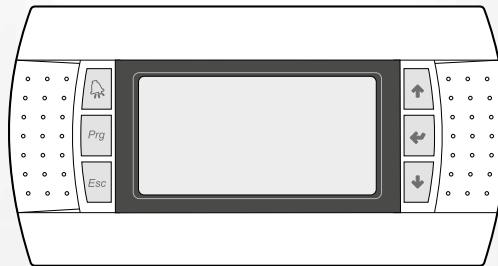


EN

26/02 - 4472051\_07  
Translation of Original instructions

# W/W heat pumps

User manual



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■ PC05 BOARD - PGD1 CONTROL PANEL



[www.aermec.com](http://www.aermec.com)



Dear Customer,

Thank you for wanting to learn about a product Aermec. This product is the result of many years of experience and in-depth engineering research, and it is built using top quality materials and advanced technologies.

The manual you are about to read is meant to present the product and help you select the unit that best meets the needs of your system.

However, please note that for a more accurate selection, you can also use the Magellano selection program, available on our website.

Aermec, always attentive to the continuous changes in the market and its regulations, reserves the right to make all the changes deemed necessary for improving the product, including technical data.

Thank you again.

Aermec S.p.A.

#### COMPANY CERTIFICATIONS



#### SAFETY CERTIFICATIONS



This marking indicates that this product should not be disposed with other household wastes throughout the EU. To prevent possible harm to the environment or human health from uncontrolled disposal of Waste Electrical and Electronic Equipment (WEEE), please return the device using appropriate collection systems, or contact the retailer where the product was purchased. Please contact your local authority for further details. Illegal dumping of the product by the user entails the application of administrative sanctions provided by law.

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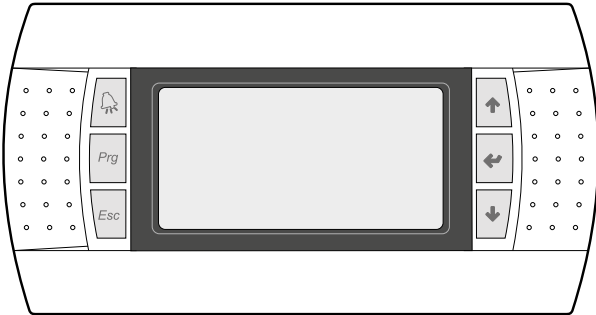
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# 1 WARNING AND HAZARD TERMS

Before proceeding with any assessment or operation on the unit, carefully read this manual and all of its notes marked with the following symbols, which indicate the various levels of hazard or situations that are potentially hazardous to prevent malfunctioning or physical damage to property or personal injury:

| DANGER                                                                              |                                                                                                    |
|-------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|
|    | Indicates a hazardous situation which, if not avoided, will result in death or serious injury.     |
| WARNING                                                                             |                                                                                                    |
|    | Indicates a hazardous situation which, if not avoided, could result in death or serious injury.    |
| CAUTION                                                                             |                                                                                                    |
|    | Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.   |
| MANDATORY                                                                           |                                                                                                    |
|    | This indicates a mandatory action that, if not carried out, could cause death or serious injuries. |
| PROHIBITION                                                                         |                                                                                                    |
|  | Indicates a prohibited action which, if not avoided, could result in death or serious injury.      |
| NOTICE                                                                              |                                                                                                    |
|  | IMPORTANT additional information on how to use the product                                         |

## 2 USER INTERFACE (PGD1)



The command panel of the unit allows the rapid setting of the working parameters of the machine, and their visualisation. The card stores all the default settings and any modifications.

The installation of the remote panel PGD1 makes it possible to copy from remote all the functions and settings available on the machine.

After the absence of voltage for any period of time, the unit is able to start up again automatically, maintaining the original settings.

The main user interface is a graphic monitor with six navigation keys; the displays are organised with a menu hierarchy, which is activated by pressing the navigation keys. The default view of these menus is represented by the main menu; you can navigate between the various parameters by using the arrow keys on the right-hand side of the panel; these keys are also used to change the selected parameters.

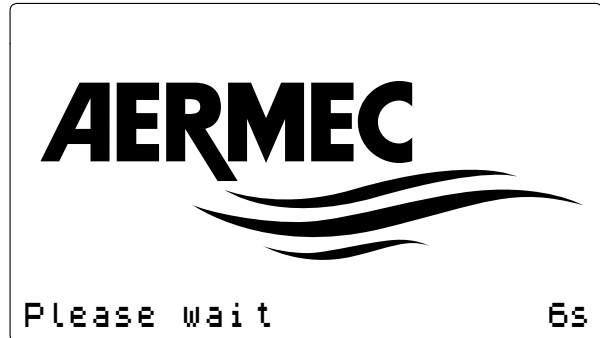
### 2.1 START-UP PROCEDURE

After powering the unit, the control card will perform preliminary operations before it is ready to be used; these initial procedures last about 60 seconds before they are complete; two windows are displayed during the initial loading procedures (a start window and one for selecting the system language); these windows are specified below in the table.

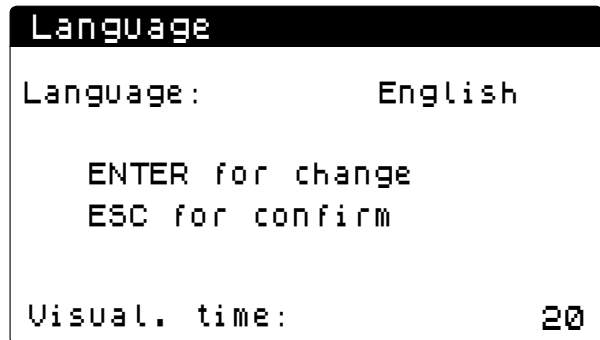
#### NOTICE



**The system language can be set in the window shown at start-up, or at any moment by changing the window contained in the installer menu.**



This window indicates the seconds remaining until the software loaded in the unit starts up (switching to the system language selection);



This window makes it possible to select the language with which the system is started.

### 2.2 FUNCTION OF THE PGD1 CONTROL PANEL KEYS



: Displays the list of active and historical alarms (red LED on = active alarm);



: Pressing this key activates navigation between the menus;  
(orange LED on = winter operating mode active)



: Pressing this key returns to the previous window;



: Pressing this key can have different functions:

- Pressing this key when navigating menus/parameters passes to the next menu/parameter;
- Pressing this key when changing a parameter increases the value of the selected parameter;



: Pressing this key can have different functions:

- Pressing this key when navigating menus enters the selected menu;
- Pressing this key when navigating parameters selects the displayed parameter and enters change mode;
- Pressing this key when changing a parameter confirms the change to the value of the selected parameter;



: Pressing this key can have different functions:



- Pressing this key when navigating menus/parameters passes to the previous menu/parameter;
- Pressing this key when changing a parameter decreases the value of the selected parameter;

## 2.3 MENU STRUCTURE

All the functions for managing the unit as well as the information about its operation are displayed on the unit control panel; all the functions and information are organised into windows, which are in turn grouped in to menus.

When the unit is operating normally, a main menu is displayed, which is used to select other operating menus.

The menus are displayed via the rotation of the icons that represent them; once the desired icon is selected, the select menu opens, and it is possible to display or change the corresponding parameters.

The image shows the relationships between the various menus and the keys used for navigation.

### NOTICE

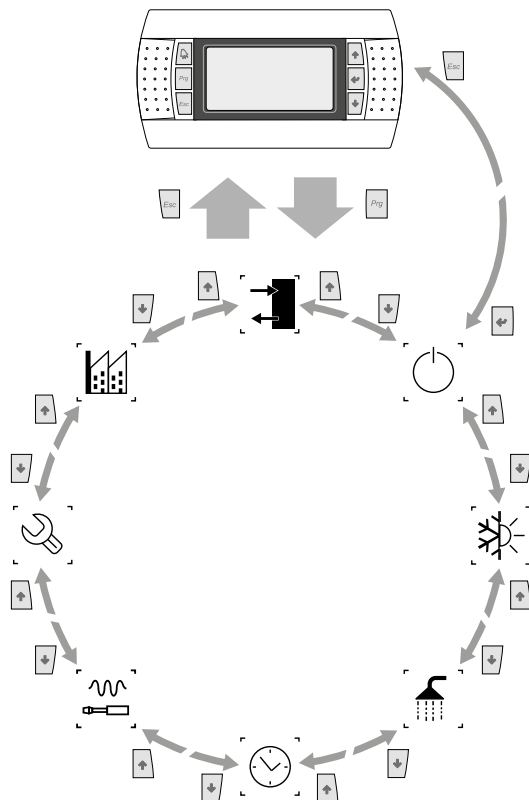


The following pages show all the masks contained in the menus available to the user; Tampering with the parameters in the installer menu could cause the unit to malfunction, therefore it is recommended to have these parameters changed only by personnel assigned to unit installation and configuration;

### NOTICE



This menu is password protected. The value to be set for access is: 0000.



### 2.3.1 Menu icons

**IN/OUT:** This menu contains advanced information about operating the unit;

**ON/OFF:** This menu is used to activate or deactivate the unit; it also provides state information;

**System:** This menu is used to set the operating mode, the setpoints for water production and the time bands to be applied to the system;

**RECOVERY (if present in the unit):** This menu allows to set the parameters related to the recovery management (available for NXW units only);

**CLOCK:** This menu contains the time settings for system management (date and time, calendar);

**INSTALLER:** This menu contains settings useful for the installer (Digital input enabling, BMS configuration, adjustments, pumps, etc ...);

**ASSISTANCE:** This menu is not accessible except by authorized staff;

**MANUFACTURER:** This menu is not accessible except by authorized staff;

## 2.4 USER OPERATING PROCEDURES

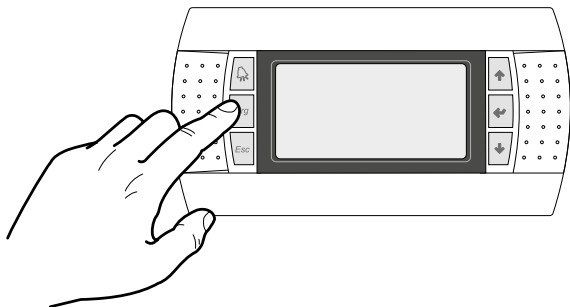
To check or modify the operating parameters of the unit it is necessary to use the interface of the control panel on the unit.

The basic operations that the user must be capable of, for the correct use of the unit, are:

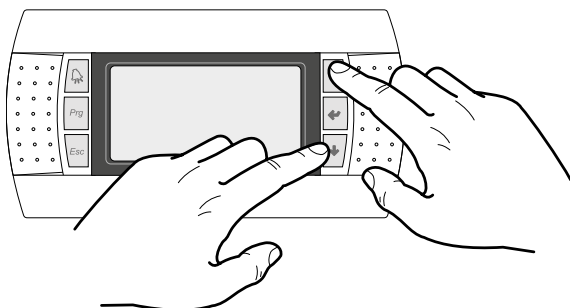
- Moving between menus;
- Selecting and modifying a menu.

### 2.4.1 Moving between menus

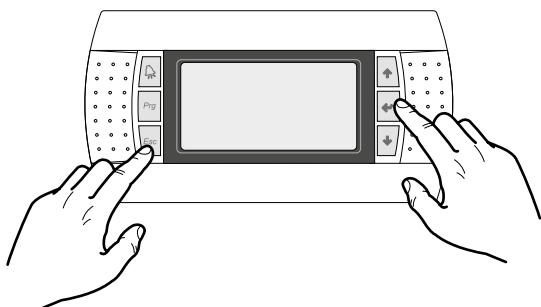
To move between the menus, the order in which they are displayed is shown in the previous page, enter the menu selection mode by pressing the key ;



Once in the menu selection mode it is possible to move between menus using the arrow keys: the key  to move to the previous menu, and the key  to move to the next menu:

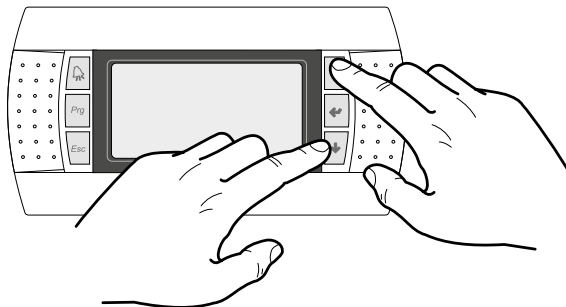


When the desired menu is seen press the key  to enter the menu. Press the key  to return to the menu selection mode:



### 2.4.2 Selecting and modifying a menu

Once in the menu selected, by following the procedure, it is possible to move between the screens using the arrow keys: the key  to move to the previous parameter, and the key  to move to the next parameter:



When the desired parameter is seen press the key  to enter the parameter. To exit the parameter and return to the parameter selection mode press the key .

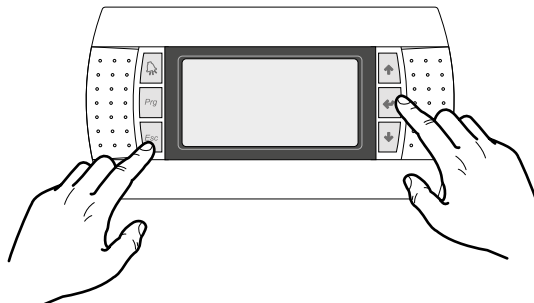
#### NOTICE



Once a parameter is selected by pressing the key , the parameter selection mode is automatically accessed.

In this mode the desired parameter values can be set with the following procedure:

1. Pressing the key  causes a flashing cursor to appear on the first modifiable field of the parameter. If no modifiable fields are displayed then the cursor will not appear.
2. Pressing the key  or the key , the value of the field can be increased or decreased;
3. Pressing the key  confirms the modification of the field value, saving it in memory.



#### NOTICE



On the basis of the type of parameter selected the number of modifiable fields can change.

### 3 MAIN MENU

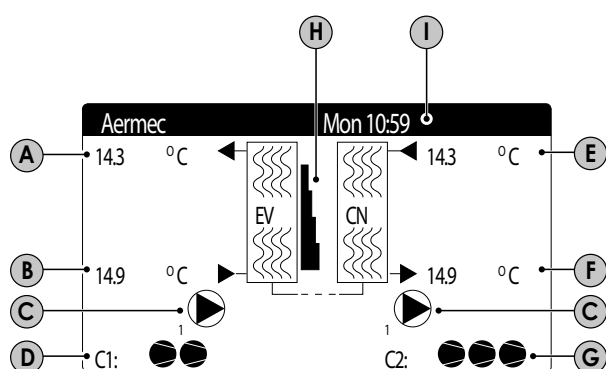
During normal operation, the first page of the main menu is shown on the unit's display; this menu has multiple pages with various information about the operating state of the system (the parameters in these windows are read-only, no parameter can be set in this menu), which can be scrolled using the arrow keys.

#### NOTICE



If no key is pressed for at least 5 minutes when using the control panel, the software returns automatically to the first window in this menu.

#### 3.1 GENERAL MONITOR



**A. System water delivery flow temperature:** this value indicates the temperature of the water leaving the heat exchanger

**B. System return water flow temperature:** this value indicates the temperature of the water entering the heat exchanger

**C. Active pump:** this icon appears if the system side pump or condenser side pump of the unit is operating; if the unit has several pumps, the number next to the icon indicates which of the unit's pumps is active

**D. Circuit 1 compressor state:** these icons indicate the current state of the compressors in circuit 1; these states can be as follows:

- On (●)
- Off (○)
- Disabled (⊗)
- Alarm (⚠)
- Capacity control (duration 10 minutes) running (P)

**E. Source side return water temperature:** this value indicates the temperature of the water entering the heat exchanger on the source side

**F. Source side delivery water temperature:** this value indicates the temperature of the water delivered by the heat exchanger on the source side

**G. Circuit 2 compressor state:** these icons show the current state of the compressors in circuit 2 (the states are the same available for circuit 1)

**H. System power requirement:** this element indicates the power required by the system and is displayed as a bar graph from 0 to 10;

**I. Date and time:** indicates the current day and time

#### NOTICE



Some icons can appear in this window that indicate certain system states, these icons can be:

- (LT) Indicates that low output temperature anti-freeze prevention is active (turns off the compressors);
- (HT) Indicates that high output temperature prevention is active (turns off the compressors);
- (LC) indicates that the low charge function is active;
- (ΛΛ) indicates that the anti-freeze heater is active (set-point: 4.0°C - differential: 1.0°C)
- (↘) Indicates that the return temperature is decreasing and therefore new cold load demands are disabled;
- (↗) Indicates that the return temperature is increasing and therefore new hot load demands are disabled;
- (F) Indicates that the flow switch is open. The compressors are turned off and the pumps release the flow switch;

The states in which the unit can be found are as follows:

**C1 / C2:** The system is active and running

**Unit off by alarm:** There is a serious alarm that stops the system (check the alarm list);

**General off by key:** The system is off by terminal, check ON/OFF mask;

**Off by supervisor:** The supervision system has prevented unit start-up;

**Off by time periods:** The time periods set switch the whole system off;

**Off by digital input:** The digital input closed switches the system OFF;

**Off by display:** the system is off by terminal, check chiller mask;

**Anti-freeze:** Action to prevent ice formation in the water heat exchangers;

**Off by master:** The system is off by master (for NXW units only);

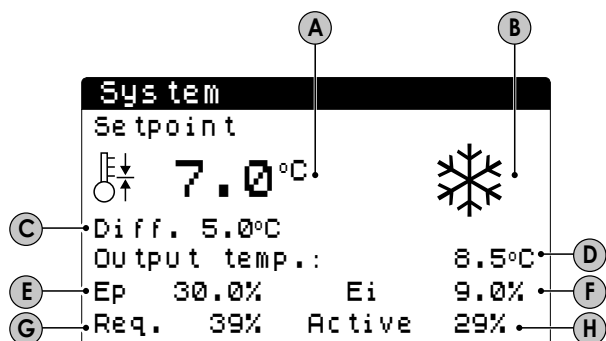
**Outside operational limits:** The system is out of operational limits;

**Manual mode:** not envisioned;

**Off for defrosting:** WWB/WWBG unit off if the connected chiller (NRB or NRP) has a serious alarm. The alarm signal is generic, to know the type of alarm that occurred access the connected chiller directly;

**Off by connected chiller:** WWB/WWBG unit off if the connected chiller (NRB or NRP) is switched off.

### 3.2 SYSTEM MONITOR



- A. Current setpoint:** this value indicates the current setpoint in the system
- B. Operating mode:** this icon indicates the current operating mode active in the system (❄ = chilled water production; ☀ = hot water production)
- C. Differential:** this value indicates the current system working differential
- D. Adjustment probe:** these values indicate the probe on which adjustment is based (input or output) and the value currently read by the selected probe
- E. Proportional error:** If the Proportional + Integral function is active, this value indicates the proportional factor
- F. Integral error:** If the Proportional + Integral function is active, this value indicates the integral factor
- G. Demanded power:** this indicates the percentage of power demanded by the system
- H. Delivered power:** this indicates the percentage of power actually delivered on the system side

#### NOTICE



Some icons can appear in this window that indicate certain system states, these icons can be:

- (OFF) indicates that the time bands are active;
- (M) indicates that the multifunction input is active;
- (LC) indicate that the low charge function is active.

### 3.3 CIRCUIT 1 MONITOR

| circuit 1       |               |
|-----------------|---------------|
| HP: 23.1bar     | -> Tc: 39.5°C |
| LP: 6.4bar      | -> Te: -2.6°C |
| T.Liquid        | 14.8°C        |
| T.discharge gas | 80.8°C        |
| CP1: ●          | 0s            |
| CP2: ●          | 0s            |

1. **High pressure value:** this value indicates the delivery pressure in the circuit
2. **Low pressure value:** this value indicates the intake pressure in the circuit
3. **Condensing temperature:** this value indicates the current value of the condensing temperature
4. **Evaporation temperature:** this value indicates the current value of the evaporation temperature
5. **Liquid temperature:** this value indicates the current value of the liquid temperature (visible only on heat pump models)
6. **Discharge gas temperature:** this value indicates the current value of the discharge gas temperature
7. **Compressor state:** these icons indicate the state of the compressors in the circuit, each compressor will be numbered using the CP code and a number, and the state will be displayed for each; the possible states are:
  - On (●)
  - Off (○)
8. **Minimum residue time:** this value indicates how many seconds are left for to the minimum time to elapse for the current state (minimum ON or OFF time) for each compressor in the circuit in question

### 3.4 CIRCUIT 2 MONITOR (IF PRESENT)

| circuit 2       |               |
|-----------------|---------------|
| HP: 23.1bar     | -> Tc: 39.5°C |
| LP: 6.4bar      | -> Te: -2.6°C |
| T.Liquid        | 14.8°C        |
| T.discharge gas | 80.8°C        |
| CP1: ●          | 0s            |
| CP2: ●          | 0s            |

1. **High pressure value:** this value indicates the delivery pressure in the circuit
2. **Low pressure value:** this value indicates the intake pressure in the circuit
3. **Condensing temperature:** this value indicates the current value of the condensing temperature
4. **Evaporation temperature:** this value indicates the current value of the evaporation temperature
5. **Liquid temperature:** this value indicates the current value of the liquid temperature
6. **Discharge gas temperature:** this value indicates the current value of the discharge gas temperature (visible only on models with a heat pump or total recovery)
7. **Compressor state:** these icons indicate the state of the compressors in the circuit, each compressor will be numbered using the CP code and a number, and the state will be displayed for each; the possible states are:
  - On (●)
  - Off (○)

8. **Minimum residue time:** this value indicates how many seconds are left for to the minimum time to elapse for the current state (minimum ON or OFF time) for each compressor in the circuit in question

### 3.5 CIRCUIT GENERAL MENU

| Circuits             |      |
|----------------------|------|
| Total demand         | 100% |
| Circuit 1:           | 46%  |
| Circuit 2:           | 54%  |
| Time between starts: | 0s   |

1. **Total power demand:** this value indicates the total power demand by the system
2. **Circuit 1 power output:** this value indicates the total power output by the circuit to satisfy the system demand
3. **Circuit 2 power output:** this value indicates the total power output by the circuit to satisfy the system demand
4. **Remaining time for the new compressor:** this value indicates the remaining time before the unit can start, if necessary, the next compressor

### 3.6 MASTER/SLAVE MONITOR (ONLY NXW)

| Master        |        |
|---------------|--------|
| Common output | ----°C |
| Demand        | 100.0% |
| Unit 1:       | 100.0% |
| Unit 2:       | 100.0% |

1. **Common output:** this value (optional) indicates the water probe temperature on the common output of the two master and slave unit outputs
2. **Demand:** this value indicates the power demand calculated by the thermostat of the master unit which will be distributed between the two units
3. **Unit 1:** this value indicates the percentage power demand for unit 1
4. **Unit 2:** this value indicates the percentage power demand for unit 2

### 3.7 TOTAL RECOVERY MONITOR (ONLY NXW)

| Total recovery |        |
|----------------|--------|
| Water input:   | 15.1°C |
| Water output:  | 15.1°C |
| General Off    |        |
| Demand:        | 0%     |

1. **Water input:** this value (in units with total recovery) indicates the total recovery input water probe temperature
2. **Water output:** this value (in units with total recovery) indicates the total recovery output water probe temperature
3. **Heat recovery unit state:** this value indicates the current state of the heat recovery unit:
  - General off: the unit is completely in standby;
  - Flow switch open: water does not circulate in the recovery hydraulic circuit (recovery disabled);
  - Enabled: water circulates in the recovery circuit
4. **Demand:** this value indicates the power percentage demand for recovery

### 3.8 DK VERSION MONITOR DK (1) (ONLY NXW)

| DK unit              |        |
|----------------------|--------|
| Common evap. output: | 10.0°C |
| Evap.out 1:          | 6.2°C  |
| Evap.out 2:          | 15.0°C |

1. **Common evap. output:** this value (in DK units) indicates the common temperature at the output from the two evaporators
2. **Evap.out 1:** this value indicates the temperature output by evaporator 1
3. **Evap.out 2:** this value indicates the temperature output by evaporator 2

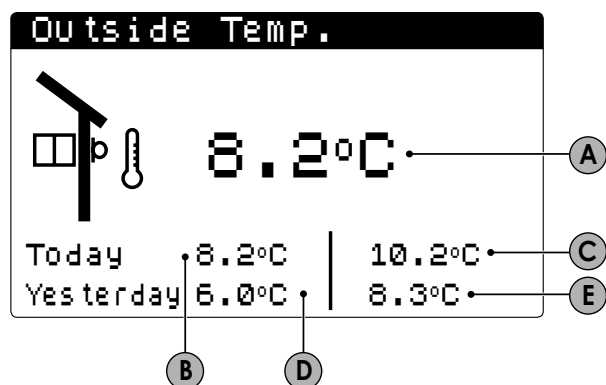
### 3.9 DK VERSION MONITOR DK (2) (ONLY NXW)

| DK unit                    |        |
|----------------------------|--------|
| Common cond. output: 5.0°C |        |
| Cond.Out 1:                | 40.2°C |
| Cond.Out 2:                | 5.0°C  |

1. **Common cond. output:** this value (in DK units) indicates the common temperature at the output from the two condensers
2. **Cond.out 1:** this value indicates the temperature output by condenser 1
3. **Cond.out 2:** this value indicates the temperature output by condenser 2

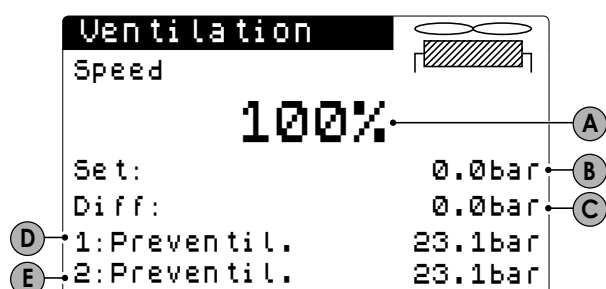
## 4 INPUT/OUTPUT MENU

### 4.1 OUTSIDE AIR MONITOR (ONLY WRK, WWB, WWBG, NXW)



- A. Outside air temperature:** this value indicates the current temperature of the outside air
- B. Outside air temperature (minimum today):** this value indicates the minimum value measured during the day for the outside air temperature
- C. Outside air temperature (maximum today):** this value indicates the maximum value measured during the day for the outside air temperature
- D. Outside air temperature (minimum yesterday):** this value indicates the minimum value measured during the previous day for the outside air temperature
- E. Outside air temperature (maximum yesterday):** this value indicates the maximum value measured during the previous day for the outside air temperature

### 4.2 MOTO-EVAPORATING UNIT FAN MONITOR (ONLY NXW-E)

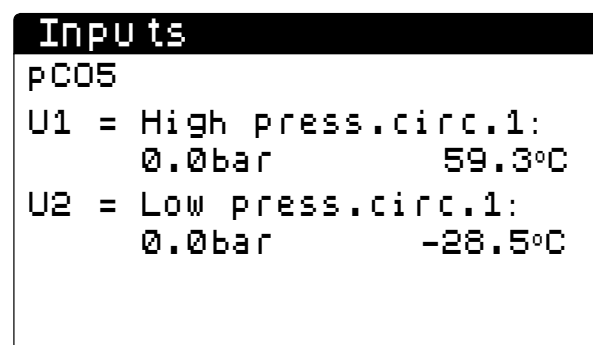


- A. Fan Speed:** this value indicates the current fan speed
- B. Fan setpoint:** this value indicates the current ventilation setpoint
- C. Ventilation setpoint differential:** this value indicates the current differential applied to the ventilation setpoint
- D. Ventilation state:** this value indicates the current active state of the fans; this status can be:

- OFF: fans off;
- PREVENTILATION: fans ON before the compressors;
- high pressure: control based on high pressure;
- POSTVENTILATION: ventilation after compressor OFF;
- ANTI-FREEZE: ventilation phase to prevent the accumulation of snow or the formation of ice;
- LOW PRESSURE:: control based on low temperature;
- MAXIMUM SPEED: fans at maximum speed;
- SILENCED: speed reduced to reduce noise

- E. Circuit 2 fan ventilation state:** this value indicates (only if the fan is separate for circuit 1 and circuit 2) the current active state of the fans in circuit 2; the available states are the same indicated in point (D)

### 4.3 ANALOGUE INPUT MONITOR (1)



- 1. Analogue input U1:** this is the value read by the high pressure transducer on circuit 1
- 2. HP Temperature Conversion:** this value indicates the conversion into temperature of data read by the high pressure transducer on circuit 1
- 3. Analogue input U2:** this is the value read by the low pressure transducer in circuit 1 for the WRK and WWB/WWBG units the analogue input U2 is connected to the storage tank probe (if present)
- 4. BP Temperature Conversion:** this value indicates the conversion into temperature of data read by the low pressure transducer on circuit 1

#### NOTICE



In the WRK, WWB and WWBG units the storage tank probe is only available on the analogue input U2 if it has been connected and activated.

For WWMG units, on the other hand, the screen is as follows:

**Inputs**

```

pCO5
U1 = High press.circ.1:
      0.0bar      36.3°C
U2 = Liquid Temperat.
      Circ.1      22.0°C

```

**4.4 ANALOGUE INPUT MONITOR (2)****Inputs**

```

pCO5
U3 = Output water temp.
      evap.:      14.9°C
U4 = Input water temp.
      evap.:      18.0°C

```

1. **Analogue input U3:** this value represents the temperature exiting the evaporator
2. **Analogue input U4:** this value represents the temperature entering the evaporator

**4.5 ANALOGUE INPUT MONITOR (3)****Inputs**

```

pCO5

U5 = Output water temp.
      cond.:      15.3°C

```

**Analogue input U5:** this value represents the temperature exiting the condenser

**4.6 ANALOGUE INPUT MONITOR (4)  
(ONLY FOR UNITS WITH TWO  
CIRCUITS)****Inputs**

```

pCO5
U6 = High press.circ.2:
      0.0bar      59.3°C
U7 = Low press.circ.2:
      0.0bar      -28.5°C

```

1. **Analogue input U6:** this is the value read by the high pressure transducer on circuit 2
2. **HP Temperature Conversion:** this value indicates the conversion into temperature of data read by the high pressure transducer on circuit 2
3. **Analogue input U7:** this is the value read by the low pressure transducer in circuit 2 input U7 is not used for units WRK and WWB/WWBG
4. **BP Temperature Conversion:** this value indicates the conversion into temperature of data read by the low pressure transducer on circuit 2

For WWMG units, on the other hand, the screen is as follows:

**Inputs**

```

pCO5
U6 = High press.circ.2:
      20.0bar      37.7°C
U7 = Liquid Temperat.
      Circ.2      23.0°C

```

**4.7 ANALOGUE INPUT MONITOR (5)  
(ONLY WWM, SINGLE CIRCUIT)****Inputs**

```

pCO5
U6 = Suction Temp.
      Circ.1:      59.3°C
U7 = Liquid temp.
      Circ.1:      42.1°C

```



1. **Analogue input U6:** this value represents the value read by the intake temperature probe
2. **Analogue input U7:** this value represents the value read by the temperature probe located downstream of the solenoid valve

#### 4.8 ANALOGUE INPUT MONITOR (6) (ONLY WWM DUAL CIRCUIT AND WWMG)

| Inputs                   |        |
|--------------------------|--------|
| pCO5                     |        |
| U8 = Discharge gas temp. |        |
| Demand:                  | 15.3°C |
| U9 = Discharge gas temp. |        |
| Demand:                  | 15.3°C |

1. **Analogue input U8:** this value represents the discharge gas temperature in circuit 1
2. **Analogue input U9:** this value represents the discharge gas temperature in circuit 2 (if present)

#### 4.9 ANALOGUE INPUT MONITOR (7) (ONLY WWM, SINGLE CIRCUIT)

| Inputs                   |        |
|--------------------------|--------|
| pCO5                     |        |
| U8 = Discharge gas temp. |        |
| Demand:                  | 15.3°C |
| U9 = ---                 |        |

**Analogue input U8:** this value represents the discharge gas temperature in circuit 1

#### 4.10 ANALOGUE INPUT MONITOR (8) (ONLY WWM, SINGLE CIRCUIT AND HUBA DIFFERENTIAL TRANSMITTER)

| Inputs                   |         |
|--------------------------|---------|
| pCO5                     |         |
| U8 = Discharge gas temp. |         |
| Demand:                  | 15.3°C  |
| U9 = Differ. transmitter |         |
| Huba:                    | 31 mbar |

1. **Analogue input U8:** this value represents the discharge gas temperature in circuit 1
2. **Analogue input U9:** this value represents the pressure value read by the HUBA differential transmitter

#### 4.11 ANALOGUE INPUT MONITOR (9) (ONLY WWM, SINGLE AND DUAL CIRCUIT, AND WWMG)

| Inputs                 |        |
|------------------------|--------|
| pCO5                   |        |
| U10= Input water temp. |        |
| cond.:                 | 15.3°C |

**Analogue input U10:** this value represents the temperature entering the condenser

#### 4.12 MULTIFUNCTION INPUT MONITOR (10) (ONLY WRK, WWB, WWBG, NXW)

| System                                     |      |
|--------------------------------------------|------|
| Multifunction input<br>(ID18) : NOT ACTIVE |      |
| Not present                                |      |
| pCO5 U8=                                   | 0.0% |

1. **Digital input state ID18:** this value indicates the state of the digital input ID18 which provides enabling (if closed) to the multifunctional input available to the analogue input U8
2. **Multifunction input setting:** this value indicates the current date setting to the multifunction input (this setting is made on the relative page in the installer menu)
3. **Current input value U8:** this value represents the value read at the multifunction input

#### 4.13 ANALOGUE INPUT MONITOR (11) (ONLY WRK, WWB, WWBG, NXW)

| Inputs                        |        |
|-------------------------------|--------|
| pCO5                          |        |
| U9 = Outside air temp.:       | 22.5°C |
| U10= Input water temp. cond.: | 18.3°C |

1. **Analogue input U9:** this value represents the outside air temperature
2. **Analogue input U10:** this value represents the water temperature entering the condenser

#### 4.14 EVD DRIVER ANALOGUE INPUT MONITOR (12) (WWMG ONLY)

| Inputs                         |         |
|--------------------------------|---------|
| Driver EVD                     |         |
| S1 = Low Press.Circ.1          | 12.0bar |
| S2 = Aspiration Temper. Circ.1 | 15.0°C  |

1. **Analogue input S1:** this value represents the low pressure of circuit 1
2. **Analogue input S2:** this value represents the intake temperature of circuit 1

| Inputs                         |         |
|--------------------------------|---------|
| Driver EVD                     |         |
| S3 = Low Press.Circ.2          | 12.0bar |
| S4 = Aspiration Temper. Circ.2 | 15.0°C  |

1. **Analogue input S3:** this value represents the low pressure of circuit 2
2. **Analogue input S4:** this value represents the intake temperature of circuit 2

#### 4.15 ANALOGUE INPUT MONITOR (13) (ONLY NXW WITH DK CONFIGURATION)

| Inputs                          |        |
|---------------------------------|--------|
| PCOE expansion board            |        |
| B1 = Water outlet probe evap.2: | 15.3°C |
| B2 = Common output probe Evap.: | 15.3°C |

1. **Analogue input B1:** this value represents the temperature exiting evaporator 2
2. **Analogue input B2:** this value represents the water temperature at the common evaporator output

#### 4.16 ANALOGUE INPUT MONITOR (14) (ONLY NXW WITH DK CONFIGURATION)

| Inputs                          |        |
|---------------------------------|--------|
| PCOE expansion board            |        |
| B3 = Cond.2 output probe        | 15.3°C |
| B4 = Common output probe cond.: | 15.3°C |

1. **Analogue input B3:** this value represents the temperature of the water exiting condenser 2

2. **Analogue input B4:** this value represents the water temperature at the common condenser output

#### 4.17 ANALOGUE INPUT MONITOR (15) (ONLY NXW WITH RECOVERY CONFIGURATION)

| Inputs                  |        |
|-------------------------|--------|
| PCOE expansion board    |        |
| B1 = Input water temp.  |        |
| Total rec.:             | 15.3°C |
| B2 = Output water temp. |        |
| Total rec.:             | 15.3°C |

1. **Analogue input B1:** this value represents the temperature of the water entering the total recovery
2. **Analogue input B2:** this value represents the temperature of the water exiting the total recovery

#### 4.18 ANALOGUE INPUT MONITOR (16) (ONLY NXW WITH RECOVERY CONFIGURATION)

| Inputs                       |        |
|------------------------------|--------|
| PCOE expansion board         |        |
| B3 = Rec. output water temp. |        |
| Total 2:                     | 15.3°C |
| B4 = Rec. output water temp. |        |
| Common:                      | 15.3°C |

1. **Analogue input B3:** this value represents the temperature of the water exiting total recovery 2
2. **Analogue input B4:** this value represents the temperature of the water at the common recovery output

#### 4.19 ANALOGUE INPUT MONITOR (17) (ONLY WRK, WWB, WWBG)

| Inputs              |        |
|---------------------|--------|
| UPC expansion board |        |
| B1 = Liquid temp.   |        |
| Circ.1:             | 15.3°C |
| B2 = Liquid temp.   |        |
| Circ.2:             | 15.3°C |

1. **Analogue input B1:** this value represents the temperature of the liquid in circuit 1
2. **Analogue input B2:** this value represents the temperature of the liquid in circuit 2

#### 4.20 ANALOGUE INPUT MONITOR (18) (ONLY WRK, WWB, WWBG)

| Inputs              |  |
|---------------------|--|
| UPC expansion board |  |
| B3 = ---            |  |
| B4 = ---            |  |

Not used

#### 4.21 ANALOGUE INPUT MONITOR (19) (ONLY WRK, WWB, WWBG)

| Inputs                 |        |
|------------------------|--------|
| UPC expansion board    |        |
| B5 = Low press.circ.1: |        |
| 4.8bar                 | -9.9°C |
| B6 = ---               |        |
| B7 = ---               |        |

**Analogue input B5:** this value represents the low pressure value in circuit 1 (and relative conversion into temperature)

#### 4.22 ANALOGUE INPUT MONITOR (20) (ONLY WRK, WWB, WWBG)

##### Inputs

```
UPC expansion board
B8 = ---
B9 = ---
B10= Low press.circ.2:
      4.8bar          -9.9°C
```

**Analogue input B10:** this value represents the low pressure value in circuit 2 (and relative conversion into temperature)

#### 4.23 ANALOGUE INPUT MONITOR (21) (ONLY WWM, DUAL CIRCUIT)

##### Inputs

```
pCOE expansion board
B1 = Suction Temp.
      Circ.1:      59.3°C
B2 = Suction Temp.
      Circ.2:      42.1°C
```

1. **Analogue input B1:** this value represents the value read by the intake temperature probe in circuit 1
2. **Analogue input B2:** this value represents the value read by the intake temperature probe in circuit 2

#### 4.24 ANALOGUE INPUT MONITOR (22) (ONLY WWM, DUAL CIRCUIT)

##### Inputs

```
pCOE expansion board
B3 = Liquid temp.
      Circ.1:      59.3°C
B4 = Liquid temp.
      Circ.2:      42.1°C
```

1. **Analogue input B3:** this value represents the temperature of the liquid in circuit 1

2. **Analogue input B4:** this value represents the temperature of the liquid in circuit 2

#### 4.25 ANALOGUE INPUT MONITOR (23) (ONLY WWM, DUAL CIRCUIT AND HUBA DIFFERENTIAL TRANSMITTER)

##### Inputs

```
pCOE expansion board
B3 = Differ. transmitter
      Huba:          0mbar
B4 = ---
```

**Analogue input B3:** this value represents the pressure value read by the HUBA differential transmitter

#### 4.26 ANALOGUE INPUT MONITOR (24) (PCOE EXPANSION ONLY WWMG)

##### Inputs

```
pCOE WWMG
B1 = Differ. transmitter
      Evap.:         12mbar
B2 = Differ. transmitter
      Cond.:         37mbar
```

1. **B1 analogue input:** this value represents the pressure value read by the evaporator differential transmitter
2. **B2 analogue input:** this value represents the pressure value read by the condenser differential transmitter

##### Inputs

```
pCOE WWMG
B3 = ----
B4 = ----
```

Not used

#### 4.27 DIGITAL INPUT MONITOR (1) (ONLY WWM)

| Inputs                  |        |
|-------------------------|--------|
| PC05                    |        |
| ID1: High press.circ.1  | Closed |
| ID2: Leak detect.Circ.1 | Closed |
| ID3: Remote On-Off      | Closed |

- Digital Input ID1:** this value indicates the state of the digital input connected to the high pressure switch of circuit 1, which can be:
  - OPEN: high pressure pressostat alarm;
  - CLOSED: normal operation;
- ID2 digital input:** this value (not used for WRK, WWB, WWBG) indicates the state of the digital input connected to the device for detecting any leaks in circuit 1, which can be:
  - OPEN: leak device alarm;
  - CLOSED: normal operation;
- Digital Input ID3:** this value indicates the state of the digital input connected to the remote ON/OFF function; the states can be:
  - OPEN: remote ON/OFF not active;
  - CLOSED: remote ON/OFF active;

#### NOTICE



In WWB and WWBG units, this mask is only present with Leak Detector reading enabled.

For NXW units, on the other hand, the screen is as follows:

| Inputs                   |        |
|--------------------------|--------|
| PC05                     |        |
| ID1: High press.circ.1   | Closed |
| ID2: Valve Driver.Circ.1 | Closed |
| ID3: Remote On-Off       | Closed |

For WWMG units, on the other hand, the screen is as follows:

#### Inputs

|                        |        |
|------------------------|--------|
| PC05                   |        |
| ID1: High press.circ.1 | Closed |
| ID2: Low Press.Circ.1  | Closed |
| ID3: Remote On-Off     | Closed |

#### 4.28 DIGITAL INPUT MONITOR (2)

#### Inputs

|                         |        |
|-------------------------|--------|
| PC05                    |        |
| ID4: Remote cold/hot    | Closed |
| ID5: Evap. flow switch  | Closed |
| ID6: Cmp.1 circ.1 term. | Closed |

- Digital Input ID4:** this value indicates the state of the digital input connected to the remote season change function, which can be:
  - OPEN: remote season change not active;
  - CLOSED: remote season change active;

#### NOTICE



To manage this function, the installer must use the digital input ID16 as a voltage-free contact to activate remote season change.

- Digital Input ID5:** this value indicates the state of the digital input connected to the flow switch on the evaporator, which can be:
  - OPEN: flow switch alarm;
  - CLOSED: normal operation;
- Digital Input ID6:** this value indicates the state of the digital input connected to the compressor thermomagnetic switch 1 in circuit 1, which can be:
  - OPEN: circuit breaker alarm;
  - CLOSED: normal operation;

For WWBG 60Hz units, on the other hand, the screen is as follows:

| Inputs                  |        |
|-------------------------|--------|
| pC05                    |        |
| ID4: Low Press.Circ.1   | Closed |
| ID5: Evap. flow switch  | Closed |
| ID6: Cmp.1 circ.1 term. | Closed |

#### 4.29 DIGITAL INPUT MONITOR (3)

| Inputs                  |        |
|-------------------------|--------|
| pC05                    |        |
| ID7: Cmp.2 circ.1 temp. | Closed |
| ID8: Phase monitor all. | Closed |
| ID9: High press.circ.2: | Closed |

- ID7 digital input** this value (not present in the WWM dual circuit and WWMG) indicates the state of the digital input connected to the compressor thermomagnetic switch 2 in circuit 1, which can be:
  - OPEN: circuit breaker alarm;
  - CLOSED: normal operation;
- Digital Input ID8:** this value indicates the state of the digital input connected to the phase control device, which can be:
  - OPEN: high pressure pressostat alarm;
  - CLOSED: normal operation;
- Digital Input ID9:** this value (not present in the WWM single circuit) indicates the state of the digital input connected to the high pressure switch of circuit 2, which can be:
  - OPEN: phase control device alarm;
  - CLOSED: normal operation;

#### 4.30 DIGITAL INPUT MONITOR (4)

| Inputs                   |        |
|--------------------------|--------|
| pC05                     |        |
| ID10: Leak detect.Circ.2 | Open   |
| ID11: Cmp.1 circ.2 temp. | Closed |
| ID12: Cmp.2 circ.2 temp. | Closed |

- Digital Input ID10:** this value (only present in the WWM dual circuit) indicates the state of the digital input connected to the device for detecting leaks in circuit 2, which can be:
  - OPEN: leak device alarm;
  - CLOSED: normal operation;
- Digital Input ID11:** this value (not present in the WWM single circuit) indicates the state of the digital input connected to the compressor thermomagnetic switch 1 in circuit 2, which can be:
  - OPEN: circuit breaker alarm;
  - CLOSED: normal operation;
- Digital Input ID12:** this value (not present in WWM) indicates the state of the digital input connected to the compressor thermomagnetic switch 2 in circuit 2, which can be:
  - OPEN: circuit breaker alarm;
  - CLOSED: normal operation;

For WRK, WWB e WWBG units, on the other hand, the screen is as follows:

| Inputs                   |        |
|--------------------------|--------|
| pC05                     |        |
| ID10: ----               |        |
| ID11: Cmp.1 circ.2 temp. | Closed |
| ID12: Cmp.2 circ.2 temp. | Closed |

For WWBG 60Hz units, on the other hand, the screen is as follows:

| Inputs                   |        |
|--------------------------|--------|
| PC05                     |        |
| ID10: Low Press.Circ.2   | Open   |
| ID11: Cmp.1 circ.2 temp. | Closed |
| ID12: ----               |        |

For NXW units, on the other hand, the screen is as follows:

| Inputs                    |        |
|---------------------------|--------|
| PC05                      |        |
| ID10: Valve Driver.Circ.2 | Open   |
| ID11: Cmp.1 circ.2 temp.  | Closed |
| ID12: Cmp.2 circ.2 temp.  | Closed |

For WWMG units, on the other hand, the screen is as follows:

| Inputs                   |        |
|--------------------------|--------|
| PC05                     |        |
| ID10: Low Press.Circ.2   | Open   |
| ID11: Cmp.1 circ.2 temp. | Closed |
| ID12: Mechan.Vent.Sys t. | Closed |

#### 4.31 DIGITAL INPUT MONITOR (5)

| Inputs                  |        |
|-------------------------|--------|
| PC05                    |        |
| ID13: Evap.1 pump term. | Closed |
| ID14: Evap.2 pump term. | Closed |
| ID15: Cond.1 pump term. | Closed |

**1. Digital Input ID13:** this value indicates the state of the digital input connected to the pump thermomagnetic switch on evaporator 1, which can be:

- OPEN: circuit breaker alarm;
- CLOSED: normal operation;

**2. Digital Input ID14:** this value (not present on WWM) indicates the state of the digital input connected to the pump thermomagnetic switch on evaporator 2, which can be:

- OPEN: circuit breaker alarm;
- CLOSED: normal operation;

**3. Digital Input ID15:** this value indicates the state of the digital input connected to the pump thermomagnetic switch on the condenser, which can be:

- OPEN: circuit breaker alarm;
- CLOSED: normal operation;

#### NOTICE



In the case of NXW-E, this value indicates the state of the thermomagnetic switch protecting the fans.

For WWMG units, on the other hand, the screen is as follows:

| Inputs                  |        |
|-------------------------|--------|
| PC05                    |        |
| ID13: Evap.1 pump term. | Closed |
| ID14: Leak Detector     | Closed |
| ID15: Cond.1 pump term. | Closed |

#### 4.32 DIGITAL INPUT MONITOR (6) (NOT INCLUDED IN WWM AND WWMG ONLY COLD)

| Inputs                     |        |
|----------------------------|--------|
| PC05                       |        |
| ID16: Cond.2 pump term.    | Closed |
| ID17: Cond. flow switch    | Closed |
| ID18: Multifunction enable | Closed |

**1. Digital Input ID16:** this value indicates the state of the digital input connected to the pump thermomagnetic switch on condenser 2, which can be:

- OPEN: circuit breaker alarm;
- CLOSED: normal operation;

**NOTICE**

**In the case of NXW-E, this value indicates the state of the thermomagnetic switch protecting the fans 2.**

- Digital Input ID17:** this value (not present on WWM) indicates the state of the digital input connected to the flow switch of the condenser, which can be:
  - OPEN: flow switch alarm;
  - CLOSED: normal operation;
- Digital Input ID18:** this value indicates the state of the digital input connected to the enabling of the multi-function input (U8), which can be:
  - OPEN: multifunction input disabled;
  - CLOSED: multifunction input enabled;

For the WWMG heat pump units, on the other hand, the screen is as follows:

| Inputs                |        |
|-----------------------|--------|
| PC05                  |        |
| ID16: FlowSwitch Exch |        |
| Feedback              |        |
|                       | Closed |
| ID17: ----            |        |
| ID18: ----            |        |

In the WWM Single-circuit/dual circuit and WWMG Cold-only units, the ID16, ID17 and ID18 digital inputs will appear empty because they have no connection.

### 4.33 DIGITAL INPUT MONITOR (7) (WWB AND WWBG ONLY)

| Inputs                   |      |
|--------------------------|------|
| Expansion UPC            |      |
| ID1: Valve Driver.Circ.1 |      |
|                          | Open |
| ID2: Valve Driver.Circ.2 |      |
|                          | Open |
| ID3: ----                |      |
| ID4: ----                |      |

- ID1 digital input:** this value indicates the state of the digital input connected to the valve driver of circuit 1, which can be:
  - OPEN: high pressure pressostat alarm;
  - CLOSED: normal operation;

- ID2 digital input:** this value indicates the state of the digital input connected to the valve driver of circuit 2, which can be:
  - OPEN: leak device alarm;
  - CLOSED: normal operation;

### 4.34 DIGITAL OUTPUT MONITOR (1)

| Outputs            |        |
|--------------------|--------|
| PC05               |        |
| NO1: Comp.1 circ.1 |        |
|                    | Closed |
| NO2: Comp.2 circ.1 |        |
|                    | Closed |
| NO3: Comp.1 circ.2 |        |
|                    | Closed |

- Digital output NO1:** this value indicates the state of the digital output connected the compressor 1 in circuit 1, which can be:
  - OPEN: compressor not active;
  - CLOSED: compressor active;
- NO2 digital output:** this value (not present in WWM dual circuit and WWMG) indicates the state of the digital output connected to compressor 2 in circuit 1, which can be:
  - OPEN: compressor not active;
  - CLOSED: compressor active;
- Digital output NO3:** this value (not present in WWM single circuit) indicates the state of the digital output connected to compressor 1 in circuit 2, which can be:
  - OPEN: compressor not active;
  - CLOSED: compressor active;

### 4.35 DIGITAL OUTPUT MONITOR (2)

| Outputs             |        |
|---------------------|--------|
| PC05                |        |
| NO4: Comp 2 Circ. 2 |        |
|                     | Open   |
| NO5: Cond. pump 1   |        |
|                     | Open   |
| NO6: Cond. pump 2   |        |
|                     | Closed |

- NO4 digital output:** this value (not present in WWM and WWMG) indicates the state of the digital output connected to compressor 2 in circuit 2, which can be:
  - OPEN: compressor not active;
  - CLOSED: compressor active;



**2. Digital output NO5:** this value indicates the state of the digital output connected to the pump on the condenser, which can be:

- OPEN: pump not active;
- CLOSED: pump active;

**3. NO6 digital output:** this value (not present in WWM and WWMG) indicates the state of the digital output connected to pump 2 on the condenser, which can be:

- OPEN: pump not active;
- CLOSED: pump active;

#### 4.36 DIGITAL OUTPUT MONITOR (3)

| Outputs            |      |
|--------------------|------|
| PC05               |      |
| NO7: Evap. pump 1  | Open |
| NO8: Serious alarm | Open |
| NO9: Evap. pump 2  | Open |

**1. Digital output NO7:** this value indicates the state of the digital output connected to pump 1 on the evaporator, which can be:

- OPEN: pump not active;
- CLOSED: pump active;

**2. Digital output NO8:** this value indicates the state of the digital output connected to the onset of a serious alarm, which can be:

- OPEN: alarm not present;
- CLOSED: alarm present;

**3. NO9 digital output:** this value (not present in WWM and WWMG) indicates the state of the digital output connected to pump 2 on the evaporator, which can be:

- OPEN: pump not active;
- CLOSED: pump active;

#### 4.37 DIGITAL OUTPUT MONITOR (4)

| Outputs    |      |
|------------|------|
| PC05       |      |
| NO10: VSL1 | Open |
| NO11: VSL2 | Open |
| NO12: VIC1 | Open |

**1. Digital output NO10:** this value indicates the state of the digital output connected to the liquid solenoid valve 1, which can be:

- OPEN: valve not active;
- CLOSED: valve active;

**2. Digital output NO11:** this value (not present in WWM single circuit) indicates the state of the digital output connected to liquid solenoid valve 2, which can be:

- OPEN: valve not active;
- CLOSED: valve active;

**3. Digital output NO12:** this value (not present in WWM) indicates the state of the digital output connected to the reverse cycle valve, which can be:

- OPEN: valve not active;
- CLOSED: valve active;

For WWMG units, on the other hand, the screen is as follows:

| Outputs             |      |
|---------------------|------|
| PC05                |      |
| NO10: VIC Circuit 1 | Open |
| NO11: VIC Circuit 2 | Open |
| NO12: ----          |      |

#### 4.38 DIGITAL OUTPUT MONITOR (5)

| Outputs    |      |
|------------|------|
| PC05       |      |
| NO13: V2VE | Open |
| NO14: ---  |      |
| NO15: ---  |      |

**Digital output NO13:** this value indicates the state of the digital output connected to the 2-way valve, which can be:

- OPEN: valve not active;
- CLOSED: valve active;

#### NOTICE



In the case of WRK, WWB, WWBG, NXW, this value indicates the state of reverse cycle valve 2.

## 4.39 DIGITAL OUTPUT MONITOR (6)

| Outputs                  |      |
|--------------------------|------|
| pCO5                     |      |
| NO16: Anti-freeze heater | Open |
| NO17: Fan 1              | Open |
| NO18: Fan 2              | Open |

- Digital output NO16:** this value indicates the state of the digital output connected to the anti-freeze heater, which can be:
  - OPEN: heater not active;
  - CLOSED: resistor active;
- Digital output NO17:** this value (only on NXW E) indicates the state of the digital output connected to fan 1, which can be:
  - OPEN: fan not active;
  - CLOSED: fan active;
- Digital output NO18:** this value (only on NXW E) indicates the state of the digital output connected to fan 2, which can be:
  - OPEN: fan not active;
  - CLOSED: fan active;

## 4.40 ANALOGUE OUTPUT MONITOR

| Outputs             |   |
|---------------------|---|
| pCO5                |   |
| Y1= Cond. mod. pump | 0 |
| Y2= Evap. mod. pump | 0 |
| Y3= Modul.fan 1     | 0 |
| Y4= Modul.fan 2     | 0 |

- Analogue output Y1:** this value indicates the current value of the signal applied to the modulating pump on the condenser

## NOTICE



On WWM units, this output indicates the value of the condenser modulating valve.

- Analogue output Y2:** this value (only on WRK, WWB, WWBG, NXW and WWMG) indicates the current value of the signal applied to the modulating pump on the evaporator
- Analogue output Y3:** this value (only for NXW E) indicates the current value of the signal applied to modulating fan 1
- Analogue output Y4:** this value (only for NXW E) indicates the current value of the signal applied to modulating fan 2

## NOTICE



On CAPSULE units, this indicates the value of the evaporator bypass valve.

## 5 INPUT AND OUTPUT

### 5.1 WWM

Analogue inputs

| Analogue inputs      | Single Circuit                             | DOUBLE CIRCUIT                        | Code       |
|----------------------|--------------------------------------------|---------------------------------------|------------|
| U1 (4-20mA)          | High pressure, Circuit 1 transducer        |                                       | AP1        |
| U2 (4-20mA)          | Low pressure transducer circuit 1          |                                       | BP1        |
| U3 (NTC)             | Evaporator outlet probe                    |                                       | SUW        |
| U4 (NTC)             | Evaporator inlet probe                     |                                       | SIW        |
| U5 (NTC)             | Condenser outlet probe                     |                                       | SUWH       |
| U6 (NTC / 4-20mA)    | Circuit 1 suction probe                    | High pressure, Circuit 2 transducer   | SGA1 /TAP2 |
| U7 (NTC / 4-20mA)    | Circuit 1 Liquid Temp. Probe               | Circuit 2 Low pressure transducer     | SL1 /TBP2  |
| U8 (PT1000)          | Discharge temperature sensor circuit 1     |                                       | SGP1       |
| U9 (4-20mA / PT1000) | Differential transmitter Huba (if present) | Temp. probe Circuit 2 pressurised gas | TD / SGP2  |
| U10 (NTC)            | Condenser inlet probe                      |                                       | SIWH       |

Digital inputs

| Digital inputs | Single Circuit                                                   | DOUBLE CIRCUIT                          | Code    |
|----------------|------------------------------------------------------------------|-----------------------------------------|---------|
| ID1            | High pressure circuit 1                                          |                                         | AP1     |
| ID2            | Leak detector circuit 1                                          |                                         | ALD1    |
| ID3            | Remote On/Off (Open=Off, Closed=Off)                             |                                         | ON/OFF  |
| ID4            | Remote Hot/Cold (Open = Hot , Closed = Cold)                     |                                         | C/F     |
| ID5            | Evaporator flow switch/flow meter / Differential pressure switch |                                         | FL/PD   |
| ID6            | Overload compressor 1 circuit 1                                  |                                         | MTC1A   |
| ID7            | Overload compressor 2 circuit 1                                  | ---                                     | MTC1B/- |
| ID8            | Phase monitor                                                    |                                         | RCS     |
| ID9            | ---                                                              | High pressure circuit 2                 | -/AP2   |
| ID10           | ---                                                              | Leak detector Circuit 2 (in the future) | -/ALD2  |
| ID11           | ---                                                              | Overload compressor 1 circuit 2         | -/MTC2A |
| ID12           | ---                                                              |                                         | -       |
| ID13           | Evaporator Pump Overload                                         |                                         | MTPE    |
| ID14           | ---                                                              |                                         | -       |
| ID15           | Condenser Pump Overload                                          |                                         | MTPC    |
| ID16           | ---                                                              |                                         | -       |
| ID17           | ---                                                              |                                         | -       |
| ID18           | ---                                                              |                                         | -       |

Digital outputs

| Digital outputs | Single Circuit                  | DOUBLE CIRCUIT               | Code   |
|-----------------|---------------------------------|------------------------------|--------|
| NO1             | Compressor 1 Circuit 1          |                              | CC1A   |
| NO2             | Compressor 2 Circuit 1          | ---                          | CC1B/- |
| NO3             | ---                             | Compressor 1 Circuit 2       | -/CC2A |
| NO4             | ---                             |                              | -      |
| NO5             | ---                             |                              | -      |
| NO6             | ---                             |                              | -      |
| NO7             | ---                             |                              | -      |
| NO8             | Serious alarm                   |                              | AL     |
| NO9             | ---                             |                              | -      |
| NO10            | Liquid solenoid valve circuit 1 |                              | VSL1   |
| NO11            | ---                             | Solenoid Valve Liquid Circ.2 | -/VSL2 |
| NO12            | ---                             |                              | -      |
| NO13            | Evaporator 2-way valve          |                              | V2VE   |
| NO14            | ----                            |                              | -      |
| NO15            | ----                            |                              | -      |
| NO16            | Anti-freeze resistance          |                              | RRE    |
| NO17            | ----                            |                              | -      |
| NO18            | ----                            |                              | -      |

Analogue outputs

| Analogue outputs | Single Circuit             | DOUBLE CIRCUIT | Code |
|------------------|----------------------------|----------------|------|
| Y1               | Condenser modulating valve |                | V2VC |
| Y2               |                            | ----           | -    |
| Y3               |                            | ----           | -    |
| Y4               |                            | ----           | -    |
| Y5               |                            | ----           | -    |
| Y6               |                            | ----           | -    |

## 5.2 WWMG

Analogue inputs

| Analogue inputs | Description                            | Code |
|-----------------|----------------------------------------|------|
| U1 (4-20mA)     | High pressure, Circuit 1 transducer    | TAP1 |
| U2 (NTC)        | Circuit 1 Liquid Temp. Probe           | SL1  |
| U3 (NTC)        | Evaporator outlet probe                | SUW  |
| U4 (NTC)        | Evaporator inlet probe                 | SIW  |
| U5 (NTC)        | Condenser outlet probe                 | SUWH |
| U6 (4-20mA)     | High pressure, Circuit 2 transducer    | TAP2 |
| U7 (NTC)        | Circuit 2 Liquid Temp. Probe           | SL2  |
| U8 (NTC 150 °C) | Discharge temperature sensor circuit 1 | SGP1 |
| U9 (NTC 150 °C) | Discharge temperature sensor circuit 2 | SGP2 |
| U10 (NTC)       | Condenser inlet probe                  | SIWH |

Digital inputs

| Digital inputs | Description                                                      | Code   |
|----------------|------------------------------------------------------------------|--------|
| ID1            | High pressure circuit 1                                          | AP1    |
| ID2            | Low pressure circuit 1                                           | BP1    |
| ID3            | Remote On/Off (Open=Off, Closed=Off)                             | ON/OFF |
| ID4            | Remote Hot/Cold (Open = Hot , Closed = Cold)                     | C/F    |
| ID5            | Evaporator flow switch/flow meter / Differential pressure switch | FL/PD  |
| ID6            | Overload compressor 1 circuit 1                                  | MTC1A  |
| ID7            |                                                                  | ----   |
| ID8            | Phase monitor                                                    | RCS    |
| ID9            | High pressure circuit 2                                          | AP2    |
| ID10           | Low pressure circuit 2                                           | BP2    |
| ID11           | Overload compressor 1 circuit 2                                  | MTC2A  |
| ID12           | Mechanical Ventilation System (Installation Room)                | VENT   |
| ID13           | Evaporator Pump Overload                                         | MTPI   |
| ID14           | Leak Detector "Mechanical Ventilation"                           | KLD    |
| ID15           | Condenser Pump Overload                                          | MTPS   |
| ID16           | Flow switch exchange relay feedback (cycle inversion)            | KPC    |
| ID17           |                                                                  | ----   |
| ID18           |                                                                  | ----   |

Digital outputs

| Digital outputs | Description                   | Code  |
|-----------------|-------------------------------|-------|
| NO1             | Compressor 1 Circuit 1        | KMCP1 |
| NO2             |                               | ----  |
| NO3             | Compressor 1 Circuit 2        | KMCP2 |
| NO4             |                               | ----  |
| NO5             | Condenser pump                | CPC   |
| NO6             |                               | ----  |
| NO7             | Evaporator pump               | CPE   |
| NO8             | Serious alarm                 | AL    |
| NO9             |                               | ----  |
| NO10            | Circuit 1 reverse cycle valve | VIC1  |
| NO11            | Circuit 2 reverse cycle valve | VIC2  |
| NO12            |                               | ----  |

| Digital outputs | Description                        | Code |
|-----------------|------------------------------------|------|
| NO13            | Evaporator 2-way valve (Cold only) | V2VE |
| NO14            | ----                               | -    |
| NO15            | ----                               | -    |
| NO16            | Anti-freeze resistance             | RRE  |
| NO17            | ----                               | -    |
| NO18            | ----                               | -    |

## Analogue outputs

| Analogue outputs | Description                                  | Code |
|------------------|----------------------------------------------|------|
| Y1               | Condenser modulating valve                   | V2VC |
| Y2               | Evaporator modulating valve (heat pump only) | V2VE |
| Y3               | ----                                         | -    |
| Y4               | ----                                         | -    |
| Y5               | ----                                         | -    |
| Y6               | ----                                         | -    |

## 5.3 WRK

## Analogue inputs

| Analogue inputs                            | Description                         | Code    |
|--------------------------------------------|-------------------------------------|---------|
| U1 (4-20mA)                                | High pressure, Circuit 1 transducer | AP1     |
| U2 (NTC 0-150°C)                           | Accumulation probe (optional)       | SAC     |
| U3 (NTC)                                   | Evaporator outlet probe             | SUW     |
| U4 (NTC)                                   | Evaporator inlet probe              | SIW     |
| U5 (NTC for WRK, NTC 0-150°C for WWB/WWBG) | Condenser outlet probe              | SUWH    |
| U6 (4-20mA)                                | High pressure, Circuit 2 transducer | AP2     |
| U7                                         | ----                                | ---     |
| U8 (NTC, 4-20mA, 0-10V)                    | Multi-function input                | MULT IN |
| U9 (NTC)                                   | External air temperature            | SAE     |
| U10 (NTC for WRK)                          | Condenser inlet probe               | SIWH    |

## Digital inputs

| Digital inputs | Description                                                      | Code   |
|----------------|------------------------------------------------------------------|--------|
| ID1            | High pressure circuit 1                                          | AP1    |
| ID2            | ---                                                              | -      |
| ID3            | Remote On/Off (Open=Off, Closed=Off)                             | ON/OFF |
| ID4            | Remote Hot/Cold (Open = Hot , Closed = Cold)                     | C/F    |
| ID5            | Evaporator flow switch/flow meter / Differential pressure switch | FL/PD  |
| ID6            | Overload compressor 1 circuit 1                                  | MTC1A  |
| ID7            | Overload compressor 2 circuit 1                                  | MTC1B  |
| ID8            | Phase monitor                                                    | RCS    |
| ID9            | High pressure circuit 2                                          | AP2    |
| ID10           | ---                                                              | -      |
| ID11           | Overload compressor 1 circuit 2                                  | MTC2A  |
| ID12           | Overload compressor 2 circuit 2                                  | MTC2B  |
| ID13           | Evaporator pump 1 circuit breaker                                | MTPE1  |
| ID14           | Evaporator pump 2 circuit breaker                                | MTPE2  |
| ID15           | Condenser thermal pump 1                                         | MTPC1  |
| ID16           | Condenser thermal pump 2                                         | MTPC2  |
| ID17           | Flowswitch condenser                                             | FLH    |
| ID18           | Multifunction input enabling                                     | AMF    |

## Digital outputs

| Digital outputs | Description            | Code |
|-----------------|------------------------|------|
| NO1             | Compressor 1 Circuit 1 | CC1A |
| NO2             | Compressor 2 Circuit 1 | CC1B |
| NO3             | Compressor 1 Circuit 2 | CC2A |
| NO4             | Compressor 2 Circuit 2 | CC2B |

| Digital outputs | Description                     | Code |
|-----------------|---------------------------------|------|
| NO5             | Pump 1 condenser                | CPC1 |
| NO6             | Pump 2 condenser                | CPC2 |
| NO7             | Pump 1 evaporator               | CPE1 |
| NO8             | Serious alarm                   | AL   |
| NO9             | Pump 2 evaporator               | CPE2 |
| NO10            | Liquid solenoid valve circuit 1 | VSL1 |
| NO11            | Liquid solenoid valve circuit 2 | VSL2 |
| NO12            | Circuit 1 reverse cycle valve   | VIC1 |
| NO13            | Circuit 2 reverse cycle valve   | VIC2 |
| NO14            | ---                             | -    |
| NO15            | ---                             | -    |
| NO16            | Anti-freeze resistance          | RRE  |
| NO17            | ---                             | -    |
| NO18            | ---                             | -    |

Analogue outputs

| Analogue outputs | Description                | Code |
|------------------|----------------------------|------|
| Y1               | Condenser modulating valve | V2VC |
| Y2               | ----                       | -    |
| Y3               | ----                       | -    |
| Y4               | ----                       | -    |
| Y5               |                            |      |
| Y6               |                            |      |

## 5.4 WWB/WWBG

Analogue inputs

| Analogue inputs                            | Description                         | Code    |
|--------------------------------------------|-------------------------------------|---------|
| U1 (4-20mA)                                | High pressure, Circuit 1 transducer | AP1     |
| U2 (NTC 0-150°C)                           | Accumulation probe (optional)       | SAC     |
| U3 (NTC)                                   | Evaporator outlet probe             | SUW     |
| U4 (NTC)                                   | Evaporator inlet probe              | SIW     |
| U5 (NTC for WRK, NTC 0-150°C for WWB/WWBG) | Condenser outlet probe              | SUWH    |
| U6 (4-20mA)                                | High pressure, Circuit 2 transducer | AP2     |
| U7                                         | ----                                | ---     |
| U8 (NTC, 4-20mA, 0-10V)                    | Multi-function input                | MULT IN |
| U9 (NTC)                                   | External air temperature            | SAE     |
| U10 (NTC 0-150°C)                          | Condenser inlet probe               | SIWH    |

Digital inputs

| Digital inputs | Description                                                      | Code      |
|----------------|------------------------------------------------------------------|-----------|
| ID1            | High pressure circuit 1                                          | AP1       |
| ID2            | Leak Detector Reading (If present)                               | ---       |
| ID3            | Remote On/Off (Open=Off, Closed=Off)                             | ON/OFF    |
| ID4            | --- / Circ.1 low pressure switch (WWBG 60Hz)                     | --- / BP1 |
| ID5            | Evaporator flow switch/flow meter / Differential pressure switch | FL/PD     |
| ID6            | Overload compressor 1 circuit 1                                  | MTC1A     |
| ID7            | ---                                                              | ---       |
| ID8            | Phase monitor                                                    | RCS       |
| ID9            | High pressure circuit 2                                          | AP2       |
| ID10           | --- / Circ.2 low pressure switch (WWBG 60Hz)                     | --- / BP2 |
| ID11           | Overload compressor 1 circuit 2                                  | MTC2A     |
| ID12           | ---                                                              | ---       |
| ID13           | Evaporator pump 1 circuit breaker                                | MTPE1     |
| ID14           | Evaporator pump 2 circuit breaker                                | MTPE2     |
| ID15           | Condenser thermal pump 1                                         | MTPC1     |
| ID16           | Condenser thermal pump 2                                         | MTPC2     |

| Digital inputs | Description                  | Code |
|----------------|------------------------------|------|
| ID17           | Flowschwitch condenser       | FLH  |
| ID18           | Multifunction input enabling | AMF  |

Digital outputs

| Digital outputs | Description                     | Code |
|-----------------|---------------------------------|------|
| NO1             | Compressor 1 Circuit 1          | CC1A |
| NO2             | ---                             | ---  |
| NO3             | Compressor 1 Circuit 2          | CC2A |
| NO4             | ---                             | ---  |
| NO5             | Pump 1 condenser                | CPC1 |
| NO6             | Pump 2 condenser                | CPC2 |
| NO7             | Pump 1 evaporator               | CPE1 |
| NO8             | Serious alarm                   | AL   |
| NO9             | Pump 2 evaporator               | CPE2 |
| NO10            | Liquid solenoid valve circuit 1 | VSL1 |
| NO11            | Liquid solenoid valve circuit 2 | VSL2 |
| NO12            | ---                             | ---  |
| NO13            | ---                             | ---  |
| NO14            | ----                            | ---  |
| NO15            | ----                            | ---  |
| NO16            | ---                             | ---  |
| NO17            | Electrical Panel Fan            | VQE  |
| NO18            | -----                           | -    |

Analogue outputs

| Analogue outputs | Description                | Code |
|------------------|----------------------------|------|
| Y1               | Condenser modulating valve | V2VC |
| Y2               | ---                        | -    |
| Y3               | ---                        | -    |
| Y4               | ---                        | -    |
| Y5               |                            |      |
| Y6               |                            |      |

## NOTICE



The WWB and WWBG units do not have pumps either on the evaporator side or on the condenser sides. However, the pCO board outputs the digital signal for the management of one/two pumps for both the evaporator side and the condenser side, as well as the condenser side flow switch. In this case, the reading of the evaporator/condenser side pump thermal protections must be enabled in the "Manufacturer" menu. Once enabled, by default only one pump is provided for the evaporator side and one for the condenser side.

## 5.5 NXW

Analogue inputs

| Analogue inputs         | Description (Master)          | Description (Slave)                                   | Code              |
|-------------------------|-------------------------------|-------------------------------------------------------|-------------------|
| U1 (4-20mA)             | Circ. 1 high pressure transd. | Circ. 1 high pressure transd.                         | AP1               |
| U2                      | Circ. 1 low pressure transd.  | Circ. 1 low pressure transd.                          | BP1               |
| U3 (NTC)                | Evaporator outlet probe       | Evaporator outlet probe                               | SUW               |
| U4 (NTC)                | Evaporator inlet probe        | Evaporator inlet probe                                | SIW               |
| U5 (NTC)                | Condenser outlet probe        | Condenser outlet probe                                | SUWH              |
| U6 (4-20mA)             | Circ. 2 high pressure transd. | Circ. 2 high pressure transd.                         | AP2               |
| U7                      | Circ. 2 low pressure transd.  | Circ. 2 low pressure transd.                          | BP2               |
| U8 (NTC, 4-20mA, 0-10V) | Multi-function input          | Evaporator common water outlet temp. (optional probe) | MULT IN / SIW COM |
| U9 (NTC)                | External air temperature      | Condenser common water outlet temp. (optional probe)  | SAE / SIWH COM    |

| Analogue inputs   | Description (Master)  | Description (Slave)   | Code |
|-------------------|-----------------------|-----------------------|------|
| U10 (NTC for WRK) | Condenser inlet probe | Condenser inlet probe | SIWH |

## Digital inputs

| Digital inputs | Description (Master)                                             | Description (Slave)                                              | Code        |
|----------------|------------------------------------------------------------------|------------------------------------------------------------------|-------------|
| ID1            | High pressure circuit 1                                          | High pressure circuit 1                                          | AP1         |
| ID2            | Valve driver 1 Circuit 1                                         | Valve driver 1 Circuit 1                                         | Valve 1     |
| ID3            | Remote On/Off (Open=Off, Closed=Off)                             | ---                                                              | ON / OFF    |
| ID4            | Remote Hot/Cold (Open = Hot , Closed = Cold)                     | ---                                                              | C/F         |
| ID5            | Evaporator flow switch/flow meter / Differential pressure switch | Evaporator flow switch/flow meter / Differential pressure switch | FL / PD     |
| ID6            | Overload compressor 1 circuit 1                                  | Overload compressor 1 circuit 1                                  | MTC1A       |
| ID7            | Overload compressor 2 circuit 1                                  | Overload compressor 2 circuit 1                                  | MTC1B       |
| ID8            | Phase monitor                                                    | Phase monitor                                                    | RCS         |
| ID9            | High pressure circuit 2                                          | High pressure circuit 2                                          | AP2         |
| ID10           | Valve driver 2 Circuit 2                                         | Valve driver 2 Circuit 2                                         | Valve 2     |
| ID11           | Overload compressor 1 circuit 2                                  | Overload compressor 1 circuit 2                                  | MTC2A       |
| ID12           | Overload compressor 2 circuit 2                                  | Overload compressor 2 circuit 2                                  | MTC2B       |
| ID13           | Evaporator pump 1 circuit breaker                                | Evaporator pump 1 circuit breaker                                | MTPE1       |
| ID14           | Evaporator pump 2 circuit breaker                                | Evaporator pump 2 circuit breaker                                | MTPE2       |
| ID15           | Condenser / fan 1 pump 1 thermal protection                      | Condenser / fan 1 pump 1 thermal protection                      | MTPC1 / TV1 |
| ID16           | Condenser / fan 2 pump 2 thermal protection                      | Condenser / fan 2 pump 2 thermal protection                      | MTPC2 / TV2 |
| ID17           | Flows witch condenser                                            | Flows witch condenser                                            | FLH         |
| ID18           | Multifunction input enabling                                     | ---                                                              | AMF         |

## Digital outputs

| Digital outputs | Description (Master)                                 | Description (Slave)                                  | Code |
|-----------------|------------------------------------------------------|------------------------------------------------------|------|
| NO1             | Compressor 1 Circuit 1                               | Compressor 1 Circuit 1                               | CC1A |
| NO2             | Compressor 2 Circuit 1                               | Compressor 2 Circuit 1                               | CC1B |
| NO3             | Compressor 1 Circuit 2                               | Compressor 1 Circuit 2                               | CC2A |
| NO4             | Compressor 2 Circuit 2                               | Compressor 2 Circuit 2                               | CC2B |
| NO5             | Pump 1 condenser                                     | Pump 1 condenser                                     | CPC1 |
| NO6             | Pump 2 condenser                                     | Pump 2 condenser                                     | CPC2 |
| NO7             | Pump 1 evaporator                                    | Pump 1 evaporator                                    | CPE1 |
| NO8             | Serious alarm                                        | Serious alarm                                        | AL   |
| NO9             | Pump 2 evaporator                                    | Pump 2 evaporator                                    | CPE2 |
| NO10            | Liquid solenoid valve circuit 1                      | Liquid solenoid valve circuit 1                      | VSL1 |
| NO11            | Liquid solenoid valve circuit 2                      | Liquid solenoid valve circuit 2                      | VSL2 |
| NO12            | Circuit 1 reverse cycle valve                        | Circuit 1 reverse cycle valve                        | VIC1 |
| NO13            | Circuit 2 reverse cycle valve                        | Circuit 2 reverse cycle valve                        | VIC2 |
| NO14            | Total recovery 3-way valve circuit 1 (With Recovery) | Total recovery 3-way valve circuit 1 (With Recovery) | VRT1 |
| NO15            | Total recovery 3-way valve circuit 2 (With Recovery) | Total recovery 3-way valve circuit 2 (With Recovery) | VRT2 |
| NO16            | Anti-freeze resistance                               | Anti-freeze resistance                               | RRE  |
| NO17            | Fan 1 (MotoEvaporating only)                         | Fan 1 (MotoEvaporating only)                         | MV 1 |
| NO18            | Fan 2 (MotoEvaporating only)                         | Fan 2 (MotoEvaporating only)                         | MV 2 |

## Analogue outputs

| Analogue outputs | Description                                 | Code |
|------------------|---------------------------------------------|------|
| Y1               | Condenser modulating pump                   | V2VC |
| Y2               | Evaporator modulating pump                  | V2VE |
| Y3               | Modulating 1 fan                            | DCP1 |
| Y4               | Modulating 2 fan                            | DCP2 |
| Y5               | Condenser Modulating Pump (Only if enabled) | V2VC |
| Y6               | Condenser Modulating Fan (Only if enabled)  | DCP1 |



## 5.6 EXPANSION BOARD PCOE FOR WWM

Analogue inputs

| Analogue inputs   | WWM with PN10           | WWM with PN21             | Code     |
|-------------------|-------------------------|---------------------------|----------|
| B1 (NTC)          | Circuit 1 suction probe | Circuit 1 suction probe   | SAS1     |
| B2 (NTC)          | Circuit 2 suction probe | Circuit 2 suction probe   | SAS2     |
| B3 (NTC / 4-20mA) | Circuit 1 Liquid Probe  | HUBA differential transm. | SL1 / TD |
| B4 (NTC / ----)   | Circuit 2 Liquid Probe  |                           | SL2 / -  |

## 5.7 PCOE EXPANSION FOR WWMG

Analogue inputs

| Analogue inputs | Description                         | Code |
|-----------------|-------------------------------------|------|
| B1 (4-20mA)     | Evaporator differential transmitter | TD   |
| B2 (4-20mA)     | Condenser differential transmitter  | TDH  |
| B3              | ----                                | -    |
| B4              | ----                                | -    |

## 5.8 UPC EXPANSION FOR WRK/WWB/WWBG

Analogue inputs

| Analogue inputs  | Description                       | Code |
|------------------|-----------------------------------|------|
| B1 (NTC)         | Circuit 1 Liquid Probe            | SL1  |
| B2 (NTC)         | Circuit 2 Liquid Probe            | SL2  |
| B3 (NTC 0-150°C) | Pressing line gas probe circuit 1 | SGP1 |
| B4 (NTC 0-150°C) | Pressing line gas probe circuit 2 | SGP2 |
| B5 (4-20 mA)     | Low pressure circuit 1            | BP1  |
| B6               | ----                              | -    |
| B7               | ----                              | -    |
| B8               | ----                              | -    |
| B9               | ----                              | -    |
| B10 (4-20 mA)    | Low pressure circuit 2            | BP2  |
| B11 (NTC)        | Circuit 1 suction probe           | SAS1 |
| B12 (NTC)        | Circuit 2 suction probe           | SAS2 |

Digital inputs

| Digital inputs | Description                                                     | Code    |
|----------------|-----------------------------------------------------------------|---------|
| ID1            | Circuit 1 Valve 1 Driver (WWB Only) / Input with Inverted Logic | Valve 1 |
| ID2            | Circuit 2 Valve 2 Driver (WWB Only) / Input with Inverted Logic | Valve 2 |
| ID3            | ---                                                             | -       |
| ID4            | ---                                                             | -       |
| ID5            | ---                                                             | -       |
| ID6            | ---                                                             | -       |
| ID7            | ---                                                             | -       |
| ID8            | ---                                                             | -       |
| ID9            | ---                                                             | -       |
| ID10           | ---                                                             | -       |
| ID11           | ---                                                             | -       |
| ID12           | ---                                                             | -       |

## 5.9 TOTAL RECOVERY PCOE EXPANSION FOR NXW

Analogue inputs

| Analogue inputs | Description                             | Code |
|-----------------|-----------------------------------------|------|
| B1 (NTC)        | Total recovery inlet water temperature  | SIR  |
| B2 (NTC)        | Total recovery outlet water temperature | SUR  |

| Analogue inputs | Description                                               | Code |
|-----------------|-----------------------------------------------------------|------|
| B3 (NTC)        | Total recovery 2 outlet water temperature (DK units only) | SUR2 |
| B4 (NTC)        | Common recovery outlet water temperature (DK units only)  | SL2  |

Digital inputs

| Digital inputs | Description        | Code |
|----------------|--------------------|------|
| ID1            | Flow switch        | FLR  |
| ID2            | Overload rec. pump | TPR  |
| ID3            | ---                |      |
| ID4            | ---                |      |

Digital outputs

| Digital outputs | Description                       | Code |
|-----------------|-----------------------------------|------|
| NO1             | Circuit 1 spillage from Recovery  | VR1  |
| NO2             | Circuit 1 spillage from Condenser | VB1  |
| NO3             | Circuit 2 spillage from Recovery  | VR2  |
| NO4             | Circuit 2 spillage from Condenser | VB2  |

## 5.10 PCOE EXPANSION FOR DK FOR NXW

Analogue inputs

| Analogue inputs | Description                     | Code  |
|-----------------|---------------------------------|-------|
| B1 (NTC)        | Evaporator 2 water outlet probe | SUW2  |
| B2 (NTC)        | Common evaporator outlet probe  | SUCE  |
| B3 (NTC)        | Condenser outlet probe 2        | SUWH2 |
| B4 (NTC)        | Condenser common outlet probe   | SUCC  |

## 5.11 EVD DRIVER FOR WWMG

Analogue inputs

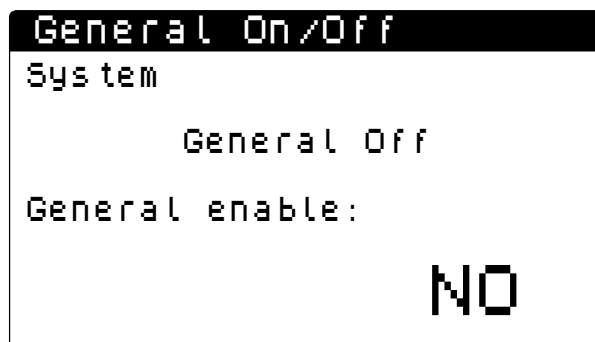
| Analogue inputs | Description                        | Code |
|-----------------|------------------------------------|------|
| S1              | Low pressure transducer circuit 1  | TBP1 |
| S2              | Circuit 1 Intake temperature probe | SGA1 |
| S3              | Circuit 2 Low pressure transducer  | TBP2 |
| S4              | Circuit 2 Intake temperature probe | SGA2 |

## 6 ON/OFF MENU



= Parameters that can be changed by the user.

### 6.1 SWITCH THE UNIT ON OR OFF



**1. Current state:** this value indicates the current state of the unit:

- ENABLED: unit on;
- GENERAL OFF: unit in standby;
- OFF DUE TO ALARM: unit in standby due to an alarm;
- OFF BY BMS: unit in standby turned off by the BMS system;
- OFF BY CLOCK: unit in standby turned off by settings contained in the time programming;
- OFF BY DIG.INPUT: unit in standby turned off by digital input (digital input ID8);
- OFF BY DISPLAY: unit in standby turned off by the terminal;
- ANTI-FREEZE: unit forced on to avoid freezing;
- OFF via Master: Unit switched off via the MASTER unit;
- Out of Oper.Lim.: unit off because out of operating limits;
- Off due to Defrost: System Off because the chiller is defrosting (only for WWB and WWBG);
- Off due to Chiller Alarm: system Off due to chiller alarm (only for WWB and WWBG);
- Off due to Conn. Chiller: the system is off because the connected chiller is off (only for WWB and WWBG).

**2. Unit start-up or shut-down:** changing this parameter makes it possible to start up or shut down the unit:

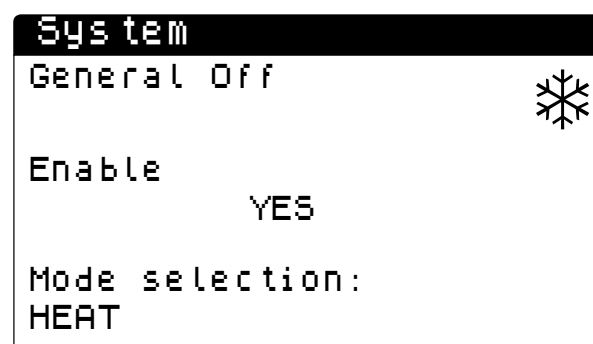
- YES: unit on;
- NO: unit off.

## 7 SYSTEM MENU



= Parameters that can be changed by the user.

### 7.1 SETS THE UNIT OPERATING MODE



**1. Current state:** this value indicates the current state of the unit:

- ENABLED: unit on;
- GENERAL OFF: unit in standby;
- OFF DUE TO ALARM: unit in standby due to an alarm;
- OFF BY BMS: unit in standby turned off by the BMS system;
- OFF BY CLOCK: unit in standby turned off by settings contained in the time programming;
- OFF BY DIG.INPUT: unit in standby turned off by the digital input;
- OFF BY DISPLAY: unit in standby turned off by the terminal;
- ANTI-FREEZE: unit forced on to avoid freezing.

**2. Active season:** this symbol indicates the currently active operating mode:

- (❄️): cooling mode
- (☀️): heating mode

**3. Unit enable:** this value indicates if the unit is enabled for operation, the possible states for this value are:

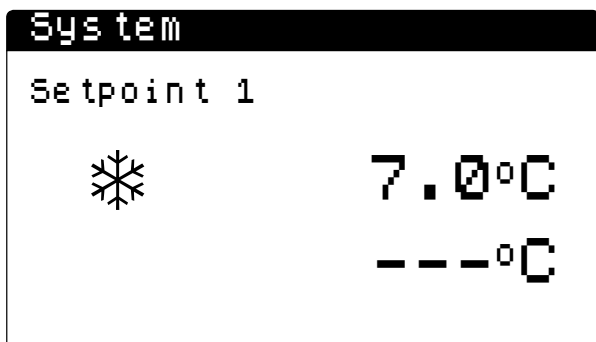
- OFF: the system is not enabled for operation;
- ON: system enabled for operation;
- ON WITH SET2: system enabled for operation using secondary setpoints;
- TIME BANDS: the system is enabled to operate according to the system's time programming.

**4. Season management mode:** this value (only for the heat pumps) indicate the management of the hot/cold modes:

- COOLING: the unit will produce chilled water;
- HEATING: the unit will produce hot water;
- FROM OUTSIDE TEMP.: the season is set based on the outside temperature;

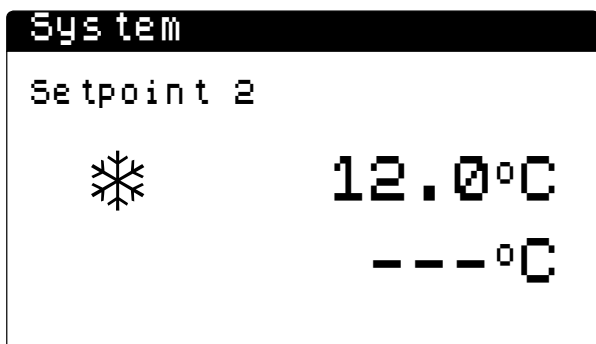
- FROM DIG. INPUT: the season is set based on the state of the dedicated digital input (ID4 OPEN = HOT);
- FROM SUPERV.: the season is set based on the serial command arriving from the supervisor;
- FROM CALENDAR: the season is set based on the calendar settings.

## 7.2 SETS THE VALUES FOR THE MAIN SETPOINTS



**Main cooling/heating setpoint:** this value indicates the main work setpoints used during the cooling/heating mode.

## 7.3 SETS THE VALUES FOR THE SECONDARY SETPOINTS



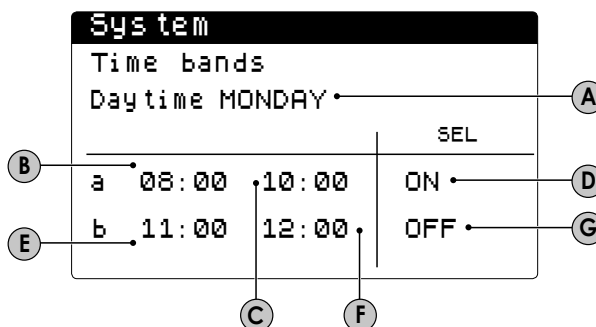
**Secondary cooling/heating setpoint:** this value indicates the secondary work setpoints used during the cooling/heating mode.

### NOTICE



To use the secondary set, enable the system with set 2 by setting it as an option (ON WITH SET 2) on the first screen of the system menu.

## 7.4 TIME BAND SETTING (A) AND (B)



- Day to set:** this value indicates the day of the week to which the currently displayed values refer for the first two time bands (a) and (b); this value can be any day of the week or a HOLIDAY
- Band start time (a):** this value indicates the time the first time band starts
- Band end time (a):** this value indicates the time the first time band ends
- Action to associate with the time band (a):** this value indicates the action performed during the first time band; the actions to perform can be:
  - ON: unit active with main setpoint;
  - SET2: unit active with secondary setpoint;
  - OFF: unit in standby
- Band start time (b):** this value indicates the time the second time band starts
- Band end time (b):** this value indicates the time the second time band ends
- Action to associate with the time band (b):** this value indicates the action performed during the second time band; the actions to perform can be:
  - ON: unit active with main setpoint;
  - SET2: unit active with secondary setpoint;
  - OFF: unit in standby

### NOTICE



All the screens for time-clock programming are only visible if activated in the main screen of the System menu (Enabling = TIME-CLOCK);

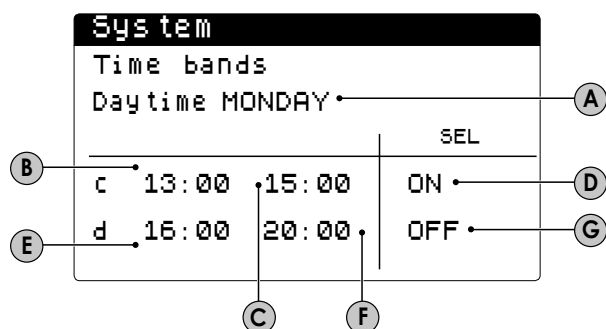


the values entered for the time bands (a) and (b) must follow the logic:  $B < C < E < F$ .



outside of the 4 possible time bands, the system will be kept off.

## 7.5 TIME BAND SETTING (C) AND (D)



- A. Day to set:** this value indicates the day of the week to which the currently displayed values refer for the last two time bands (c) and (d); this value can be any day of the week or a HOLIDAY
- B. Band start time (c):** this value indicates the time the third time band starts
- C. Band end time (c):** this value indicates the time the third time band ends
- D. Action to associate with the time band (c):** this value indicates the action performed during the third time band; the actions to perform can be:  
 — ON: unit active with main setpoint;  
 — SET2: unit active with secondary setpoint;  
 — OFF: unit in standby
- E. Band start time (d):** this value indicates the time the fourth time band starts
- F. Band end time (d):** this value indicates the time the fourth time band ends
- G. Action to associate with the time band (d):** this value indicates the action performed during the fourth time band; the actions to perform can be:  
 — ON: unit active with main setpoint;  
 — SET2: unit active with secondary setpoint;  
 — OFF: unit in standby

### NOTICE



**All the screens for time-clock programming are only visible if activated in the main screen of the System menu (Enabling = TIME-CLOCK);**

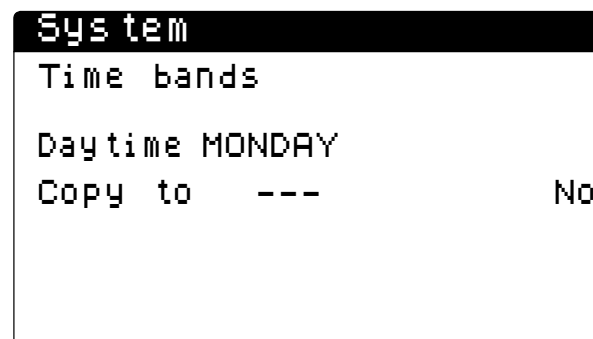


**the values entered for the time bands (a) and (b) must follow the logic:  $B < C < E < F$ , in addition, the time bands (c) and (d) cannot be earlier than the preceding time bands (a) and (b).**



**outside of the 4 possible time bands, the system will be kept off.**

## 7.6 TIME SETTING COPY FUNCTION



- Day from which to copy:** this value indicates which day to use to copy the time settings of the 4 time bands
- Day to which to copy:** this value indicates to which day the selected settings should be copied; the time bands of the day used as a reference can be copied to another single day of the week, be copied to all remaining days of the week or only to holidays
- Make copy:** changing this value copies the selected day to the requested day(s)

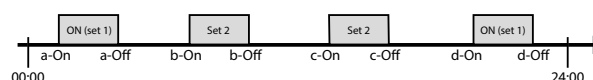
### NOTICE



**All the screens for time-clock programming are only visible if activated in the main screen of the System menu (Enabling = TIME-CLOCK);**

Each program has 8 days and each day has four time periods at which the switch-on and switch-off time, set point 2 or switch-on/switch-off can be set.

Outside these 4 time periods the program will switch the system off:



## 7.7 SETS OUTSIDE TEMPERATURE FOR SEASONAL CHANGEOVER

| Cooling/heating                          |        |
|------------------------------------------|--------|
| Cold/hot selec. with outside temperature |        |
| Cooling ON set                           | 27.0°C |
| Heating ON set                           | 13.0°C |

1.  **Cooling ON setpoint:** this value indicates the value of the outside air temperature above which cooling mode is activated
2.  **Heating ON setpoint:** this value indicates the value of the outside air temperature below which heating mode is activated

### NOTICE

 This function is only visible if the following option is activated on the main page of the system menu: Mode selection: From outside temp.

## 7.8 SETS THE CALENDAR FOR SEASONAL CHANGEOVER

| Cooling/heating               |       |
|-------------------------------|-------|
| Cold/hot selec. with calendar |       |
| Heating start                 | 0/--- |
| Heating end                   | 0/--- |

1.  **Heating start:** this value indicates the day of the year when the use of heating mode starts
2.  **Heating end:** this value indicates the day of the year when the use of heating mode ends (activating cooling mode)

### NOTICE

 This function is only visible if the following option is activated on the main page of the system menu: Mode selection: From calendar

## 8 RECOVERY MENU (ONLY NXW WITH RECOVERY)

 = Parameters that can be changed by the user.

### 8.1 TOTAL RECOVERY ENABLING

| Total recovery |     |
|----------------|-----|
| General Off    |     |
| Enable:        | YES |

1. **Current state:** this value indicates the current state of the unit:
  - ENABLED: unit on;
  - GENERAL OFF: unit in standby;
  - OFF DUE TO ALARM: unit in standby due to an alarm;
  - OFF BY BMS: unit in standby turned off by the BMS system;
  - OFF BY CLOCK: unit in standby turned off by settings contained in the time programming;
  - OFF BY DIG.INPUT: unit in standby turned off by the digital input;
  - OFF BY DISPLAY: unit in standby turned off by the terminal;
  - ANTI-FREEZE: unit forced on to avoid freezing.
2.  **Enabling:** this value (only for heat pumps) permits enabling or disabling hot water production with total recovery

### 8.2 SETS THE RECOVERY SETPOINT

| Total recovery |        |
|----------------|--------|
| Setpoint 1     |        |
|                | 45.0°C |

 **Recovery setpoint:** this value indicates the total recovery work setpoint.

## 9 CLOCK MENU

 = Parameters that can be changed by the user.

### 9.1 SETTING SYSTEM DATE AND TIME

```

Clock
Day:          Thursday
Date:         06 JULY 2017
Time:         14:49
  
```

-  **System day:** this value indicates the day set in the system
-  **System month:** this value indicates the month set in the system
-  **System year:** this value indicates the year set in the system
-  **System time:** this value indicates the time set in the system

### 9.2 SETS THE AUTOMATIC TIME CHANGE (STANDARD/DAYLIGHT SAVING TIME)

```

Clock
Automatic change active
std/daylight save time: YES
Start:          LAST SUNDAY
in: MARCH      at: 02.00
END:           LAST SUNDAY
in: OCTOBER    at: 03.00
  
```

(B)
(D)
(F)
(G)
(H)
(I)
(A)
(C)
(E)

-  **Enable automatic management:** this value indicates whether or not to activate automatic management for the time change between standard and daylight saving time
-  **Time change week:** this value indicates during which week of the month there is the day for the time change
-  **Time change day:** this value indicates on which day of the week the time change takes place

-  **Time change month:** this value indicates during which month the time change takes place
-  **Time change time:** this value indicates at what time the time change takes place
-  **Time return week:** this value indicates during which week of the month there is the day for the time change takes place again
-  **Time return day:** this value indicates on which day of the week the time change takes place again
-  **Time return month:** this value indicates during which month the time change takes place again
-  **Time return time:** this value indicates at what time the time change takes place again

### 9.3 SET HOLIDAYS

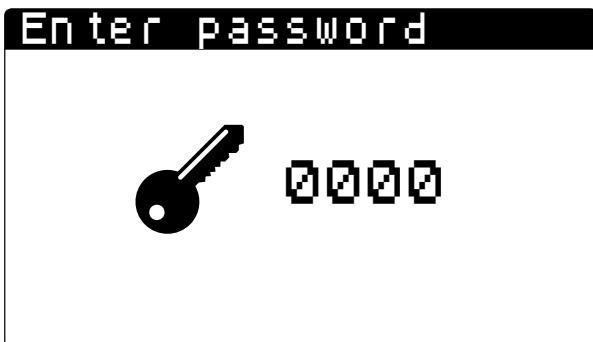
| Calendar |        |         |
|----------|--------|---------|
| Begin    | End    | Action  |
| 25/Dec   | 26/Dec | Holiday |
| 06/Jan   | 07/Jan | Holiday |
| 02/Dec   | 03/Jun | Off     |
| ---      | ---    | ---     |
| ---      | ---    | ---     |

-  **Start date:** this value indicates the start date of the holiday; the calendar can manage a maximum of 5 days called holidays during which a certain action is activated
-  **End date:** this value indicates the end date of the holiday; the calendar can manage a maximum of 5 days called holidays during which a certain action is activated
-  **Action to associate with the holiday:** this value indicates which action the unit performs on the holiday; the possible actions are:
  - OFF: unit will be off during the days selected;
  - FEST.: unit will be controlled as specified in the time-clock programme called HOLIDAY (for further information refer to the function of the time-clock);
  - : if no action is specified the unit will be controlled by the manual settings.

## 10 INSTALLER MENU (PASSWORD 0000)

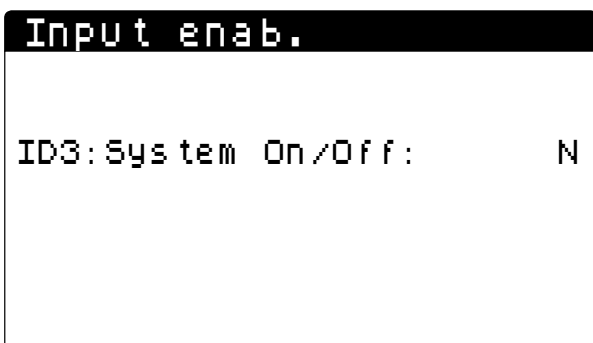
 = Parameters that can be changed by the user.

## 10.1 ENTER THE PASSWORD TO ACCESS THE MENU



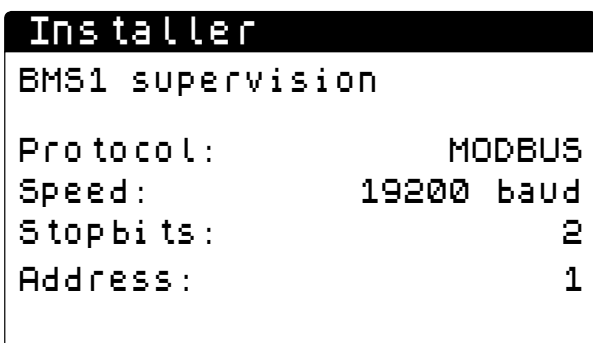
**Menu password:** this value indicates the password to use to access the installer menu; remember that for access, the default value (0000) must be entered.

## 10.2 DIGITAL INPUT ENABLING ID3



**Enabling ID3:** this value indicates the enabling to use digital input ID3 to manage the remote ON/OFF function (ON = closed / OFF = open).

## 10.3 ADDRESSES THE BMS SUPERVISION SYSTEM

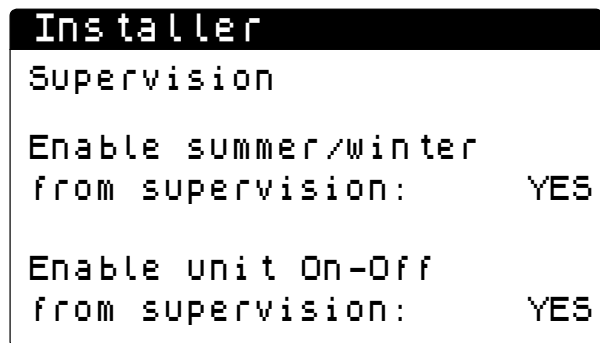


- Select protocol:** this value indicates which protocol is used to communicate with the BMS supervision system; the support protocols are:  
— MODBUS: Modbus/rs485 protocol;

- CAREL: protocol for expansions;
- pCOWEB: protocol for pCOWEB expansions;
- LON: protocol for LON expansion
- MODBUS EXT: Modbus in extended version with more available addresses. By selecting this protocol you will have the same addresses available on BMS2 for AerWeb or other supervisor.

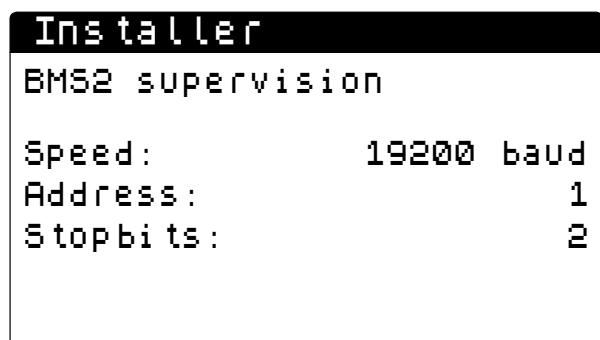
- Transmission speed:** this value indicates which speed is set for serial communication
- Stopbits:** this value indicates the number of bits used to indicate the bitstop in serial communication
- Address:** this value indicates the address assigned to the BMS supervision system towards which communication will be made

## 10.4 PRIMARY COMMAND ENABLING FROM BMS



- Enable season change from BMS:** this value (not present on WWMG only cold) indicates if the remote season change command for the unit is enabled or not for the unit using the BMS
- Enable ON/OFF from BMS:** this value indicates if the remote ON/OFF command is enabled or not for the unit using the BMS

## 10.5 ADDRESSES THE SECONDARY SUPERVISION SYSTEM (NOT OPTO-ISOLATED)





1.  **Transmission speed:** this value indicates which speed is set for serial communication
2.  **Address:** this value indicates the address assigned to the secondary supervision system (remember that this system is based on a non opto-isolated serial, therefore the available distances for connection are less than for the main serial) towards which the communications will be made

### NOTICE



The use of the second serial is meant for managing a transmission device via web (Aernet), however the serial can manage a second supervision system superimposed on the main one (BMS1).

3.  **Stopbits:** this value indicates the number of bits used to indicate the bitstop in serial communication

## 10.6 CHILLER CONNECTED TO WWB/WWBG SETTING (ONLY WWB/WWBG)

### Installer

```
Chiller family
connected to WWB
NRL, NRK, NRB (pCO5)
```

```
In which is used
the port:          BMS1
for communication with WWB
```

1.  **Chiller connected:** this value indicates which chiller family is connected to WWB/WWBG; The possible values are:
  - NRL, NRK, NRB (pCO5)
  - NRP (pCO5)
  - No Aermec chiller
2.  **Serial port:** this value indicates which serial port will be used for communication between the chiller and WWB/WWBG

## 10.7 CHILLER DEFROSTING MONITOR

### Installer

```
NRL, NRK, NRB family
Circ.1 defrosting state
Disabled
```

```
Circ.2 defrosting state
Disabled
```

1. **Circuit 1 defrosting state:** this value indicates the current state of defrosting on the indicated circuit of the connected chiller
2. **Circuit 2 defrosting state:** this value indicates the current state of defrosting on the indicated circuit of the connected chiller

### NOTICE



This mask is only visible for WWB and WWBG units, if the connected chiller is in the NRL, NRK, NRB, etc. family, and displays the defrost status of the connected chiller.

### Installer

```
NRP family
Circ.1 defrosting state
----
```

```
Circ.2 defrosting state
----
```

The status of the defrosting in which the two circuits of the connected chiller are located is displayed.

### NOTICE



Screen visible only for WWB and WWBG, if the connected chiller is in the NRP family, and displays the defrost status of the connected chiller.

## 10.8 SELECTS ADJUSTMENTS FOR WATER PRODUCTION

### Installer

Adjustment with  
temperature probe:

OUTPUT (U3)

Type of adjust.: PROP + INT.  
Integ. time (Ki) 600s

- Adjustment probe:** this value indicates on which probe the system bases its adjustment when producing water; The possible values are:
  - OUTPUT (U3 or U5 based on the unit): the probe used for adjusting the production of water is the one at the output of the plate heat exchanger;
  - INPUT (U4 or U10 based on the unit): the probe used for adjusting the production of water is the one at the input of the plate heat exchanger;
  - COMMON OUTPUT PROBE: the probe used for adjusting the production of water is the one at the common output if there are two plate heat exchangers;
  - STORAGE TANK (U2): the probe used for adjusting the production of water is the one connected to the input of the remote controlled condenser on the storage tank (this option is only available for WRK and WWB/WWBG)

### NOTICE



If selecting input based adjustment, in order to set a correct work setpoint, keep in mind the addition or the subtraction (based on if hot or cold operation) of the water production differential to or from the work setpoint.

- Type of adjustment:** this value indicates which logic is used for managing the adjustment; The possible values are:
  - PROP+INT: applies proportional control + integral;
  - PROP: applies only proportional control
- Integral time:** this value indicates the integral time to add to the proportional control (if the regulation type proportional + integral was selected)

## 10.9 PARAMETER SETTING FOR COLD ADJUSTMENT

### Adjustment

Cooling

FIXED SETPOINT

Differential: 5.0°C

- Type of setpoint:** this value indicates which logic is used for managing the work setpoint; the possible states are:
  - FIXED SETPOINT: the system uses the values set by the user in the windows of the set menu as the work setpoint (main and secondary setpoints);
  - CLIMATIC CURVE: the work setpoint is calculated automatically based on the data entered in the climatic curve
- Differential:** this value indicates the differential applied between the water input and output; this value depends on the flow rate value at which the system operates

## 10.10 PARAMETER SETTING FOR HOT ADJUSTMENT

### Adjustment

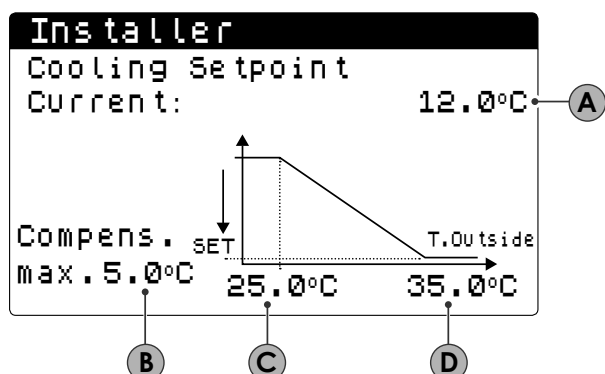
Heating

FIXED SETPOINT

Differential: 5.0°C

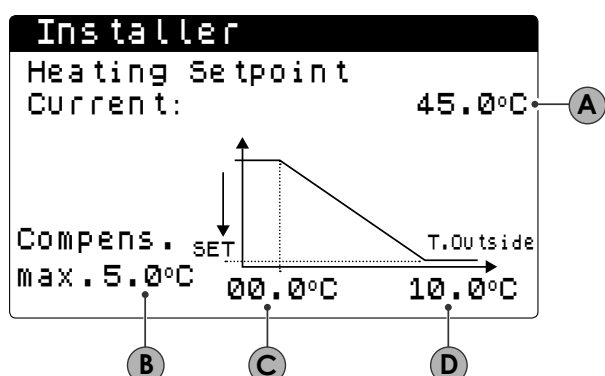
- Type of setpoint:** this value indicates which logic is used for managing the work setpoint; the possible states are:
  - FIXED SETPOINT: the system uses the values set by the user in the windows of the set menu as the work setpoint (main and secondary setpoints);
  - CLIMATIC CURVE: the work setpoint is calculated automatically based on the data entered in the climatic curve
- Differential:** this value indicates the differential applied between the water input and output; this value depends on the flow rate value at which the system operates

### 10.11 COLD CLIMATIC CURVE PARAMETER SETTING (ONLY WRK, WWB, WWBG, NXW)



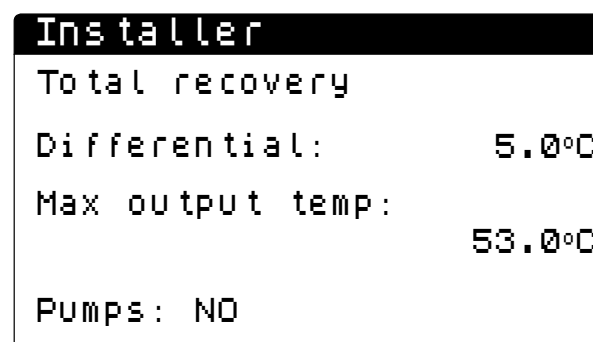
- A. **Current setpoint:** this value indicates the current work setpoint calculated with the climatic curve
- B. **Maximum differential on the compensated setpoint:** this value indicates the maximum deviation to apply to the original setpoint, when reaching the outside temperature specified in point (C)
- C. **Minimum outside air limit:** this value indicates the temperature of the outside air to which the compensated setpoint value corresponds applying (or adding to the setpoint) the maximum differential specified in point (B)
- D. **Maximum outside air limit:** this value indicates the temperature of the outside air to which the original setpoint value corresponds applying; as the outside temperature decreases, the setpoint increases in a directly proportional manner, up to the value specified in point (C), where the setpoint will be compensated by applying the maximum differential specified in point (B)

### 10.12 HOT CLIMATIC CURVE PARAMETER SETTING (ONLY WRK, WWB, WWBG, NXW)



- A. **Current setpoint:** this value indicates the current work setpoint calculated with the climatic curve
- B. **Maximum differential on the compensated setpoint:** this value indicates the maximum deviation to apply to the original setpoint, when reaching the outside temperature specified in point (C)
- C. **Minimum outside air limit:** this value indicates the temperature of the outside air to which the compensated setpoint value corresponds applying (or adding to the setpoint) the maximum differential specified in point (B)
- D. **Maximum outside air limit:** this value indicates the temperature of the outside air to which the original setpoint value corresponds applying; as the outside temperature decreases, the setpoint increases in a directly proportional manner, up to the value specified in point (C), where the setpoint will be compensated by applying the maximum differential specified in point (B)

### 10.13 TOTAL RECOVERY SETTINGS (ONLY NXW WITH RECOVERY)



- 1. **Differential:** this value indicates the differential to apply to the heat recovery unit setpoint
- 2. **Maximum temperature of hot water production with recovery:** this value indicates the maximum temperature of water produced with total recovery, above which the unit is forced to exit recovery mode
- 3. **Pump:** this value indicates the type of logic used to manage the unit pumps; The possible values are:
  - NO: recovery activates when the flow switch contact closes for water passage. The pump is not managed by the unit;
  - YES: The pump is managed by the unit. It turns off when the recovery input temperature setpoint is reached (remotely control the domestic hot water storage tank probe). It turns back on when the temperature of the probe at the recovery input drops down below the recovery setpoint. In addition to the flow switch, also any pump thermal protection that causes the pump to shut off and the recovery output.

## 10.14 EVAPORATOR ANTI-FREEZE ALARM MANAGEMENT CONFIGURATION

| Alarm config.           |       |
|-------------------------|-------|
| Evap. anti-freeze alarm |       |
| Threshold:              | 3.0°C |
| Differential:           | 1.0°C |
| Pump ON power:          | YES   |

1.  **Anti-freeze alarm activation threshold:** this value indicates the activation or deactivation threshold (adding or subtracting the value specified as the differential) of the anti-freeze alarm on the evaporator;
2.  **Differential:** this value indicates the differential to add or subtract to or from the temperature value below which the anti-freeze alarm activates
3.  **Pump ON power:** this value indicates whether or not to force the pumps turned on during the anti-freeze alarm

## 10.15 CONDENSER ANTI-FREEZE ALARM MANAGEMENT CONFIGURATION

| Alarm config.           |       |
|-------------------------|-------|
| Cond. anti-freeze alarm |       |
| Threshold:              | 3.0°C |
| Differential:           | 1.0°C |

1.  **Anti-freeze alarm activation threshold:** this value indicates the activation or deactivation threshold (adding or subtracting the value specified as the differential) of the anti-freeze alarm on the condenser
2.  **Differential:** this value indicates the differential to add or subtract to or from the temperature value below which the anti-freeze alarm activates

## 10.16 EVAPORATOR PUMP CONFIGURATION

| Installer        |      |
|------------------|------|
| Evaporator       |      |
| Number of pumps: | 1    |
| Inactivity time: | 168h |
| Delay off:       | 5s   |

1.  **Number of pumps:** this value indicates the number of pumps managed by the unit

### NOTICE

 If this parameter is modified, the system may not be able to manage the loads installed on the unit, excluding any pumps installed.

2.  **Off time:** this value indicates the off time for a pump, after which the pump is activated (if there are several pumps installed on the unit this prevents limescale build-up in the pump in the case of an extended stop)
3.  **Delay Off:** this value indicates the delay in turning off the pump after disabling the compressors or other sources (resistors, freecooling, etc.)

## 10.17 CONDENSER PUMP CONFIGURATION

| Installer        |      |
|------------------|------|
| Condenser        |      |
| Number of pumps: | 1    |
| Inactivity time: | 168h |
| Delay off:       | 5s   |

1.  **Number of pumps:** this value indicates the number of pumps managed by the unit

### NOTICE

 If this parameter is modified, the system may not be able to manage the loads in-

stalled on the unit, excluding any pumps installed.

2.  **Off time:** this value indicates the off time for a pump, after which the pump is activated (if there are several pumps installed on the unit this prevents lime-scale build-up in the pump in the case of an extended stop)
3.  **Delay Off:** this value indicates the delay in turning off the pump after deactivating the compressors or other sources (heaters, etc.)

## 10.18 SETS ANTI-FREEZE FUNCTION

| Installer                                |       |
|------------------------------------------|-------|
| Cyclical start-up enabling system pumps: | N     |
| Cycle time:                              | 30min |
| Forced duration:                         | 2min  |
| Outside temp threshold:                  | 5.0°C |

1.  **Anti-freeze function enabling:** this value indicates whether to enable the pump start-up cycle for the anti-freeze function
2.  **Cycle time:** this value indicates the interval time between pump activation periods
3.  **Pump activation time:** this value indicates the time the pumps will be made to operate for the anti-freeze function
4.  **Outside air threshold:** this value indicates the temperature for the outside air below which the anti-freeze cycle activates (if enabled)

### NOTICE



The outdoor temperature threshold is not present in the WWM and WWMG units.

## 10.19 FAN ANTI-FREEZE SETTINGS (ONLY NXW-E)

| Fans            |        |
|-----------------|--------|
| Fan anti-freeze |        |
| Enable:         | YES    |
| Outside Temp:   | 1.0°C  |
| Off period:     | 120min |
| On period:      | 30s    |

1.  **Enabling:** this value indicates if the fan anti-freeze function is active or not
2.  **Minimum outside temperature:** this value indicates the outside temperature below which the fans execute the anti-freeze cycles (if the function is active)
3.  **Off period:** this value indicates the number of minutes the fans will be off during the anti-freeze cycles
4.  **On period:** this value indicates the number of seconds the fans will be on during the anti-freeze cycles

## 10.20 RECOVERY ANTI-FREEZE SETTINGS (ONLY NXW WITH RECOVERY)

| Installer            |       |
|----------------------|-------|
| Anti-freeze Recovery |       |
| Threshold:           | 3.0°C |
| Differential:        | 1.0°C |

1.  **Threshold:** this value indicates the temperature measured by the recovery adjustment probe below which the recovery anti-freeze alarm is tripped
2.  **Differential:** this value indicates the differential to apply to the temperature detected by the recovery adjustment probe to end the anti-freeze alarm

## 10.21 SETS PUMP OPERATION WHEN USING THE ANTI-FREEZE HEATER

| Installer          |     |
|--------------------|-----|
| Anti-freeze heater |     |
| Pump ON power:     | YES |

 **Pump consent:** this value indicates whether or not to activate the system pumps during operation of the anti-freeze electric heater

## 10.22 MULTIFUNCTION INPUT SETTING (ONLY WRK, WWB, WWBG, NXW)

| Installer               |       |
|-------------------------|-------|
| Multifunction input     |       |
| U8: Input configuration |       |
| VARIABLE SETPOINT       |       |
| Type:                   | 0-10V |
| Min:                    | 0.0V  |
| Max:                    | 10.0V |

-  **Multifunction input function:** this value indicates which function to assign to the multifunction input U8; the possible states are:
  - NOT PRESENT: the multifunction input is disabled;
  - POWER LIMITATION: input U8 is used to limit the unit power proportionally to the signal applied to input U8 (the configuration of the managed power range is available on the next window if this option is active);
  - VARIABLE SETPOINT: input U8 is used to vary the unit work setpoint proportionally to the signal applied to input U8 (the configuration of the range for setpoint variation is available on the next window if this option is active).

### NOTICE



To be able to use this function, close the contact on input ID18.

-  **Type:** this value indicates the type of signal applied to the multifunction input; the possible states are:
  - 0-10V: input signal 0-10V;

- NTC: input signal NTC;
- 4-20mA: input signal 4-20mA

- Min and Max values:** depending on the setting for the type of probe, the range of the input signal in which the probe will operate can be displayed; the possible states are:
  - 0-10V: in this case, the Min value is 0.0 and the Max value is 10.0;
  - 4-20mA: in this case the Min value is 4.0 and the Max value is 20.0.

## 10.23 CONFIGURES POWER LIMITATION BY THE MULTIFUNCTION INPUT (IF THE FUNCTION IS ENABLED)

| Installer           |      |
|---------------------|------|
| Multifunction input |      |
| Power limitation    |      |
| Limit minimum:      | 0%   |
| Limit maximum:      | 100% |

-  **Minimum power limit:** this value indicates the minimum power level that can be reached based on the input signal
-  **Maximum power limit:** this value indicates the maximum power level that can be reached based on the input signal

### NOTICE



Screen present only on WRK, WWB, WWBG, NXW units.

## 10.24 CONFIGURES THE VARIABLE SETPOINT FROM THE MULTIFUNCTION INPUT (ONLY WRK, WWB, WWBG, NXW)

| Installer           |         |
|---------------------|---------|
| Multifunction input |         |
| Variable setpoint   |         |
| in mode:            |         |
| COOLING             | HEATING |
| Min.: 7.0°C         | 7.0°C   |
| Max: 11.0°C         | 11.0°C  |

1. **Minimum setpoint:** these values (COLD and HOT) indicates the minimum setpoints set based on the input signal (on multifunction input U8)
2. **Maximum setpoint:** these values (COLD and HOT) indicates the maximum setpoints set based on the input signal (on multifunction input U8)

## 10.25 CONFIGURES NTC READING FROM MULTIFUNCTION INPUT (ONLY WRK, WWB, WWBG, NXW)

| Installer                                |        |
|------------------------------------------|--------|
| Multifunction input<br>NTC configuration |        |
| Minimum Temp.:                           | 15.0°C |
| Maximum Temp.:                           | 25.0°C |

1. **Minimum temperature:** this value indicates the minimum temperature to which the minimum power level corresponds or the minimum setpoint connected to the trend of the temperature read by the NTC probe connected to the multifunction input
2. **Maximum temperature:** this value indicates the maximum temperature to which the minimum power level corresponds or the minimum setpoint connected to the trend of the temperature read by the NTC probe connected to the multifunction input

## 10.26 FAN NIGHT MODE SETTINGS (ONLY NXW-E)

| Fans                     |       |
|--------------------------|-------|
| Control silenced night:: | YES   |
| Control On:              | 21:00 |
| Control Off:             | 8:00  |
| Cooling VMax:            | 6.0V  |

1. **Enabling:** this value indicates if the fan night mode function (night-time silenced operation) is active or not
2. **Control on:** this value indicates the time the night mode function starts

3. **Control off:** this value indicates the time the night mode function ends
4. **Cooling VMax:** this value indicates the maximum volts when cold in condensation control mode when night-time silencing is active

## 10.27 CIRCUIT 1 COMPRESSOR OPERATING HOURS MONITOR

| Hour counter  |       |
|---------------|-------|
| circuit 1     |       |
| Compressor 1: | 0000h |
| Compressor 2: | 0000h |
| Compressor 3: | ---h  |

1. **Compressor 1 operating hours:** this value indicates the operating hours for compressor 1 in circuit 1
2. **Compressor 2 operating hours:** this value indicates the operating hours for compressor 2 in circuit 1 (if present)
3. **Compressor 3 operating hours:** this value indicates the operating hours for compressor 3 in circuit 1 (if present)

## 10.28 CIRCUIT 2 COMPRESSOR OPERATING HOURS MONITOR (IF PRESENT)

| Hour counter  |       |
|---------------|-------|
| circuit 2     |       |
| Compressor 1: | 0000h |
| Compressor 2: | 0000h |
| Compressor 3: | ---h  |

1. **Compressor 1 operating hours:** this value indicates the operating hours for compressor 1 in circuit 2
2. **Compressor 2 operating hours:** this value indicates the operating hours for compressor 2 in circuit 2 (if present)
3. **Compressor 3 operating hours:** this value indicates the operating hours for compressor 3 in circuit 2 (if present)

## 10.29 CIRCUIT 1 COMPRESSOR NUMBER OF START-UPS MONITOR

```

Hour counter
circuit 1
Number of start-ups

Compressor 1:      0000
Compressor 2:      0000
Compressor 3:      ---
    
```

1. **Number of compressor 1 starts:** this value indicates the number of start-ups for compressor 1 in circuit 1
2. **Number of compressor 2 starts:** this value indicates the number of start-ups for compressor 2 in circuit 1 (if present)
3. **Number of compressor 3 starts:** this value indicates the number of start-ups for compressor 3 in circuit 1 (if present)

## 10.30 CIRCUIT 2 COMPRESSOR NUMBER OF START-UPS MONITOR (IF PRESENT)

```

Hour counter
circuit 2
Number of start-ups

Compressor 1:      0000
Compressor 2:      0000
Compressor 3:      ---
    
```

1. **Number of compressor 1 starts:** this value indicates the number of start-ups for compressor 1 in circuit 2
2. **Number of compressor 2 starts:** this value indicates the number of start-ups for compressor 2 in circuit 2 (if present)
3. **Number of compressor 3 starts:** this value indicates the number of start-ups for compressor 3 in circuit 2 (if present)

## 10.31 CONFIGURES THE HEAT EXCHANGER VALVE STATE

```

Installer
Chiller Standby Valv.
Evap. closed:      YES
Delay AL.Evap.Flow:
                  15s
Chiller StandBy Valv.
Cond. Closed:      YES
    
```

1.  **Evaporator valves closed:** this value indicates whether or not to close the valves on the evaporator when the units are in standby
2.  **Flow switch alarm delay:** only visible if the evaporator valves are closed with the chiller in standby. It applies an alarm bypass to allow the valve to open in time
3.  **Condenser valves closed:** this value indicates whether or not to close the valves on the condenser when the units are in standby

### NOTICE



Screen present in all the chillers, but dedicated to the WWM units for the management of the evaporator side and condenser side valves.

For WWMG units, on the other hand, the screen is as follows:

```

Installer
Chiller Standby Valv.
Evap. closed:      YES

Chiller StandBy Valv.
Cond. Closed:      YES
    
```



### 10.32 CONFIGURES THE Y1 OUTPUT WITH CHILLER ON

| Installer            |                  |
|----------------------|------------------|
| Adj.with Chiller ON: | FIXED ADJUSTMENT |
| Set speed:           | 10.00            |

-  **Chiller adjustment ON:** this value indicates the type of adjustment set; The possible values are:  
— MODULATING ADJUSTMENT: the adjustment will be controlled with Set+Band management;  
— FIXED ADJUSTMENT: adjustment is fixed
-  **Set speed:** this value indicates the signal to give to the output Y1

### 10.33 PUMP COLD SIDE START-UP ENABLING (ONLY WRK)

| Installer                                              |    |
|--------------------------------------------------------|----|
| WRK in hot mode                                        |    |
| Turn on the pump, cold side with compress. in standby: | NO |

-  **Turn on the pump, cold side:** this value enables the turning on of the pump cold side with the compressors in standby (off because there is not enough demand from the thermostat to turn on the compressor). If it remains "No"(-default) it turns only when there is demand from the thermostat to turn on a compressor.

### 10.34 FAN UNIT CONFIGURATION (ONLY NXW-E)

| Configuration |   |
|---------------|---|
| Fan units:    | 1 |

-  **Fan units:** this value indicates whether the fan unit is single (1) or double (2)

### 10.35 FAN SPEED SETTING (ONLY NXW-E)

| Fans            |      |
|-----------------|------|
| Fans            |      |
| Start duration: | 1s   |
| Min Volt:       | 1.0  |
| Max Volt cold:  | 10.0 |

-  **Start duration:** this value indicates the duration of the start at 4V when the fans are started
-  **Min volt:** this value indicates the voltage set at minimum speed before shut-down
-  **Max volt cold:** this value indicates the voltage set at maximum speed

### 10.36 MASTER/SLAVE SETTINGS (ONLY NXW, WWB AND WWBG)

| Installer                   |        |
|-----------------------------|--------|
| Master/Slave Unit:          | SINGLE |
| Power step:                 | 1.0%   |
| Slave pump off with CP Off: | NO     |

1.  **Unit type:** this value indicates the type of unit;  
The possible values are:  
— SINGLE: the unit is the only one in the system;  
— MASTER: the unit is the master;  
— SLAVE: the unit is the slave;
2.  **Power step:** this value indicates the required power calculated by the thermostat and divided between the master and slave unit based on this parameter.  
— E.g.: 1% = the units work in parallel.  
— 100% = the units work in sequential mode (first all the power of one is used and then all the power of the other is used)
3.  **Slave pump Off with CP Off:** this value indicates the setting to apply to the slave pump; The possible values are:  
— YES: the slave pump turns off if there is no request on the slave.  
— NO: the slave pump turns on and shuts down together with the master

## 10.37 SYSTEM FLOW RATE MONITOR (WWMG)

```

Installer Plant Side

B1 pCOE Input:                26mbar

Flow rate:                    7m3/h
                             1131/min
  
```

```

Installer Sourc.Side

B2 pCOE Input:                31mbar

Flow rate:                    7m3/h
                             1131/min
  
```

1. **Input B1 pCOe:** displays the value of the 4-20mA probe converted into mbar regarding the system-side differential transmitter
2. **B2 pCOe input:** displays the value of the 4-20mA probe converted into mbar regarding the source-side differential transmitter
3. **Flow rate:** calculation of the flow rate in cubic meters/hour and in litres/minute on the system and source

side, calculated thanks to the differential transmitter connected to the dedicated input

## 10.38 GLYCOL WATER MANAGEMENT (WWMG)

```

Installer

Glycol water management

Enable: No

Freezing temperature of mixed with antifreeze: 0.0°C
  
```

1. **Enable:** this value indicates if the unit uses glycol water; the possible states are:  
— No: glycol water management is disabled;  
— Yes: glycol water management is disabled;
2. **Freezing temperature of mixed with antifreeze:**  
With this parameter, the minimum cold setpoint limit, the antifreeze alarm, the antifreeze resistance threshold and the cold force off threshold are calculated.

## 10.39 ALARM RELAY LOGIC

Alarm relay logic digital output NO8.

```

Installer

Digital outputs.

Logic inversion

Alarm relay: Open
  
```

- Open (if there are no alarms, the relay is closed)
- Closed (if there are no alarms, the relay is open)

## 10.40 UNIT CONFIGURATOR AND TESTING INFO MONITOR

| Info          |                  |
|---------------|------------------|
| Aermec S.p.A. |                  |
| Code:         | WWMG500XH1006000 |
| Ver.:         | 1.1.009 11/11/25 |
| Test date:    | 11:24 14/11/25   |

- Configurator code:** this value indicates the commercial code that identifies the unit and its configuration
- Software version:** this value indicates the version of the software installed in the unit
- Software version date:** this value indicates date of the version of the software installed in the unit
- Test time:** this value indicates the time when the unit was tested in the factory
- Test date:** this value indicates the date when the unit was tested in the factory

## 10.41 SELECTION OF SYSTEM LANGUAGE

| Language        |         |
|-----------------|---------|
| Language:       | ENGLISH |
| ENTER to change |         |

**System language:** this parameter indicates the language currently set in the system; to change the set language, simply follow the information on the display (press ENTER to change the system language).

## 10.42 SELECTS THE TYPE OF UNIT OF MEASUREMENT

| Misc                        |
|-----------------------------|
| Type of unit of measurement |
| STANDARD [°C/bar]           |
| BMS supervisor              |
| STANDARD [°C/bar]           |

**Unit of Measurement:** this value indicates which unit of measurement to use for displaying the temperature and pressure values; the possible states are:  
— STANDARD: temperature measured in (°C) and pressure in (bar);  
— ANGLO-SAXON: temperature measured in (°F) and pressure in (psi);

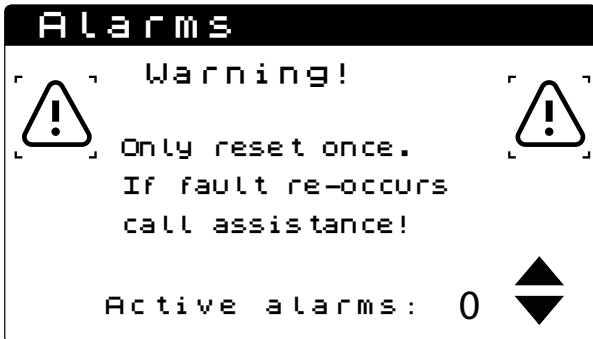
## 10.43 CHANGES THE INSTALLER MENU PASSWORD

| Password                                                                             |      |
|--------------------------------------------------------------------------------------|------|
|  |      |
| New User                                                                             |      |
| Installer:                                                                           | 0000 |

 **New password:** this value indicates the new password to use to access the installer menu.

## 11 ALARM

### 11.1 CONTROL OF ALARMS



This mask displays the alarm management logic.

Alarms with password-protected reset are:

- Anti-freeze alarm
- High pressure alarm
- Low pressure alarm
- Flow switch alarm
- High Discharge Temperature alarm

Password reset can be disabled from the menu under password.

The alarm status and number of interventions remain in memory even after power failure.

#### NOTICE



**If the default parameters are loaded (via the manufacturer menu), the alarms and attempts stored up to that point are reset.**

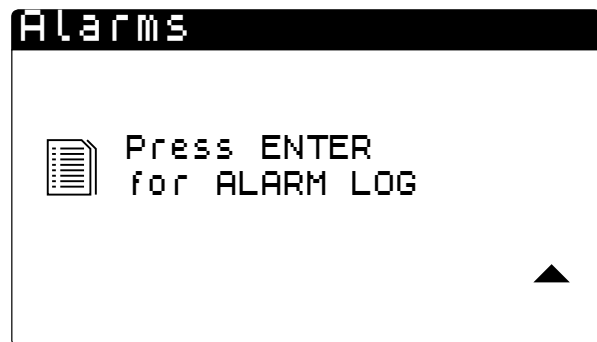
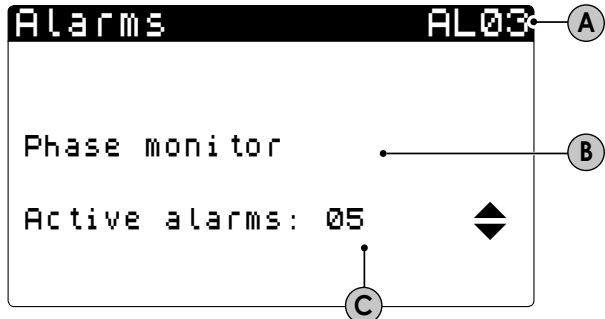
### 11.2 ALARM HISTORY

Each time an alarm is generated, it is saved in a memory area called "alarm log", this log contains the last 100 alarms recorded on the unit; for each saved alarm, the water input and output temperatures are recorded so that technical support personnel can have a clear picture of the unit at the moment a given alarm occurred.

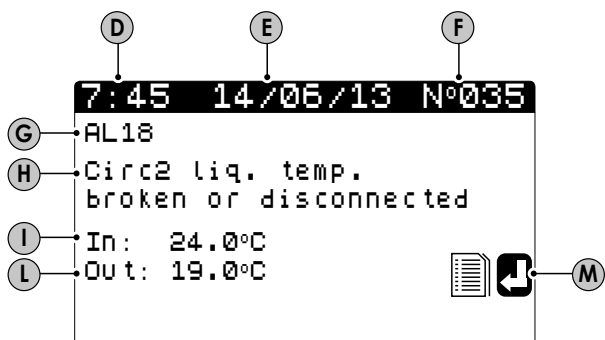
To access the alarms log:

1. Press the key and enter the alarm view;
2. If alarms are present, scroll the active alarms with the key and reach the icon that indicates the activation of the alarm log;
3. Press the key to enter the alarms log;
4. To exit the alarms log, press or .

#### 11.2.1 Alarm memory and log



- A. Alarm index active:** this value indicates the index of the active alarm currently displayed
- B. Active alarm description:** this value indicates the description of the active alarm currently displayed
- C. Total active alarms:** this value indicates the total of the active alarms in the system (the presence of active alarms is indicated by the illumination of the red light in the bell key)



- D. Alarm log - alarm time:** this value indicates the time of occurrence of the alarm currently viewed in the alarm log
- E. Alarm log - alarm date:** this value indicates the date of occurrence of the alarm currently viewed in the alarm log

- F. Alarm log - alarm index:** this value indicates the index (max 100 alarms ) of the alarm currently viewed in the alarm log
- G. Alarm log - alarm code:** this value indicates the ID code for the alarm currently displayed in the alarm log
- H. Alarm log - alarm description:** this value indicates the description of the alarm currently displayed in the alarm log
- I. Alarm log - Temperature IN:** this value indicates the temperature of the water input to the unit at the moment the alarm shown in the alarm log occurred
- L. Alarm log - Temperature OUT:** this value indicates the temperature of the water output to the unit at the moment the alarm shown in the alarm log occurred
- M. Alarm log - cooling circuit pressure info:** pressing the enter key when viewing an alarm contained in the log, the information about the water temperatures will be replaced by the high (HP) and low (LP) pressure values measured in the cooling circuits at the moment the alarm currently viewed in the log was generated

#### NOTICE



Pressing the enter key again permits switching from the water temperature display to the display of the pressure in the cooling circuit.



THE ALARM LOG CANNOT BE RESET and as the available memory contains 100 alarms, once the index has reached 99, it will increase starting from 00 (overwriting the oldest alarm).

## 12 ALARMS SUMMARY TABLE

The units are designed to signal any malfunctioning; such signalling is indicated by the flashing of the alarm key (bell key) on the left-hand side of the screen. Press the bell key to visualise the current alarm. These alarms can be reset automatically, manually or semi-automatically (depending on the type and seriousness of the alarm activated); to reset the alarm message you must press the bell key again (remember that resetting the alarm does not resolve the cause that generated it, but only cancels its display). The table below shows a list of possible errors that the unit may generate along with a brief explanation of the possible causes.

Alarm restart mode:

- **Manual restart mode:** The unit is restarted manually, disconnecting and reconnecting the voltage.
- **Automatic restart mode:** The unit is restarted automatically.
- **Semi-automatic restart mode:** The unit is restarted automatically if the alarm is repeated a maximum of three consecutive times, after which a new alarm blocks the unit and makes manual restart necessary.

| Code | Description                                                             | Reset     | Note                      |
|------|-------------------------------------------------------------------------|-----------|---------------------------|
| AL01 | Clock battery faulty or not connected                                   | Manual    |                           |
| AL02 | Expansion memory damaged                                                | Manual    |                           |
| AL03 | EVD electronic valve alarm or phase monitor                             | Manual    | After the 5th activation  |
| AL05 | High pressure sensor circuit 1 faulty or not connected                  | Manual    |                           |
| AL06 | High pressure sensor circuit 2 faulty or not connected                  | Manual    |                           |
| AL07 | Low pressure sensor circuit 1 faulty or not connected                   | Manual    |                           |
| AL08 | Low pressure sensor circuit 2 faulty or not connected                   | Manual    |                           |
| AL09 | Inlet water temp sensor evap.1 faulty or not connected                  | Manual    |                           |
| AL10 | Outlet water temp sensor evap.1 faulty or not connected                 | Manual    |                           |
| AL11 | Com. evap output faulty probe (master – slave)                          | Manual    |                           |
| AL12 | Recovery 1 input faulty probe                                           | Manual    |                           |
| AL13 | Recovery 1 output faulty probe                                          | Manual    |                           |
| AL14 | Recovery 2 output faulty probe                                          | Manual    |                           |
| AL16 | External temperature sensor faulty or not connected                     | Manual    |                           |
| AL17 | Circuit 1 Liquid temperature probe broken or not connected              | Manual    |                           |
| AL18 | Liquid temperature sensor circuit 2 faulty or not connected             | Manual    |                           |
| AL19 | Request for maintenance on compressors of circuit 1                     | Automatic |                           |
| AL23 | Compressor 1 therm. circuit 1                                           | Manual    |                           |
| AL24 | System pump 1 thermal protection                                        | Manual    |                           |
| AL25 | System pump 2 thermal protection                                        | Manual    |                           |
| AL26 | Recovery 1 pump thermal protection                                      | Manual    |                           |
| AL27 | Recovery 2 pump thermal protection                                      | Manual    |                           |
| AL30 | Low pressure from circuit 1 pressure switch (Only for WWMG e WWBG 60Hz) | Manual    | Software Version: ≥ 1.1.9 |
| AL31 | Low pressure sensor circuit 1                                           | Manual    |                           |
| AL32 | High pressure indicated by pressure switch on circuit 1                 | Manual    |                           |
| AL33 | High pressure sensor circuit 1                                          | Manual    |                           |
| AL34 | Circuit 1 Low pressure from probe (not delayed)                         | Manual    |                           |
| AL35 | Circuit 2 Low pressure from probe (not delayed)                         | Manual    |                           |
| AL38 | Loss of evaporator water flow                                           | Manual    | After the 1st activation  |
| AL39 | Recovery flow switch                                                    | Manual    | After the 1st activation  |
| AL40 | Anti-freeze temperature input/output System                             | Manual    |                           |
| AL41 | Com. evap anti-freeze (master-slave)                                    | Manual    |                           |
| AL42 | Rec. 1 anti-freeze                                                      | Manual    |                           |
| AL43 | Rec. 2 anti-freeze                                                      | Manual    |                           |
| AL45 | Expansion IO (uPC) Off-line                                             | Manual    | After the 3rd attempt     |
| AL46 | Expansion IO (pCOe) Off-line                                            | Manual    | After the 20th attempt    |
| AL48 | Discharge gas temperature sensor circuit 1 faulty or not connected      | Manual    |                           |
| AL49 | Discharge gas temperature sensor circuit 2 faulty or not connected      | Manual    |                           |
| AL50 | Board re-start from lost power                                          | Automatic |                           |
| AL51 | Maintenance hours compressor 2 circ.1                                   | Automatic |                           |
| AL53 | Maintenance hours compressor 1 circ.2                                   | Automatic |                           |
| AL54 | Maintenance hours compressor 2 circ.2                                   | Automatic |                           |
| AL56 | Com. cond. output faulty probe (master – slave)                         | Manual    |                           |
| AL59 | Circuit breaker compressor 2 circuit 1                                  | Manual    |                           |

| Code  | Description                                                             | Reset          | Note                           |
|-------|-------------------------------------------------------------------------|----------------|--------------------------------|
| AL01  | Clock battery faulty or not connected                                   | Manual         |                                |
| AL61  | Circuit breaker compressor 1 circuit 2                                  | Manual         |                                |
| AL62  | Circuit breaker compressor 2 circuit 2                                  | Manual         |                                |
| AL64  | Low pressure from circuit 2 pressure switch (Only for WWMG e WWBG 60Hz) | Manual         | Software Version: $\geq 1.1.9$ |
| AL65  | Low pressure from circuit 2 probe                                       | Manual         |                                |
| AL66  | High pressure from circuit 2 pressure switch                            | Manual         |                                |
| AL67  | High pressure sensor circuit 2                                          | Manual         |                                |
| AL70  | Com. cond. anti-freeze (master-slave)                                   | Manual         |                                |
| AL75  | High discharge gas temperature circuit 1                                | Manual         |                                |
| AL76  | High discharge gas temperature circuit 2                                | Manual         |                                |
| AL85  | High system input temperature                                           | Manual         |                                |
| AL86  | SAC - Storage tank probe faulty                                         | Automatic      |                                |
| AL87  | Master Offline                                                          | Manual         |                                |
| AL88  | Slave Offline                                                           | Manual         |                                |
| AL91  | Slave alarm summary                                                     | Automatic      |                                |
| AL92  | High overheating Circuit 1 – Exhaust Circuit (Only for WWMG)            | Manual         | Software Version: $\geq 1.1.9$ |
| AL93  | High overheating Circuit 2 – Exhaust Circuit (Only for WWMG)            | Manual         | Software Version: $\geq 1.1.9$ |
| AL94  | pCOE expansion offline (address=3) Unit DK                              | Manual         | After the 20th attempt         |
| AL95  | Common evaporator output probe broken or not connected (DK)             | Manual         |                                |
| AL96  | Evaporator 2 output probe broken or not connected (DK)                  | Manual         |                                |
| AL99  | Air/water envelope alarm                                                | Semi-automatic | Software Version: $\geq 1.1.9$ |
| AL100 | Flow switch relay feedback (Only for WWMG)                              | Manual         | Software Version: $\geq 1.1.9$ |
| AL101 | External mechanical ventilation system (Only for WWMG)                  | Manual         | Software Version: $\geq 1.1.9$ |
| AL102 | Water input outside operating limits                                    | Manual         |                                |
| AL103 | DeltaP Circ1                                                            | Manual         |                                |
| AL104 | DeltaP Circ2                                                            | Manual         |                                |
| AL105 | Offline expansion board pCOe WWM                                        | Manual         | After the 20th attempt         |
| AL106 | Cond. input probe                                                       | Manual         |                                |
| AL107 | Cond.output probe                                                       | Manual         |                                |
| AL108 | Cond. 1 pump thermal protection                                         | Manual         |                                |
| AL109 | Cond. 2 pump thermal protection                                         | Manual         |                                |
| AL110 | Intake sensor Circ.1                                                    | Manual         |                                |
| AL111 | Intake sensor Circ.2                                                    | Manual         |                                |
| AL112 | Condenser freezing                                                      | Manual         |                                |
| AL113 | High condens. temperatur.                                               | Manual         |                                |
| AL114 | Condenser water input temperature outside operating limits              | Manual         |                                |
| AL115 | Gas leak Circ.1                                                         | Manual         |                                |
| AL116 | Gas leak Circ.2                                                         | Manual         |                                |
| AL117 | Huba diff. transmitter                                                  | Manual         |                                |
| AL118 | Huba probe                                                              | Manual         |                                |
| AL119 | Cond. flow switch                                                       | Manual         | After the 3rd attempt          |
| AL120 | Compressor envelope Circuit 1                                           | Manual         |                                |
| AL121 | Compressor envelope Circuit 2                                           | Manual         |                                |
| AL122 | High electrical panel temperature                                       | Manual         |                                |
| AL123 | Chiller connected to WWB/WWBG                                           | Automatic      |                                |
| AL124 | No communication with chiller connected to WWB/WWBG                     | Automatic      |                                |
| AL125 | No communication with Driver EVD                                        | Automatic      |                                |
| AL126 | EVD Driver 1 circuit intake temperature low                             | Manual         |                                |
| AL127 | LAN Driver EVD error                                                    | Manual         |                                |
| AL128 | Eeprom damaged                                                          | Manual         |                                |
| AL129 | Probe S1 Driver EVD                                                     | Manual         |                                |
| AL130 | Probe S2 Driver EVD                                                     | Manual         |                                |
| AL131 | EEV motor Driver EVD error                                              | Manual         |                                |
| AL132 | LOP Circuit 1 Driver EVD (low evaporation temperature)                  | Manual         |                                |
| AL133 | MOP Circuit 1 Driver EVD (high evaporation temperature)                 | Manual         |                                |
| AL134 | LowSH Circuit 1 Driver EVD (low overheating)                            | Manual         |                                |
| AL135 | HiTcond Circuit 1 Driver EVD (high condensing temperature)              | Manual         |                                |
| AL136 | Probe S3 Circuit 2 Driver EVD                                           | Manual         |                                |
| AL137 | Probe S4 Circuit 2 Driver EVD                                           | Manual         |                                |

| Code  | Description                                                       | Reset  | Note                           |
|-------|-------------------------------------------------------------------|--------|--------------------------------|
| AL01  | Clock battery faulty or not connected                             | Manual |                                |
| AL138 | LowSH Circuit 2 Driver EVD (low overheating)                      | Manual |                                |
| AL139 | LOP Circuit 2 Driver EVD (low evaporation temperature)            | Manual |                                |
| AL140 | MOP Circuit 2 Driver EVD (high evaporation temperature)           | Manual |                                |
| AL141 | EVD Driver circuit 2 intake temperature low                       | Manual |                                |
| AL142 | EEV motor Circuit 2 Driver EVD error                              | Manual |                                |
| AL143 | EVD drive inefficient adaptive adjustment                         | Manual |                                |
| AL144 | Common condenser output probe broken or not connected (DK)        | Manual |                                |
| AL145 | Condenser 2 output probe broken or not connected (DK)             | Manual |                                |
| AL146 | Leak Detector (WWB/WWBG only and if enabled, WWMG always present) | Manual | Software version: $\geq 1.1.6$ |
| AL147 | Valve driver 1 circuit 1 (Only for WWB, WWBG, NXW)                | Manual | Software version: $\geq 1.1.6$ |
| AL148 | Valve driver 2 circuit 2 (Only for WWB, WWBG, NXW)                | Manual | Software version: $\geq 1.1.6$ |
| AL149 | Driver EVD battery discharged                                     | Manual | Software Version: $\geq 1.1.9$ |
| AL150 | Configuration Driver EVD error                                    | Manual | Software Version: $\geq 1.1.9$ |
| AL151 | EVD firmware not compatible                                       | Manual | Software Version: $\geq 1.1.9$ |
| AL152 | Circuit 1 EVD alarm summary                                       | Manual | Software Version: $\geq 1.1.9$ |
| AL153 | Circuit 2 EVD alarm summary                                       | Manual | Software Version: $\geq 1.1.9$ |







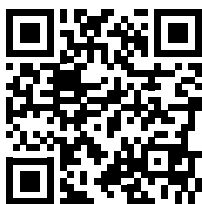


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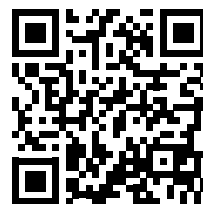
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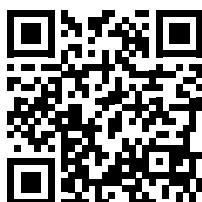
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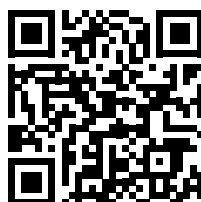
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