL57 moves from 1 to 59 Unit general block alarm no. 2 delay with digital input activated Unit general block alarm no. 2 delay with digital input deactivated Unit general block alarm no. 2 delay with digital input deactivated Reset is always automatic if AL60 = 0 Reset is always manual if AL60 = 0 Reset is always manual if AL60 = 0 Reset is always automatic if AL60 = 60 Reset is always automatic if pervention probe alarm delay from compressor activation		250 250 1 60 250 250 60	10 Sec Sec Sec	10 sec 10 sec
AL 54 AL 55 AL 56 AL 57 AL 57 AL 58 AL 59 AL 60 AL 61	Maximum number of unit general block alarm interventions per hour. Reset is always manual if AL53 = 0 Reset is always automatic if AL53 = 60 Reset moves from automatic to manual reset if AL53 moves from 1 to 59 Unit general block alarm delay with digital input activated Unit general block alarm delay with digital input deactivated Unit general block alarm no. 2 operation 0 = only signals; it does not depend on AL57 (alarm relay and buzzer activated); always resets automatically 1 = the alarm blocks the unit; alarm reset depends on the value of par AL57 Maximum number of unit general block alarm no. 2 interventions per hour When this number is exceeded the alarm moves from automatic to manual reset. Reset is always manual if AL57 = 0 Reset is always automatic if AL57 = 60 Reset moves from automatic to manual reset if AL57 moves from 1 to 59 Unit general block alarm no. 2 delay with digital input activated Unit general block alarm no. 2 delay with digital input activated Unit general block alarm no. 2 delay with digital input activated Reset is always automatic if AL57 = 60 Reset moves from automatic to manual reset if AL57 moves from 1 to 59 Unit general block alarm no. 2 delay with digital input activated Linit general block alarm no. 2 delay with digital input deactivated Reset i		250 250 1 60 250 250 60 250	10 Sec Sec Sec	10 sec 10 sec 10 sec
AL 54 AL 55 AL 56 AL 57 AL 57 AL 57 AL 59 AL 60 AL 61 AL 61 AL 62	Maximum number of unit general block alarm interventions per hour. Reset is always manual if AL53 = 0 Reset is always automatic if AL53 = 60 Reset moves from automatic to manual reset if AL53 moves from 1 to 59 Unit general block alarm delay with digital input activated Unit general block alarm delay with digital input deactivated Unit general block alarm no. 2 operation 0 = only signals; it does not depend on AL57 (alarm relay and buzzer activated); always resets automatically 1 = the alarm blocks the unit; alarm reset depends on the value of par AL57 Maximum number of unit general block alarm no. 2 interventions per hour When this number is exceeded the alarm moves from automatic to manual reset. Reset is always manual if AL57 = 0 Reset is always automatic if AL57 = 60 Reset moves from automatic to manual reset if AL57 moves from 1 to 59 Unit general block alarm no. 2 delay with digital input activated Unit general block alarm no. 2 delay with digital input deactivated Unit general block alarm no. 2 delay with digital input deactivated Reset is always automatic if AL60 = 0 Reset is always manual if AL60 = 0 Reset is always manual if AL60 = 0 Reset is always automatic if AL60 = 60 Reset is always automatic if pervention probe alarm delay from compressor activation	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	250 250 1 60 250 250 250 60 250 110 230 25.0	10 Sec Sec Sec Sec °C °F °C	10 sec 10 sec 10 sec 10 sec 10 sec Int Dec
AL 54 AL 55 AL 56 AL 57 AL 57 AL 57 AL 60 AL 61 AL 61 AL 62 AL 63	Maximum number of unit general block alarm interventions per hour. Reset is always manual if AL53 = 0 Reset is always automatic if AL53 = 60 Reset moves from automatic to manual reset if AL53 moves from 1 to 59 Unit general block alarm delay with digital input activated Unit general block alarm delay with digital input deactivated Unit general block alarm no. 2 operation 0 = only signals; it does not depend on AL57 (alarm relay and buzzer activated); always resets automatically 1 = the alarm blocks the unit; alarm reset depends on the value of par AL57 Maximum number of unit general block alarm no. 2 interventions per hour When this number is exceeded the alarm moves from automatic to manual reset. Reset is always manual if AL57 = 0 Reset is always automatic if AL57 = 60 Reset moves from automatic to manual reset if AL57 moves from 1 to 59 Unit general block alarm no. 2 delay with digital input activated Unit general block alarm no. 2 delay with digital input deactivated Unit general block alarm no. 2 delay with digital input deactivated Reset is always automatic if AL60 = 0 Reset is always manual if AL60 = 60 Reset is always automatic to manual if AL60 moves from 1 to 59 System input high water temperature probe alarm delay from compressor activation System input high water tempe	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	250 250 1 60 250 250 250 60 250 110 230	10 Sec Sec Sec Sec Sec Sec	10 sec 10 sec 10 sec Dec Int
AL 54 AL 55 AL 56	Maximum number of unit general block alarm interventions per hour. Reset is always manual if AL53 = 0 Reset is always automatic if AL53 = 60 Reset moves from automatic to manual reset if AL53 moves from 1 to 59 Unit general block alarm delay with digital input activated Unit general block alarm delay with digital input deactivated Unit general block alarm delay with digital input deactivated Unit general block alarm delay with digital input deactivated Unit general block alarm delay with digital input deactivated Unit general block alarm delay with digital input deactivated Unit general block alarm no. 2 operation 0 = only signals; it does not depend on AL57 (alarm relay and buzzer activated); always resets automatically 1 = the alarm blocks the unit; alarm reset depends on the value of par AL57 Maximum number of unit general block alarm no. 2 interventions per hour When this number is exceeded the alarm moves from automatic to manual reset. Reset is always manual if AL57 = 0 Reset moves from automatic to manual reset if AL57 moves from 1 to 59 Unit general block alarm no. 2 delay with digital input activated Unit general block alarm no. 2 delay with digital input deactivated Unit general block alarm no. 2 delay with digital input deactivated Unit general block alarm no. 2 delay with digital input deactivated	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	250 250 1 60 250 250 250 60 250 110 230 25.0	10 Sec Sec Sec Sec °C °F °C	10 sec 10 sec 10 sec 10 sec Int Dec

	Alarm relay				
AL 65	Activation of the alarm relay output in remote OFF or Stand-by mode			1	
12 00	0 = alarm output enabled 1 = alarm output disabled	0	1		
AL 66	Alarm log reset password (see procedure)	0	999		
	Anti-freeze alarm in free cooling				-
AL 67	Alarm delay from signal frost in free cooling.	0	250	Sec	
AL 68	Maximum number hours alarm frost interventions in free cooling	0	60		
	Auxiliary heating alarms				•
AL 69	Compressor status in case in heating auxiliary alarm	0	1	1	
	0 = Keep Off	-			
	1 = ON again				
AL 70	Maximum number hours alarm interventions of thermal heaters	0	60		
AL 71	Maximum number interventions alarm time of block heaters	0	60		
	Electronic thermostatic driver				
Parameter	Description	min	max	um	Resolution
Et 1	Configuration of probes Pb1 and Pb2 connected to the driver				
	0 = NTC temperature				
	1 = PTC temperature	0	2		
	2 = PT1000 temperature				
Et 2	Configuration of probes Pb3 and Pb4 connected to the driver				
	0 = NTC temperature				
	1 = PTC temperature				
	2 = PT1000 temperature	0	5		
	$3 = \text{pressure } 4 \div 20\text{mA}$				
	4 = pressure 0.5V				
51.0	5 = not present (low pressure defined transducers are used)				
Et 3	Type of valve:		~		
	1 = Unipolar 2 = Bipolar	1	2		
Et 4	Selection of the bipolar valve body connected to the driver (WARNING the				
L(4	unique and valid reference has to be considered the datasheet made by valve				
	manufacturer; please compare the valve data in this user manual with the				
	data declared on the last data sheet of the selected valve)				
	0 = Custom				
	1 = Alco EX4 - EX5 - EX6				
	2 = Alco EX7				
	3 = Alco EX8	0	11		
	$4 = \text{Carel E2V}^*$	Ŭ			
	5 = Carel E2V*P				
	6 = Danfoss ETS – 25/50 7 = Danfoss ETS – 100				
	7 = Danloss ETS - 100 8 = Danloss ETS - 250/400				
	9 = Sporlan SEI 0.5 – 11				
	10 = Sporlan SEI 30				
	11 = Sporlan SEH 50/100/175				
Et 5	Selection of the unipolar valve body connected to the driver	0	0	1	
	0 = Custom	0	0		
Et 6	Valve driving				
	0 = drives both valves	0	1		
	1 = drives only valve 1				ļ
Et 7	Valve 1 output operation mode				
	0 = chiller				
	1 = heat pump 2 = chiller and heat pump	0	5		
	2 = cniller and neat pump 3 = not used	U	э		
	3 = not used 4 = not used				
	5 = not used				
Et 8	Valve 2 output operation mode			1	1
	0 = chiller				
	1 = heat pump				
	2 = chiller and heat pump	0	5		
	3 = not used				
	4 = not used				
	5 = not used				
Et 9	Selection of output circuit valve 1 driver 1				
	0 = Not present				
	1 = Circuit 1	0	4		
	2 = Circuit 2	-			
	3 = Circuit 3				
	4 = Circuit 4	L	1	1	

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Et 35Overheating regulation dead band in chiller mode0.05.0°CDecEt 36High overheating threshold. The alarm status is signaled after the highEt3480.0°CDec	Et 35 Overheating regulation dead band in chiller mode 0.0 5.0 °C Dec Et 36 High overheating threshold. The alarm status is signaled after the high Et34 80.0 °C Dec	El 33	FID derivative constant in chiller mode	0	250	Sec	
Et 35Overheating regulation dead band in chiller mode0.05.0°CDecEt 36High overheating threshold. The alarm status is signaled after the highEt3480.0°CDec	Et 35 Overheating regulation dead band in chiller mode 0.0 5.0 °C Dec Et 36 High overheating threshold. The alarm status is signaled after the high Et34 80.0 °C Dec	Ft 34	Overheating regulation set point during chiller mode	0.0	25.0	°C	Dec
Et 36 High overheating threshold. The alarm status is signaled after the high Et34 80.0 °C Dec	Et 36 High overheating threshold. The alarm status is signaled after the high Et34 80.0 °C Dec			0.0	20.0		Dee
Et 36 High overheating threshold. The alarm status is signaled after the high Et34 80.0 °C Dec	Et 36 High overheating threshold. The alarm status is signaled after the high Et34 80.0 °C Dec	Ft 35	Overheating regulation dead band in chiller mode	0.0	5.0	°C	Dec
		-1.33		0.0	5.0		Dec
		Et 36	High overheating threshold. The alarm status is signaled after the bigh	Ft34	80.0	ംറ	Dec
	Loverheating alarm activation delay			L104	50.0		000

iProCHILL 147/205

Et 37Low overheating threshold. The alarm status is signaled after the low overheating alarm activation delay0.0Et34Et 38PID proportional constant in defrost if ET7/8 = 3/50.050.0Et 39MOP Protection activation threshold. High evaporating temperature threshold. The alarm status is signaled after 0.00.050.050.0	°C 	Dec
Et 39 MOP Protection activation threshold. High evaporating temperature threshold. The alarm status is signaled after	°C	Dee
Et 39 MOP Protection activation threshold. High evaporating temperature threshold. The alarm status is signaled after		Dec
the high evaporating temperature alarm activation delay 0.0 50.0	°C	Dec
Et 40 STEP RATE during MOP or LOP protection (number of steps every second) 0 ET19		
Et 41 LOP Protection activation threshold. Low evaporating temperature threshold. The alarm status is signaled after the low evaporating temperature alarm activation delay -50.0 50.0	°C	Dec
Et 42Max Valve Opening in CH mode (percentage)0100	%	
Et 43 Min Valve Opening in CH mode (percentage) 0 100	%	
Et 44Pressure measure Filter in CH mode1250	Sec	
Et 45 Interval of updating the valve output in CH mode 0 250	Sec	
Et 46Delay of alarm in case of probe error in CH mode0250Et 47% of valve during the ET46 time in CH mode0100	Sec %	
Et 47 % of valve during the ET46 time in CH mode 0 100 PID regulation in Heat pump mode	%	
Et 48PID proportional constant in HP mode0.050.0	°C	Dec
Et 49 PID integral time in HP mode 0 500	Sec	
Et 50 PID derivative constant in HP mode 0 250	Sec	
Et 51Overheating regulation set point during HP mode0.025.0	°C	Dec
Et 52 Overheating regulation dead band in HP mode 0.0 5.0	°C	Dec
Et 53High overheating threshold. The alarm status is signaled after the high overheating alarm activation delayEt5480.0	°C	Dec
Et 54Low overheating threshold. The alarm status is signaled after the low overheating alarm activation delay0.0Et53	°C	Dec
Et 55PID proportional constant in defrost if ET7/8 = 40.050.0	°C	Dec
Et 56MOP Protection activation threshold. High evaporating temperature threshold. The alarm status is signaled after the high evaporating temperature alarm activation delay0.050.0	°C	Dec
Et 57 STEP RATE during MOP or LOP protection (number of steps every second) 0 100		
Et 58 LOP Protection activation threshold. Low evaporating temperature threshold. The alarm status is signaled after the low evaporating temperature alarm activation delay -50.0 50.0	°C	Dec
Et 59 Max Valve Opening in HP mode (percentage) 0 100	%	
Et 60 Min Valve Opening in HP mode (percentage) 0 100	%	
Et 61Pressure measure Filter in HP mode1250	Sec	
Et 62Interval of updating the valve output in HP mode0250	Sec	
Et 63 Delay of alarm in case of probe error in HP mode 0 250	Sec	
Et 64 % of valve during the ET46 time in HP mode 0 100	%	
Input/output	-	
Parameter Description min max	mu	Resolution
Local I/O		
IO 1 Pb1 configuration 0 66 01 c115 c115 IO 2 Pb2 configuration 0 66		
IO 2 Pb2 configuration 0 66 IO 3 Pb3 configuration 0 66		
IO 3 P b3 configuration 0 00 01 c115 IO 4 Pb4 configuration 0 66		
IO 5 Pb5 configuration 0 60 00 01 c115 IO 5 Pb5 configuration 0 66 66		
IO 6 Pb6 configuration O OG OG OI c115 O 66		
IO 7 Pb7 configuration O 66		
IO 8 Pb8 configuration 0 66		
01 c115		
IO 9 Pb9 configuration 0 66		1
IO 9 Pb9 configuration 0 66 01 c115 c115 IO 10 Pb10 configuration 0 66		
IO 9 Pb9 configuration 0 66 01 c115 c115 IO 10 Pb10 configuration 0 66 01 c115 c115		
IO 9 Pb9 configuration 0 66 01 c115 c115 IO 10 Pb10 configuration 0 66		

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10.10			445	
IO 13	DI3 configuration	0	c115	
IO 14	DI4 configuration	0	c115	
IO 15	DIS configuration	0	c115	
IO 16	DI6 configuration	0	c115	
IO 17	DI7 configuration	0	c115	
IO 18	DI8 configuration	0	c115	
IO 19	DI9 configuration	0	c115	
IO 20	DI10 configuration	0	c115	
IO 21	DI11 configuration	0	c115	
IO 22	DI12 configuration	0	c115	
IO 23	DI13 configuration	0	c115	
IO 24	DI14 configuration	0	c115	
IO 25	DI15 configuration	0	c115	
IO 26	DI16 configuration	0	c115	
IO 27	DI17 configuration	0	c115	
IO 28	DI18 configuration	0	c115	
IO 29	DI19 configuration	0	c115	
IO 30	DI20 configuration	0	c115	
IO 31	RL1 configuration	0	c195	
IO 32	RL2 configuration	0	c195	
10 33	RL3 configuration	0	c195	
10 34	RL4 configuration	0	c195	
10 35	RL5 configuration	0	c195	
IO 35	RL6 configuration	0	c195	
IO 36 IO 37	RL0 configuration	0	c195	
IO 37	RL7 configuration	0	c195 c195	
IO 39 IO 40	RL9 configuration	0	c195	
	RL10 configuration	0	c195	
IO 41	RL11 configuration	0	c195	├ ───
IO 42	RL12 configuration	0	c195	
IO 43	RL13 configuration	0	c195	
IO 44	RL14 configuration	0	c195	
IO 45	RL15 configuration	0	c195	
IO 46	AO1 configuration	0	15	
		o1	c195	
IO 47	AO2 configuration	0	15	
		01	c195	
IO 48	AO3 configuration	0	15	
		o1	c195	
IO 49	AO4 configuration	0	15	
		01	c195	
IO 50	AO5 configuration	0	32	
		01	c195	
IO 51	AO6 configuration	0	32	
		01	c195	
	XEV I/O			• •
IO 52	1st XEV Pb1 configuration	0	66	
10 53	1st XEV Pb2 configuration	0	66	
10 54	1st XEV Pb3 configuration	0	66	
IO 55	1st XEV Pb4 configuration	0	66	
IO 55	2nd XEV Pb1 configuration	0	66	
IO 56	2nd XEV Pb2 configuration	0	66	
IO 57	2nd XEV Pb2 configuration	0	66	
IO 58	2nd XEV Pb3 configuration	0	66	
IO 59 IO 60				<u>├</u> ───
	3rd XEV Pb1 configuration	0	66	
IO 61	3rd XEV Pb2 configuration	0	66	
IO 62	3rd XEV Pb3 configuration	0	66	├
IO 63	3rd XEV Pb4 configuration	0	66	ļ
IO 64	4th XEV Pb1 configuration	0	66	
IO 65	4th XEV Pb2 configuration	0	66	
IO 66	4th XEV Pb3 configuration	0	66	
IO 67	4th XEV Pb4 configuration	0	66	
	1st Expansion I/O			
IO 68	1st Expansion Pb1 configuration	0	66	
		o1	c115	
IO 69	1st Expansion Pb2 configuration	0	66	
		01	c115	
10 70	1st Expansion Pb3 configuration	0	66	
			c115	
-		01		1 1
	1st Expansion Pb4 configuration	01 0		
10 71	1st Expansion Pb4 configuration	0	66	
IO 71		0 01	66 c115	
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IO 115 3rd Expansion DI3 configuration 0 c115 IO 116 3rd Expansion RL1 configuration 0 c195 IO 117 3rd Expansion RL2 configuration 0 c195 IO 118 3rd Expansion RL3 configuration 0 c195 IO 119 3rd Expansion RL4 configuration 0 c195 IO 119 3rd Expansion RL4 configuration 0 c195 IO 120 3rd Expansion RL5 configuration 0 c195							
IO 1163rd Expansion RL1 configuration0c195IO 1173rd Expansion RL2 configuration0c195IO 1183rd Expansion RL3 configuration0c195IO 1193rd Expansion RL4 configuration0c195IO 1203rd Expansion RL5 configuration0c195							
IO 117 3rd Expansion RL2 configuration 0 c195 IO 118 3rd Expansion RL3 configuration 0 c195 IO 119 3rd Expansion RL4 configuration 0 c195 IO 119 3rd Expansion RL4 configuration 0 c195 IO 120 3rd Expansion RL5 configuration 0 c195					├		
IO 118 3rd Expansion RL3 configuration 0 c195 IO 119 3rd Expansion RL4 configuration 0 c195 IO 120 3rd Expansion RL5 configuration 0 c195	IO 117		-				
IO 120 3rd Expansion RL5 configuration 0 c195	IO 118	3rd Expansion RL3 configuration		c195			
			U	0195	I I		

10.400	And Europeing AOA configuration		45		1
IO 122	3rd Expansion AO1 configuration	0 01	15 c195		
IO 123	3rd Expansion AO2 configuration	0	15		
		01	c195		
IO 124	3rd Expansion AO3 configuration	0	15 c195		
	4th Expansion I/O	01	0195		
IO 125	4th Expansion Pb1 configuration	0	66		
		01	c115		
IO 126	4th Expansion Pb2 configuration	0	66		
IO 127	4th Expansion Pb3 configuration	01 0	c115 66	-	
10 127		01	c115		
IO 128	4th Expansion Pb4 configuration	0	66		
		01	c115		
IO 129	4th Expansion Pb5 configuration	0 01	66 c115		
IO 130	4th Expansion Pb6 configuration	0	66		
		01	c115		
IO 131	4th Expansion Pb7 configuration	0	66		
IO 132	4th Expansion DI1 configuration	01 0	c115 c115		
IO 132	4th Expansion DI2 configuration	0	c115		
IO 134	4th Expansion DI3 configuration	0	c115		
IO 135	4th Expansion RL1 configuration	0	c195		
IO 136	4th Expansion RL2 configuration	0	c195		
IO 137 IO 138	4th Expansion RL3 configuration 4th Expansion RL4 configuration	0	c195 c195		
IO 130	4th Expansion RL5 configuration	0	c195		
IO 140	4th Expansion RL6 configuration	0	c195		
IO 141	4th Expansion AO1 configuration	0	15		
10 141		o1	c195		
	Ath Europeine AQ2 configuration		4 5		
IO 141	4th Expansion AO2 configuration	0	15 c195		
	4th Expansion AO2 configuration 4th Expansion AO3 configuration		15 c195 15		
IO 142	4th Expansion AO3 configuration	0 01	c195		
IO 142 IO 143	4th Expansion AO3 configuration Analog Input Calibration	0 01 0 01	c195 15 c195		
IO 142	4th Expansion AO3 configuration Analog Input Calibration Description	0 01 0	c195 15	mu	Resolution
IO 142 IO 143 Parameter	4th Expansion AO3 configuration Analog Input Calibration Description Local I/O	0 01 01 min	c195 15 c195 max		
IO 142 IO 143	4th Expansion AO3 configuration Analog Input Calibration Description	0 01 01 min -12.0	c195 15 c195 max 12.0	°C	decimal
IO 142 IO 143 Parameter	4th Expansion AO3 configuration Analog Input Calibration Description Local I/O	0 01 01 min	c195 15 c195 max		
IO 142 IO 143 Parameter CA 1	4th Expansion AO3 configuration Analog Input Calibration Description Local I/O Pb1 calibration	0 01 0 01 -12.0 -21 -5.0 -72	c195 15 c195 max 12.0 21 5.0 72	°C °F bar PSI	decimal whole decimal whole
IO 142 IO 143 Parameter	4th Expansion AO3 configuration Analog Input Calibration Description Local I/O	0 01 0 01 -12.0 -21 -5.0 -72 -12.0	c195 15 c195 max 12.0 21 5.0 72 12.0	°C °F bar PSI °C	decimal whole decimal whole decimal
IO 142 IO 143 Parameter CA 1	4th Expansion AO3 configuration Analog Input Calibration Description Local I/O Pb1 calibration	0 01 0 01 -12.0 -21 -5.0 -72 -12.0 -21	c195 15 c195 max 12.0 21 5.0 72 12.0 21	°C °F bar PSI °C °F	decimal whole decimal whole decimal whole
IO 142 IO 143 Parameter CA 1	4th Expansion AO3 configuration Analog Input Calibration Description Local I/O Pb1 calibration	0 01 0 01 -12.0 -21 -5.0 -72 -12.0	c195 15 c195 max 12.0 21 5.0 72 12.0	°C °F bar PSI °C	decimal whole decimal whole decimal whole decimal whole
IO 142 IO 143 Parameter CA 1	4th Expansion AO3 configuration Analog Input Calibration Description Local I/O Pb1 calibration	0 01 0 01 -12.0 -21 -5.0 -72 -12.0 -72 -12.0 -72 -12.0	c195 15 c195 max 12.0 21 5.0 72 12.0 21 5.0 72 12.0 21 5.0 72	°C °F bar PSI °C °F bar PSI °C	decimal whole decimal whole decimal whole decimal whole decimal
IO 142 IO 143 Parameter CA 1 CA 2	4th Expansion AO3 configuration Analog Input Calibration Description Local I/O Pb1 calibration Pb2 calibration	0 01 0 01 -12.0 -21 -5.0 -72 -12.0 -72 -5.0 -72 -12.0 -72 -12.0 -21	c195 15 c195 max 12.0 21 5.0 72 12.0 21 5.0 72 12.0 21	°C °F bar PSI °F bar PSI °C °F	decimal whole decimal whole decimal whole decimal whole decimal whole
IO 142 IO 143 Parameter CA 1 CA 2	4th Expansion AO3 configuration Analog Input Calibration Description Local I/O Pb1 calibration Pb2 calibration	0 01 0 01 -12.0 -21 -5.0 -72 -12.0 -72 -12.0 -72 -12.0 -72 -12.0 -72 -21 -5.0	c195 15 c195 max 12.0 21 5.0 72 12.0 21 5.0 72 12.0 21 5.0 21 5.0	°C °F bar PSI °C °F bar PSI °C °F bar	decimal whole decimal whole decimal whole decimal whole decimal whole decimal
IO 142 IO 143 Parameter CA 1 CA 2	4th Expansion AO3 configuration Analog Input Calibration Description Local I/O Pb1 calibration Pb2 calibration	0 01 0 01 -12.0 -21 -5.0 -72 -12.0 -72 -5.0 -72 -12.0 -72 -12.0 -21	c195 15 c195 max 12.0 21 5.0 72 12.0 21 5.0 72 12.0 21	°C °F bar PSI °C °F bar PSI °C ¢F bar PSI °C	decimal whole decimal whole decimal whole decimal whole decimal whole
IO 142 IO 143 Parameter CA 1 CA 2 CA 3	4th Expansion AO3 configuration Analog Input Calibration Description Local I/O Pb1 calibration Pb2 calibration Pb3 calibration	0 01 0 01 -12.0 -21 -5.0 -72 -12.0 -72 -12.0 -72 -12.0 -21 -5.0 -72 -12.0 -21	c195 15 c195 max 12.0 21 5.0 72 12.0 21 5.0 72 12.0 21 5.0 72 12.0 21	°C °F PSI °F bar PSI °C °F bar PSI °C °F	decimal whole decimal whole decimal whole decimal whole decimal whole decimal whole decimal whole
IO 142 IO 143 Parameter CA 1 CA 2 CA 3	4th Expansion AO3 configuration Analog Input Calibration Description Local I/O Pb1 calibration Pb2 calibration Pb3 calibration	0 01 0 01 -12.0 -21 -5.0 -72 -12.0 -21 -5.0 -72 -12.0 -72 -72 -72 -72 -72 -72 -72 -72 -72 -72	c195 15 c195 max 12.0 21 5.0 72 12.0 21 5.0 72 12.0 21 5.0 72 12.0 21 5.0 72 12.0 21 5.0 72	°C °F bar PSI °C °F bar PSI °C °F bar PSI °C °F bar	decimal whole decimal whole decimal whole decimal whole decimal whole decimal whole decimal whole
IO 142 IO 143 Parameter CA 1 CA 2 CA 3 CA 4	4th Expansion AO3 configuration Analog Input Calibration Description Local I/O Pb1 calibration Pb2 calibration Pb3 calibration Pb4 calibration	0 01 0 01 -12.0 -21 -5.0 -72 -12.0 -72 -12.0 -72 -12.0 -72 -12.0 -72 -12.0 -72 -12.0 -72 -12.0 -72 -72 -12.0 -72 -72 -72 -72 -72 -72 -72 -72 -72 -72	c195 15 c195 max 12.0 21 5.0 72 12.0 21 5.0 72 12.0 21 5.0 72 12.0 21 5.0 72 12.0 21 5.0 72	°C °F bar PSI °C °F bar PSI °F bar PSI °F bar PSI	decimal whole decimal whole decimal whole decimal whole decimal whole decimal whole decimal whole decimal whole decimal whole
IO 142 IO 143 Parameter CA 1 CA 2 CA 3	4th Expansion AO3 configuration Analog Input Calibration Description Local I/O Pb1 calibration Pb2 calibration Pb3 calibration	0 01 0 01 -12.0 -21 -5.0 -72 -12.0 -21 -5.0 -72 -12.0 -72 -72 -72 -72 -72 -72 -72 -72 -72 -72	c195 15 c195 max 12.0 21 5.0 72 12.0 21 5.0 72 12.0 21 5.0 72 12.0 21 5.0 72 12.0 21 5.0 72	°C °F bar PSI °C °F bar PSI °C °F bar PSI °C °F bar	decimal whole decimal whole decimal whole decimal whole decimal whole decimal whole decimal whole
IO 142 IO 143 Parameter CA 1 CA 2 CA 3 CA 4	4th Expansion AO3 configuration Analog Input Calibration Description Local I/O Pb1 calibration Pb2 calibration Pb3 calibration Pb4 calibration	0 01 0 01 -12.0 -21 -5.0 -72 -12.0 -72 -72 -12.0 -72 -72 -12.0 -72 -72 -72 -72 -72 -72 -72 -72 -72 -72	c195 15 c195 max 12.0 21 5.0 72 12.0 21 5.0 72 12.0 21 5.0 72 12.0 21 5.0 72 12.0 21 5.0 72 12.0 21 5.0 72	°C °F bar PSI °F bar PSI °F bar PSI °C °F bar PSI °C °F bar PSI °C °F bar	decimal whole decimal whole decimal whole decimal whole decimal whole decimal whole decimal whole decimal whole decimal whole
IO 142 IO 143 Parameter CA 1 CA 2 CA 3 CA 4 CA 5	4th Expansion AO3 configuration Analog Input Calibration Description Local I/O Pb1 calibration Pb2 calibration Pb3 calibration Pb4 calibration Pb5 calibration	0 01 0 01 -12.0 -21 -5.0 -72 -12.0 -72 -12.0 -72 -12.0 -72 -12.0 -72 -12.0 -72 -12.0 -72 -12.0 -72 -12.0 -72 -12.0 -72 -12.0 -72 -72 -72 -72 -72 -72 -72 -72 -72 -72	c195 15 c195 max 12.0 21 5.0 72 12.0 21 5.0 72 12.0 21 5.0 72 12.0 21 5.0 72 12.0 21 5.0 72 12.0 21 5.0 72	°C °F bar PSI °F bar PSI °F bar PSI °F bar PSI °F bar SI	decimal whole decimal whole decimal whole decimal whole decimal whole decimal whole decimal whole decimal whole decimal whole decimal whole
IO 142 IO 143 Parameter CA 1 CA 2 CA 3 CA 4	4th Expansion AO3 configuration Analog Input Calibration Description Local I/O Pb1 calibration Pb2 calibration Pb3 calibration Pb4 calibration	0 01 0 01 -12.0 -21 -5.0 -72 -12.0 -72 -12.0 -72 -12.0 -72 -12.0 -21 -5.0 -72 -12.0 -21 -5.0 -72 -12.0 -72 -12.0 -72 -12.0 -72 -12.0 -72 -12.0 -72 -12.0 -72 -12.0 -72 -12.0 -72 -12.0 -72 -12.0 -72 -12.0 -72 -12.0 -72 -12.0 -72 -12.0 -72 -12.0 -72 -12.0 -72 -12.0 -72 -12.0 -72 -72 -12.0 -72 -72 -12.0 -72 -72 -72 -12.0 -72 -72 -72 -72 -72 -72 -72 -72 -72 -72	c195 15 c195 max 12.0 21 5.0 72 12.0 21 5.0 72 12.0 21 5.0 72 12.0 21 5.0 72 12.0 21 5.0 72 12.0 21 5.0 72 12.0 21 5.0 72	°C °F bar PSI °F bar PSI °F bar PSI °C °F bar PSI °C °F bar PSI °C °F c °F	decimal whole decimal whole decimal whole decimal whole decimal whole decimal whole decimal whole decimal whole decimal whole decimal whole decimal whole
IO 142 IO 143 Parameter CA 1 CA 2 CA 3 CA 4 CA 5	4th Expansion AO3 configuration Analog Input Calibration Description Local I/O Pb1 calibration Pb2 calibration Pb3 calibration Pb4 calibration Pb5 calibration	0 01 0 01 -12.0 -21 -5.0 -72 -12.0 -72 -12.0 -72 -12.0 -72 -12.0 -72 -12.0 -72 -12.0 -72 -12.0 -72 -12.0 -72 -12.0 -72 -12.0 -72 -12.0 -72 -12.0 -72 -12.0 -72 -12.0 -72 -12.0 -72 -12.0 -72 -72 -12.0 -72 -72 -72 -72 -72 -72 -72 -72 -72 -72	c195 15 c195 max 12.0 21 5.0 72 5.0 72 5.0 72	°C °F bar PSI °C °F PSI °C °F PSI °C °F PSI °C °F PSI °C °F PSI °C PSI PSI PSI PSI PSI PSI PSI PSI PSI PSI	decimal whole decimal whole decimal whole decimal whole decimal whole decimal whole decimal whole decimal whole decimal whole decimal whole decimal whole
IO 142 IO 143 Parameter CA 1 CA 2 CA 3 CA 4 CA 5 CA 6	4th Expansion AO3 configuration Analog Input Calibration Description Pb1 calibration Pb2 calibration Pb3 calibration Pb4 calibration Pb5 calibration Pb6 calibration	0 01 0 01 -12.0 -21 -5.0 -72 -12.0 -21 -5.0 -72 -12.0 -21 -5.0 -72 -12.0 -21 -5.0 -72 -12.0 -21 -5.0 -72 -12.0 -21 -5.0 -72 -12.0 -21 -5.0 -72 -12.0 -21 -5.0 -72 -72 -72 -72 -72 -72 -72 -72 -72 -72	c195 15 c195 max 12.0 21 5.0 72 12.0 21 5.0 72 12.0 21 5.0 72 12.0 21 5.0 72 12.0 21 5.0 72 12.0 21 5.0 72 12.0 21 5.0 72 12.0 21 5.0 72 12.0 21 5.0 72 12.0 21 5.0 72 12.0 21 5.0 72 72 72 72 72 72 72 72 72 72 72 72 72	°C °F bar PSI °C °F bar PSI °F bar PSI °F bar PSI °F bar PSI °F bar PSI °F bar PSI °C °F PSI °C °F	decimal whole decimal whole decimal whole decimal whole decimal whole decimal whole decimal whole decimal whole decimal whole decimal whole decimal whole decimal whole
IO 142 IO 143 Parameter CA 1 CA 2 CA 3 CA 4 CA 5	4th Expansion AO3 configuration Analog Input Calibration Description Local I/O Pb1 calibration Pb2 calibration Pb3 calibration Pb4 calibration Pb5 calibration	0 01 0 01 -12.0 -21 -5.0 -72 -12.0 -21 -5.0 -72 -12.0 -21 -5.0 -72 -12.0 -21 -5.0 -72 -12.0 -21 -5.0 -72 -12.0 -21 -5.0 -72 -12.0 -21 -5.0 -72 -12.0 -21 -5.0 -72 -12.0 -21 -5.0 -72 -12.0 -72 -72 -12.0 -72 -72 -12.0 -72 -72 -72 -72 -72 -72 -72 -72 -72 -72	c195 15 c195 max 12.0 21 5.0 72 12.0 21 5.0 72 12.0 21 5.0 72 12.0 21 5.0 72 12.0 21 5.0 72 12.0 21 5.0 72 12.0 21 5.0 72 12.0 21 5.0 72 12.0 21 5.0 72 12.0 21 5.0 72 12.0 21 5.0 72 12.0 21 5.0 72 12.0 21 5.0 72 12.0 21 5.0 72 12.0 21 5.0 72 12.0 21 5.0 72 12.0 21 5.0 72 12.0 72	°C °F bar PSI °C °F bar PSI °C °F bar PSI °C °F bar PSI °C °F bar SI °C °F bar PSI °C °F PSI °C °F bar PSI °C °F bar PSI °C °F bar PSI °C °F bar PSI °C °F bar PSI °C °F bar PSI °C °F bar PSI °C °F bar PSI °C °F bar PSI °C °F bar PSI °C °F bar PSI °C °F bar PSI °C °F bar PSI °C °F PSI °C °F bar PSI °C °F PSI °C °F PSI °C °C °F bar PSI °C °F PSI °C °F PSI °C °F PSI °C °C °F PSI °C °F PSI °C °C °F PSI °C °C °C °C °F PSI °C °C °C °C °C °C °C °C °C °C °C °C °C	decimal whole decimal whole decimal whole decimal whole decimal whole decimal whole decimal whole decimal whole decimal whole decimal whole decimal whole decimal whole decimal whole decimal whole decimal whole
IO 142 IO 143 Parameter CA 1 CA 2 CA 3 CA 4 CA 5 CA 6	4th Expansion AO3 configuration Analog Input Calibration Description Pb1 calibration Pb2 calibration Pb3 calibration Pb4 calibration Pb5 calibration Pb6 calibration	0 01 0 01 -12.0 -21 -5.0 -72 -12.0 -21 -5.0 -72 -12.0 -21 -5.0 -72 -12.0 -21 -5.0 -72 -12.0 -21 -5.0 -72 -12.0 -21 -5.0 -72 -12.0 -21 -5.0 -72 -12.0 -21 -5.0 -72 -72 -72 -72 -72 -72 -72 -72 -72 -72	c195 15 c195 max 12.0 21 5.0 72 12.0 21 5.0 72 12.0 21 5.0 72 12.0 21 5.0 72 12.0 21 5.0 72 12.0 21 5.0 72 12.0 21 5.0 72 12.0 21 5.0 72 12.0 21 5.0 72 12.0 21 5.0 72 12.0 21 5.0 72 72 72 72 72 72 72 72 72 72 72 72 72	°C °F bar PSI °C °F bar PSI °F bar PSI °F bar PSI °F bar PSI °F bar PSI °F bar PSI °C °F PSI °C °F	decimal whole decimal whole decimal whole decimal whole decimal whole decimal whole decimal whole decimal whole decimal whole decimal whole decimal whole decimal whole
IO 142 IO 143 Parameter CA 1 CA 2 CA 2 CA 3 CA 4 CA 5 CA 6 CA 7	4th Expansion AO3 configuration Analog Input Calibration Description Local I/O Pb1 calibration Pb2 calibration Pb3 calibration Pb4 calibration Pb5 calibration Pb5 calibration Pb6 calibration Pb7 calibration	0 01 0 01 -12.0 -21 -5.0 -72 -12.0 -72 -72 -12.0 -72 -72 -72 -72 -72 -72 -72 -72 -72 -72	c195 15 c195 max 12.0 21 5.0 72 12.0 21 5.0 72 12.0 21 5.0 72 12.0 21 5.0 72 12.0 21 5.0 72 12.0 21 5.0 72 12.0 21 5.0 72 12.0 21 5.0 72 12.0 21 5.0 72 12.0 21 5.0 72 12.0 21 5.0 72 12.0 21 5.0 72 12.0 21 5.0 72 12.0 21 5.0 72 12.0 21 5.0 72 12.0 21 5.0 72 12.0 21 5.0 72 12.0 21 5.0 72 12.0 72 12.0 21 5.0 72 12.0 72 12.0 21 5.0 72 12.0 72 12.0 21 5.0 72 12.0 72 12.0 21 5.0 72 12.0 72 12.0 72 12.0 72 12.0 72 12.0 72 12.0 72 72 12.0 72 72 12.0 72 72 72 72 72 72 72 72 72 72 72 72 72	°C °F bar PSI °F bar PSI °F bar PSI °F bar PSI °F bar PSI °F bar SI °F bar SI °F bar SI °C °F bar PSI °C °F PSI °C °C °F PSI °C °C °F PSI °C °C °F PSI °C °C °C °C °C °C °C °C °C °C °C °C °C	decimal whole decimal whole decimal whole decimal whole decimal whole decimal whole decimal whole decimal whole decimal whole decimal whole decimal whole decimal whole decimal whole decimal whole
IO 142 IO 143 Parameter CA 1 CA 2 CA 3 CA 4 CA 5 CA 6	4th Expansion AO3 configuration Analog Input Calibration Description Pb1 calibration Pb2 calibration Pb3 calibration Pb4 calibration Pb5 calibration Pb6 calibration	0 01 0 01 -12.0 -21 -5.0 -72 -12.0 -21 -5.0 -72 -12.0 -21 -5.0 -72 -12.0 -21 -5.0 -72 -12.0 -21 -5.0 -72 -12.0 -21 -5.0 -72 -12.0 -72 -12.0 -21 -5.0 -72 -12.0 -72 -12.0 -72 -12.0 -72 -12.0 -72 -12.0 -72 -12.0 -72 -12.0 -72 -12.0 -72 -12.0 -72 -12.0 -72 -12.0 -72 -12.0 -72 -12.0 -72 -12.0 -72 -12.0 -72 -12.0 -72 -12.0 -72 -12.0 -72 -12.0 -72 -72 -12.0 -72 -72 -12.0 -72 -72 -12.0 -72 -72 -12.0 -72 -72 -12.0 -72 -72 -12.0 -72 -72 -72 -72 -12.0 -72 -72 -72 -72 -72 -72 -72 -72 -72 -72	c195 15 c195 max 12.0 21 5.0 72 12.0 72 12.0 72 12.0 72 12.0 72 12.0 72 12.0 72 12.0 72 12.0 72 12.0 72 12.0 72 12.0 72 12.0 72 12.0 72 12.0 72 12.0 72 12.0 72 12.0 72	°C °F bar PSI °C °F bar PSC °F bar PSI °C °F bar PSI °C °F bar SI °C °F bar SI °C °F bar PSI °C °F PSI °C °F bar PSI °C °F PSI °C °F bar PSI °C °F PSI °C °F PSI °C °F PSI °C °F PSI °C °F PSI °C °F PSI °C °F PSI °C °F PSI °C °C °F PSI °C °C °F PSI °C °C °C °F PSI °C °C °F PSI °C °C °C °C °C °C °C °C °C °C °C °C °C	decimal whole decimal whole decimal whole decimal whole decimal whole decimal whole decimal whole decimal whole decimal whole decimal whole decimal whole decimal whole decimal whole decimal whole decimal whole
IO 142 IO 143 Parameter CA 1 CA 2 CA 2 CA 3 CA 4 CA 5 CA 6 CA 7	4th Expansion AO3 configuration Analog Input Calibration Description Local I/O Pb1 calibration Pb2 calibration Pb3 calibration Pb4 calibration Pb5 calibration Pb5 calibration Pb6 calibration Pb7 calibration	0 01 0 01 -12.0 -21 -5.0 -72 -12.0 -72 -72 -12.0 -72 -72 -72 -72 -72 -72 -72 -72 -72 -72	c195 15 c195 max 12.0 21 5.0 72 12.0 21 5.0 72 12.0 21 5.0 72 12.0 21 5.0 72 12.0 21 5.0 72 12.0 21 5.0 72 12.0 21 5.0 72 12.0 21 5.0 72 12.0 21 5.0 72 12.0 21 5.0 72 12.0 21 5.0 72 12.0 21 5.0 72 12.0 21 5.0 72 12.0 21 5.0 72 12.0 21 5.0 72 12.0 21 5.0 72 12.0 21 5.0 72 12.0 21 5.0 72 12.0 72 12.0 21 5.0 72 12.0 72 12.0 21 5.0 72 12.0 72 12.0 21 5.0 72 12.0 72 12.0 21 5.0 72 12.0 72 12.0 72 12.0 72 12.0 72 12.0 72 12.0 72 72 12.0 72 72 12.0 72 72 72 72 72 72 72 72 72 72 72 72 72	°C °F bar PSI °C °F bar PSI °F bar PSI °F bar PSI °F bar PSI °C °F bar SI °C °F bar SI °C °F bar PSI °C °F PASI °C °C °F PASI °C °C °F PASI °C °C °F PASI °C °C °C °C °C °F PASI °C °C °F PASI °C °C PASI °C °C °C °C °C °C °C °C °C °C °C °C °C	decimal whole decimal whole decimal whole decimal whole decimal whole decimal whole decimal whole decimal whole decimal whole decimal whole decimal whole decimal whole decimal whole decimal whole

CA 9	Pb9 calibration	-12.0	12.0	°C	decimal
UN U		-21	21	°F	whole
		-5.0	5.0	bar	decimal
01.40		-72	72	PSI	whole
CA 10	Pb10 calibration	-12.0 -21	12.0 21	°C °F	decimal whole
		-5.0	5.0	bar	decimal
		-72	72	PSI	whole
CA 11	XEV I/O	-12.0	12.0	°C	decimal
CATI		-21	21	°F	whole
CA 12	1st XEV Pb2 calibration	-12.0	12.0	°C °F	decimal
CA 13	1st XEV Pb3 calibration	-21	21 12.0	°C	whole decimal
		-21	21	°F	whole
		-5.0 -72	5.0 72	bar PSI	decimal whole
CA 14	1st XEV Pb4 calibration	-12.0	12.0	°C	decimal
		-21	21	°F	whole
		-5.0 -72	5.0 72	bar PSI	decimal whole
CA 15	2nd XEV Pb1 calibration	-12.0	12.0	°C	decimal
CA 16	2nd XEV Pb2 calibration	-21	21 12.0	°F °C	whole decimal
		-21	21	°F	whole
CA 17	2nd XEV Pb3 calibration	-12.0	12.0	°C °F	decimal
		-21 -5.0	21 5.0	bar	whole decimal
		-72	72	PSI	whole
CA 18	2nd XEV Pb4 calibration	-12.0 -21	12.0 21	°C °F	decimal whole
		-5.0	5.0	bar	decimal
CA 40		-72	72	PSI	whole
CA 19	3rd XEV Pb1 calibration	-12.0 -21	12.0 21	°C °F	decimal whole
CA 20	3rd XEV Pb2 calibration	-12.0	12.0	°C	decimal
CA 21	3rd XEV Pb3 calibration	-21	21 12.0	°F °C	whole decimal
CA ZI	Sid XEV PDS calibration	-12.0	21	°F	whole
		-5.0	5.0	bar	decimal
CA 22	3rd XEV Pb4 calibration	-72	72 12.0	PSI °C	whole decimal
		-21	21	°F	whole
		-5.0	5.0	bar	decimal
CA 23	4th XEV Pb1 calibration	-72	72 12.0	PSI °C	whole decimal
		-21	21	°F	whole
CA 24	4th XEV Pb2 calibration	-12.0 -21	12.0 21	°C °F	decimal whole
CA 25	4th XEV Pb3 calibration	-12.0	12.0	°C	decimal
		-21	21	°F	whole
		-5.0 -72	5.0 72	bar PSI	decimal whole
CA 26	4th XEV Pb4 calibration	-12.0	12.0	°C	decimal
		-21 -5.0	21 5.0	°F bar	whole decimal
		-72	72	PSI	whole
	1st Expansion I/O			1	
CA 27	1st Expansion Pb1 calibration	-12.0 -21	12.0 21	°C °F	decimal whole
		-5.0	5.0	bar	decimal
0.1.00	Act Evenencian DkO actives	-72	72	PSI	whole
CA 28	1st Expansion Pb2 calibration	-12.0 -21	12.0 21	°C °F	decimal whole
		-5.0	5.0	bar	decimal
CA 29	1st Expansion Pb3 calibration	-72	72 12.0	PSI °C	whole decimal
UN 29		-12.0 -21	21	°F	whole
		-5.0	5.0	bar	decimal
CA 30	1st Expansion Pb4 calibration	-72	72 12.0	PSI °C	whole decimal
57.50		-21	21	°F	whole
		-5.0	5.0	bar	decimal
		-72	72	PSI	whole

		-5.0	5.0 72	PSI	whole
		-21 -5.0	21 5.0	°F bar	whole decimal
CA 48	4th Expansion Pb1 calibration	-12.0	12.0	°C	decimal
	4th Expansion I	-72 /0	72	PSI	whole
		-5.0	5.0	bar	decimal
CA 47	3rd Expansion Pb7 calibration	-12.0 -21	12.0 21	℃ °F	decimal whole
04 17	2nd Europeine DhZ e-libertier	-72	72	PSI	whole
		-21 -5.0	21 5.0	°F bar	whole decimal
CA 46	3rd Expansion Pb6 calibration	-12.0	12.0	°C	decimal
		-72	72	PSI	whole
		-21 -5.0	21 5.0	°F bar	whole decimal
CA 45	3rd Expansion Pb5 calibration	-12.0	12.0	°C	decimal
		-5.0 -72	5.0 72	bar PSI	decimal whole
		-21	21	°F	whole
CA 44	3rd Expansion Pb4 calibration	-72	72 12.0	PSI °C	whole decimal
		-5.0	5.0	bar	decimal
		-12.0 -21	21	°F	whole
CA 43	3rd Expansion Pb3 calibration	-72 -12.0	72 12.0	PSI °C	whole decimal
		-5.0	5.0	bar	decimal
CA 42	3rd Expansion Pb2 calibration	-12.0 -21	12.0 21	°C °F	decimal whole
		-72	72	PSI	whole
		-21 -5.0	21 5.0	°F bar	whole decimal
CA 41	3rd Expansion Pb1 calibration	-12.0	12.0	°C	decimal
	3rd Expansion I				
		-5.0 -72	5.0 72	bar PSI	decimal whole
		-21	21	°F	whole
CA 40	2nd Expansion Pb7 calibration	-72	72 12.0	°C	decimal
		-5.0 -72	5.0 72	bar PSI	decimal whole
		-21	21	°F	whole
CA 39	2nd Expansion Pb6 calibration	-72 -12.0	72 12.0	PSI °C	whole decimal
		-5.0	5.0	bar	decimal
CA 38	2nd Expansion Pb5 calibration	-12.0 -21	12.0 21	°F	decimal whole
CA 38	2nd Expansion Db5 collibration	-72	72	PSI °C	whole
		-21 -5.0	21 5.0	bar	decimal
CA 37	2nd Expansion Pb4 calibration	-12.0	12.0	°C °F	decimal whole
		-72	5.0 72	bar PSI	whole
		-21 -5.0	21	°F bar	whole decimal
CA 36	2nd Expansion Pb3 calibration	-12.0	12.0	°C	decimal
		-5.0 -72	5.0 72	bar PSI	decimal whole
CA 35	2nd Expansion Pb2 calibration	-12.0 -21	12.0 21	°C °F	decimal whole
CA 25	2nd Expansion Dh2 collibration	-72	72	PSI	whole
		-21 -5.0	21 5.0	bar	decimal
CA 34	2nd Expansion Pb1 calibration	-12.0	12.0	°C °F	decimal whole
	2nd Expansion		<u> </u>		
		-5.0 -72	5.0 72	bar PSI	decimal whole
		-21	21	°F	whole
CA 33	1st Expansion Pb7 calibration	-72	72 12.0	PSI °C	whole decimal
		-5.0	5.0	bar	decimal
CA 32	1st Expansion Pb6 calibration	-12.0 -21	12.0 21	ů ů	decimal whole
		-72	72	PSI	whole
		-21 -5.0	21 5.0	bar	whole decimal
		-12.0	12.0	°C °F	decimal

CA 49 CA 50	4th Expansion Pb2 calibration 4th Expansion Pb3 calibration	-12.0 -21 -5.0 -72 -12.0	12.0 21 5.0 72	°C °F bar PSI	decimal whole decimal whole
CA 50	4th Expansion Pb3 calibration	-5.0 -72	5.0 72	bar	decimal
CA 50	4th Expansion Pb3 calibration	-72	72		
CA 50	4th Expansion Pb3 calibration			FOI	
UN UU			12.0	°C	decimal
		-21	21	°F	whole
		-5.0	5.0	bar	decimal
		-72	72	PSI	whole
CA 51	4th Expansion Pb4 calibration	-12.0	12.0	°C	decimal
		-21	21	°F	whole
		-5.0	5.0	bar	decimal
CA 52	4th Expansion Pb5 calibration	-72	72 12.0	PSI °C	whole decimal
04 32		-21	21	°F	whole
		-5.0	5.0	bar	decimal
		-72	72	PSI	whole
CA 53	4th Expansion Pb6 calibration	-12.0	12.0	°C	decimal
		-21	21	°F	whole
		-5.0	5.0	bar	decimal
CA 54	4th Expansion Pb7 calibration	-72	72	PSI °C	whole decimal
CA 54	4th Expansion PD7 calibration	-12.0	12.0 21	°F	whole
		-5.0	5.0	bar	decimal
		-72	72	PSI	whole
	Analog Input Ranges				
Parameter	Description	min	max	mu	Resolution
	Local I/O			1	
RA 1	Pb1 Pressure value at 0,5V / 4mA	-1.0	50.0	bar	decimal
		-14	725	PSI	whole
RA 2	Pb1 Pressure value at 4,5V / 20mA	-1.0	50.0	bar	decimal
54.0		-14	725	PSI	whole
RA 3	Pb2 Pressure value at 0,5V / 4mA	-1.0 -14	50.0 725	bar PSI	decimal whole
RA 4	Pb2 Pressure value at 4,5V / 20mA	-14	50.0	bar	decimal
10.4	1 bz T lessure value at 4,5 V / ZOMA	-14	725	PSI	whole
RA 5	Pb3 Pressure value at 0,5V / 4mA	-1.0	50.0	bar	decimal
-		-14	725	PSI	whole
RA 6	Pb3 Pressure value at 4,5V / 20mA	-1.0	50.0	bar	decimal
		-14	725	PSI	whole
RA7	Pb4 Pressure value at 0,5V / 4mA	-1.0	50.0	bar	decimal
RA 8	$\mathbf{D}\mathbf{h}\mathbf{A}$ Decouver vertex at $\mathbf{A}\mathbf{E}\mathbf{V}/20$ and	-14 -1.0	725 50.0	PSI	whole decimal
KA O	Pb4 Pressure value at 4,5V / 20mA	-1.0	50.0 725	bar PSI	whole
RA 9	Pb5 Pressure value at 0,5V / 4mA	-1.0	50.0	bar	decimal
		-14	725	PSI	whole
RA 10	Pb5 Pressure value at 4,5V / 20mA	-1.0	50.0	bar	decimal
		-14	725	PSI	whole
RA 11	Pb6 Pressure value at 0,5V / 4mA	-1.0	50.0	bar	decimal
DA 40	PhC Desseurs visiting at 4 CV/ / 20m A	-14	725	PSI	whole
RA 12	Pb6 Pressure value at 4,5V / 20mA	-1.0 -14	50.0 725	bar PSI	decimal whole
RA 13	Pb7 Pressure value at 0,5V / 4mA	-1.0	50.0	bar	decimal
		-14	725	PSI	whole
RA 14	Pb7 Pressure value at 4,5V / 20mA	-1.0	50.0	bar	decimal
		-14	725	PSI	whole
RA 15	Pb8 Pressure value at 0,5V / 4mA	-1.0	50.0	bar	decimal
DA 40	Dh9 Drosours value at 4 51/ / 20m A	-14	725	PSI	whole
RA 16	Pb8 Pressure value at 4,5V / 20mA	-1.0 -14	50.0 725	bar PSI	decimal whole
RA 17	Pb9 Pressure value at 0,5V / 4mA	-14	50.0	bar	decimal
		-14	725	PSI	whole
RA 18	Pb9 Pressure value at 4,5V / 20mA	-1.0	50.0	bar	decimal
		-14	725	PSI	whole
RA 19	Pb10 Pressure value at 0,5V / 4mA	-1.0	50.0	bar	decimal
DA 00		-14	725	PSI	whole
RA 20	Pb10 Pressure value at 4,5V / 20mA	-1.0 -14	50.0 725	bar PSI	decimal whole
	XEV I/O	-14	120		
		-1.0	50.0	bar	decimal
RA 21	1st XEV Ph3 Pressure value at 0.5V / 4mA			, vai	uconnai
RA 21	1st XEV Pb3 Pressure value at 0,5V / 4mA				whole
RA 21 RA 22		-14	725	PSI bar	whole decimal
	1st XEV Pb3 Pressure value at 0,5V / 4mA 1st XEV Pb3 Pressure value at 4,5V / 20mA	-14		PSI	
		-14 -1.0	725 50.0	PSI bar	decimal

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RA 24	1st XEV Pb4 Pressure value at 4,5V / 20mA	-1.0	50.0	bar	decimal
D 4 05		-14	725	PSI	whole
RA 25	2nd XEV Pb3 Pressure value at 0,5V / 4mA	-1.0 -14	50.0 725	bar PSI	decimal whole
RA 26	2nd XEV Pb3 Pressure value at 4,5V / 20mA	-1.0	50.0	bar	decimal
		-14	725	PSI	whole
RA 27	2nd XEV Pb4 Pressure value at 0,5V / 4mA	-1.0	50.0	bar	decimal
		-14	725	PSI	whole
RA 28	2nd XEV Pb4 Pressure value at 4,5V / 20mA	-1.0 -14	50.0	bar PSI	decimal whole
RA 29	3rd XEV Pb3 Pressure value at 0,5V / 4mA	-14	725 50.0	bar	decimal
117 23		-14	725	PSI	whole
RA 30	3rd XEV Pb3 Pressure value at 4,5V / 20mA	-1.0	50.0	bar	decimal
		-14	725	PSI	whole
RA 31	3rd XEV Pb4 Pressure value at 0,5V / 4mA	-1.0	50.0	bar	decimal
RA 32	3rd XEV Pb4 Pressure value at 4,5V / 20mA	-14 -1.0	725 50.0	PSI bar	whole decimal
NA JZ	Siu AL V FD4 Flessure value al 4,5 V / 2011A	-14	725	PSI	whole
RA 33	4th XEV Pb3 Pressure value at 0,5V / 4mA	-1.0	50.0	bar	decimal
		-14	725	PSI	whole
RA 34	4th XEV Pb3 Pressure value at 4,5V / 20mA	-1.0	50.0	bar	decimal
		-14	725	PSI	whole
RA 35	4th XEV Pb4 Pressure value at 0,5V / 4mA	-1.0	50.0	bar	decimal whole
RA 36	4th XEV Pb4 Pressure value at 4,5V / 20mA	-14 -1.0	725 50.0	PSI bar	decimal
NA 30		-14	725	PSI	whole
	1st Expansion I/O	· · ·	0		
RA 37	1st Expansion Pb1 Pressure value at 0,5V / 4mA	-1.0	50.0	bar	decimal
		-14	725	PSI	whole
RA 38	1st Expansion Pb1 Pressure value at 4,5V / 20mA	-1.0	50.0	bar	decimal
B 4 66		-14	725	PSI	whole
RA 39	1st Expansion Pb2 Pressure value at 0,5V / 4mA	-1.0 -14	50.0 725	bar PSI	decimal whole
RA 40	1st Expansion Pb2 Pressure value at 4,5V / 20mA	-14	50.0	bar	decimal
		-14	725	PSI	whole
RA 41	1st Expansion Pb3 Pressure value at 0,5V / 4mA	-1.0	50.0	bar	decimal
		-14	725	PSI	whole
RA 42	1st Expansion Pb3 Pressure value at 4,5V / 20mA	-1.0	50.0	bar	decimal
RA 43	1st Expansion Pb4 Pressure value at 0,5V / 4mA	-14 -1.0	725 50.0	PSI bar	whole decimal
KA 43	TSI Expansion PD4 Pressure value at 0,5% / 4mA	-14	50.0 725	PSI	whole
RA 44	1st Expansion Pb4 Pressure value at 4,5V / 20mA	-1.0	50.0	bar	decimal
		-14	725	PSI	whole
RA 45	1st Expansion Pb5 Pressure value at 0,5V / 4mA	-1.0	50.0	bar	decimal
		-14	725	PSI	whole
RA 46	1st Expansion Pb5 Pressure value at 4,5V / 20mA	-1.0	50.0	bar PSI	decimal
RA 47	1st Expansion Pb6 Pressure value at 0,5V / 4mA	-14 -1.0	725 50.0	bar	whole decimal
117 11		-14	725	PSI	whole
RA 48	1st Expansion Pb6 Pressure value at 4,5V / 20mA	-1.0	50.0	bar	decimal
		-14	725	PSI	whole
RA 49	1st Expansion Pb7 Pressure value at 0,5V / 4mA	-1.0	50.0	bar	decimal
RA 50	1st Expansion Pb7 Pressure value at 4,5V / 20mA	-14 -1.0	725 50.0	PSI	whole decimal
KA JU	TSI Expansion PD7 Pressure value at 4,5V / 2011A	-14	50.0 725	bar PSI	whole
	2nd Expansion I/O		120	1.01	Whole
RA 51	2nd Expansion Pb1 Pressure value at 0,5V / 4mA	-1.0	50.0	bar	decimal
		-14	725	PSI	whole
RA 52	2nd Expansion Pb1 Pressure value at 4,5V / 20mA	-1.0	50.0	bar	decimal
		-14	725	PSI	whole
RA 53	2nd Expansion Pb2 Pressure value at 0,5V / 4mA	-1.0	50.0	bar	decimal
RA 54	2nd Expansion Pb2 Pressure value at 4,5V / 20mA	-14 -1.0	725 50.0	PSI	whole decimal
NA 34	Znu Expansion Foz Fressure value al 4,3V / 2011A	-1.0	50.0 725	bar PSI	whole
RA 55	2nd Expansion Pb3 Pressure value at 0,5V / 4mA	-1.0	50.0	bar	decimal
		-14	725	PSI	whole
RA 56	2nd Expansion Pb3 Pressure value at 4,5V / 20mA	-1.0	50.0	bar	decimal
B		-14	725	PSI	whole
RA 57	2nd Expansion Pb4 Pressure value at 0,5V / 4mA	-1.0	50.0	bar	decimal
	2nd Expansion Pb4 Pressure value at 4,5V / 20mA	-14 -1.0	725 50.0	PSI bar	whole decimal
RA 58		I - L.U		i Dai	ucciiidi
RA 58					whole
RA 58 RA 59	2nd Expansion Pb5 Pressure value at 0,5V / 4mA	-14	725 50.0	PSI bar	whole decimal

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RA 60	2nd Expansion Pb5 Pressure value at 4,5V / 20mA	-1.0	50.0	bar	decimal
	2110 LAPANSION FUS FLESSULE VALUE AL 4,3V / 2011A	-14	50.0 725	PSI	whole
RA 61	2nd Expansion Pb6 Pressure value at 0,5V / 4mA	-1.0	50.0	bar	decimal
RA 62	2nd Expansion Pb6 Pressure value at 4,5V / 20mA	-14 -1.0	725 50.0	PSI bar	whole decimal
		-14	725	PSI	whole
RA 63	2nd Expansion Pb7 Pressure value at 0,5V / 4mA	-1.0	50.0	bar	decimal
RA 64	2nd Expansion Pb7 Pressure value at 4,5V / 20mA	-14	725 50.0	PSI bar	whole decimal
		-14	725	PSI	whole
	3rd Expansion I/O				· · ·
RA 65	3rd Expansion Pb1 Pressure value at 0,5V / 4mA	-1.0 -14	50.0 725	bar PSI	decimal whole
RA 66	3rd Expansion Pb1 Pressure value at 4,5V / 20mA	-1.0	50.0	bar	decimal
RA 67	2rd Evenneign Dh2 Dressure volue at 0.51/ / 4mA	-14	725	PSI	whole
KA 0/	3rd Expansion Pb2 Pressure value at 0,5V / 4mA	-1.0 -14	50.0 725	bar PSI	decimal whole
RA 68	3rd Expansion Pb2 Pressure value at 4,5V / 20mA	-1.0	50.0	bar	decimal
RA 69	3rd Expansion Pb3 Pressure value at 0,5V / 4mA	-14 -1.0	725 50.0	PSI bar	whole decimal
NA 05	Sid Expansion PDS Pressure value at 0,5% / 4mA	-14	725	PSI	whole
RA 70	3rd Expansion Pb3 Pressure value at 4,5V / 20mA	-1.0	50.0	bar	decimal
RA 71	3rd Expansion Pb4 Pressure value at 0,5V / 4mA	-14	725 50.0	PSI bar	whole decimal
		-14	725	PSI	whole
RA 72	3rd Expansion Pb4 Pressure value at 4,5V / 20mA	-1.0	50.0	bar	decimal
RA 73	3rd Expansion Pb5 Pressure value at 0,5V / 4mA	-14 -1.0	725	PSI	whole decimal
NA 13	Siu Expansion PDS Pressure value at 0,5V / 4mA	-1.0	50.0 725	bar PSI	whole
RA 74	3rd Expansion Pb5 Pressure value at 4,5V / 20mA	-1.0	50.0	bar	decimal
D 4 75		-14	725	PSI	whole
RA 75	3rd Expansion Pb6 Pressure value at 0,5V / 4mA	-1.0 -14	50.0 725	bar PSI	decimal whole
RA 76	3rd Expansion Pb6 Pressure value at 4,5V / 20mA	-1.0	50.0	bar	decimal
		-14	725	PSI	whole
RA 77	3rd Expansion Pb7 Pressure value at 0,5V / 4mA	-1.0 -14	50.0 725	bar PSI	decimal whole
RA 78	3rd Expansion Pb7 Pressure value at 4,5V / 20mA	-1.0	50.0	bar	decimal
	4th Expansion I/O	-14	725	PSI	whole
RA 79	4th Expansion Pb1 Pressure value at 0,5V / 4mA	-1.0	50.0	bar	decimal
		-14	725	PSI	whole
RA 80	4th Expansion Pb1 Pressure value at 4,5V / 20mA	-1.0 -14	50.0 725	bar PSI	decimal whole
RA 81	4th Expansion Pb2 Pressure value at 0,5V / 4mA	-14	50.0	bar	decimal
		-14	725	PSI	whole
RA 82	4th Expansion Pb2 Pressure value at 4,5V / 20mA	-1.0 -14	50.0 725	bar PSI	decimal whole
RA 83	4th Expansion Pb3 Pressure value at 0,5V / 4mA	-14	50.0	bar	decimal
		-14	725	PSI	whole
RA 84	4th Expansion Pb3 Pressure value at 4,5V / 20mA	-1.0 -14	50.0 725	bar PSI	decimal whole
RA 85	4th Expansion Pb4 Pressure value at 0,5V / 4mA	-14	50.0	bar	decimal
DARC	Ath Expansion Dh4 Dressure volve at 4 51/ / 20m A	-14	725	PSI	whole
RA 86	4th Expansion Pb4 Pressure value at 4,5V / 20mA	-1.0 -14	50.0 725	bar PSI	decimal whole
RA 87	4th Expansion Pb5 Pressure value at 0,5V / 4mA	-1.0	50.0	bar	decimal
RA 88	4th Expansion Pb5 Pressure value at 4,5V / 20mA	-14 -1.0	725 50.0	PSI bar	whole decimal
		-14	50.0 725	PSI	whole
RA 89	4th Expansion Pb6 Pressure value at 0,5V / 4mA	-1.0	50.0	bar	decimal
RA 90	4th Expansion Pb6 Pressure value at 4,5V / 20mA	-14 -1.0	725 50.0	PSI bar	whole decimal
NA 30		-14	725	PSI	whole
RA 91	4th Expansion Pb7 Pressure value at 0,5V / 4mA	-1.0	50.0	bar	decimal
RA 92	4th Expansion Pb7 Pressure value at 4,5V / 20mA	-14 -1.0	725 50.0	PSI bar	whole decimal
INA JZ	THI LAPANSION FOR FLESSURE VAIUE at 4,3V / 2011A	-1.0	50.0 725	bar PSI	whole

9. ANALOGUE - DIGITAL INPUTS/OUTPUTS CONFIGURATIONS

On board of the controller, it allows to configure 20 DI, 15 DO, 10 AI and 6 AO in maximum. If more I/O needed, please use expansion module IPROEX60D. For one IPROEX60D, it can connect with 3 DI, 6 DO, 7 AI and 3 AO. It can has 4 IPROEX60D at most. In addition, 4 electronic thermostatic drivers XEV20D can provide 16 more AI (4 for each).

Use parameters in group IO to configure analogue-digital inputs/outputs.

DIGITAL INPUTS CONFIGURATION

- IO11 IO30: On board DI (1 20)
- IO75 IO77: 1st expansion DI (1 3)
- IO94 IO96: 2nd expansion DI (1 3)
- IO113 IO115: 3rd expansion DI (1 3)
- IO132 IO134: 4th expansion DI (1 3)

DIGITAL OUTPUTS CONFIGURATION

- IO31 IO45: On board relays (1 15)
- IO78 IO83: 1st expansion relays (1 6)
- IO97 IO102: 2nd expansion relays (1 6)
- IO116 IO121: 3rd expansion relays (1 6)
- IO135 IO140: 4th expansion relays (1 6)

ANALOGUE INPUTS CONFIGURATION

- IO01 IO10: On board probes (1 10)
- IO52 IO55: 1st XEV20D probes (1 4)
- IO56 IO59: 2nd XEV20D probes (1 4)
- IO60 IO63: 3rd XEV20D probes (1 4)
- IO64 IO67: 4th XEV20D probes (1 4)
- IO68 IO74: 1st expansion probes (1 7)
- IO87 IO93: 2nd expansion probes (1 7)
- IO106 IO112: 3rd expansion probes (1 7)
- IO125 IO131: 4th expansion probes (1 7)

ANALOGUE OUTPUTS CONFIGURATION

- IO46 IO51: On board AO (1 6)
- IO84 IO86: 1st expansion AO (1 3)
- IO103 IO105: 2nd expansion AO (1 3)
- IO122 IO124: 3rd expansion AO (1 3)
- IO141 IO143: 4th expansion AO (1 3)

Note:

For digital inputs/outputs, it is possible to select polarity. In I/O configuration, use prefix "o" to indicate "open" polarity which means the DI/DO is activated when contact is open; use prefix "c" to indicate "close" polarity which means the DI/DO is activated when contact is closed.

For example:

IO11 = o1 - Remote ON/OFF

IO11 = c1 - Remote ON/OFF

They all mean DI01 is configured as "Remote ON/OFF" but with different polarity. And the DI type is 1. In the paragraphs below, we will use "**DI type**", "**DO type**", "**AI type**" and "**AO type**" to indicated function index of all the I/O.

For analogue inputs/outputs, it is also possible to configured as digital inputs/outputs. For example an AI can assume values from 0 to 66 (if configured as analog) and from 67 (that correspond to o1) to 296 (that correspond to c115).

Remember that:

- AO1, AO2, AO3 and AO4 can be configured only as 0-10V;
- AO5 and AO6 can be configured as 0-10V, PWM and 4-20mA;
- in the expansions modules, the AO can be configured only as 0-10V.

9.1	DT = DI20 DIGITAL INPUTS CONFIGURATION (DI TTPE)	l
0.	Disabled	
1.	Remote ON/OFF	
2.	Remote cooling/heating	
3.	Evaporator flow switch	
4.	Condenser flow switch	
5.	Sanitary water flow switch	
6.	Antifreeze alarm circuit 1	
7.	Antifreeze alarm circuit 2	
8.	Antifreeze alarm circuit 3	
9.	Antifreeze alarm circuit 4	
10.	High pressure switch circuit 1	
11.	High pressure switch circuit 2	
12.	High pressure switch circuit 3	
13.	High pressure switch circuit 4	
14.	Low pressure switch circuit 1	
15.	Low pressure switch circuit 2	
16.	Low pressure switch circuit 3	
17.	Low pressure switch circuit 4	
18.	Compressor 1 discharge thermostat	
19.	Compressor 2 discharge thermostat	
20.	Compressor 3 discharge thermostat	
21.	Compressor 4 discharge thermostat	
22.	Compressor 5 discharge thermostat	
23.	Compressor 6 discharge thermostat	
24.	Compressor 7 discharge thermostat	
25.	Compressor 8 discharge thermostat	
26.	Compressor 9 discharge thermostat	
27.	Compressor 10 discharge thermostat	
28.	Compressor 11 discharge thermostat	
29.	Compressor 12 discharge thermostat	
30.	Compressor 13 discharge thermostat	
31.	Compressor 14 discharge thermostat	
32.	Compressor 15 discharge thermostat	
33.	Compressor 16 discharge thermostat	
34.	Compressor 1 thermal overload	
35.	Compressor 2 thermal overload	
36.	Compressor 3 thermal overload	
37.	Compressor 4 thermal overload	
38.	Compressor 5 thermal overload	
39.	Compressor 6 thermal overload	
40.	Compressor 7 thermal overload	
41.	Compressor 8 thermal overload	
42.	Compressor 9 thermal overload	
43.	Compressor 10 thermal overload	
44.	Compressor 11 thermal overload	
45.	Compressor 12 thermal overload	
46.	Compressor 13 thermal overload	
47.	Compressor 14 thermal overload	
48.	Compressor 15 thermal overload	
49.	Compressor 16 thermal overload	
50.	Fan Overload Circuit 1	
51.	Fan Overload Circuit 2	
52.	Fan Overload Circuit 3	
53.	Fan Overload Circuit 4	
54.	Fan Overload Circuit 1/2	
55.	Fan Overload Circuit 3/4	
56.	Evaporator main pump / Supply fan Overload	
57.	Evaporator support pump Overload	

9.1 DI1 – DI20 DIGITAL INPUTS CONFIGURATION (DI TYPE)

- 57. Evaporator support pump Overload
- 58. Condenser main pump Overload
- 59. Condenser support pump Overload

60. Circuit 1 heat recovery request 61. Circuit 2 heat recovery request 62. Circuit 3 heat recovery request 63. Circuit 4 heat recovery request 64. End of circuit 1 defrost 65. End of circuit 2 defrost 66. End of circuit 3 defrost 67. End of circuit 4 defrost 68. **Energy Saving** 69. Oil pressure/level switch compressor 1 70. Oil pressure/level switch compressor 2 71. Oil pressure/level switch compressor 3 72. Oil pressure/level switch compressor 4 Oil pressure/level switch compressor 5 73. Oil pressure/level switch compressor 6 74. 75. Oil pressure/level switch compressor 7 76. Oil pressure/level switch compressor 8 77. Oil pressure/level switch compressor 9 78. Oil pressure/level switch compressor 10 Oil pressure/level switch compressor 11 79. 80. Oil pressure/level switch compressor 12 81. Oil pressure/level switch compressor 13 82. Oil pressure/level switch compressor 14 83. Oil pressure/level switch compressor 15 84. Oil pressure/level switch compressor 16 85. Circuit 1 pump down pressure switch 86. Circuit 2 pump down pressure switch 87. Circuit 3 pump down pressure switch 88. Circuit 4 pump down pressure switch Generic alarm 1 digital input 89. 90. Generic alarm 2 digital input 91. Digital input working in RTC automatic enabling (time band)/manual (keyboard) mode 92. Digital input working with supply fan only Cooling/Heating demand digital input (condensing unit) 93. 94. Cooling demand digital input (condensing unit) 95. Heating demand digital input (condensing unit) 96. Capacity step 1 demand digital input (condensing unit) 97. Capacity step 2 demand digital input (condensing unit) 98. Capacity step 3 demand digital input (condensing unit) Capacity step 4 demand digital input (condensing unit) 99. 100. Capacity step 5 demand digital input (condensing unit) 101. Capacity step 6 demand digital input (condensing unit) 102. Capacity step 7 demand digital input (condensing unit) 103. Capacity step 8 demand digital input (condensing unit) 104. Capacity step 9 demand digital input (condensing unit) 105. Capacity step 10 demand digital input (condensing unit) 106. Capacity step 11 demand digital input (condensing unit) 107. Capacity step 12 demand digital input (condensing unit) 108. Capacity step 13 demand digital input (condensing unit) 109. Capacity step 14 demand digital input (condensing unit) 110. Capacity step 15 demand digital input (condensing unit) 111. Capacity step 16 demand digital input (condensing unit) 112. Solar panels flow switch 113. Phase sequence relay 114. Thermal heaters

115. Block heaters

RL1- RL15 DIGITAL OUTPUTS CONFIGURATION (DO TYPE) 9.2

- 0. Disabled
- Alarm 1.
- 2. Evaporator main pump/supply fan
- 3. Evaporator support pump
- Antifreeze heaters / support / boiler 1st step 4.
- Antifreeze heaters / support / boiler 2nd step 5.
- Antifreeze heaters / support / boiler 3rd step 6.
- Antifreeze heaters / support / boiler 4th step 7.
- Heat recovery condenser main pump 8.
- 9. Heat recovery condenser support water pump
- Cycle inversion valve circuit 1 10.
- Cycle inversion valve circuit 2 11.
- 12. Cycle inversion valve circuit 3
- Cycle inversion valve circuit 4 13.
- Circuit 1 ON/OFF Fan 1st step 14.
- Circuit 1 ON/OFF Fan 2nd step 15.
- Circuit 1 ON/OFF Fan 3rd step 16.
- Circuit 1 ON/OFF Fan 4th step 17.
- Circuit 2 ON/OFF Fan 1st step 18.
- Circuit 2 ON/OFF Fan 2nd step 19.
- Circuit 2 ON/OFF Fan 3rd step 20.
- Circuit 2 ON/OFF Fan 4th step 21.
- 22. Circuit 3 ON/OFF Fan 1st step
- Circuit 3 ON/OFF Fan 2nd step 23.
- Circuit 3 ON/OFF Fan 3rd step 24. Circuit 3 ON/OFF Fan 4th step
- 25. Circuit 4 ON/OFF Fan 1st step 26.
- Circuit 4 ON/OFF Fan 2nd step 27.
- Circuit 4 ON/OFF Fan 3rdstep
- 28. Circuit 4 ON/OFF Fan 4th step
- 29.
- Circuit 1 pump down solenoid valve 30.
- Circuit 2 pump down solenoid valve 31.
- 32. Circuit 3 pump down solenoid valve
- 33. Circuit 4 pump down solenoid valve
- 34. Circuit 1 heat recovery valve
- 35. Circuit 2 heat recovery valve
- 36. Circuit 3 heat recovery valve
- 37. Circuit 4 heat recovery valve
- Free-cooling ON/OFF valve 38.
- 39. Free-cooling ON/OFF fan
- 40. Circuit 1 1st step split coil
- 41. Circuit 1 2ndstep split coil
- Circuit 2 1st step split coil 42.
- Circuit 2 2ndstep split coil 43.
- Circuit 3 1st step split coil 44.
- Circuit 3 2ndstep split coil 45.
- Circuit 4 1st step split coil 46.
- Circuit 4 2ndstep split coil 47.
- 48. Auxiliary output nº 1
- 49. Auxiliary output nº 2
- 50. Auxiliary output nº 3
- Auxiliary output nº 4 51.
- 52. (Screw) Compressor 1 intermittent valve
- 53. (Screw) Compressor 2 intermittent valve
- 54. (Screw) Compressor 3 intermittent valve
- 55. (Screw) Compressor 4 intermittent valve
- 56. (Screw) Compressor 5 intermittent valve
- (Screw) Compressor 6 intermittent valve 57.
- 58. (Screw) Compressor 7 intermittent valve
- 59. (Screw) Compressor 8 intermittent valve

- 60. Compressor 1 liquid injection solenoid valve
- Compressor 2 liquid injection solenoid valve 61.
- 62. Compressor 3 liquid injection solenoid valve
- Compressor 4 liquid injection solenoid valve 63.
- Compressor 5 liquid injection solenoid valve 64.
- 65. Compressor 6 liquid injection solenoid valve
- 66. Compressor 7 liquid injection solenoid valve
- 67. Compressor 8 liquid injection solenoid valve 68. Domestic hot water valve 1
- 69. Domestic hot water valve 2
- 70.
- Domestic hot water heater (1st step) Domestic hot water heater (2nd step) 71.
- 72. Domestic hot water heater (3rd step)
- Solar panels pump 73.
- Solar coil enabling/exclusion ON/OFF valve 74.
- 75. Domestic hot water pump
- Compressor 1 Direct start-up 76. Compressor 1 Winding 1 Part Winding start-up Compressor 1 Line 1 Star Delta start-up
- 77. Compressor 1 Winding 2 Part Winding start-up Compressor 1 Line 2 Star Delta start-up
- 78. Compressor 1 Star Delta start-up: Star centre
- 79. Compressor 1 Unloader 1
- 80. Compressor 1 Unloader 2
- Compressor 1 Unloader 3 81.
- Compressor 1 Unloader 4 82.
- 83. Compressor 1 gas by-pass valve during start-up
- 84. Compressor 2 Direct start-up Compressor 2 Winding 1 Part Winding start-up Compressor 2 Line 1 Star Delta start-up
- Compressor 2 Winding 2 Part Winding start-up 85. Compressor 2 Line 2 Star Delta start-up
- 86. Compressor 2 Star Delta start-up: Star centre
- 87. Compressor 2 Unloader 1
- Compressor 2 Unloader 2 88.
- 89. Compressor 2 Unloader 3
- 90. Compressor 2 Unloader 4
- 91. Compressor 2 gas by-pass valve during start-up
- 92. Compressor 3 Direct start-up Compressor 3 Winding 1 Part Winding start-up Compressor 3 Line 1 Star Delta start-up
- 93. Compressor 3 Winding 2 Part Winding start-up Compressor 3 Line 2 Star Delta start-up
- 94. Compressor 3 Star Delta start-up: Star centre
- Compressor 3 Unloader 1 95.
- Compressor 3 Unloader 2 96.
- 97. Compressor 3 Unloader 3
- 98. Compressor 3 Unloader 4
- 99. Compressor 3 gas by-pass valve during start-up
- 100. Compressor 4 Direct start-up Compressor 4 Winding 1 Part Winding start-up Compressor 4 Line 1 Star Delta start-up
- 101. Compressor 4 Winding 2 Part Winding start-up Compressor 4 Line 2 Star Delta start-up
- 102. Compressor 4 Star Delta start-up: Star centre
- 103. Compressor 4 Unloader 1
- 104. Compressor 4 Unloader 2
- 105. Compressor 4 Unloader 3
- 106. Compressor 4 Unloader 4
- 107. Compressor 4 gas by-pass valve during start-up

- 108. Compressor 5 Direct start-up Compressor 5 Winding 1 Part Winding start-up Compressor 5 Line 1 Star Delta start-up 109. Compressor 5 Winding 2 Part Winding start-up
- Compressor 5 Line 2 Star Delta start-up
- 110. Compressor 5 Star Delta start-up: Star centre
- 111. Compressor 5 Unloader 1
- 112. Compressor 5 Unloader 2113. Compressor 5 Unloader 3
- 114. Compressor 5 Unloader 4
- 115. Compressor 5 gas by-pass valve during start-up
- 116. Compressor 6 Direct start-up Compressor 6 Winding 1 Part Winding start-up Compressor 6 Line 1 Star Delta start-up
- 117. Compressor 6 Winding 2 Part Winding start-up Compressor 6 Line 2 Star Delta start-up
- 118. Compressor 6 Star Delta start-up: Star centre
- 119. Compressor 6 Unloader 1
- 120. Compressor 6 Unloader 2
- 121. Compressor 6 Unloader 3
- 122. Compressor 6 Unloader 4
- 123. Compressor 6 gas by-pass valve during start-up
- 124. Compressor 7 Direct start-up Compressor 7 Winding 1 Part Winding start-up Compressor 7 Line 1 Star Delta start-up
- 125. Compressor 7 Winding 2 Part Winding start-up Compressor 7 Line 2 Star Delta start-up
- 126. Compressor 7 Star Delta start-up: Star centre
- 127. Compressor 7 Unloader 1
- 128. Compressor 7 Unloader 2
- 129. Compressor 7 Unloader 3
- 130. Compressor 7 Unloader 4
- 131. Compressor 7 gas by-pass valve during start-up
- 132. Compressor 8 Direct start-up Compressor 8 Winding 1 Part Winding start-up Compressor 8 Line 1 Star Delta start-up
- 133. Compressor 8 Winding 2 Part Winding start-up Compressor 8 Line 2 Star Delta start-up
- 134. Compressor 8 Star Delta start-up: Star centre
- 135. Compressor 8 Unloader 1
- 136. Compressor 8 Unloader 2
- 137. Compressor 8 Unloader 3
- 138. Compressor 8 Unloader 4
- 139. Compressor 8 gas by-pass valve during start-up
- 140. Compressor 9 Direct start-up
- 141. Compressor 10 Direct start-up
- Compressor 11 Direct start-up
 Compressor 12 Direct start-up
 Compressor 13 Direct start-up
- 145. Compressor 14 Direct start-up
- 146. Compressor 15 Direct start-up
- 147. Compressor 16 Direct start-up
- 148. Charge modulating valve circuit 1
- 149. Charge modulating valve circuit 2
- 150. Charge modulating valve circuit 3
- 151. Charge modulating valve circuit 4
- 152. Unit enabled
- 153. APS Alarm (Phase sequence)
- 154. HP1 Alarm (High pressure circuit 1)
- 155. HP2 Alarm (High pressure circuit 2)
- 156. HP3 Alarm (High pressure circuit 3)
- 157. HP4 Alarm (High pressure circuit 4)

158. LP1 Alarm (Low pressure circuit 1) 159. LP2 Alarm (Low pressure circuit 2) 160. LP3 Alarm (Low pressure circuit 3) 161. LP4 Alarm (Low pressure circuit 4) 162. AEFL Alarm (Evaporator Flow) 163. ACFL Alarm (Condenser Flow) 164. AHFL Alarm (Domestic Water Flow) 165. APFL Alarm (Solar Panels Flow) 166. ALC1 Alarm (Unit Block #1) 167. ALC2 Alarm (Unit Block #1) 168. C1tr Alarm (Overload Compressor 1) 169. C2tr Alarm (Overload Compressor 2) 170. C3tr Alarm (Overload Compressor 3) 171. C4tr Alarm (Overload Compressor 4) 172. C5tr Alarm (Overload Compressor 5) 173. C6tr Alarm (Overload Compressor 6) 174. C7tr Alarm (Overload Compressor 7) 175. C8tr Alarm (Overload Compressor 8) 176. C9tr Alarm (Overload Compressor 9) 177. C10tr Alarm (Overload Compressor 10) 178. C11tr Alarm (Overload Compressor 11) 179. C12tr Alarm (Overload Compressor 12) 180. C13tr Alarm (Overload Compressor 13) 181. C14tr Alarm (Overload Compressor 14) 182. C15tr Alarm (Overload Compressor 15) 183. C16tr Alarm (Overload Compressor 16) 184. B1A Alarm (Anti-freeze Circuit 1) 185. B2A Alarm (Anti-freeze Circuit 2) 186. B3A Alarm (Anti-freeze Circuit 3) 187. B4A Alarm (Anti-freeze Circuit 4) 188. Auxiliary heating 1st step 189. Auxiliary heating 2nd step 190. Auxiliary heating 3rd step

- 191. Auxiliary heating 4th step
- 192. Refcomp Inverter Power
- 193. IV management valve 14
- 194. IV management valve 15 195. IV management valve 16

9.3 ANALOGUE INPUTS PB1 - PB10 CONFIGURATION (AI TYPE)

- 0. Disabled
- Compressor 1 PTC discharge temperature probe 1.
- 2. Compressor 2 PTC discharge temperature probe
- Compressor 3 PTC discharge temperature probe 3.
- Compressor 4 PTC discharge temperature probe 4.
- Compressor 5 PTC discharge temperature probe 5.
- Compressor 6 PTC discharge temperature probe 6.
- Compressor 7 PTC discharge temperature probe 7.
- Compressor 8 PTC discharge temperature probe 8.
- Compressor 9 PTC discharge temperature probe 9
- 10. Compressor 10 PTC discharge temperature probe
- 11. Compressor 11 PTC discharge temperature probe
- 12. Compressor 12 PTC discharge temperature probe
- 13. Compressor 13 PTC discharge temperature probe
- 14. Compressor 14 PTC discharge temperature probe
- 15. Compressor 15 PTC discharge temperature probe
- 16. Compressor 16 PTC discharge temperature probe
- 17. Evaporator common input NTC temperature probe
- 18. Evaporator 1 output NTC temperature probe
- 19. Evaporator 2 output NTC temperature probe
- 20. Evaporator 3 output NTC temperature probe

- 21. Evaporator 4 output NTC temperature probe
- 22. Evaporator common outlet NTC temperature probe
- 23. Condenser hot water common input NTC temperature probe
- 24. Circuit 1 condenser hot water input NTC temperature probe
- 25. Circuit 2 condenser hot water input NTC temperature probe
- 26. Circuit 3 condenser hot water input NTC temperature probe
- 27. Circuit 4 condenser hot water input NTC temperature probe
- 28. Circuit 1 condenser hot water output NTC temperature probe
- 29. Circuit 2 condenser hot water output NTC temperature probe
- 30. Circuit 3 condenser hot water output NTC temperature probe
- 31. Circuit 4 condenser hot water output NTC temperature probe
- 32. Condenser hot water common output NTC temperature probe
- 33. System water inlet NTC temperature probe (free-cooling)
- 34. External air temperature NTC temperature probe (free-cooling)
- 35. Dynamic/boiler function/change over set-point external air temperature NTC temperature probe
- 36. Circuit n° 1 combined defrost NTC temperature probe
- 37. Circuit n° 2 combined defrost NTC temperature probe
- 38. Circuit n° 3 combined defrost NTC temperature probe
- 39. Circuit n° 4 combined defrost NTC temperature probe
- 40. Circuit n° 1 auxiliary outlet NTC temperature probe
- 41. Circuit nº 2 auxiliary outlet NTC temperature probe
- 42. Circuit nº 3 auxiliary outlet NTC temperature probe
- 43. Circuit n° 4 auxiliary outlet NTC temperature probe
- 44. Domestic hot water temperature control NTC temperature probe
- 45. Domestic hot water temperature safety NTC temperature probe
- 46. Discharge NTC temperature probe
- 47. Solar panel NTC temperature probe
- 48. Circuit 1 condensing temperature NTC probe
- 49. Circuit 2 condensing temperature NTC probe
- 50. Circuit 3 condensing temperature NTC probe
- 51. Circuit 4 condensing temperature NTC probe
- 52. Circuit n° 1 condensing pressure probe (4÷20 mA / 0÷ 5 Volt)
- 53. Circuit n° 2 condensing pressure probe (4÷20 mA / 0÷ 5 Volt)
- 54. Circuit n° 3 condensing pressure probe (4÷20 mA / 0÷ 5 Volt)
- 55. Circuit n° 4 condensing pressure probe (4÷20 mA / 0÷ 5 Volt)
- 56. Circuit n° 1 evaporating pressure probe (4÷20 mA / 0÷ 5 Volt)
- 57. Circuit n° 2 evaporating pressure probe (4÷20 mA / 0÷ 5 Volt)
- 58. Circuit n° 3 evaporating pressure probe (4÷20 mA / 0÷ 5 Volt)
- 59. Circuit n° 4 evaporating pressure probe (4÷20 mA / 0÷ 5 Volt)
- 60. Auxiliary output n° 1 pressure probe (4÷20 mA / 0÷ 5 Volt)
- 61. Auxiliary output n° 2 pressure probe (4÷20 mA / 0÷ 5 Volt)
- 62. Auxiliary output n° 3 pressure probe (4+20 mA / 0+ 5 Volt)
- 63. Auxiliary output n° 4 pressure probe (4÷20 mA / 0÷ 5 Volt)
- 64. Dynamic set-point 4÷20 mA probe

Digital input (o1-c115, see relevant configurations)

9.4 CONFIGURATION OF THE OUT1 / OUT4 PROPORTIONAL OUTPUTS (AO TYPE)

0÷10V output signal

- 0. Output disabled
- 1. 0÷10V proportional output for circuit n° 1 fan speed control
- 2. 0÷10V proportional output for circuit n° 2 fan speed control
- 3. 0÷10V proportional output for circuit n° 3 fan speed control
- 4. 0÷10V proportional output for circuit n° 4 fan speed control
- 5. 0÷10V dampers control proportional output / free-cooling mixer valve
- 6. 0÷10V hot water three-way valve control 0÷10V proportional output
- 7. 0÷10V auxiliary output n° 1
- 8. 0÷10V auxiliary output n° 2
- 9. 0÷10V auxiliary output n° 3
- 10. 0÷10V auxiliary output n° 4
- 11. Circuit n° 1 compressor 1 0÷10V modulating output
- 12. Circuit n° 2 compressor 1 0÷10V modulating output
- 13. Circuit n° 3 compressor 1 0÷10V modulating output
- 14. Circuit n° 4 compressor 1 0÷10V modulating output
- 15. Modulating output 0÷10V auxiliary heating

External relay driving ON/OFF output (o1-c195, see relevant configurations)

9.5 CONFIGURATION OF THE OUT5 / OUT6 PROPORTIONAL OUTPUTS

4÷20mA - 0÷10V - PWM configurable output signal

From 0 to 14 as Out1-Out4 configuration

- 16. Circuit N° 1 external phase-cut command PWM signal = TF 1
- 17. Circuit N° 2 external phase-cut command PWM signal = TF 2
- 18. 4÷20mA proportional output for circuit n° 1 fan speed control
- 19. 4÷20mA proportional output for circuit n° 2 fan speed control
- 20. 4÷20mA proportional output for circuit n° 3 fan speed control
- 21. 4÷20mA proportional output for circuit n° 4 fan speed control
- 22. 4÷20mA dampers control proportional output / free-cooling mixer valve
- 23. 4÷20mA hot water three-way valve control proportional output
- 24. 4÷20mA auxiliary output n° 1
- 25. 4÷20mA auxiliary output n° 2
- 26. 4÷20mA auxiliary output n° 3
- 27. 4÷20mA auxiliary output n° 4
- 28. Circuit nº 1 compressor 1 4÷20mA modulating output
- 29. Circuit n° 2 compressor 1 4÷20mA modulating output
- 30. Circuit n° 3 compressor 1 4÷20mA modulating output
- 31. Circuit n° 4 compressor 1 4÷20mA modulating output
- 32. Modulating output 4÷20mA auxiliary heating

External relay driving ON/OFF output (o1-c195, see relevant configurations)

9.6 ANALOGUE INPUTS CALIBRATION

In case of analogue input value is not very precise, you can use parameters in group CA to set a offset to probe value to make the measurement more close to the actual value.

Al value used for controlling = Al measured value + calibration

- CA01 CA10: On board probes calibration (1 10)
- CA11 CA14: 1st XEV20D probes calibration (1 4)
- CA15 CA18: 2nd XEV20D probes calibration (1 4)
- CA19 CA22: 3rd XEV20D probes calibration (1 4)
- CA23 CA26: 4th XEV20D probes calibration (1 4)
- CA27 CA33: 1st expansion probes calibration (1 7)
- CA34 CA40: 2nd expansion probes calibration (1 7)
- CA41 CA47: 3rd expansion probes calibration (1 7)
- CA48 CA54: 4th expansion probes calibration (1 7)

9.7 ANALOGUE INPUTS RANGE

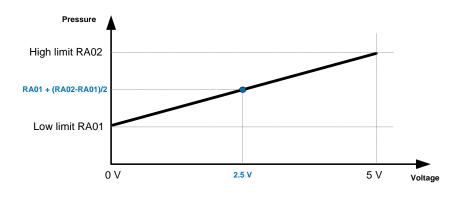
When an AI is configured as a pressure probe (4 \div 20 mA / 0 \div 5 Volt), the value is restrained to range set by parameters in group RA.

- RA01 RA20: On board probes range (1 10)
- RA21 RA24: 1^{st} XEV20D probes range (3 4)
- RA25 RA28: 2nd XEV20D probes range (3 4)
- RA29 RA32: 3rd XEV20D probes range (3 4)
- RA33 RA36: 4th XEV20D probes range (3 4)
- RA37 RA50: 1st expansion probes range (1 7)
- RA51 RA64: 2nd expansion probes range (1 7)
- RA65 RA78: 3rd expansion probes range (1 7)
- RA79 RA92: 4th expansion probes range (1 7)

The probe type is determined by parameter SP01. If SP01=0/1, the probe is current type (4÷20 mA). If SP01=2/3, the probe is voltage type (0÷5 Volt).

For example, suppose:

IO01 = 52 - Circuit n° 1 condensing pressure probe (4÷20 mA / 0÷ 5 Volt) RA01 = 1.0 Bar RA02 = 10.0 Bar SP01 = 2 So probe 1 measured pressure will be: If Al01 = 0V, probe 1 pressure = 1.0 Bar (RA01) If Al01 = 5V, probe 1 pressure = 10.0 Bar (RA02) If Al01 = 2.5V, probe 1 pressure = 6.0 Bar (RA01 + (RA02 - RA01) / 2) See graph below:



9.8 FURTHER CONNECTIONS

- 1 USB
- 1 Network
- 1 connecter for/GSM modem /XWEB modem
- 1 RS485 master
- 1 RS485 slave
- 1 CANbus

10. ALARMS

The alarm codes and signals are made up from letters and numbers that identify the different types. Types of alarm:

- Letter A = unit alarm
- Letter **B** = circuit alarm
- Letter **C** = compressor alarm

10.1 PROBE BREAKDOWN

Alarm code	AP1AP54 (probe1 alarm probe54 alarm)
Display in keyboard	Pb AL1 Pb AL10 (probe1probe10 alarm)
	Pb1 AL e1 Pb7 AL e1 (Expansion1 probe1probe7 alarm)
	Pb1 AL e2 Pb7 AL e2 (Expansion2 probe1probe7 alarm)
	Pb1 AL e3 Pb7 AL e3 (Expansion3 probe1probe7 alarm)
	Pb1 AL e4 Pb7 AL e4 (Expansion4 probe1probe7 alarm)
	Pb1 AL V1 Pb4 AL V1 (XEV20D 1 probe1 XEV20D 1 probe4)
	Pb1 AL V2 Pb4 AL V2 (XEV20D 2 probe1 XEV20D 2 probe4)
	Pb1 AL V3 Pb4 AL V3 (XEV20D 3 probe1 XEV20D 3 probe4)
	Pb1 AL V4 Pb4 AL V4 (XEV20D 4 probe1 XEV20D 4 probe4)
Cause of activation	Probe is configured and converted value out of range
Reset	Probe is not configured or converted value within range
Reset	Automatic
Icon	⚠ flashing
Action	Alarm relay + buzzer activated
Regulators	
Alarm	Relay + buzzer activated
Reverse valve	It follows its regulation
Recovery valve	It follows its regulation
Free-cooling on/off valve	It follows its regulation
Auxiliary relay	It follows its regulation
0÷10V auxiliary outputs	It follows its regulation
Idle running valve	It follows its regulation
Supply ventilation	It follows its regulation
Condensation ventilation	*Off
Support	*Off
boiler/anti-freeze	*With Ar09 = 1 on if at least 1 probe is configured for control
Pump/and water evaporator and condenser	*It follows/they follow its/their regulation
Compressors	*Off
Pump down solenoid valve	*Off

WARNING:

Symbol "*" means that the component is only forced to switch-off when the broken probe is a regulation probe. If the alarm comes from a display probe, the unit continues to follow normal regulation.

10.2 HIGH PRESSURE PRESSURE SWITCH ALARM

Alarm code	b1HPb4HP (circuit n° 14 high pressure pressure switch alarm)
Display in keyboard	Hi press circ1 Hi press circ4
Cause of activation	With unit in ON and circuit high pressure pressure switch input active Circuit1: DI High pressure switch circuit 1(DI type=10) active Circuit2: DI High pressure switch circuit 2(DI type=11) active Circuit3: DI High pressure switch circuit 3(DI type=12) active Circuit4: DI High pressure switch circuit 4(DI type=13) active
Reset	Input not activated
Reset	Reset is always manual if AL11 = 0 Reset is always automatic if AL11 = 60 Reset passes from automatic to manual if AL11 goes from 1 to 59 (reset procedure in functions menu)
Icon	⚠ flashing
Action	Alarm relay (DO type=154157) + buzzer activated
Regulators	
Alarm	Relay + buzzer activated
Reverse valve	it follows its regulation
Recovery valve	it follows its regulation
Free-cooling on/off valve	it follows its regulation
Auxiliary relay	It follows/they follow its/their regulation
0÷10V proportional output	It follows/they follow its/their regulation
Idle running valve	It follows its regulation
Supply ventilation	It follows its regulation
Condensation ventilation	If the Par. FA02= 0, fan working mode dependent on the compressor. With alarm active the fans are forced to maximum speed for 60 seconds before switching-off If the Par. FA02= 1, fan working mode independent from the compressor. With alarm active the fans are forced to maximum speed for 60 seconds and then follow their regulation
Support/boiler/anti-freeze	It follows its regulation
Pump/and water evaporator and condenser	It follows its regulation
Affected circuits compressors	Off
Unaffected circuits compressors	They follow its regulation
Unaffected circuits pump down solenoid valves	They follow its regulation
Affected circuits pump down solenoid valves	Off

10.3 COMPRESSOR HIGH DISCHARGE THERMOSTAT ALARM FROM DIGITAL INPUT

Alarm code	C1dtC16dt (compressor 116 high discharge thermostat alarm)
Display in keyboard	Hi temp C1Hi temp C16
Cause of activation	With unit in ON and compressor discharge thermostat digital input active. From DI: Compressor 116 discharge thermostat (DI type=1833)
Reset	Input deactivation
Reset	Reset is always manual if AL11 = 0 Reset is always automatic if AL11 =60
	Reset passes from automatic to manual if AL11 goes from 1 to 59
	(reset procedure in functions menu)
Icon	flashing
Action	Alarm relay + buzzer activated
Regulators	
Alarm	Relay + buzzer activated
Reverse valve	it follows its regulation
Recovery valve	it follows its regulation
Free-cooling on/off valve	it follows its regulation
Auxiliary relay	It follows/they follow its/their regulation
0÷10V proportional output	It follows/they follow its/their regulation
Idle running valve	It follows its regulation
Supply ventilation	It follows its regulation
Condensation ventilation	It follows its regulation
Support/boiler/anti-freeze	It follows its regulation
Pump/and water evaporator and condenser	It follows its regulation
Compressor affected	Off
Compressor not affected	It follows its regulation
Pump down solenoid valve	It switches-off if there is only 1 compressor per circuit, otherwise it follows its regulation

10.4 LC	OW PRESSURE PRESSURE SWITCH ALARM				
AL 1	Low pressure alarm delay from a digital/analogue input	0	250	Sec	
AL 2	Defines low pressure alarm operation with pump-down enabled 0 = independent from the pump down 1 = blocks the compressors until the pressure switch is disabled 2 = lets the compressors reach peak values	0	2		
AL 5	Maximum number of interventions per hour of the low pressure alarm from a digital/analogue input. If the number exceeds AL05 the alarm becomes manual reset. Reset is always manual if AL05 = 0 Reset is always automatic if AL05 = 60 Reset moves from automatic to manual if AL05 moves from 1 to 59	0	60		
AL 6	Low temperature / pressure alarm in defrost mode 0 = not enabled 1 = enabled	0	1		
AL 7	Low temperature / pressure alarm delay in defrost mode Delay time between alarm condition occurrence and reaction by device	0	250	Sec	
AL 8	Low temperature/pressure alarm with the unit in remote OFF or Stand-by mode 0 = alarm detection disabled 1 = alarm detection enabled	0	1		

Alarm code	b1LPb4LP (circuit n° 14 low pressure pressure switch alarm)
Display in keyboard	Low press circ1 Low press circ4

Cause of activation	 With circuit low pressure pressure switch active. From DI Low pressure switch circuit 14 (DI type=1417)
	 If AL08=1, also with unit in stand-by or OFF remote, if circuit low pressure pressure switch input active
	 In defrost if AL06=1 if compressor low pressure pressure switch input active
	The alarm is not signalled:1. in defrost for time AL07 in correspondence with activation of the reverse valve cycle
	2. On compressor switch-on for the time AL01
	 AL02 = 0 the low pressure alarm is inhibited during compressor stopping in pump down mode and with compressor at a standstill
	 AL02 ≠ 0 the low pressure alarm is inhibited during compressor stopping in pump down mode and with compressor at a standstill for the time set
Reset	Input deactivation
Reset	Automatic – it becomes manual after AL05 interventions/hour (reset procedure in functions menu)
Icon	⚠ flashing
Action	Alarm relay(DO type=158161) + buzzer activated
Regulators	
Alarm	Relay + buzzer activated
Reverse valve	it follows its regulation
Recovery valve	it follows its regulation
Free-cooling on/off valve	it follows its regulation
Auxiliary relay	It follows/they follow its/their regulation
0÷10V proportional output	It follows/they follow its/their regulation
Idle running valve	It follows its regulation
Supply ventilation	It follows its regulation
Condensation ventilation	Off
Support/boiler/anti-freeze	It follows its regulation
Pump/and water evaporator and condenser	It follows its regulation
Compressors	Off
Pump down solenoid valve	off

10.5 OIL FLOAT/PRESSURE SWITCH ALARM

Alarm code	OPC1OPC16 (compressor n°116 oil pressure switch alarm)
Display in keyboard	AL oil C1AL oil C16
Cause of activation	DI configured as Oil pressure/level switch compressor 1 (DI type=6984) activated.
	The alarm is not signalled: on compressor switch-on for the time AL12. After time AL12 it is not signalled with unit in normal working conditions for time AL13. If $AL15 = 0$ the alarm is not detected with the compressor off
Reset	Input deactivation
Reset	Automatic – it becomes manual after AL14 interventions/hour (reset procedure in functions menu)
Icon	⚠ flashing
Action	Alarm relay + buzzer activated
Regulators	
Alarm	Relay + buzzer activated
Reverse valve	it follows its regulation
Recovery valve	it follows its regulation

Free-cooling on/off valve	it follows its regulation
Auxiliary relay	It follows/they follow its/their regulation
0÷10V proportional output	It follows/they follow its/their regulation
Idle running valve	It follows its regulation
Flow ventilation	It follows its regulation
Condensation ventilation	It follows its regulation
Support/boiler/anti-freeze	It follows its regulation
Pump/water evaporator and condenser	It follows its regulation
Compressors affected	Off
Compressor not affected	It follows its regulation
Pump down solenoid valve	It switches-off if there is only 1 compressor per circuit, otherwise it follows its regulation

OIL ALARM WORKING DUE TO PRESSURE SWITCH OR FLOAT (SCREW)

It is possible that both safety systems can exist together in certain applications. The delay, the active input duration and the number of interventions per hour are used to correctly manage the two safety devices. Par. **AL12**

Oil alarm delay due to compressor activation.

Allows to set a delay in recognising the alarm of the pressure switch and the float from compressor start-up. Par. **AL13**

Float pressure switch input active duration in normal working conditions.

Allows to set a time during which the oil alarm must remain active in normal working conditions. The alarm is signalled after this time. The count starts after the **AL13** time. It allows to filter any pressure or oil level drops that may occur for brief moments, e.g. with the activation of a compressor unloader step.

Par. AL14

Maximum number of oil alarm interventions per hour.

It determines a maximum number of oil alarm interventions per hour. When these are exceeded the alarm passes from automatic to manual reset.

Par. AL15

Oil float/pressure switch alarm with compressor in OFF if a differential oil pressure switch is used.

0 = alarm detection not enabled

1= alarm detection enabled

10.6 CONDENSATION HIGH TEMPERATURE/ PRESSURE ALARM

Alarm code	b1hpb4hp (circuit n° 14 condensation high temperature/pressure alarm)
Display in keyboard	Hi t/p.cond.circ1Hi t/p.cond.circ4
Cause of activation	With unit working in chiller or heat pump mode, if the condensation control probe value >= AL09 set. The condensation control probes' AI type can be 4855, depending on SP01.
Reset	If the condensation control probe value <= AL09 set – AL10 differential
Reset	Reset is always manual if AL11 = 0 Reset is always automatic if AL11 =60 Reset passes from automatic to manual if AL11 goes from 1 to 59 (reset procedure in functions menu)
Icon	▲ flashing
Action	Alarm relay + buzzer activated
Regulators	
Alarm	Relay + buzzer activated
Reverse valve	it follows its regulation
Recovery valve	it follows its regulation

Free-cooling on/off valve	it follows its regulation
Auxiliary relay	It follows/they follow its/their regulation
Idle running valve	It follows its regulation
Supply ventilation	It follows its regulation
Condensation ventilation	If the Par. FA02= 0 fan working mode dependent on the compressor. With alarm active the fans are forced to maximum speed for 60 seconds before switching-off If the Par. FA02= 1 fan working mode independent from the compressor. With alarm active the fans are forced to maximum speed for 60 seconds and then follow their regulation
Support/boiler/anti-freeze	It follows its regulation
Pump/and water evaporator and condenser	It follows its regulation
Affected circuits compressors	Off
Unaffected circuits compressors	It follows its regulation
Unaffected circuits pump down solenoid valve	It follows its regulation
Affected circuits pump down solenoid valve	off

10.7 LOW CONDENSATION TEMPERATURE/PRESSURE ALARM (IF THE EVAPORATOR PRESSURE PROBES ARE NOT CONFIGURED)

Alarm code	b1lpb4lp (circuit n° 1circuit n° 4 condensation low temp/pressure alarm)
Display in keyboard	Low press circuit1Low press circuit4
Cause of activation	 The alarm is activated when the probe configures as condensation control probes (AI type=4855) < AL03 set in the following conditions. And evaporator pressure probes (AI type=5659) are not configured. working in cooling or heating mode stand-by or OFF-remote if AL08 = 1 In defrost if AL06=1 The alarm is not signalled: in defrost for time AL07 in correspondence with valve inversion on compressor switch-on for the time AL01
Reset	If the condensation control probe's temperature/pressure > AL03 + differential AL04
Reset	Automatic – it becomes manual after AL05 interventions/hour (reset procedure in functions menu)
Icon	▲ flashing
Action	Alarm relay + buzzer activated
Regulators	
Alarm	Relay + buzzer activated
Reverse valve	it follows its regulation
Recovery valve	it follows its regulation
Free-cooling on/off valve	it follows its regulation
Auxiliary relay	It follows/they follow its/their regulation
Idle running valve	It follows its regulation
Supply ventilation	It follows its regulation
Condensation ventilation	Off
Support/boiler/anti-freeze	It follows its regulation
Pump/and water evaporator and condenser	It follows its regulation
Compressors	Off
Pump down solenoid valve	off

10.8 LOW EVAPORATION PRESSURE ALARM (IF THE EVAPORATOR PRESSURE PROBES ARE CONFIGURED)

CONFIGURED)	
Alarm code	b1lpb4lP (circuit n° 1circuit n° 4 evaporator low pressure alarm)
Display in keyboard	Low press circuit1Low press circuit4
Cause of activation	The alarm is activated when the probe configures as the evaporator pressure (Al type=5659) < AL03 set in the following conditions.
	working in cooling or heating mode
	 stand-by or OFF-remote if AL08 = 1
	 In defrost if AL06=1
	The alarm is not signalled:
	in defrost for time AL07 in correspondence with valve inversion
_	on compressor switch-on for the time AL01
Reset	If the evaporation control probe measures a temperature > of the AL03 set + differential AL04
Reset	Automatic – it becomes manual after AL05 interventions/hour (reset procedure in functions menu)
lcon	⚠ flashing
Action	Relay + buzzer activated
Regulators	
Alarm	Relay + buzzer activated
Reverse valve	it follows its regulation
Recovery valve	it follows its regulation
Free-cooling on/off valve	it follows its regulation
Auxiliary relay	It follows/they follow its/their regulation
Idle running valve	It follows its regulation
Supply ventilation	It follows its regulation
Condensation ventilation	Off
Support/boiler/anti-freeze	It follows its regulation
Pump/and water evaporator and condenser	It follows its regulation
Affected circuits compressors	Off
Unaffected circuits compressors	It follows its regulation
Unaffected circuits pump down solenoid valve	It follows its regulation
Affected circuits pump down solenoid valve	off

10.9 AIR/AIR UNIT LOW TEMPERATURE ALARM & ANTI-FREEZE ALARM IN CHILLER MODE

Alarm code	b1ACb4AC (Low temperature/anti-freeze alarm in circuit n° 14 chiller mode)
Display in keyboard	From DI: Antif/Io temp.C1 (DI - CH)Antif/Io temp.C4 (DI - CH) From AI: Antif/Io temp.C1 (AI - CH)Antif/Io temp.C4 (AI - CH)
Cause of activation	In air/air unit, the low temperature alarm is detected. In other types of unit, antifreeze alarm is detected. It is detected both in chiller working mode and stand-by/OFF-remote mode.
	And the circuit must be configured with compressors.
	From DI: Antifreeze alarm circuit 14 (DI type=69). If only one DI configured, it will be used for all the 4 circuits. From AI: Select probes between evaporator probes(AI type=1722) by par
	AL47 and check:
	 If the unit is working in chiller mode, when the selected probes value <= AL34 set for AL36 time, alarm occur.
	 If the unit is in stand-by/OFF-remote mode, chose the highest value between AL34 and AL41 as SET, when the selected probes value <= SET set for AL36/AL44 time, alarm occur.
Reset	From DI: DI deactivate
	 From AI: Unit ON: Regulation probe for Pbr anti-freeze temperature >= AL34 set + AL35 differential.
	 Unit OFF: Regulation probe for Pbr anti-freeze temperature >= (AL34/AL41) set + (AL35/AL42) differential.
Reset	Automatic – becomes manual after certain number of interventions/hour (reset procedure in functions menu)
	This number can be:
	Chiller: AL37
	Unit OFF: the minimum between AL37 and AL45
lcon	▲ flashing
Action	If AL38 = 0 only the compressors are switched off. The label alarm is signalled
	by the alarm relay, buzzer and the heaters are not activated
	If AL38 = 1 the compressors are switched off. The label alarm is signalled and
	the alarm relay + buzzer are activated. If the anti-freeze alarm comes from DI the anti-freeze heaters are also activated.
	Alarm relay DO type=184187
Regulators	
Alarm	If AL38 = 1 Relay + buzzer activated + anti-freeze heaters
Reverse valve	it follows its regulation
	it follows its regulation
Recovery valve	
Free-cooling on/off valve	it follows its regulation
Auxiliary relay	It follows/they follow its/their regulation
Idle running valve	It follows its regulation
Supply ventilation	If air/air unit off
Condensation ventilation	It follows its regulation
Support/boiler/anti-freeze	If air/air unit off otherwise follows its regulation
Support/boiler/anti-freeze	With DI alarm activated
Pump/and water evaporator and condenser	They follow their regulation
Compressors	Off
Pump down solenoid valve	Off

10.10 AIR/AIR UNIT LOW TEMPERATURE ALARM & ANTI-FREEZE ALARM IN HEAT PUMP MODE

Alarm code	b1AHb4AH (anti-freeze alarm in circuit n° 14 heat pump mode)
Display in keyboard	From DI: Antif/lo temp.C1 (DI - HP)Antif/lo temp.C4 (DI - HP)
	From Al: Antif/lo temp.C1 (Al - HP)Antif/lo temp.C4 (Al - HP)
Cause of activation	In air/air unit, the low temperature alarm is detected. In other types of unit, antifreeze alarm is detected. It is detected both in heat pump working mode and stand-by/OFF-remote
	mode. And the circuit must be configured with compressors.
	When unit just switch on, this alarm is detected only after AL43 delay past. From DI: Antifreeze alarm circuit 14 (DI type=69). If only one DI configured, it will be used for all the 4 circuits.
	From AI: Select probes between evaporator probes(AI type=1722) by par AL48 and check:
	 If the unit is working in heat pump mode, when the selected probes value <= AL41 set for AL44 time, alarm occur.
	 If the unit is in stand-by/OFF-remote mode, chose the highest value between AL34 and AL41 as SET, when the selected probes value <= SET set for AL36/AL44 time, alarm occur.
Reset	From DI: DI deactivate From AI:
	 Unit ON: Regulation probe for anti-freeze temperature >= A41 set + AL42 differential.
	 Unit OFF: Regulation probe for anti-freeze temperature >= (AL34/AL41) set + (AL35/AL42) differential.
Reset	Automatic – becomes manual after certain number of interventions/hour (reset procedure in functions menu) This number can be:
	Heat pump: AL45Unit OFF: the minimum between AL37 and AL45
Icon	⚠ flashing
Action	If AL46=0 only the compressors are switched off. The label alarm is signalled by the alarm relay, buzzer and the heaters are not activated If AL46=1 the compressors are switched off. The label alarm is signalled and the alarm relay, buzzer are activated. If the apti frages alarm compare from DI
	the alarm relay + buzzer are activated. If the anti-freeze alarm comes from DI the anti-freeze heaters are also activated
Regulators	
Alarm	If AL46 = 1 Relay + buzzer activated + anti-freeze heaters
Reverse valve	it follows its regulation
Recovery valve	it follows its regulation
Free-cooling on/off valve	it follows its regulation
Auxiliary relay	It follows/they follow its/their regulation
Idle running valve	It follows its regulation
Supply ventilation	If air/air unit off
Condensation ventilation	It follows its regulation
Support/boiler/anti-freeze	If air/air unit off otherwise follows its regulation
Support/boiler/anti-freeze	With DI alarm activated
Pump/and water evaporator and condenser	It follows its regulation
Compressors	Off
Pump down solenoid valve	off

WARNING

Par. AL43 anti-freeze alarm delay (air/air unit low outlet air temperature) on unit start-up in heating working mode.

If in stand-by/OFF remote working, the unit has an anti-freeze alarm and the time set in the Par. AL43 is different to zero; by selecting working in heating mode from the key or digital input the anti-freeze situation is reset and the compressors can be switched-on for the time set in the Par. AL35 as the unit heats the water or the air. On expiry of the AL43 delay time, if the Pbr anti-freeze regulation probe still measures a temperature <= AL41 set for at least AL44 seconds, the unit is blocked and an anti-freeze alarm is generated.

10.11 AIR/AIR UNIT LOW TEMPERATURE ALARM & ANTI-FREEZE ALARM

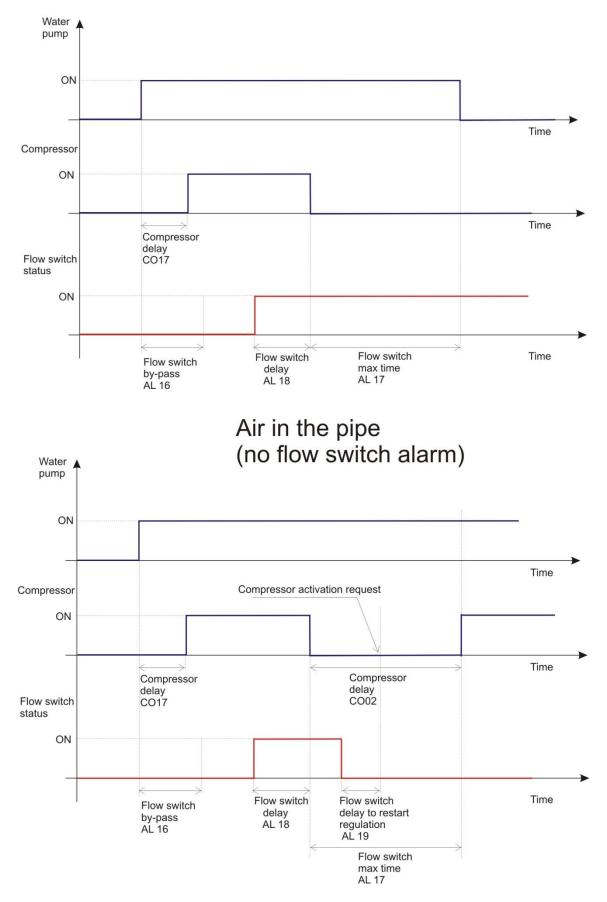
after AL43 delay past.) Select probes between condenser probes(AI type=2332) by par AL49 and check: • If the unit is working in chiller mode, when the selected probes value <= AL34 set for AL36 time, alarm occur. • If the unit is working in heat pump mode, when the selected probes value <= AL41 set for AL44 time, alarm occur. • If the unit is in stand-by/OFF-remote mode, chose the highest value between AL34 and AL41 as SET, when the selected probes value <= SET set for AL36/AL44 time, alarm occur. • Unit ON in chiller mode: Regulation probe for Pbr anti-freeze temperature >= AL34 set + AL35 differential. • Unit ON in heat pump mode: Regulation probe for anti-freeze temperature >= A41 set + AL42 differential. • Unit OFF: Regulation probe for anti-freeze temperature >= (AL34/AL41) set + (AL35/AL42) differential.	Alarm code	b1Ab4A (Low temperature/anti-freeze alarm in circuit n° 14)
antifreeze alarm is detected. It is detected both in heat pump working mode and stand-by/OFF-remote mode. And the circuit must be configured with compressors. (For heat pump mode, when unit just switch on, this alarm is detected only after AL43 delay past.) Select probes between condenser probes(AI type=2332) by par AL49 and check: • If the unit is working in chiller mode, when the selected probes value <= AL34 set for AL36 time, alarm occur. • If the unit is in stand-by/OFF-remote mode, chose the highest value between AL34 and AL41 ais SET, when the selected probes value <= SET set for AL36/AL44 time, alarm occur. • If the unit on chiller mode: Regulation probe for Pbr anti-freeze temperature >= AL34 set of AL36/AL41 time, fatam occur. • Unit ON in chiller mode: Regulation probe for anti-freeze temperature >= AL34 set + AL35 differential. • Unit ON in heat pump mode. Regulation probe for anti-freeze temperature >= AL34 set + AL35 differential. • Unit ON in heat pump mode. Regulation probe for anti-freeze temperature >= A1.34 set + AL42 differential. • Unit ON in heat pump mode. •	Display in keyboard	Antif/lo temp.C1 (AI)Antif/lo temp.C4 (AI)
mode. And the circuit must be configured with compressors. (For heat pump mode, when unit just switch on, this alarm is detected only after AL43 delay past.) Select probes between condenser probes(AI type=2332) by par AL49 and check: • If the unit is working in chiller mode, when the selected probes value <= AL34 set for AL36 time, alarm occur. • If the unit is in stand-by/OFF-remote mode, chose the highest value between AL34 and AL41 as SET, when the selected probes value <= AL41 set for AL36/AL44 time, alarm occur. • If the unit is in stand-by/OFF-remote mode, chose the highest value between AL34 and AL41 as SET, when the selected probes value <= SET set for AL36/AL44 time, alarm occur. Reset • Unit ON in chiller mode: Regulation probe for Pbr anti-freeze temperature >= AL13 set + AL43 differential. • Unit ON in heat pump mode: Regulation probe for anti-freeze temperature >= AL41 set + AL42 differential. • Unit OFF: Regulation probe for anti-freeze temperature >= (AL34/AL41) set + (AL35/AL42) differential. • Unit OFF: Regulation probe for anti-freeze temperature >= (AL34/AL41) set + (AL35/AL42) differential. • Unit OFF: Regulation probe for anti-freeze temperature >= (AL34/AL41) set + (AL35/AL42) differential. • Unit OFF: Regulation probe for anti-freeze temperature >= (AL34/AL41) set + (AL35/AL42) differential. • Unit OFF: the minimum between AL37 and AL45 Icon A flashing A the atarm relay, buzzer and the heaters are not activated if AL38 = 1 the compressors are switched off	Cause of activation	
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Select probes between condenser probes(AI type=2332) by par AL49 and check: • If the unit is working in chiller mode, when the selected probes value <= AL34 set for AL36 time, alarm occur.		(For heat pump mode, when unit just switch on, this alarm is detected only
• If the unit is working in chiller mode, when the selected probes value <= AL34 set for AL36 time, alarm occur. • If the unit is working in heat pump mode, when the selected probes value <= AL41 set for AL44 time, alarm occur. • If the unit is in stand-by/OFF-remote mode, chose the highest value between AL34 and AL41 as SET, when the selected probes value <= SET set for AL36/AL44 time, alarm occur. Reset • Unit ON in chiller mode: Regulation probe for Pbr anti-freeze temperature >= AL3 set + AL35 differential. • Unit ON in heat pump mode: Regulation probe for anti-freeze temperature >= AL34 set + AL32 differential. • Unit OFF: Regulation probe for anti-freeze temperature >= AL13/AL42) differential. • Unit OFF: Regulation probe for anti-freeze temperature >= AL3/AL42 differential. • Unit OFF: Regulation probe for anti-freeze temperature >= (AL3/AL41) set + (AL35/AL42) differential. • Unit OFF: Regulation probe for anti-freeze temperature >= (AL3/AL41) set + (AL35/AL42) differential. • Chiller: AL37 • Heat pump: AL45 • Unit OFF: the minimum between AL37 and AL45 Icon		Select probes between condenser probes(AI type=2332) by par AL49 and
<= AL41 set for AL44 time, alarm occur. • If the unit is in stand-by/OFF-remote mode, chose the highest value between AL34 and AL41 as SET, when the selected probes value <= SET set for AL36/AL44 time, alarm occur. Reset • Unit ON in chiller mode: Regulation probe for Pbr anti-freeze temperature >= AL34 set + AL35 differential. • Unit ON in heat pump mode: Regulation probe for anti-freeze temperature >= AL1 set + AL42 differential. • Unit OFF: Regulation probe for anti-freeze temperature >= AL1/AL41) set + (AL35/AL42) differential. • Unit OFF: Regulation probe for anti-freeze temperature >= AL1/AL41) set + (AL35/AL42) differential. • Unit OFF: Regulation probe for anti-freeze temperature >= (AL34/AL41) set + (AL35/AL42) differential. • Unit OFF: Regulation probe for anti-freeze temperature >= (AL34/AL41) set + (AL35/AL42) differential. Reset Automatic - becomes manual after certain number of interventions/hour (reset procedure in functions menu) This number can be: • Chiller: AL37 • Heat pump: AL45 • Unit OFF: the minimum between AL37 and AL45 Icon ▲ flashing Action If AL38 = 0 only the compressors are switched off. The label alarm is signalled and the alarm relay, buzzer and the heaters are not activated If AL38 = 1 the compressors are switched off. The label alarm is signalled and the alarm relay + buzzer are activated. If the anti-freeze heaters Reverse valve It follows its regulation Rec		• If the unit is working in chiller mode, when the selected probes value <=
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>= AL34 set + AL35 differential. • Unit ON in heat pump mode: Regulation probe for anti-freeze temperature >= A41 set + AL42 differential. • Unit OFF: Regulation probe for anti-freeze temperature >= (AL34/AL41) set + (AL35/AL42) differential. Reset Automatic – becomes manual after certain number of interventions/hour (reset procedure in functions menu) This number can be: Chiller: AL37 Heat pump: AL45 Unit OFF: the minimum between AL37 and AL45 Icon		between AL34 and AL41 as SET, when the selected probes value <= SET
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• Heat pump: AL45 • Unit OFF: the minimum between AL37 and AL45 Icon ▲ flashing Action If AL38 = 0 only the compressors are switched off. The label alarm is signalled by the alarm relay, buzzer and the heaters are not activated If AL38 = 1 the compressors are switched off. The label alarm is signalled and the alarm relay + buzzer are activated. If the anti-freeze alarm comes from DI the anti-freeze heaters are also activated Regulators If AL38 = 1 Relay + buzzer activated + anti-freeze heaters Reverse valve it follows its regulation Recovery valve it follows its regulation Free-cooling on/off valve it follows its regulation Auxiliary relay It follows its regulation Auxiliary relay It follows its regulation Supply ventilation If air/air unit off		
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Auxiliary relayIt follows/they follow its/their regulationIdle running valveIt follows its regulationSupply ventilationIf air/air unit off	Recovery valve	it follows its regulation
Idle running valve It follows its regulation Supply ventilation If air/air unit off	Free-cooling on/off valve	it follows its regulation
Idle running valve It follows its regulation Supply ventilation If air/air unit off	Auxiliary relay	
Supply ventilation If air/air unit off		

Support/boiler/anti-freeze	If air/air unit off otherwise follows its regulation
Support/boiler/anti-freeze	With DI alarm activated
Pump/and water evaporator and condenser	They follow their regulation
Compressors	Off
Pump down solenoid valve	Off

10.12 EVAPORATOR SIDE FLOW SWITCH ALARM (DIFFERENTIAL PRESSURE SWITCH)

Alarm code	AEFL (Evaporator side flow switch alarm)
Display in keyboard	Plant side flow AL
Cause of activation	Detect DI configured as Evaporator flow switch (DI type=3).
	If pumps are not managed (PA01=0), when DI active, alarm occur.
	If pumps are managed and polarity check not required (AL20=1), after a delay
	of AL16 from pump start-up, if DI keeps active for AL18, alarm occur.
	If pumps are managed and polarity check required (AL20 \neq 1), after a delay of AL16 from pump start-up, if DI still keeps the same status as that when pump
	not working for AL18, alarm occur.
Reset	DI not active. If pumps are managed, wait for time AL19 after DI deactivate.
Reset	Automatic – it becomes manual if this alarm active for time AL17 (reset procedure in functions menu)
Icon	⚠ flashing
Action	Alarm (DO type=162) + buzzer relays only activated if the flow switch alarm is
-	activated in normal working phase
Regulators	
Alarm	Relay + buzzer only activated if the flow switch alarm is activated in normal
De como el c	working phase
Reverse valve	It follows its regulation
Recovery valve	It follows its regulation
Free-cooling on/off valve	It follows its regulation
Anti-freeze/Support/boiler	Off
Auxiliary relay	It follows its regulation
Supply ventilation	Off
Condensation ventilation	It follows its regulation
Evaporator water pump	With PA1=1 always on; off when the alarm becomes manual reset
Evaporator water pump	With PA1=2 follows its regulation; off when the alarm becomes manual reset
Condenser water pump	It follows its regulation
Compressors	Off
Pump down solenoid valve	Off

Flow Switch Alarm



10.13 HOT SIDE FLOW SWITCH ALARM (DIFFERENTIAL PRESSURE SWITCH)

Alarm code	ACFL (Condenser side flow switch alarm)
Display in keyboard	Source side flow AL
Cause of activation	Not in air/air unit (CF01 \neq 0). Detect DI configured as Condenser flow switch (DI type=4): If pumps are not managed (PA17=0), when DI active, alarm occur. If pumps are managed and polarity check not required (AL26=1), after a delay of AL22 from pump start-up, if DI keeps active for AL24, alarm occur. If pumps are managed and polarity check required (AL26 \neq 1), after a delay of AL22 from pump start-up, if DI still keeps the same status as that when pump not working for AL24, alarm occur. Note: When pumps are managed, check AL21 to determine if alarm detection is available in chiller mode or heat pump mode. Alarm only enabled in chiller mode if AL21=1 Alarm only enabled in heat pump mode if AL21=3
Reset	DI not active. If pumps are managed, wait for time AL25 after DI deactivate.
Reset	Automatic – it becomes manual if this alarm active for time AL23 (reset procedure in functions menu)
Icon	⚠ flashing
Action	Relay(DO type=163) + buzzer only activated if the flow switch alarm is activated in normal working phase
Regulators	
Alarm	Relay + buzzer only activated if the flow switch alarm is activated in normal working phase
Reverse valve	It follows its regulation
Recovery valve	It follows its regulation
Free-cooling on/off valve	It follows its regulation
Anti-freeze/Support/boiler	Off
Auxiliary relay	It follows its regulation
Supply ventilation	Off
Condensation ventilation	It follows its regulation
Condenser water pump	With PA17=1 always on; off when the alarm becomes manual reset
Condenser water pump	With PA17=2 follows its regulation; off when the alarm becomes manual reset
Evaporator water pump	It follows its regulation
Compressors	Off
Pump down solenoid valve	Off

WARNING

Relay + buzzer are only activated if the flow switch alarm is activated in normal working phase.

10.14 SUPPLY FAN OVERLOAD ALARM

Alarm code	AtSF (Supply fan overload alarm)
Display in keyboard	OverI supply fan
Cause of activation	If CF01 = 0 (air/air unit), with DI Evaporator main pump / Supply fan Overload (DI type=56) active. On fan start-up, the alarm is ignored for time AL16
Reset	DI not active
Reset	Always manual
Icon	⚠ flashing
Action	Alarm relay + buzzer activated
Regulators	
Alarm	Relay + buzzer activated
Reverse valve	it follows its regulation
Recovery valve	it follows its regulation
Free-cooling on/off valve	it follows its regulation
Auxiliary relay	it follows its regulation
Idle running valve	it follows its regulation
Supply ventilation	off
Condensation ventilation	off
Support/boiler/anti-freeze	off
Evaporator and condenser water pump	off
Compressors	off
Pump down solenoid valve	off

10.15 DOMESTIC HOT WATER PUMP FLOW SWITCH ALARM

AHEL (domestic hot water pump flow switch alorm)
AHFL (domestic hot water pump flow switch alarm)
Sanitary water flow AL
(the flow switch alarm is only active with FS01 ≠ 0)
Check DI configured as Sanitary water flow switch (DI type=5).
If polarity check not required (AL20=1), after domestic hot water pump active for AL16 time, if DI active for AL18 time, alarm occur.
If polarity check required (AL20 \neq 1), after domestic hot water pump active for AL16 time, if DI still keeps the same status as that when domestic hot water pump is not working for AL18 time, alarm occur.
DI not active for the time AL19
Automatic – it becomes manual if this alarm active for time AL17 (reset procedure in functions menu)
⚠ flashing
Alarm (DO type=164) + buzzer relays only activated if the flow switch alarm is activated in normal working phase
Relay + buzzer only activated if the flow switch alarm is activated in normal working phase
Off when the alarm becomes with manual reset
Off
They follow their regulation

10.16 SOLAR PANELS WATER PUMP FLOW SWITCH ALARM

Alarm code	APFL (solar panels pump flow switch alarm)
Display in keyboard	Solar panel flow AL
Cause of activation	(the flow switch alarm is only active with FS01 \neq 0)
	Check DI configured as Solar panels flow switch (DI type=112).
	If polarity check not required (AL20=1), after solar panel pump active for AL16 time, if DI active for AL18 time, alarm occur.
	If polarity check required (AL20 \neq 1), after domestic hot water pump active for
	AL16 time, if DI still keeps the same status as that when solar panel pump is not working for AL18 time, alarm occur.
Reset	DI not active for the time AL19
Reset	Automatic – it becomes manual if this alarm active for time AL17 (reset procedure in functions menu)
Icon	⚠ flashing
Action	Alarm (DO type=165) + buzzer relays only activated if the flow switch alarm is activated in normal working phase
Regulators	
Alarm	Relay + buzzer only activated if the flow switch alarm is activated in normal working phase
Solar panels water pump	Off when the alarm becomes with manual reset
Solar coil on/off valve	Active
Other loads	They follow their regulation

10.17 COMPRESSOR OVERLOAD ALARM

Alarm code	
Alarm code	C1tr (compressor n° 1 overload alarm)C16tr (compressor n° 16 overload alarm)
Display in keyboard	C1 overlC16 overl
Cause of activation	The alarm is detected after AL27 delay from compressor switch-on. If AL30=1, the detection also enabled when compressor is off. With DI configured as Compressor 116 thermal overload (DI type=3449) active, alarm occur.
Reset	If DI not active
Reset	Always manual. If more than AL28 compressor interventions occur per hour, password is request to do reset operation. The password is set in par AL31.
Icon	▲ flashing
Action	Alarm relay (DO type=168183) + buzzer activated
Regulators	
Alarm	Relay + buzzer activated
Reverse valve	it follows its regulation
Recovery valve	it follows its regulation
Free-cooling on/off valve	it follows its regulation
Auxiliary relay	It follows its regulation
Idle running valve	It follows its regulation
Supply ventilation	It follows its regulation
Condensation ventilation	It follows its regulation
Support/boiler/anti-freeze	It follows/they follow its/their regulation
Pump/and water evaporator and condenser	It follows its regulation
Compressor affected	Always off

Compressors not affected	If Par. AL29 = 0 following their regulation If Par. AL29 = 1 off
Pump down solenoid valve	It switches-off if there is only 1 compressor per circuit, otherwise it follows its regulation

10.18 COMPRESSOR HIGH DISCHARGE TEMPERATURE ALARM FROM ANALOGUE INPUT

Alarm code	C1dtC16dt (compressor n° 116 high discharge temperature alarm)
Display in keyboard	Hi Disch temp.C1Hi Disch temp.C16
Cause of activation	The temperature measured by the probe configured as Compressor 116 PTC discharge temperature probe (AI type= 116) >= AL50 set
Reset	The temperature measured by the probe configured as Compressor 116 PTC discharge temperature probe (AI type=116) <= AL50 set - AL51 differential
Reset	Automatic - Manual. If more than AL52 interventions per hour occur. Enter the functions menu to reset the alarm
Icon	⚠ flashing
Action	Alarm relay (DO type=1)+ buzzer activated
Regulators	
Alarm	Relay + buzzer activated
Reverse valve	it follows its regulation
Recovery valve	it follows its regulation
Free-cooling on/off valve	it follows its regulation
Auxiliary relay	It follows its regulation
Idle running valve	It follows its regulation
Supply ventilation	It follows its regulation
Condensation ventilation	It follows its regulation
Support/boiler/anti-freeze	It follows/they follow its/their regulation
Pump/and water evaporator and condenser	It follows its regulation
Compressor affected	Off
Compressor not affected	It follows its regulation
Pump down solenoid valve	It switches-off if there is only 1 compressor per circuit, otherwise it follows its regulation
Liquid injection solenoid valve	Off with compressor in OFF

10.19 EVAPORATOR WATER INLET HIGH TEMPERATURE ALARM

Alarm code	AEht (evaporator water inlet high temperature alarm)
Display in keyboard	Hi temp.evap.water inlet
Cause of activation	The alarm only detect when CF01>0 (not in air/air unit) and unit is working in chiller mode.
	After compressors start-up for AL61 time, detect the probe selected by AL64. If the temperature measured by this probe $>=$ AL62 set, alarm occur.
Reset	The temperature measured by the probe configured in AL64 < AL62 set – AL63 differential
Reset	Automatic - Manual Reset is always manual if AL60 = 0 Reset is always automatic if AL60 = 60 Reset passes from automatic to manual if AL60 goes from 1 to 59
Icon	Λ flashing
Action	Alarm relay + buzzer activated
Regulators	
Alarm	Relay + buzzer activated
Compressors	Off
Other loads	It follows its regulation

WARNING:

The alarm only appears if the unit is running with compressor on after time AL61.

The alarm remains in stand-by, OFF remote or with compressor off due to temperature control only if it was present before and with MANUAL reset.

10.20 CONDENSATION FAN OVERLOAD ALARM

Alarm code	b1tFb4tF(circuit n° 14 condensation fan overload alarm)
Display in keyboard	Cond.fan overl circ1Cond.fan overl circ4
Cause of activation	b1tF: FA06=1, DI Fan Overload Circuit 1(DI type=50) active. Or FA06=2, DI
	Fan Overload Circuit 1/2 (DI type=54) active.
	b2tF : FA06=1, DI Fan Overload Circuit 2(DI type=51) active. Or FA06=2, DI
	Fan Overload Circuit 3/4 (DI type=55) active.
	b3tF : FA06=1, DI Fan Overload Circuit 3(DI type=52) active.
	b4tF : FA06=1, DI Fan Overload Circuit 4(DI type=53) active.
Reset	With DI not active
Reset	Manual
Icon	⚠ flashing
Action	Alarm relay(DO type=1) + buzzer activated
Regulators	
Alarm	Relay + buzzer activated
Reverse valve	it follows its regulation
Recovery valve	it follows its regulation
Free-cooling on/off valve	it follows its regulation
Auxiliary relay	it follows its regulation
Idle running valve	It follows its regulation
Supply ventilation	Off
Condensation ventilation	Off
Support/boiler/anti-freeze	It follows its regulation
Pump/and water evaporator	It follows its regulation
and condenser	
Compressors	Off
Pump down solenoid valve	Off

10.21 DEFROST ALARM

Alarm code	b1dFb4dF (circuit n° 14 defrost alarm)
Display in keyboard	dF AL circ1dF AL circ4
Cause of activation	In defrost only, if dF01 = 1/3, defrost should end for temperature/pressure or external contact. But actually, the defrost ends for dF05 time expired.
Reset	 If switch to chiller mode or stand-by/ON-OFF remote mode. At the next defrost cycle, the ending takes place due to temperature/pressure.
Reset	Automatic if at the next defrost cycle the ending takes place due to temperature/pressure. Manual if at the next defrost cycle the ending still takes place due dF05 time expired. (reset procedure in functions menu)
Icon	Λ flashing
Action	Alarm + buzzer relays NOT activated
Regulators	
Alarm	Relay + buzzer NOT activated
Reverse valve	It follows its regulation
Recovery valve	it follows its regulation
Free-cooling on/off valve	it follows its regulation
Auxiliary relay	It follows its regulation
Idle running valve	It follows its regulation

Supply ventilation	It follows its regulation
Condensation ventilation	It follows its regulation
Support/boiler/anti-freeze	It follows its regulation
Pump/and water evaporator and condenser	It follows its regulation
Compressors	It follows its regulation
Pump down solenoid valve	It follows its regulation

10.22 UNLOADING ALARM DUE TO HIGH CONDENSATION TEMPERATURE/PRESSURE IN COOLING WORKING MODE

(Not available)	
Alarm code	b1Cub4Cu (circuit n° 14 unloading condenser high temperature/pressure
	alarm)
Display in keyboard	Unload high t/p circ1Unload high t/p circ4
Cause of activation	When working, if the probe configured as condensation temperature or pressure control measures a value > Un11 set
Reset	 of the condensation pressure or temperature measures a value < Un11– Un12 differential By unloading function inserted after the time set Par. Un15
Reset	Automatic
Icon	▲ flashing
Action	Alarm relay + buzzer NOT activated
Regulators	
Alarm	Relay + buzzer NOT activated
Reverse valve	It follows its regulation
Recovery valve	it follows its regulation
Free-cooling on/off valve	it follows its regulation
Auxiliary relay	It follows its regulation
Idle running valve	It follows its regulation
Supply ventilation	It follows its regulation
Condensation ventilation	It follows its regulation
Support/boiler/anti-freeze	It follows its regulation
Pump/and water evaporator and condenser	It follows its regulation
Compressors	It follows its regulation
Pump down solenoid valve	It follows its regulation

10.23 HEAT RECOVERY DISABLING SIGNAL DUE TO HIGH CONDENSATION TEMPERATURE/PRESSURE IN COOLING WORKING MODE

Alarm code	b1rCb4rC (circuit n° 14 recovery disabling alarm)
Display in keyboard	Recovery dis.hi t/p C1…Recovery dis.hi t/p C4
Cause of activation	RC01=3, if the probe for disable heat recovery (configured as condensation temperature or pressure) measures a value $>=$ rC07 set, alarm occur.
Reset	 The condensation pressure or temperature probe measures a value <= rc07 set - rC08 differential Heat recovery disabling function is intervened due to Par. rC09 time expired.
Reset	Automatic
Icon	Δ flashing
Action	Alarm relay + buzzer NOT activated
Regulators	
Alarm	Relay + buzzer NOT activated
Reverse valve	It follows its regulation
Recovery valve	Off
Free-cooling on/off valve	it follows its regulation
Auxiliary relay	It follows its regulation
Idle running valve	It follows its regulation
Supply ventilation	It follows its regulation
Condensation ventilation	It follows its regulation
Support/boiler/anti-freeze	It follows its regulation
Pump/and water evaporator and condenser	It follows its regulation
Compressors	It follows its regulation
Pump down solenoid valve	It follows its regulation

10.24 UNLOADING SIGNAL DUE TO LOW EVAPORATION PRESSURE IN HEATING WORKING MODE

(Not available)	
Display label meaning	b1Eu (circuit n° 1 unloading from condenser coil signal)
	b2Eu (circuit n° 2 unloading from condenser coil signal)
	b3Eu (circuit n° 3 unloading from condenser coil signal)
	b4Eu (circuit n° 4 unloading from condenser coil signal)
Display in keyboard	Unload lo press.circ1Unload lo press.circ4
Cause of activation	When working, if the probe configured as condensation temperature, configured as pressure control or as evaporation pressure, measures a value < Un13 set
Reset	 if the condensation pressure/temperature or the evaporation pressure measures a value > Un13 + Un14 With unloading function inserted after the time set Par. Un15
Reset	Automatic
lcon	⚠ flashing
Action	Alarm relay + buzzer NOT activated
Regulators	
Alarm	Relay + buzzer NOT activated
Reverse valve	It follows its regulation
Recovery valve	it follows its regulation
Free-cooling on/off valve	it follows its regulation
Auxiliary relay	It follows its regulation
Idle running valve	It follows its regulation

Supply ventilation	It follows its regulation
Condensation ventilation	It follows its regulation
Support/boiler/anti-freeze	It follows its regulation
Pump/and water evaporator and condenser	It follows its regulation
Compressors	It follows its regulation
Pump down solenoid valve	It follows its regulation

10.25 UNLOADING SIGNAL DUE TO EVAPORATOR WATER INLET HIGH TEMPERATURE

(Not available)	
Alarm code	AEun (unloading signal from evaporator)
Display in keyboard	Unload notify (evap.)
Cause of activation	In working mode if the evaporator water inlet temperature measured > Un1 set for the time set in the Par. Un3
Reset	 if the water temperature measured < Un1 set – Un2 differential By unloading function inserted after the time set Par. Un4
Reset	Automatic
Icon	⚠ flashing
Action	Alarm relay + buzzer NOT activated
Regulators	
Alarm	Relay + buzzer NOT activated
Reverse valve	It follows its regulation
Recovery valve	it follows its regulation
Free-cooling on/off valve	it follows its regulation
Auxiliary relay	It follows its regulation
Idle running valve	It follows its regulation
Supply ventilation	It follows its regulation
Condensation ventilation	It follows its regulation
Support/boiler/anti-freeze	It follows its regulation
Pump/and water evaporator and condenser	It follows its regulation
Compressors	It follows its regulation
Pump down solenoid valve	It follows its regulation

10.26 PUMP DOWN ALARM WITH LOW PRESSURE PRESSURE SWITCH/TRANSDUCER IN STOPPING

Alarm code	b1PHb4PH (pump-down alarm in circuit n° 14 in stopping)
Display in keyboard	Pump down at stop circ1Pump down at stop circ4
Cause of activation	 With Pd1 ≠ 0, pump-down when compressor stopping: Pressure switch DI configured: with DI configured as Circuit 14 pump down pressure switch (DI type = 85-88) or Low pressure switch circuit 14 (DI type = 14-17) not active and the pump-down ends by time Pd4. Transducer configured: the probe configured as Circuit 14 evaporating pressure probe (4÷20 mA / 0÷ 5 Volt) (AI type = 56-59) measures the value >= set Pd02 + Pd03 differential and the pump-down ends by time Pd04.
Reset	The circuit has compressor running. User push RESET key from the keyboard.
Reset	Always manual reset
Icon	⚠ flashing
Action	Alarm relay + buzzer activated only when the alarm becomes manual reset
Regulators	
Alarm	Relay + buzzer activated only when the alarm becomes manual reset
Reverse valve	It follows its regulation
Recovery valve	it follows its regulation
Free-cooling on/off valve	it follows its regulation
Auxiliary relay	It follows its regulation
Idle running valve	It follows its regulation
Supply ventilation	It follows its regulation
Condensation ventilation	It follows its regulation
Support/boiler/anti-freeze	It follows its regulation
Pump/and water evaporator and condenser	It follows its regulation
Compressors	Off with manual reset alarm
Pump down solenoid valve	It follows its regulation

10.27 PUMP DOWN ALARM WITH LOW PRESSURE TRANSDUCER IN START-UP

Alarm code	b1PLb4PL (pump-down alarm in circuit n° 14 in start-up)
Display in keyboard	Pump down at start circ1Pump down at start circ4
Cause of activation	With Pd1 ≠ 0 , pump-down when compressor start-up:
	 Pressure switch DI configured: with DI configured as Circuit 14 pump down pressure switch (DI type = 85-88) or Low pressure switch circuit 14 (DI type = 14-17) keeps active and the pump-down ends by time Pd4. Transducer configured: the probe configured as Circuit 14 evaporating pressure probe (4÷20 mA / 0÷ 5 Volt) (AI type = 56-59) measures the value <= set Pd02 and the pump-down ends by time Pd04.
Reset	DI deactivate or probe value > set Pd02
Reset	Automatic/becomes manual after Pd8 interventions per hour if Pd9 =1 (reset procedure in functions menu) If Pd9 = 0 it remains with automatic reset. It is recorded in the historical alarms only with manual reset
lcon	⚠ flashing
Action	Alarm relay + buzzer activated only when the alarm becomes manual reset
Regulators	
Alarm	Relay + buzzer activated only when the alarm becomes manual reset

Reverse valve	It follows its regulation
Recovery valve	it follows its regulation
Free-cooling on/off valve	it follows its regulation
Auxiliary relay	It follows its regulation
Idle running valve	It follows its regulation
Supply ventilation	It follows its regulation
Condensation ventilation	It follows its regulation
Support/boiler/anti-freeze	It follows its regulation
Pump/and water evaporator and condenser	It follows its regulation
Compressors	Off with manual reset alarm
Pump down solenoid valve	It follows its regulation

10.28 EVAPORATOR WATER PUMP OVERLOAD ALARM

Alarm code	AtE1 (evaporator n° 1 water pump overload alarm)
	AtE2 (evaporator support n° 2 water pump overload alarm)
Display in keyboard	Evap.pump 1 overl
. , ,	Evap.pump 2 overl
Cause of activation	DI configured as Evaporator main pump / Supply fan Overload (DI type=56) active and par CF01 \neq 0.
	DI configured as Evaporator support pump Overload (DI type=57) active.
Reset	With DI not active
Reset	Manual. (reset procedure in functions menu)
Icon	⚠ flashing
Action	Alarm relay (DO type=1)+ buzzer activated
Regulators	
Alarm	Relay + buzzer activated
Reverse valve	It follows its regulation
Recovery valve	it follows its regulation
Free-cooling on/off valve	it follows its regulation
Auxiliary relay	it follows its regulation
Idle running valve	It follows its regulation
Supply ventilation	Off if no pump is available
Condensation ventilation	Off if no pump is available
Support/boiler/anti-freeze	It follows its regulation
Evaporator water pump	Off if pump is available
Condenser water pump	It follows its regulation
Compressors	Off if pump is available
Pump down solenoid valve	Off if pump is available

10.29 CONDENSER WATER PUMPING OVERLOAD ALARM

Alarm code	AtC1 (condenser n° 1 water pump overload alarm)
	AtC2 (condenser support n° 2 water pump overload alarm)
Display in keyboard	Cond.pump 1 overl
	Cond.pump 2 overl
Cause of activation	DI configured as Condenser main pump Overload (AI type=58) active.
	DI configured as Condenser support pump Overload (AI type=59) active.
Reset	With DI not active
Reset	Manual.
Icon	▲ flashing
Action	Alarm relay (DO type=1) + buzzer activated
Regulators	
Alarm	Relay + buzzer activated
Reverse valve	It follows its regulation
Recovery valve	it follows its regulation
Free-cooling on/off valve	it follows its regulation
Auxiliary relay	it follows its regulation
Idle running valve	It follows its regulation
Supply ventilation	Off if no pump is available
Condensation ventilation	Off if no pump is available
Support/boiler/anti-freeze	It follows its regulation
Evaporator water pump	It follows its regulation
Condenser water pump	Off if no pump is available
Compressors	Off if no pump is available
Pump down solenoid valve	Off if no pump is available

10.30 GENERIC ALARM 1

Alarm code	ALc1 (Generic alarm 1)
Display in keyboard	Generic AL1
Cause of activation	DI configured as Generic alarm 1 digital input (DI type=89) active for the time set in the Par AL54
Reset	DI configured as Generic alarm 1 digital input (DI type=89) not active for the time set in the Par AL55
Reset	Automatic – becomes manual after AL53 interventions/hour. It is recorded in the historical alarms only with manual reset
Icon	Λ flashing
Action	Alarm relay (DO type=166) + buzzer activated
Regulators	
Alarm	Relay + buzzer activated
Other loads	Off

10.31 GENERIC ALARM 2

Alarm code	ALc2 (Generic alarm 2)
Display in keyboard	Generic AL2
Cause of activation	DI configured as Generic alarm 2 digital input (DI type=90) active for the time set in the Par AL58
Reset	DI configured as Generic alarm 2 digital input (DI type=90) not active for the time set in the Par AL59
Reset	If AL56=0, always automatic. If AL56=1, automatic-manual. It becomes manual after AL57 interventions/hour.
Icon	⚠ flashing
Action	Alarm relay (DO type=167) + buzzer activated
Regulators	
Alarm	Relay + buzzer activated
Other loads	Off

10.32 COMPRESSORS MAINTENANCE ALARM

Alarm code	C1MnC16Mn (compresser n° 116 maintenance request)
Display in keyboard	C1 maint reqC16 maint req.
Cause of activation	Compressor is configured and its working hours > timer set by CO53
Reset	Reset working hours (from keyboard)
Reset	Automatic (after the hours reset)
Icon	Λ flashing
Action	Alarm relay + buzzer activated
Regulators	
Alarm	Relay(DO type=1) + buzzer activated
Other loads	They follow their regulation

10.33 EVAPORATOR FAN/ PUMPS MAINTENANCE ALARM

Alarm code	AEP1 (evaporator n° 1 water pump maintenance request)
	AEP2 (evaporator support n° 2 water pump maintenance request)
Display in keyboard	Evap.pump 1 maint
	Evap.pump 2 maint
Cause of activation	Water/fan pump working hours >= timer set PA13
	Water support pump working hours >= timer set PA14
Reset	Reset working hours (From keyboard)
Reset	Automatic (after the hours reset)
Icon	Λ flashing
Action	Alarm relay (DO type=1) + buzzer activated
Regulators	
Alarm	Relay + buzzer activated
Other loads	They follow their regulation

10.34 CONDENSER PUMPS MAINTENANCE ALARM

Alarm code	ACP1 (condenser n° 1 water pump maintenance request)
	ACP2 (condenser n° 2 water pump maintenance request)
Display in keyboard	Cond.pump 1 maint
	Cond.pump 2 maint
Cause of activation	Condenser water pump 1 working hours >= timer set PA29
	Condenser water pump 2 working hours >= timer set PA30
Reset	Reset working hours (in functions menu)
Reset	Automatic (after the hours reset)
lcon	Λ flashing
Action	Alarm relay (DO type=1) + buzzer activated
Regulators	
Alarm	Relay + buzzer activated
Other loads	They follow their regulation

10.35 POWER SUPPLY FREQUENCY ALARM

Alarm code	AFr (power supply frequency alarm)
Display in keyboard	Power supply freq.AL
Cause of activation	If relay Circuit 1 ON/OFF Fan 2nd step (DO type=15) and Circuit 1 ON/OFF Fan 3rdstep (DO type=16) all not configured, this alarm will never occur. Otherwise, if SP13 \neq 2 and power supply frequency is different from that configured in the Par SP13, alarm occurs.
Reset	SP13 = 2, frequency control disabled. Or power supply frequency is the same as that configured in the Par SP13.
Reset	Automatic
Icon	⚠ flashing
Action	Alarm relay (DO type=1) + buzzer activated
Regulators	
Alarm	Relay + buzzer activated
Other loads	Off

10.36 XEV20D NOT CONNECT ALARM

Alarm code	AET1AET4 (XEV20D 1 XEV20D 4 not connect alarm)
Display in keyboard	V1 disconV4 discon
Cause of activation	AET1: Et09+Et10>0, XEV20D 1 lose communication by can bus.
	AET2: Et11+Et12>0, XEV20D 2 lose communication by can bus.
	AET3: Et13+Et14>0, XEV20D 3 lose communication by can bus.
	AET4: Et15+Et16>0, XEV20D 4 lose communication by can bus.
Reset	Et09Et16=0 or XEV20D communication is recovered.
Reset	Automatic
Icon	▲ flashing
Action	Alarm relay (DO type=1) + buzzer activated
Regulators	
Alarm	Relay + buzzer activated
Compressors	Off

10.37 EXPANSION MOUDLE NOT CONNECT ALARM

Alarm code	AEM1 AEM4 (IPROEX60D 1 IPROEX60D 4 not connect alarm)
Display in keyboard	E1 disconE4 discon
Cause of activation	The expansion IPROEX60D IO (AI/DI/AO/DO) is used and lose communication by can bus.
Reset	IPROEX60D IO is disabled or communication is recovered.
Reset	Automatic
Icon	⚠ flashing
Action	Alarm relay (DO type=1) + buzzer activated
Regulators	
Alarm	Relay + buzzer activated
Other loads	Off

10.38 PHASES SEQUENCE ALARM

Alarm code	APS (Phases sequence alarm)
Display in keyboard	Phases sequ AL
Cause of activation	Digital input Phase sequence relay (DI type=113) active.
Reset	Digital input Phase sequence relay deactivate.
Reset	Manual
lcon	▲ flashing
Action	Alarm relay (DO type=153) + buzzer activated
Regulators	
Alarm	Relay + buzzer activated
Other loads	Off

10.39 ANTI-FREEZE ALARM IN FREE-COOLING

Alarm code	AFFC (Anti-freeze alarm in free-cooling)
Display in keyboard	Antif AL FC
Cause of activation	FC01 = 4, During free-cooling working if External air temperature NTC temperature probe (free-cooling) (AI type=34) value <= set FC07 for FC24 times. AFFC alarm will be signal after a delay of AL67.
Reset	External air temperature >= set FC07 + differential FC08.
Reset	Automatic – becomes manual after AL68 interventions/hour.
Icon	▲ flashing
Action	Alarm relay (DO type=1) + buzzer activated
Regulators	
Alarm	Relay + buzzer activated
Other loads	Follow their regulation

10.40 BOILER OVERLOAD ALARM

Alarm code	Atrb (Boiler overload alarm)
Display in keyboard	Boiler overl AL
Cause of activation	Digital input Thermal heaters (DI type=114) active.
Reset	Digital input Thermal heaters deactivate.
Reset	Automatic – becomes manual after AL70 interventions/hour.
lcon	⚠ flashing
Action	Alarm relay (DO type=1) + buzzer activated
Regulators	
Alarm	Relay + buzzer activated
Auxiliary heaters	Off
Compressor	If AH01=1, compressor working should affected by auxiliary heating request. But when this Atrb alarm occur and AL69=1, compressor will not be affected.
Other loads	Follow their regulation

10.41 BOILER LOCK ALARM

Alarm code	ALcb (Boiler lock alarm)	
Display in keyboard	Boiler lock AL	
Cause of activation	Digital input Block heaters (DI type=115) active.	
Reset	Digital input Block heaters deactivate.	
Reset	Automatic – becomes manual after AL71 interventions/hour.	
lcon	▲ flashing	
Action	Alarm relay (DO type=1) + buzzer activated	
Regulators	Regulators	
Alarm	Relay + buzzer activated	
Auxiliary heaters	Off	
Compressor	If AH01=1, compressor working should affected by auxiliary heating request. But when this Atrb alarm occur and AL69=1, compressor will not be affected.	
Other loads	Follow their regulation	

10.42 UNIT CONFIGURATION

Alarm code	ACF1
	If defrost is enabled (dF01 \neq 0)
	• dF26=0 (0=Defrosting cycle start in unit independently) and dF27 \neq 0
	(0=Defrosting cycle end in unit independently).
	• dF26=2 (2 = if at least one has reached the request for defrosting to start)
	and dF27 \neq 1 (1=if both have reached the defrost end status).
	 If more than one circuit is configured, FA06=0 and dF33=0 and
	dF26/dF27=0. Set par AH16=1(1=Enable the auxiliary heater in defrost) and dF32=1 (1=
	Supply fan doesn't work during defrost).
	ACF2
	 Unit configured as ON/OFF or proportional control of the condensation fan (FA01=2/3/4), but the relevant probes and circuits are not configured. (It should has: FA06=1(separate condensation), 1 probe per circuit. FA06=0 (unique condensation), at least 1 probe. FA06=2 (Circuit couple unique condensation), at least 1 probe and 1 circuit per couple.)
	 In case of fan with step regulation (FA01=2/3), any one of the following rules is not respected: FA10 < FA11 < FA25 < FA26.
	FA19 < FA20 < FA29 < FA30.
	FA35 < FA36 < FA41 < FA42. In addition, make sure the step band <= step n set point – setp n-1 set point. For
	example: FA12 <= FA11-FA10.
	 In the case of proportional regulation (FA01=4) with chiller enabled (CF02 =1/3), at least one of the following rules is not respected: FA10 + FA12 + FA13 < FA11 FA13 < FA14
	 In the case of proportional regulation (FA01=4) with heating enabled (CF02=2/3) at least one of the following rules is not respected: FA19 + FA22 + FA21 < FA20 FA22 < FA23
	 In the case of proportional regulation (FA01=4) with heating enabled (CF02=2/3) and dF33=2 at least one of the following rules is not respected: FA35 + FA38 + FA37 < FA36 FA38 < FA39
	 If heat pump is enabled (CF02=2/3) and defrost enabled (dF>0), but the relevant condensating/evaporating probes are not configured. If PWM regulation is enabled (OUT5 and/or OUT6 configured as PWM output) continuous power supply has been selected (SP13 = 2)
	ACF3
	• Two digital/analogue inputs configured with the same function.
	 If a compressor is configured, but relative compressor relays (Compressor 116 Direct start-up relay) are not configured.
	 If a compressor is not configured, but configured relative resources. Such as Discharge PTC probe and DI Compressor discharge thermostat and DI
	 Compressor thermal overload and DI Oil pressure/level switch compressor. If a circuit is not configured, but configured relative resources. For example,
	for circuit1, configured probes which AI types are 36, 48, 52 and 56. Configured DI which DI types are 6, 10, 14 and 85.
	 If FA06=0 (Unique condensation), configure redundant DI for fan overload (DI type=51-55).
	 If FA06=1 (Separate condensation), configure redundant DI for fan overload (DI type=54/55).
	If FA06=2 (Circuit couple unique condensation), configure redundant DI for fan
	overload (DI type=50-53).

 ACF4 SP09 = 1 and DI Remote cooling/heating (DI type=2) not configured or SP09 = 2 and no NTC probe configured as external air temperature (AI type=35) CF04 ≠ 0, but no condensing unit digital input (DI type=93111) configured. CF04 ≠ 0, besides DI Cooling/Heating demand digital input (DI type=93), also configured one DI as Cooling demand digital input (DI type=94) or Heating demand digital input (DI type=95). CF04 ≠ 0 and DI cooling/heating capacity request (DI type=96111) configured incongruently with the configuration of the compressors/unloaders steps (see par CF05-CF12).
 ACF5 For circuits n° 2/3/4, if a circuit is not configured, but relative resources have been configured (pump down relay, heaters, outdoor fans) If Pd01>0 and relays are configured as Circuit 14 pump down solenoid valve (DO type=3033) Anti-freeze heaters enabled and relays are configured as Antifreeze heaters / support / boiler 14 step (DO type=47) FA01=4, FA06=1, and AO is configured as 0÷10V/4÷20mA proportional output for circuit n° 1 fan speed control (AO type=14 or 1821) FA01>0, FA06=1, and relays are configured as fan steps (DO type=1429).
 ACF6 If SL01=0 and the total number of compressor power steps in the 4 circuits (set by CF05CF12) is > 40. Compressor 916 is configured with more than 1 steps (CF09CF12>0). ACF7 If the pump down function is enabled (Pd01>0), but in at least one configured circuit: The relevant solenoid valve relay (DO type=3033) is not configured. Pump down pressure switch (DI type=8588) and circuit evaporating pressure transducer (AI type=5659) are all not configured, and if the pump down is enabled also at start (Pd01=2/4) even the low pressure
If at least one pump-down solenoid valve has been configured, but the pump- down solenoid valve does not correspond with the circuits configuration. For example, if circuit 2 is configured, but pump-down solenoid valve 2 does not exist.

ACF8
One or more compressors have been configured using parameters CF05 and CF08 but the relevant main relays are not configured: For compressor 1 to 8:
 Intermittent valve relay (DO type=5259) not configured when enabled by ON/OFF times (CO10 and CO11) ≠ 0 or vice versa (relay configured but function is not enabled). No unloader (e.g. for comp. 1, DO type=79) and no gas by-pass
(e.g. for comp.1, DO type=83) configured when by-pass time (CO15) is $\neq 0$ or vice versa (relay configured but function is not enabled).
 If CO12=0, compressor in direct start mode, but configured part- winding/star-delta start-up relays (e.g. for comp.1, DO type=77, 78). If CO12=1, compressor in part winding start mode, but relay for part
 In CO12=1, compression in part winding start mode, but relay for part winding start-up is not configured. (e.g. for comp.1, DO type=77). Or configured redundant relay as star-delta (e.g. for comp.1, DO type=78).
 If CO12=2, compressor in Star-delta start mode, but relevant relays are not configured (e.g. for comp.1, DO type=77, 78).
 No full match between relays configuration and unloaders defined on parameters CF09 – CF12.
For compressor 9 to 16: No direct start-up relays configured (e.g. for comp.9, DO type=140). For auxiliary heating, if it is disabled (AH01=0), but relevant resource are configured or vice versa (resource not configured but function is enabled). Such as DI for heater (DI type=114/115), relay Auxiliary heating 14 step (DO type=188191), AO modulating auxiliary heating (AO type=15/32).
ACF9
evaporator pumps
 defined (PA01 ≠ 0) but no relay (DO type=2 and 3) is configured not defined (PA01 = 0) but a relay is configured
 condenser pump defined (PA17 ≠ 0) but no relay (DO type=8 and 9) is configured not defined (PA17 = ≠ 0) but a relay is configured
 Pump rotation PA05>=3, rotation at working hours, but hours set point PA07=0. PA21>=3, rotation at working hours, but hours set point PA23=0. Evaporator pump for anti-freeze configuration alarm
 if PA09 = 2 and PA10 = 0 if PA09 = 2 and PA10 ≠ 0, but no probes selected by PA10 are configured for managing the function
 Condenser pump for anti-freeze configuration alarm if PA25 = 2 and PA26 = 0 if PA25 = 2 and PA26 ≠ 0, but no probes selected by PA26 are configured for managing
ACF10 If CF04=0 (not condensation unit), no temperature control probe (in chiller mode ST09, in heat pump mode ST10) is configured correctly (it does not exist or is not NTC).

ACF11
Heat recovery enabled but
Not all resources needed are defined in a circuit (condensing probe, heat
recovery request d.i. heat recovery relay).
If rC01=3, condensing probe not configured (AI type=4855).
If $rC01\neq3$, DI heat recovery request not configured (DI type=6063).
 Free cooling or domestic hot water is enabled (FC01≠0 or FS01≠0).
ACF12
At least one inverter exist in the unit:
• Unit configured as Moto-condensing unit (CF04=1) or not using
proportional temperature regulation (ST11≠0).
• For the compressor with inverter, no relevant resource configured. Such
as compressor modulating output (AO type=1114 or 2831),
compressor direct start-up relay (e.g. for comp1, DO type=76).
For relay Management VI valve 14 (DO type=193) and Management VI valve
16 (DO type=195), one relay is configured while another one is not configured.
ACF13
One of 16 compressors weight is different to 0. Parameters CO19CO34 are
not all set to 0.
ACF14
The temperature control has been configured on two circuits (ST12 = 1) but:
• the second circuit is not configured or circuits 3 or 4 are configured
 free cooling or recovery or domestic hot water are enabled (FC01≠0 or
rC01≠0 or FS01≠0)
ACF15
Free cooling enabled but:
If FC01=1/2/3:
• the on/off valve (DO type=38) and the damper proportional output (AO
type=5 and 22) are not defined
• the evaporator water inlet (AI type=17) not configured
• if CF01≠0, system water inlet temperature probe not configured (AI
type=33)
• 2 external air temperature probes are all not configured (AI type=34 and
35) If FC01=4, any resource below is not configured:
 system water inlet temperature probe (AI type=33)
 external air temperature probe (Al type=33)
 external air temperature probe (Al type=34) external air temperature probe (Al type=35)
 on/off valve (DO type=38) and ON/OFF fan (DO type=39)
 free-cooling mixer valve (AO type=5 or 22)
ACF16
Production of domestic hot water enabled (FS01≠0) but:
• the unit is configured as air/air $(CF01 = 0)$
• the domestic hot water pump outlet relay (DO type=75) or domestic hot
water valve 1(DO type=68) are not defined
 the domestic hot water regulation probe 1(AI type=44) is not defined
 FS01=2 and PA01=2 and FS49=0

	ACF17
	 one or more pressure probes defined on a XEV20D module which is not configured by parameters Et09 – Et16 when SP01 <=1 and Et02≠3 or when SP01>=2 and Et02≠4, configured XEV20D probes as pressure type.
	 ACF18 If stepless compressor is enabled (SL01≠0): SL06>=SL07*10 ST11 ≠ 2 (2=neutral zone regulation) In one circuit, more than one compressor is configured (CF05CF08> 1) compressor is configured but relevant relay Compressor 14 intermittent valve is not configured (DO type=5255).
	ACF19 Probe selected by Un05 is not configured.
	Probe selected by Un10 is not configured.
Display in keyboard	Conf AL1Conf AL19
Cause of activation	Incorrect programming
Reset	Correct programming
Reset	Automatic
lcon	⚠ flashing
Action	Alarm relay (DO type=1) + buzzer activated
Regulators	
Alarm	Relay + buzzer activated
Other loads	Off

10.43 FUNCTION NOT AVAILABLE ALARM

Alarm code	AfnA (Function not available alarm)
Display in keyboard	Func.not available
Cause of activation	Incorrect parameter configuration, enabled some function that not available yet. • Set ST11 >2 • Set DP05-DP08 value >0 • Set SP02 =6 • Set C019-CO34 value >0 • If CO12=2 (Star-delta start-up), relay Star-delta relay is no configured on board, they are configured in expansion IO board. • If SL01≠0(stepless compressor enabled) • CO09=1/3. • No relays configured as Compressor 14 Unloader 1(DO type=79,87,95,103) • Relays (Screw) Compressor 14 intermittent valve (DO type=52-55) are not configured on board, they are configured in expansion IO board. • Relays Compressor 14 Unloader 2(DO type=80,88,96,104) are not configured on board, they are configured in expansion IO board.
Reset	Correct programming
Reset	Automatic
Icon	Δ flashing

Action	Alarm relay (DO type=1) + buzzer activated						
Regulators							
Alarm	Relay + buzzer activated						
Other loads	Off						

10.44 NOTE: ALARM RELAY AND BUZZER

The alarm relay working is enabled with at least one relay configured as alarm Alarm relay/buzzer outlet

ON if	 In the presence of active alarms In the presence of alarms not resettled
OFF if	1. In absence of alarms
	2. In stand-by or ON - remote OFF if AL65=1
	3. (buzzer) pressing one of the keys even in the presence of non-resettable alarms

11. NO VOLTAGE

On restore:

- 1. the device goes to the status preceding the power cut.
- 2. If a defrost cycle is progress the cycle is rested.
- 3. All timings in progress are annulled and re-initialised.
- 4. If a manual reset alarm is present, the alarm status is maintained until the key is used to restore conditions.

12. AUTOMATIC TO MANUAL RESRT ALARMS DIAGNOSTICS

N° OCCURRENCES PER HOUR

The observation interval is a time window. The length is one hour. It is divided into 60 intervals, 1 minute each.

This time window is slidable, it always cover the latest hour. See graph below:

1°Int 2°Int 3°In	4°Int 5°Ir	t 6°Int	7°Int	8°Int	9°Int	10°Int	 55°Int	56°Int	57°Int	58°Int 5	59°Int
↑ .											Ţ

During one interval (1 minute), if the alarm is active, this interval will be marked as "active". Then count all "active" intervals number of the latest hour.

If the total number does not exceeds the threshold set, it means this alarm is not frequently occur. Once it became not active, it will disappear immediately.

For example: See graph below (assume threshold set = 5. Active alarms are marked with ACT): The total number of active intervals is 3. It is less than 5. So this alarm is automatic reset.

1°I	2°Int	3°Int	4°Int	5°Int	6°Int	7°Int	8°Int	9°Int	10°Int	 55	56°Int	57°Int	58°Int	59°Int
	ACT	ACT	ACT											
1														

If the total number exceeds the threshold set, it means this alarm occurs very frequent. There maybe some serious situation lies in the unit. So even when this alarm becomes not active, it does not disappear. It will becomes "Resettable". Only by pressing a "RST" key in the keyboard can cancel this alarm.

For example: See graph below (assume threshold set = 5. Active alarms are marked with ACT):

The total number of active intervals is 7. It exceeds 5. So this alarm becomes to manual reset.

1°	2°Int	3°Int	4°Int	5°Int	6°Int	7°Int	8°Int	9°Int	10°Int	 55	56°Int	57°Int	58°Int	59°Int
	ACT	ACT	ACT			ACT	ACT	ACT	ACT					
↑														↓

13. OUTPUTS BLOCK TABLE

The alarm codes and signals are made up from letters and numbers that identify the different types.

13.1 CIRCUIT "A" OUTPUTS ALARM BLOCK TABLE

Code	Alarm description	Comp.	Heaters	Heaters	Flow	Cond.	Cond.	Auxiliary
Alarm	-	-	Anti-	support	fan	pump	ventil.	relay
			freeze		evap.		Cir1	_
			boiler		pump		Cir2	
AP1	PB1 probe	Yes	Yes (1)	Yes			Yes	Yes (2)
AP2	PB2 probe	Yes	Yes (1)	Yes			Yes	Yes (2)
AP3	PB3 probe	Yes	Yes (1)	Yes			Yes	Yes (2)
AP4	PB4 probe	Yes	Yes (1)	Yes			Yes	Yes (2)
AP5	PB5 probe	Yes	Yes (1)	Yes			Yes	Yes (2)
AP6	PB6 probe	Yes	Yes (1)	Yes			Yes	Yes (2)
AP7	PB7 probe	Yes	Yes (1)	Yes			Yes	Yes (2)
AP8	PB8 probe	Yes	Yes (1)	Yes			Yes	Yes (2)
AP9	PB9 probe	Yes	Yes (1)	Yes			Yes	Yes (2)
AP10	PB10 probe	Yes	Yes (1)	Yes			Yes	Yes (2)
AP11	Expansion1 probe1	Yes	Yes (1)	Yes			Yes	Yes (2)
AP12	Expansion1 probe2	Yes	Yes (1)	Yes			Yes	Yes (2)
AP13	Expansion1 probe3	Yes	Yes (1)	Yes			Yes	Yes (2)
AP14	Expansion1 probe4	Yes	Yes (1)	Yes			Yes	Yes (2)
AP15	Expansion1 probe5	Yes	Yes (1)	Yes			Yes	Yes (2)
AP16	Expansion1 probe6	Yes	Yes (1)	Yes			Yes	Yes (2)
AP17	Expansion1 probe7	Yes	Yes (1)	Yes			Yes	Yes (2)
AP18	Expansion2 probe1	Yes	Yes (1)	Yes			Yes	Yes (2)
AP19 AP20	Expansion2 probe2	Yes	Yes (1) Yes (1)	Yes			Yes	Yes (2)
AP20 AP21	Expansion2 probe3	Yes	Yes (1)	Yes Yes			Yes Yes	Yes (2)
AP21 AP22	Expansion2 probe4 Expansion2 probe5	Yes Yes	Yes (1)	Yes			Yes	Yes (2) Yes (2)
AP22 AP23	Expansion2 probe6	Yes	Yes (1)	Yes			Yes	Yes (2)
AP23 AP24	Expansion2 probe7	Yes	Yes (1)	Yes			Yes	Yes (2)
AP25	Expansion3 probe1	Yes	Yes (1)	Yes			Yes	Yes (2)
AP26	Expansion3 probe2	Yes	Yes (1)	Yes			Yes	Yes (2)
AP27	Expansion3 probe3	Yes	Yes (1)	Yes			Yes	Yes (2)
AP28	Expansion3 probe4	Yes	Yes (1)	Yes			Yes	Yes (2)
AP29	Expansion3 probe5	Yes	Yes (1)	Yes			Yes	Yes (2)
AP30	Expansion3 probe6	Yes	Yes (1)	Yes			Yes	Yes (2)
AP31	Expansion3 probe7	Yes	Yes (1)	Yes			Yes	Yes (2)
AP32	Expansion4 probe1	Yes	Yes (1)	Yes			Yes	Yes (2)
AP33	Expansion4 probe2	Yes	Yes (1)	Yes			Yes	Yes (2)
AP34	Expansion4 probe3	Yes	Yes (1)	Yes			Yes	Yes (2)
AP35	Expansion4 probe4	Yes	Yes (1)	Yes			Yes	Yes (2)
AP36	Expansion4 probe5	Yes	Yes (1)	Yes			Yes	Yes (2)
AP37	Expansion4 probe6	Yes	Yes (1)	Yes			Yes	Yes (2)
AP38	Expansion4 probe7	Yes	Yes (1)	Yes			Yes	Yes (2)
AP39	XEV20D 1 probe1	Yes	Yes (1)	Yes			Yes	Yes (2)
AP40	XEV20D 1 probe2	Yes	Yes (1)	Yes			Yes	Yes (2)
AP41	XEV20D 1 probe3	Yes	Yes (1)	Yes			Yes	Yes (2)
AP42	XEV20D 1 probe4	Yes	Yes (1)	Yes			Yes	Yes (2)
AP43	XEV20D 2 probe1	Yes	Yes (1)	Yes			Yes	Yes (2)
AP44	XEV20D 2 probe2	Yes	Yes (1)	Yes			Yes	Yes (2)
AP45	XEV20D 2 probe3	Yes	Yes (1)	Yes			Yes	Yes (2)
AP46	XEV20D 2 probe4	Yes	Yes (1)	Yes			Yes	Yes (2)
AP47	XEV20D 3 probe1	Yes	Yes (1)	Yes			Yes	Yes (2)
AP48	XEV20D 3 probe2	Yes	Yes (1)	Yes			Yes	Yes (2)

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202/205

AP49 AP50		Yes	Yes (1)	Yes	1		Yes	Yes (2)
	XEV20D 3 probe3 XEV20D 3 probe4	Yes	Yes (1)	Yes			Yes	Yes (2)
AP51	XEV20D 4 probe1	Yes	Yes (1)	Yes			Yes	Yes (2)
AP52	XEV20D 4 probe2	Yes	Yes (1)	Yes			Yes	Yes (2)
AP53	XEV20D 4 probe3	Yes	Yes (1)	Yes			Yes	Yes (2)
AP54	XEV20D 4 probe4	Yes	Yes (1)	Yes			Yes	Yes (2)
AEFL	Evaporator flow switch		Yes) (a.a. (2)		Maria	
	alarm	Yes	(boiler)		Yes (3)		Yes	
ACFL	Condenser flow switch alarm	Yes				Yes (3)	Yes	
AtSF	Supply fan circuit breaker alarm	Yes		Yes	Yes		Yes	
AEUn	Evaporator unloading signalling							
AtE1	Evaporator n° 1 water pump circuit breaker	Yes (4)	Yes (boiler) (5)		Yes		Yes	
AtE2	Support evaporator n° 2 water pump circuit breaker	Yes (4)	Yes (boiler) (5)		Yes		Yes	
AtC1	Condenser n° 1 water pump circuit breaker	Yes (4)				Yes	Yes	
AtC2	Support condenser n° 2 water pump circuit breaker	Yes (4)				Yes	Yes	
AEP1	Evaporator n° 1 water pump maintenance							
AEP2	Support evaporator n° 2 water pump maintenance							
ACP1	Condenser n° 1 water pump maintenance							
ACP2	Support condenser n° 2 water pump maintenance							
AHFL	Domestic hot water pump flow switch alarm							
APFL	Solar panels pump flow switch alarm							
AEht	Evaporator water inlet high temperature alarm	Yes						
AET1	XEV20D 1 not connect alarm	Yes						
AET2	XEV20D 2 not connect alarm	Yes						
AET3	XEV20D 3 not connect alarm	Yes						
AET4	XEV20D 4 not connect alarm	Yes						
AEM1	IPROEX60D 1 not connect alarm	Yes						
AEM2	IPROEX60D 2 not connect alarm	Yes						
AEM3	IPROEX60D 3 not connect alarm	Yes						
AEM4	IPROEX60D 4 not connect alarm	Yes						
AFFC	Anti-freeze alarm in free- cooling							
Atrb	Boiler overload alarm	Yes		Yes				
ALcb	Boiler lock alarm	Yes		Yes				
	Function not available			-	Yes	Yes	Yes	Yes
AfnA	alarm	Yes			-	-	-	-

APS	Phases sequence alarm	Yes	Yes	Yes	Yes	Yes
AFr	Network frequency alarm	Yes	Yes	Yes	Yes	Yes
ALc1	Generic alarm 1	Yes	Yes	Yes	Yes	Yes
ALc2	Generic alarm 2	Yes	Yes	Yes	Yes	Yes
ACF1	Configuration alarm	Yes	Yes	Yes	Yes	Yes
ACF2	Configuration alarm	Yes	Yes	Yes	Yes	Yes
ACF3	Configuration alarm	Yes	Yes	Yes	Yes	Yes
ACF4	Configuration alarm	Yes	Yes	Yes	Yes	Yes
ACF5	Configuration alarm	Yes	Yes	Yes	Yes	Yes
ACF6	Configuration alarm	Yes	Yes	Yes	Yes	Yes
ACF7	Configuration alarm	Yes	Yes	Yes	Yes	Yes
ACF8	Configuration alarm	Yes	Yes	Yes	Yes	Yes
ACF9	Configuration alarm	Yes	Yes	Yes	Yes	Yes
ACF10	Configuration alarm	Yes	Yes	Yes	Yes	Yes
ACF11	Configuration alarm	Yes	Yes	Yes	Yes	Yes
ACF12	Configuration alarm	Yes	Yes	Yes	Yes	Yes
ACF13	Configuration alarm	Yes	Yes	Yes	Yes	Yes
ACF14	Configuration alarm	Yes	Yes	Yes	Yes	Yes
ACF15	Configuration alarm	Yes	Yes	Yes	Yes	Yes
ACF16	Configuration alarm	Yes	Yes	Yes	Yes	Yes
ACF17	Configuration alarm	Yes	Yes	Yes	Yes	Yes
ACF18	Configuration alarm	Yes	Yes	Yes	Yes	Yes
ACF19	Configuration alarm	Yes	Yes	Yes	Yes	Yes

0= if configured as temperature control

1= If the probe configured for control of the anti-freeze - boiler and Ar10 = 0

2= If the probe configured for control of the auxiliary relay output

3= With manual reset alarm

4= Compressors off with just n° 1 water pump configured or with n° 2 water pumps configured and both with circuit breaker alarms

5= boiler heaters off only with n° 1 water pump configured or with n° 2 water pumps configured and both circuit breaker alarms (in this case the boiler heaters are only activated by the anti-freeze set protecting the evaporator)

13.2 CIRCUIT "B" OUTPUTS ALARM BLOCK TABLE

Code Alarm	Alarm description	Compressors Circuit (<i>n</i>)	Condensation Ventilation Circuit (<i>n</i>)
b(<i>n</i>)HP	Circuit high pressure pressure switch(n)	Yes	Yes after 60 secs.
b(<i>n</i>)LP	Circuit low pressure pressure switch(n)	Yes	Yes
b(<i>n</i>)AC	Anti-freeze in cooling circuit (n)	Yes	Yes
b(<i>n</i>)AH	Anti-freeze in heating circuit (n)	Yes	Yes
b(<i>n</i>)A	Low temperature/anti-freeze alarm in circuit (n)	Yes	Yes
b(<i>n</i>)hP	Condensation high pressure transducer circuit(n)	Yes	Yes after 60 secs.
b(<i>n</i>)IP	Circuit (<i>n</i>) low condensation/evaporator temperature NTC probe	Yes	Yes
b(<i>n</i>)tF	Circuit ventilation circuit breaker alarm (n)	Yes	Yes
b(<i>n</i>)dF	Circuit defrost alarm signal(n)		
b(<i>n</i>)Cu	Unloading signal due to circuit (<i>n</i>) condensation temp. press.		
b(<i>n</i>)Eu	Unloading signal due to circuit (<i>n</i>) evaporator low temp.		
b(<i>n</i>)rC	Circuit (n) heat recovery disabling signal		
b(<i>n</i>)PH	Circuit pump down stopping alarm (<i>n</i>)	Yes	Yes
b(<i>n</i>)PL	Circuit pump down start-up alarm (<i>n</i>)	Yes	Yes
· · /	e letter (n) identifies the circuit nº 1 or circuit nº 2	res	165

Where the letter (n) identifies the circuit n° 1 or circuit n° 2

13.3 COMPRESSOR "C" ALARMS OUTPUTS BLOCK TABLE

Code Alarm	Alarm description	Compressor (<i>n</i>)	Circuit compressors not affected
	Compresser bish pressure pressure quiteb(n)		anected
C(<i>n</i>)HP	Compressor high pressure pressure switch(n)	Yes	
C(<i>n</i>)oP	Compressor (n) pressure switch/oil float	Yes	
C(<i>n</i>)tr	Compressor circuit breaker alarm (<i>n</i>) with AL47 = 0 - 1	Yes	
C(<i>n</i>)tr	Compressor circuit breaker alarm (<i>n</i>) with AL47 ≠ from 0	Yes	Yes
C(<i>n</i>)dt	Compressor high discharge temperature	Yes	
C(<i>n</i>)Mn	Compressor maintenance (n)		

Where the letter (n) identifies the compressor n° 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16

	411
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