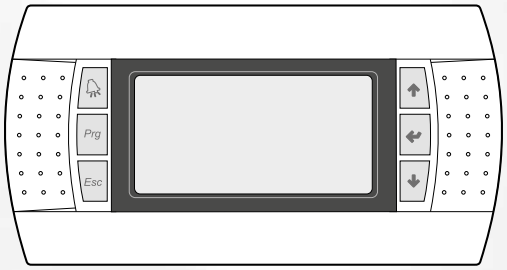
EN

26/01 – 4472051_06
Translation of Original instructions

W/W heat pumps

User manual



PCO5 BOARD - PGD1 CONTROL PANEL

AERMEC

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.

TABLE OF CONTENTS

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.

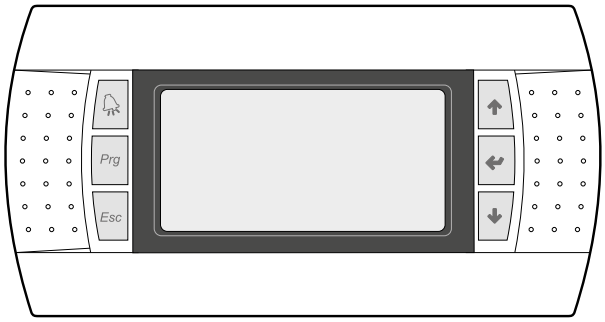
PROHIBITION

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)



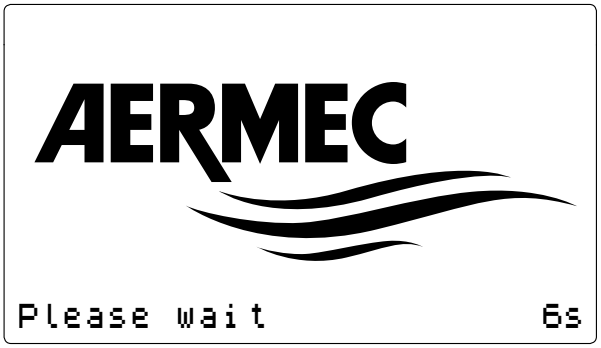
The command panel of the unit allows the rapid setting of the working parameters of the machine, and their visualisation. The card stores all the default settings and any modifications.
The installation of the remote panel PGD1 makes it possible to copy from remote all the functions and settings available 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

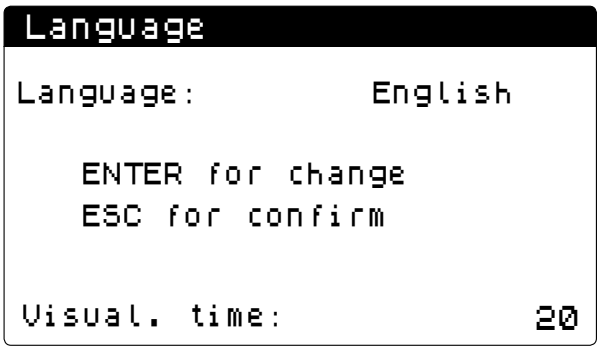
After powering the unit, the control card will perform preliminary operations before it is ready to be used; these initial procedures last about 60 seconds before they are complete; two windows are displayed during the initial loading procedures (a start window and one for selecting the system language);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

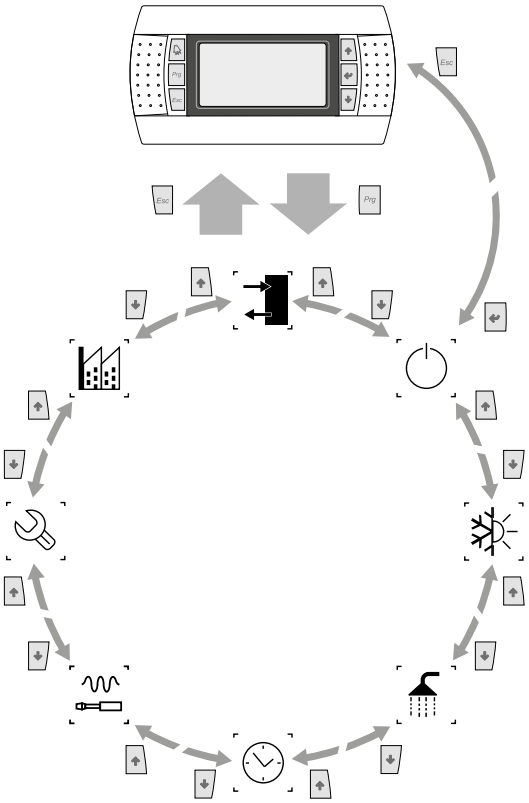
— Pressing this key when navigating menus/parameters passes to the previous menu/parameter;
— Pressing this key when changing a parameter decreases the value of the selected parameter;

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;



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 unts ionly);

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 ...);

NOTICE

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

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

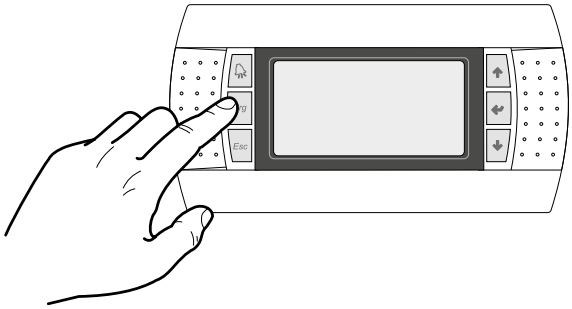
MANUFACTURER: This menu is not accessible except by authorized staff;

2.4 USER OPERATING PROCEDURES

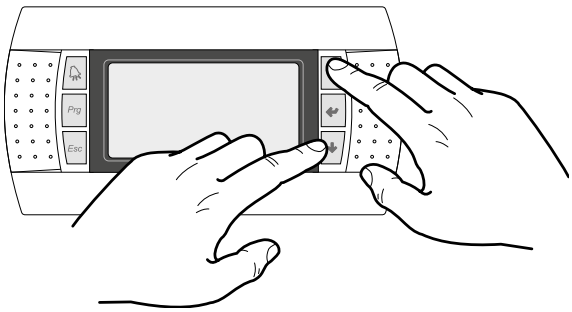
To check or modify the operating parameters of the unit it is necessary to use the interface of the control panel on the unit.
The basic operations that the user must be capable of, for the correct use of the unit, are:
— Moving between menus;
— Selecting and modifying a menu.

2.4.1 Moving between menus

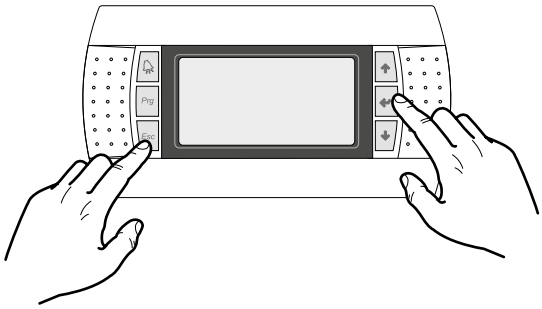
To move between the menus, the order in which they are displayed is shown in the previous page, enter the menu selection mode by pressing the key Prg;



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:

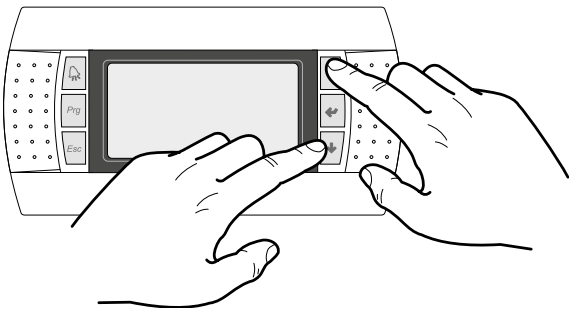


When the desired menu is seen press the key ↵ to enter the menu. Press the key Esc to return to the menu selection mode:



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:



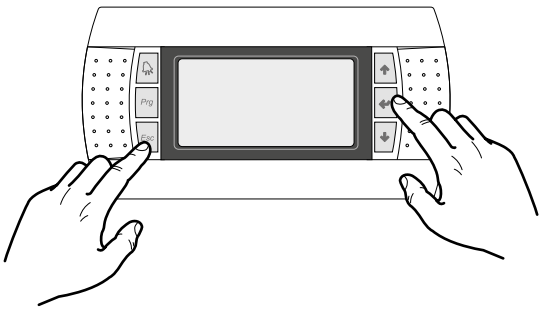
When the desired parameter is seen press the key ↵ to enter the parameter. To exit the parameter and return to the parameter selection mode press the key Esc.

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.

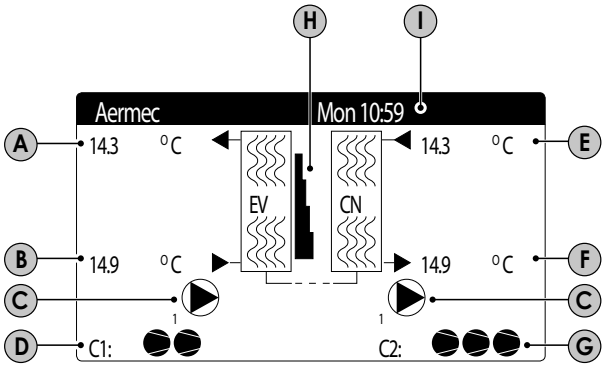
3 MAIN MENU

During normal operation, the first page of the main menu is shown on the unit's display; this menus 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

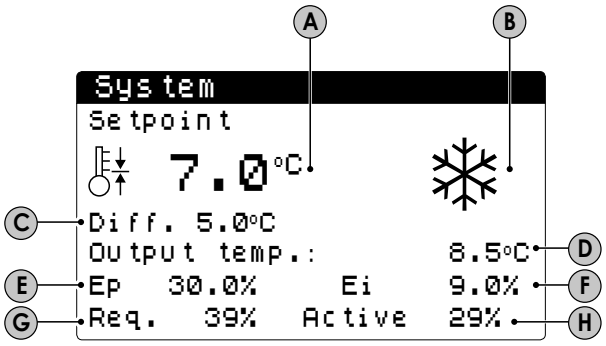
NOTICE

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;
— (-∿-) 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 set-point 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

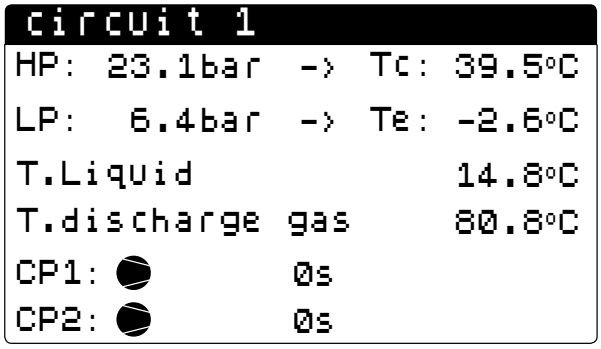
Some icons can appear in this window that indicate certain system states, these icons can be:

— (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

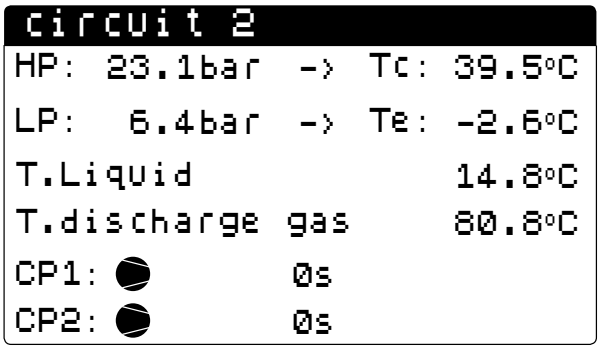


1. **High pressure value:** this value indicates the delivery pressure in the circuit
2. **Low pressure value:** this value indicates the intake pressure in the circuit
3. **Condensing temperature:** this value indicates the current value of the condensing temperature
4. **Evaporation temperature:** 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)

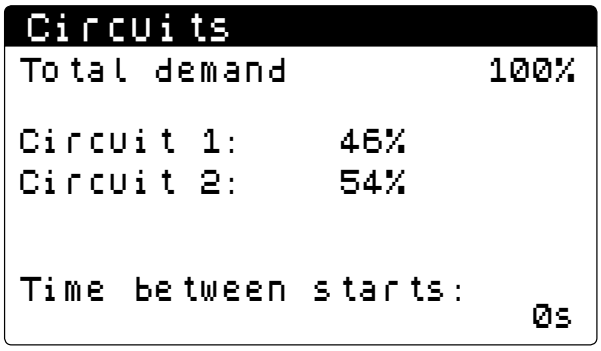


1. **High pressure value:** this value indicates the delivery pressure in the circuit
2. **Low pressure value:** this value indicates the intake pressure in the circuit
3. **Condensing temperature:** this value indicates the current value of the condensing temperature
4. **Evaporation temperature:** 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 (○)

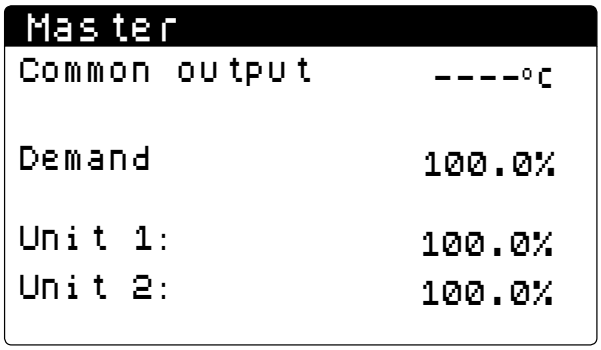
8. **Minimum residue time:** this value indicates how many seconds are left for to the minimum time to elapse for the current state (minimum ON or OFF time) for each compressor in the circuit in question

3.5 CIRCUIT GENERAL MENU



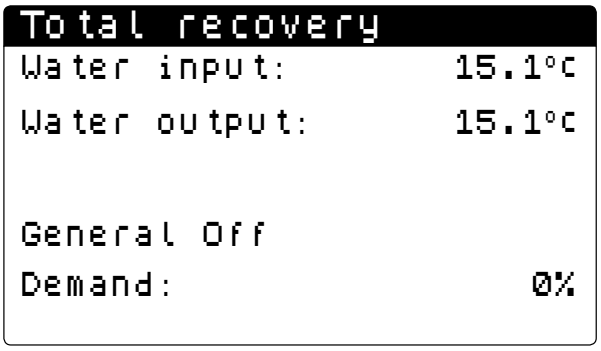
1. **Total power demand:** this value indicates the total power demand by the system
2. **Circuit 1 power output:** this value indicates the total power output by the circuit to satisfy the system demand
3. **Circuit 2 power output:** this value indicates the total power output by the circuit to satisfy 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)



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)

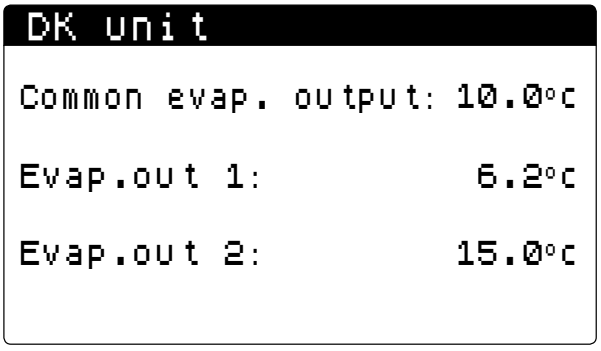


1. **Water input:** this value (in units with total recovery) indicates the total recovery input water probe temperature
2. **Water output:** this value (in units with total recovery) indicates the total recovery output water probe temperature
3. **Heat recovery unit state:** this value indicates the 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

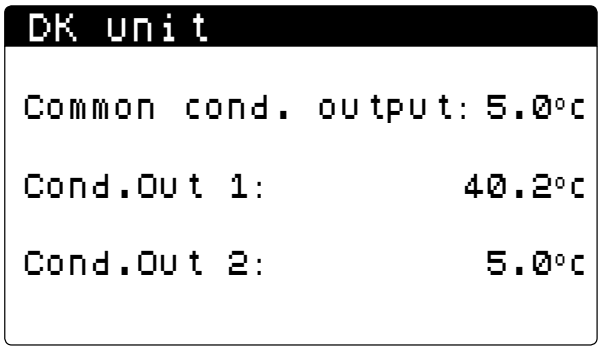
4. **Demand:** this value indicates the power percentage demand for recovery

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



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

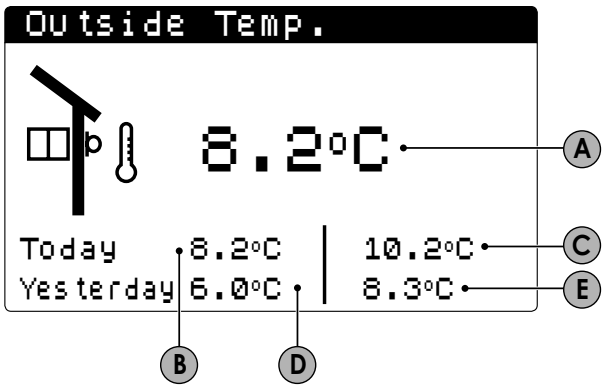
3.9 DK VERSION MONITOR DK (2) (ONLY NXW)



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

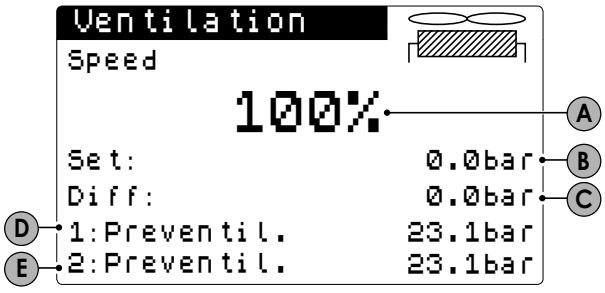
4 INPUT/OUTPUT MENU

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



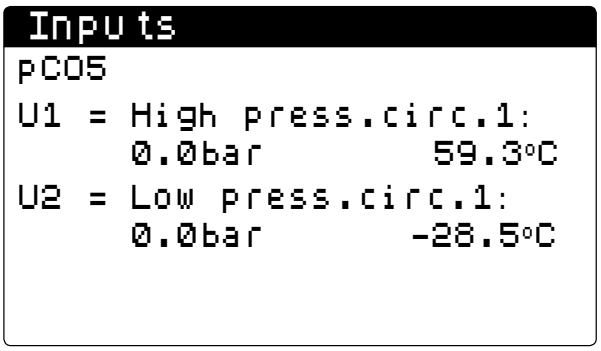
A. **Outside air temperature:** this value indicates the current temperature of the outside air
B. **Outside air temperature (minimum today):** this value indicates the minimum value measured during the day for the outside air temperature
C. **Outside air temperature (maximum today):** this value indicates 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;
   — Equalisation: 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:

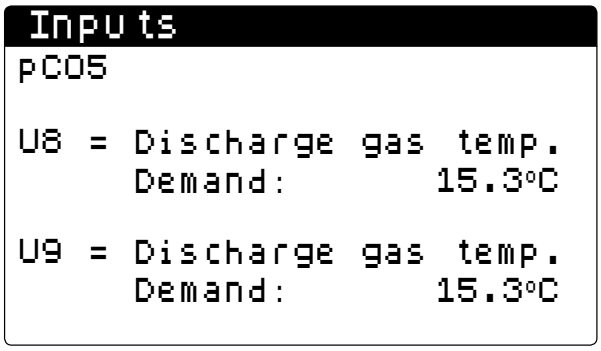
```
Inputs
pCO5
U6 = High press.circ.2:
     20.0bar       37.7°C
U7 = Liquid Temperat.
     Circ.2        23.0°C
```

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
```

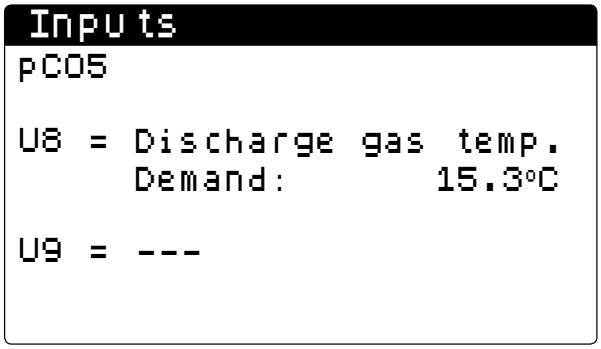
1. **Analogue input U6:** this value represents the value read by the intake temperature probe
2. **Analogue input U7:** this value represents the value read by the temperature probe located downstream of the solenoid valve

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



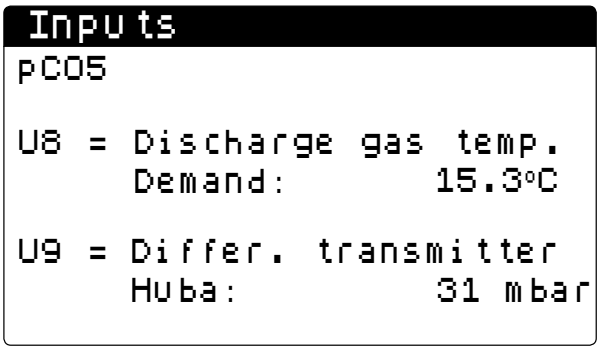
1. **Analogue input U8:** this value represents the discharge gas temperature in circuit 1
2. **Analogue input U9:** this value represents the discharge gas temperature in circuit 2 (if present)

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



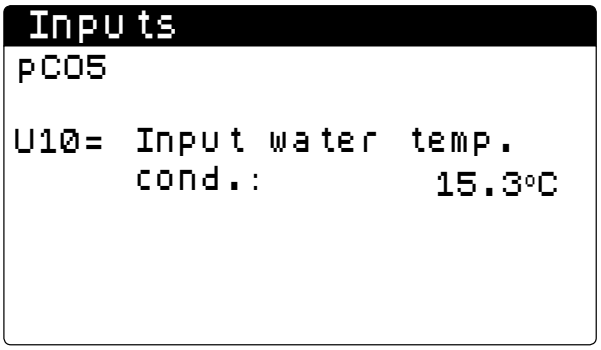
Analogue input U8: this value represents the discharge gas temperature in circuit 1

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



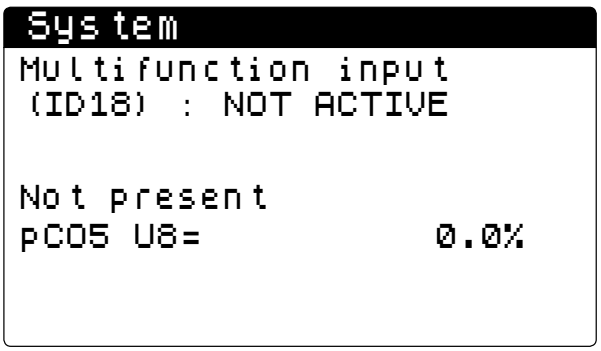
1. **Analogue input U8:** this value represents the discharge gas temperature in circuit 1
2. **Analogue input U9:** this value represents the pressure value read by the HUBA differential transmitter

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



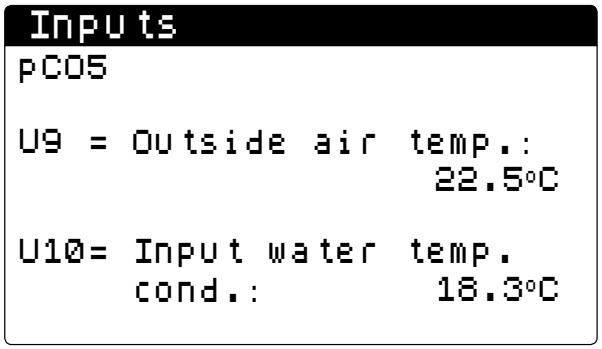
Analogue input U10: this value represents the temperature entering the condenser

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



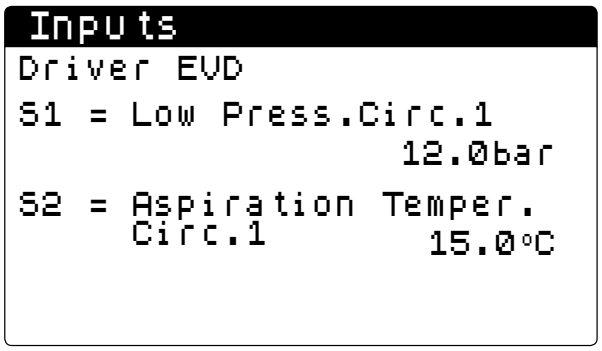
1. **Digital input state ID18:** this value indicates the state of the digital input ID18 which provides enabling (if closed) to the multifunctional input available to the analogue input U8
2. **Multifunction input setting:** this value indicates the current date setting to the multifunction input (this 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)

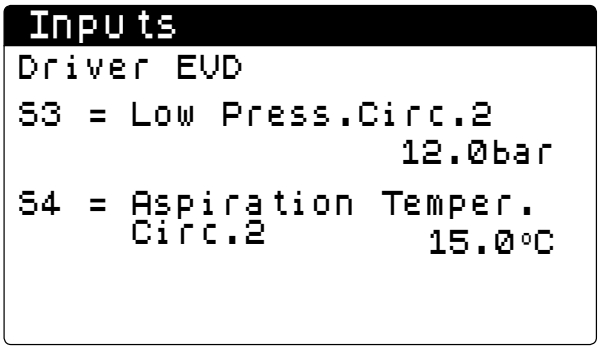


1. **Analogue input U9:** this value represents the outside air temperature
2. **Analogue input U10:** this value represents the water temperature entering the condenser

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

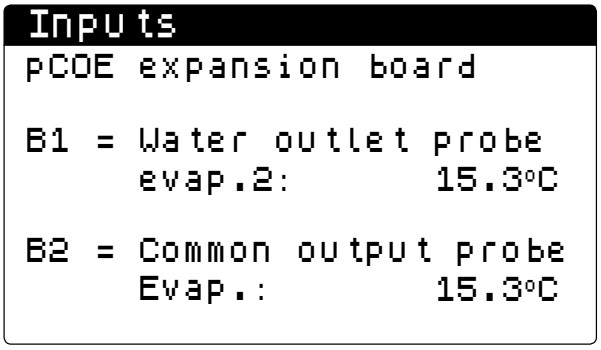


1. **Analogue input S1**: this value represents the low pressure of circuit 1
2. **Analogue input S2**: this value represents the intake temperature of circuit 1



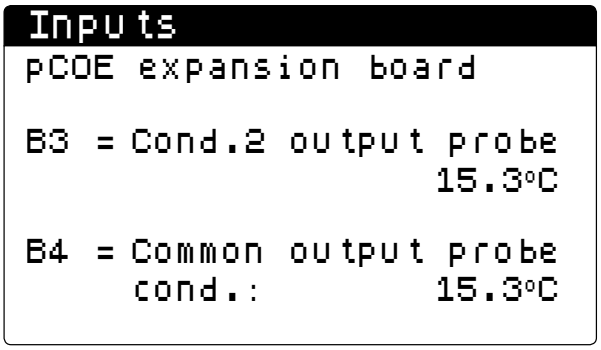
1. **Analogue input S3**: this value represents the low pressure of circuit 2
2. **Analogue input S4**: this value represents the intake temperature of circuit 2

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



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

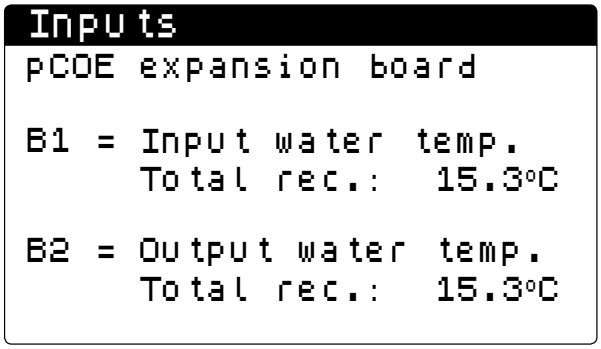
4.16 ANALOGUE INPUT MONITOR (14) (ONLY NXW WITH DK CONFIGURATION)



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

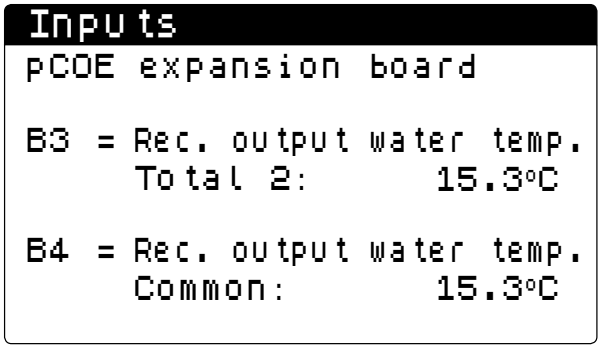
2. **Analogue input B4:** this value represents the water temperature at the common condenser output

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



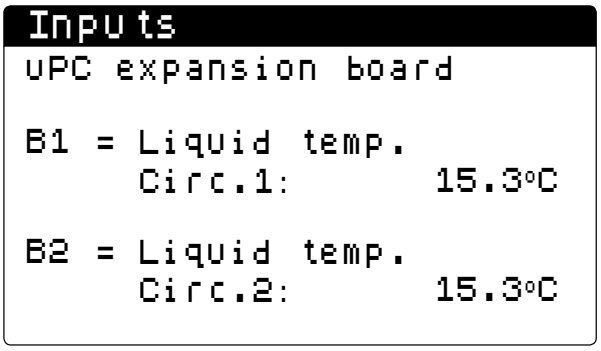
1. **Analogue input B1:** this value represents the temperature of the water entering the total recovery
2. **Analogue input B2:** this value represents the temperature of the water exiting the total recovery

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



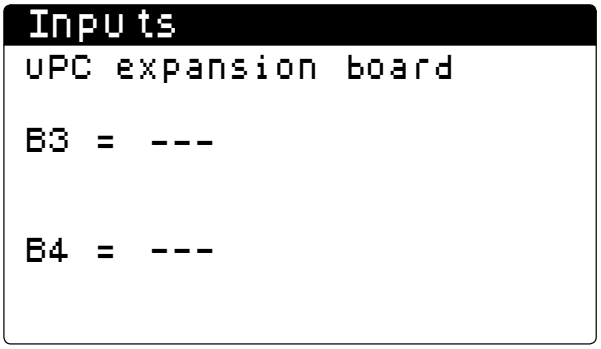
1. **Analogue input B3:** this value represents the temperature of the water exiting total recovery 2
2. **Analogue input B4:** this value represents the temperature of the water at the common recovery output

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



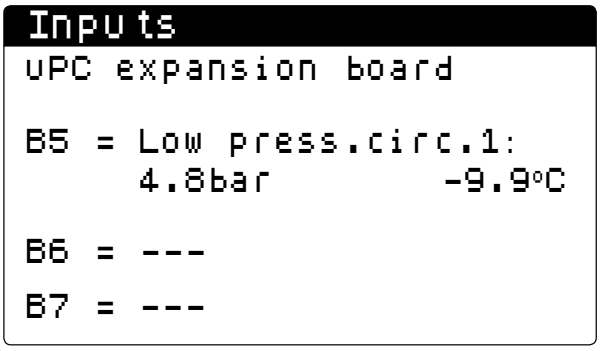
1. **Analogue input B1:** this value represents the temperature of the liquid in circuit 1
2. **Analogue input B2:** this value represents the temperature of the liquid in circuit 2

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



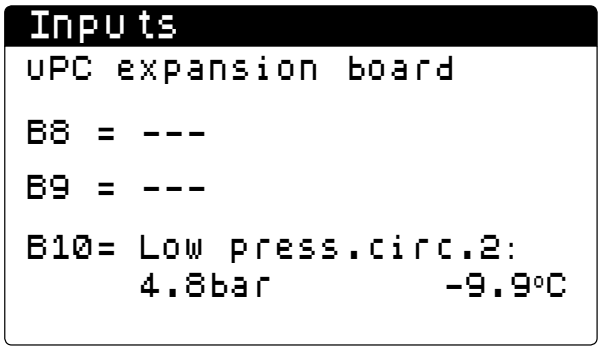
Not used

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



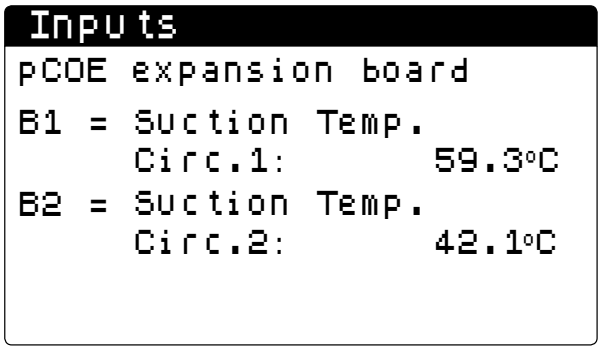
Analogue input B5: this value represents the low pressure value in circuit 1 (and relative conversion into temperature)

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



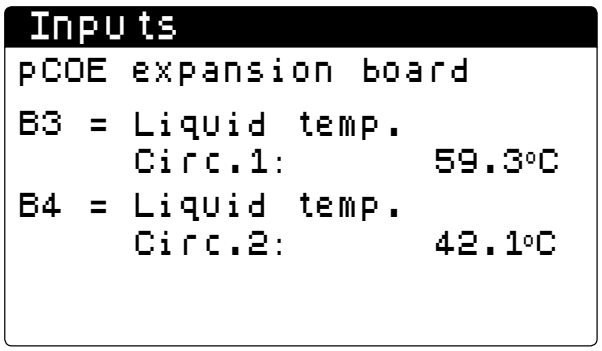
Analogue input B10: this value represents the low pressure value in circuit 2 (and relative conversion into temperature)

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



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)

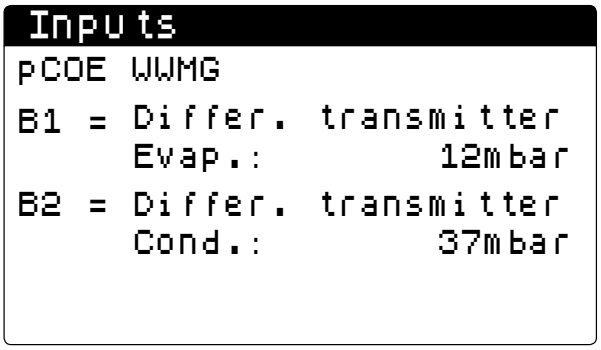


1. **Analogue input B3:** this value represents the temperature of the liquid in circuit 1
2. **Analogue input B4:** this value represents the temperature of the liquid in circuit 2

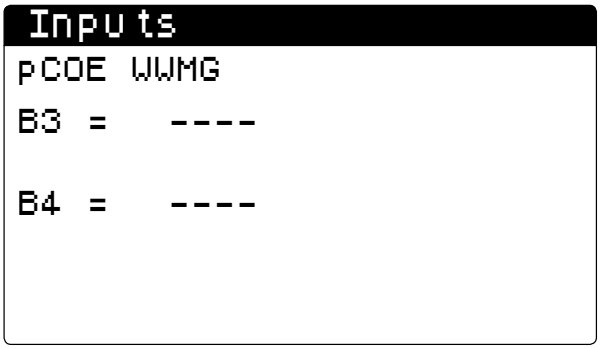
4.25 ANALOGUE INPUT MONITOR (23) (ONLY WWM, DUAL CIRCUIT AND HUBA DIFFERENTIAL TRANSMITTER)

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)

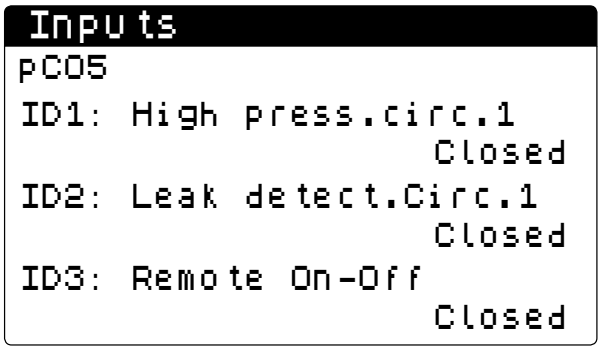


1. **B1 analogue input**: this value represents the pressure value read by the evaporator differential transmitter
2. **B2 analogue input**: this value represents the pressure value read by the condenser differential transmitter



Not used

4.27 DIGITAL INPUT MONITOR (1) (ONLY WWM)

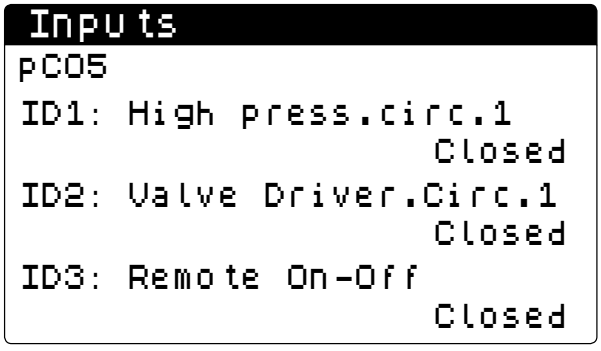


1. **Digital Input ID1:** this value indicates the state of the digital input connected to the high pressure switch of circuit 1, which can be:
— OPEN: high pressure pressostat alarm;
— CLOSED: normal operation;
2. **ID2 digital input:** this value (not used for WRK, WWB, WWBG) indicates the state of the digital input connected to the device for detecting any leaks in circuit 1, which can be:
— OPEN: leak device alarm;
— CLOSED: normal operation;
3. **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;

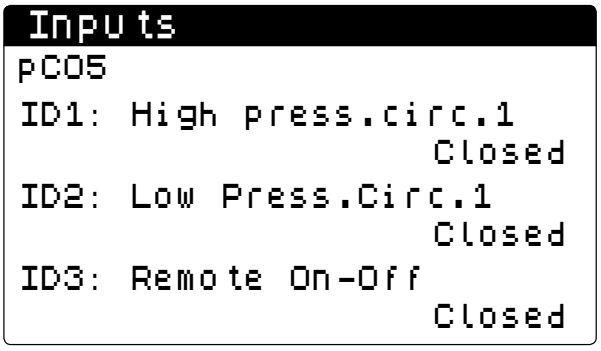
NOTICE

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

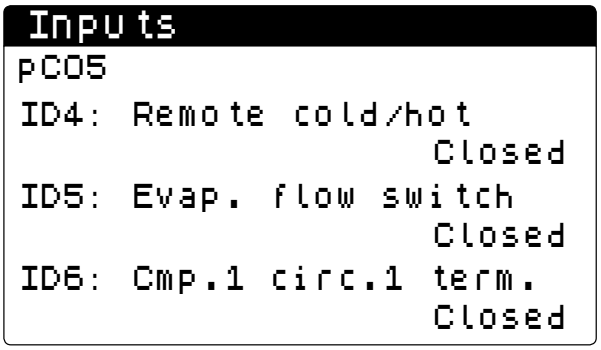
For NXW units, on the other hand, the screen is as follows:



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



4.28 DIGITAL INPUT MONITOR (2)



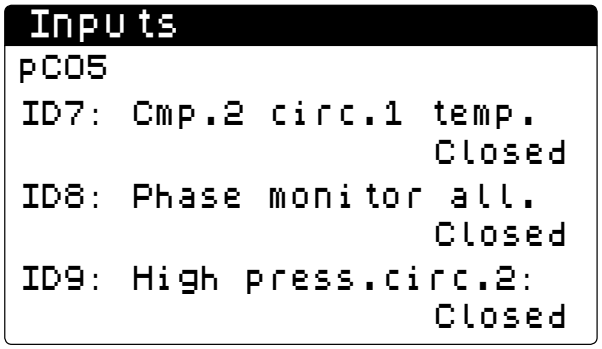
1. **Digital Input ID4:** this value indicates the state of the digital input connected to the remote season change function, which can be:
— OPEN: remote season change not active;
— CLOSED: remote season change active;

NOTICE

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

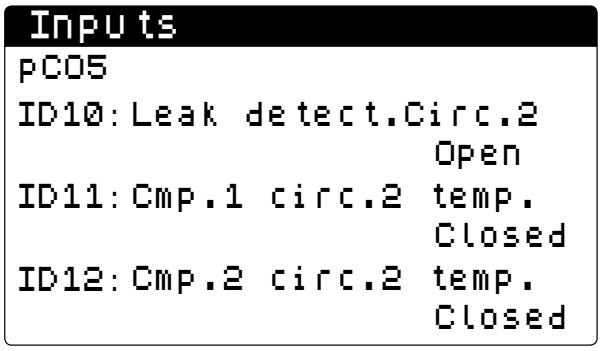
2. **Digital Input ID5:** this value indicates the state of the digital input connected to the flow switch on the evaporator, which can be:
— OPEN: flow switch alarm;
— CLOSED: normal operation;
3. **Digital Input ID6:** this value indicates the state of the digital input connected to the compressor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

4.29 DIGITAL INPUT MONITOR (3)



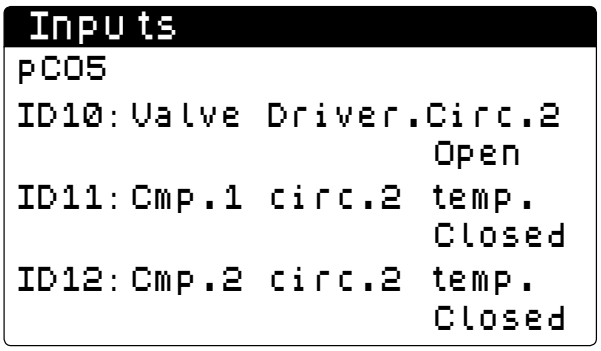
1. **ID7 digital input** this value (not present in the WWM dual circuit and WWMG) indicates the state of the digital input connected to the compressor thermomagnetic switch 2 in circuit 1, which can be:
— OPEN: circuit breaker alarm;
— CLOSED: normal operation;
2. **Digital Input ID8:** this value indicates the state of the digital input connected to the phase control device, which can be:
— OPEN: high pressure pressostat alarm;
— CLOSED: normal operation;
3. **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)

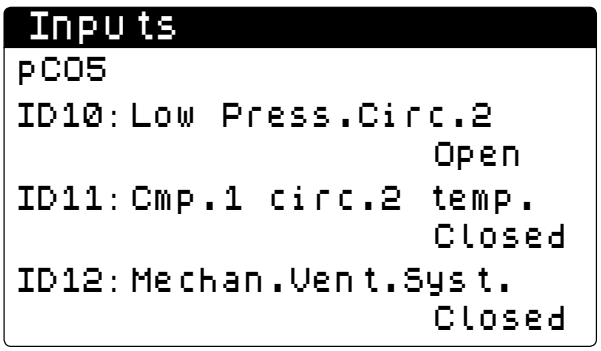


1. **Digital Input ID10:** this value (only present in the WWM dual circuit) indicates the state of the digital input connected to the device for detecting leaks in circuit 2, which can be:
— OPEN: leak device alarm;
— CLOSED: normal operation;
2. **Digital Input ID11:** this value (not present in the 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;
3. **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;

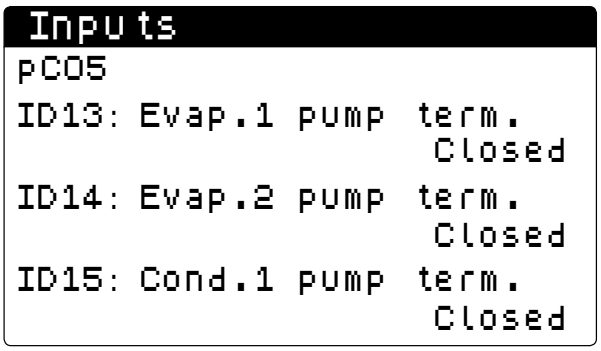
For NXW units, on the other hand, the screen is as follows:



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



4.31 DIGITAL INPUT MONITOR (5)



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
pCO5
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
pCO5
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.

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;

3. **Digital Input ID18:** this value indicates the state of the digital input connected to the enabling of the multifunction 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
pCO5
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.

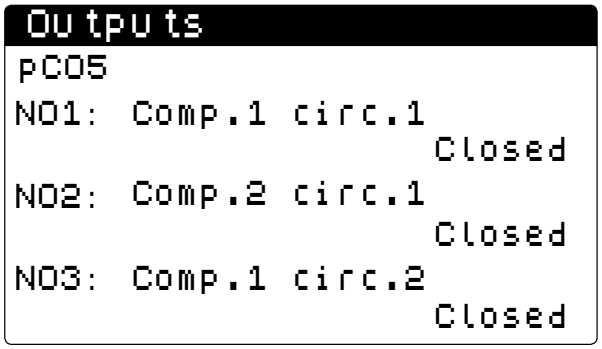
4.33 DIGITAL INPUT MONITOR (7) (WWB AND WWBG ONLY)

```
Inputs
Expansion uPC
ID1: Valve Driver.Circ.1
     Open
ID2: Valve Driver.Circ.2
     Open
ID3:   ----
ID4:   ----
```

1. **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;

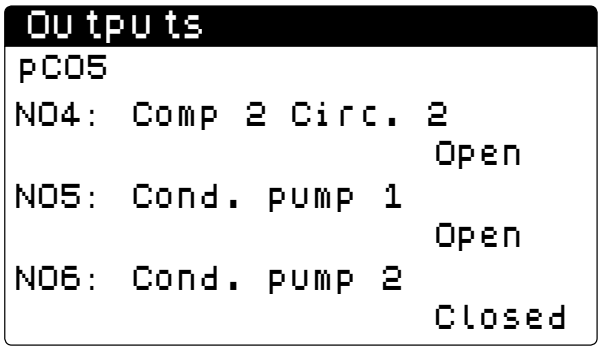
2. **ID2 digital input**: this value indicates the state of the digital input connected to the valve driver of circuit 2, which can be:
— OPEN: leak device alarm;
— CLOSED: normal operation;

4.34 DIGITAL OUTPUT MONITOR (1)



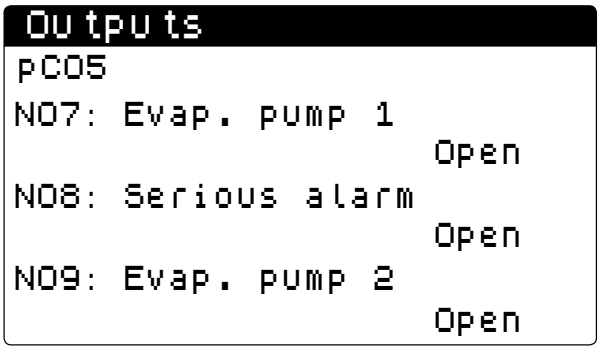
1. **Digital output NO1:** this value indicates the state of the digital output connected the compressor 1 in circuit 1, which can be:
— OPEN: compressor not active;
— CLOSED: compressor active;
2. **NO2 digital output:** this value (not present in WWM dual circuit and WWMG) indicates the state of the digital output connected to compressor 2 in circuit 1, which can be:
— OPEN: compressor not active;
— CLOSED: compressor active;
3. **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)



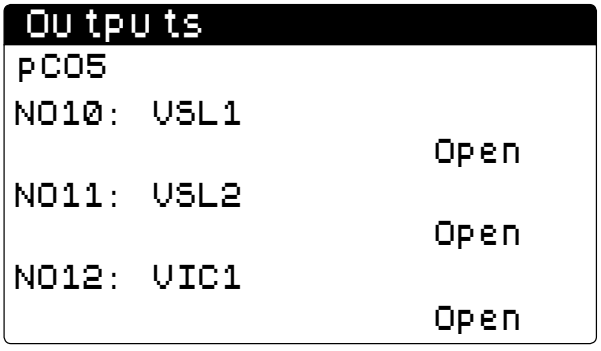
1. **NO4 digital output:** this value (not present in WWM and WWMG) indicates the state of the digital output connected to compressor 2 in circuit 2, which can be:
— OPEN: compressor not active;
— CLOSED: compressor active;
2. **Digital output NO5:** this value indicates the state of the digital output 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)



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)

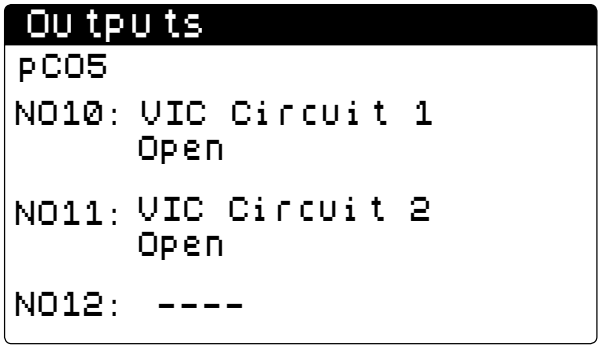


1. **Digital output NO10:** this value indicates the state of the digital output connected to the liquid solenoid valve 1, which can be:
— OPEN: valve not active;
— CLOSED: valve active;

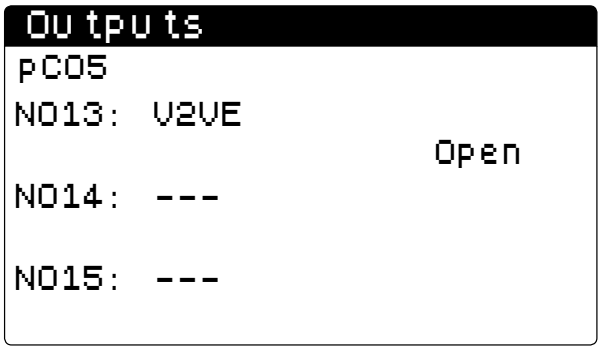
2. **Digital output NO11:** this value (not present in WWM single circuit) indicates the state of the digital output connected to liquid solenoid valve 2, which can be:
— OPEN: valve not active;
— CLOSED: valve active;

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:



4.38 DIGITAL OUTPUT MONITOR (5)

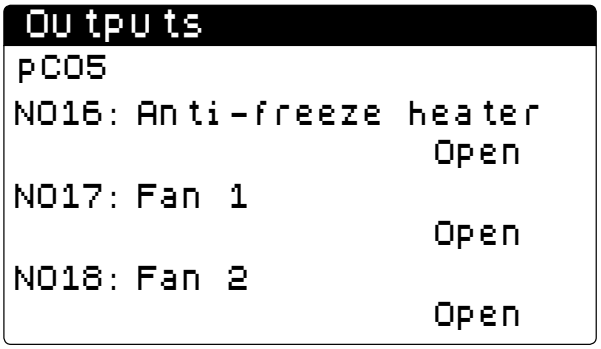


Digital output NO13: this value indicates the state of the digital output connected to the 2-way valve, which can be:
— OPEN: valve not active;
— CLOSED: valve active;

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)

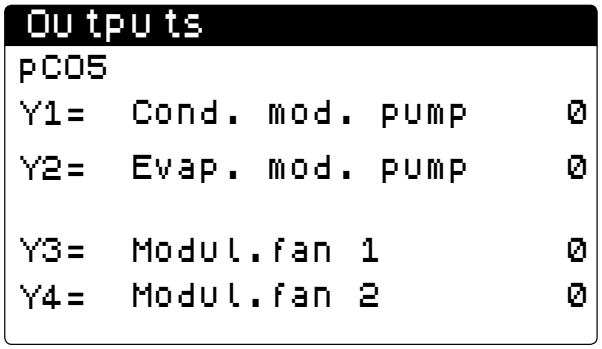


1. **Digital output NO16:** this value indicates the state of the digital output connected to the anti-freeze heater, which can be:
— OPEN: heater not active;
— CLOSED: resistor active;

2. **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;

3. **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



1. **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.

2. **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
3. **Analogue output Y3:** this value (only for NXW E) indicates the current value of the signal applied to modulating fan 1
4. **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	---	---
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	---	---
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	Flowswitch 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	Flowswitch condenser	Flowswitch 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

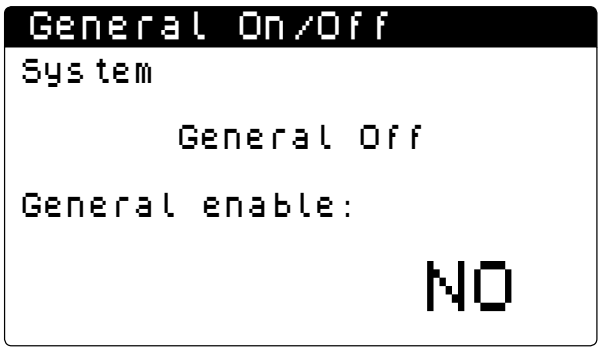
Analogue inputs

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



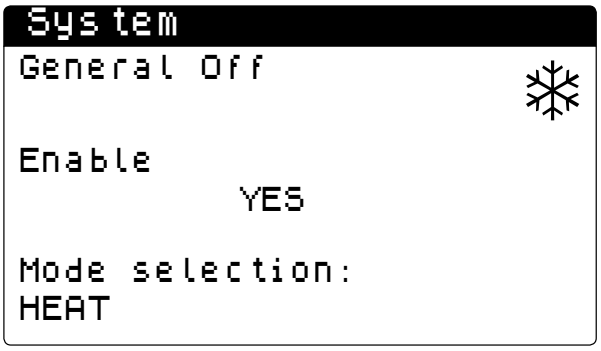
1. **Current state:** this value indicates the current state of the unit:
— ENABLED: unit on;
— GENERAL OFF: unit in standby;
— OFF DUE TO ALARM: unit in standby due to an alarm;
— OFF BY BMS: unit in standby turned off by the BMS system;
— OFF BY CLOCK: unit in standby turned off by settings contained 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.

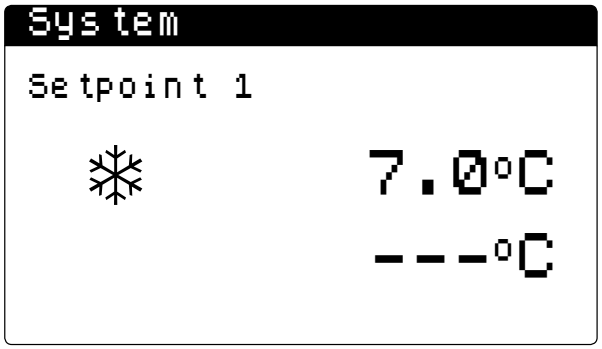
2. **Active season:** this symbol indicates the currently active operating mode:
— (❄): cooling mode
— (☼): heating mode

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;

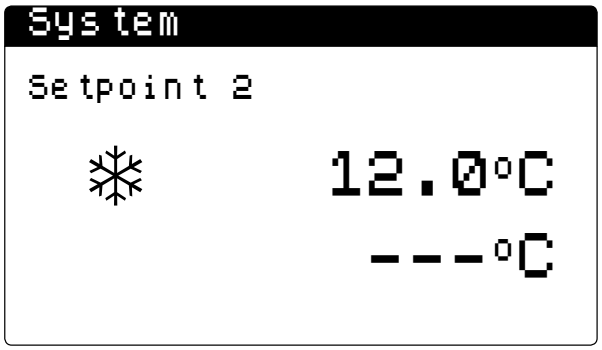
— FROM DIG. INPUT: the season is set based on the state of the dedicated digital input (ID4 OPEN = HOT);
— FROM SUPERV.: the season is set based on the serial command arriving from the supervisor;
— FROM CALENDAR: the season is set based on the calendar settings.

7.2 SETS THE VALUES FOR THE MAIN SETPOINTS



Main cooling setpoint: this value indicates the main work setpoints used during the cooling mode

7.3 SETS THE VALUES FOR THE SECONDARY SETPOINTS



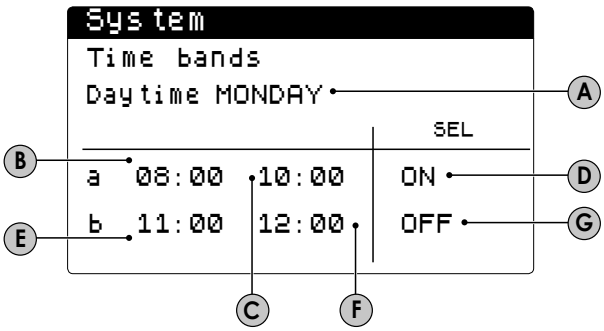
Secondary cooling setpoint: this value indicates the secondary work setpoints used during the cooling mode

NOTICE

There are two possibilities for using the secondary setpoint of the system:

— Enable the system with the secondary setpoint as an option (ON CON SET 2) in the first screen of the System menu;
— Use the digital input ID10, which activates the secondary setpoint when closed.

7.4 TIME BAND SETTING (A) AND (B)



A. 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

B. Band start time (a): this value indicates the time the first time band starts

C. Band end time (a): this value indicates the time the first time band ends

D. 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

E. Band start time (b): this value indicates the time the second time band starts

F. Band end time (b): this value indicates the time the second time band ends

G. 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

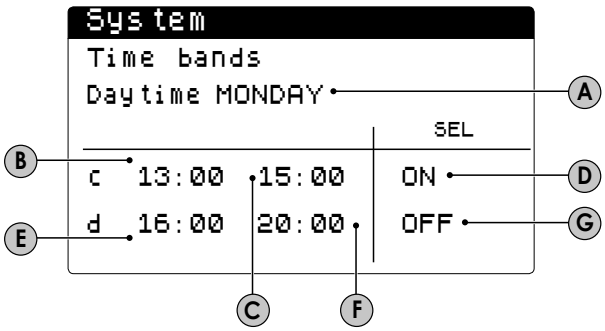
NOTICE

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

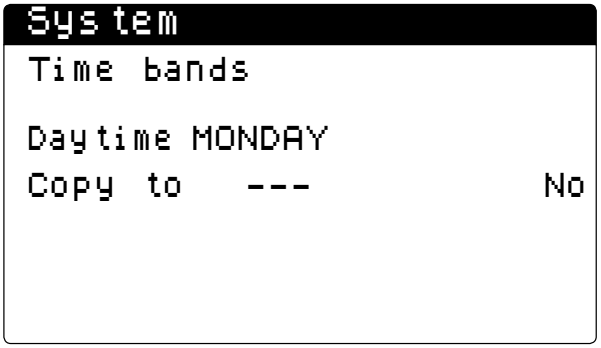
NOTICE

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



1. **Day from which to copy:** this value indicates which day to use to copy the time settings of the 4 time bands

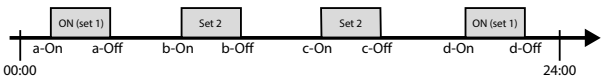
2. **Day to which to copy:** this value indicates to which day the selected settings should be copied; the time bands of the day used as a reference can be copied to another single day of the week, be copied to all remaining days of the week or only to holidays

3. **Make copy:** changing this value copies the selected day to the requested day(s)

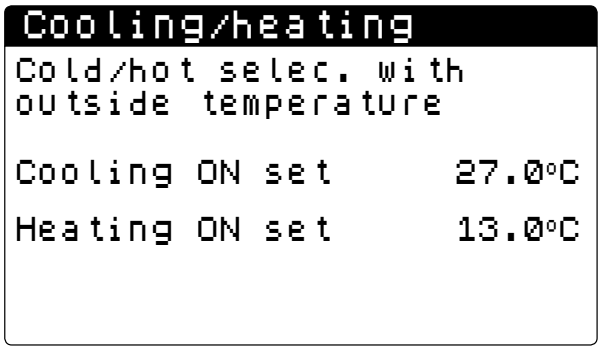
NOTICE

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

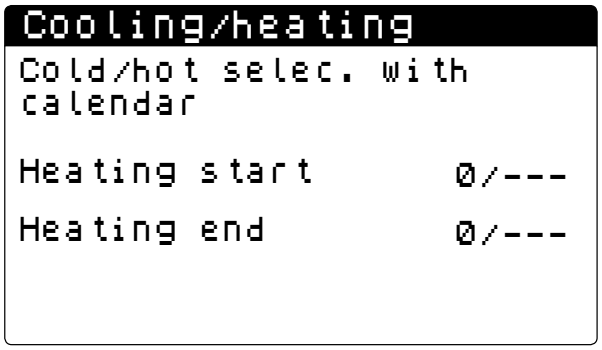


1. **Cooling ON setpoint:** this value indicates the value of the outside air temperature above which cooling mode is activated
2. **Heating ON setpoint:** this value indicates the value of the outside air temperature below which heating mode is activated

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



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)

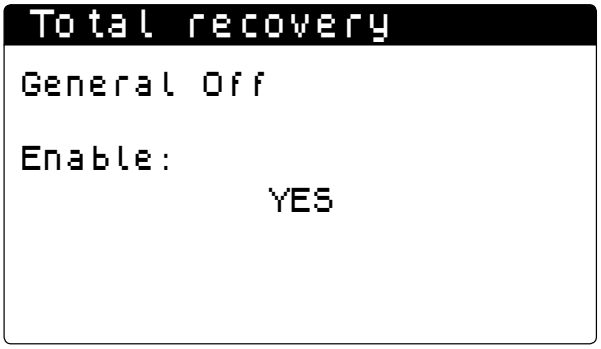
NOTICE

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)

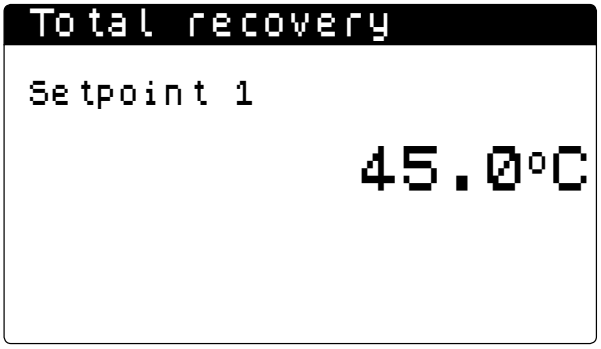
= Parameters that can be changed by the user.

8.1 TOTAL RECOVERY ENABLING



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

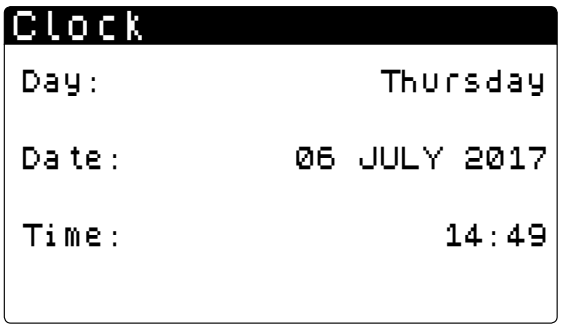


Recovery setpoint: this value indicates the total recovery work setpoint.

9 CLOCK MENU

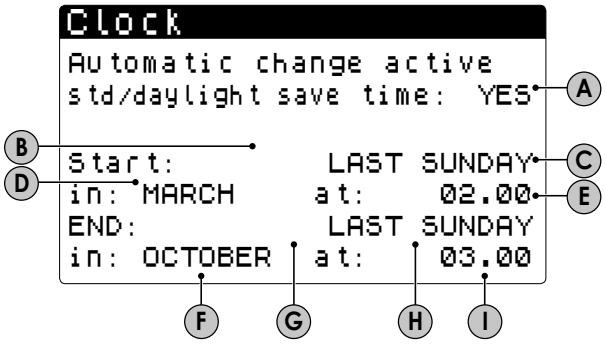
= Parameters that can be changed by the user.

9.1 SETTING SYSTEM DATE AND TIME



1. **System day:** this value indicates the day set in the system
2. **System month:** this value indicates the month set in the system
3. **System year:** this value indicates the year set in the system
4. **System time:** this value indicates the time set in the system

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



A. **Enable automatic management:** this value indicates whether or not to activate automatic management for the time change between standard and daylight saving time

B. **Time change week:** this value indicates during which week of the month there is the day for the time change

C. **Time change day:** this value indicates on which day of the week the time change takes place

D. **Time change month:** this value indicates during which month the time change takes place

E. **Time change time:** this value indicates at what time the time change takes place

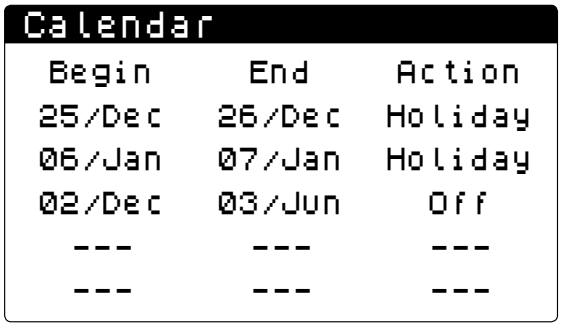
F. **Time return week:** this value indicates during which week of the month there is the day for the time change takes place again

G. **Time return day:** this value indicates on which day of the week the time change takes place again

H. **Time return month:** this value indicates during which month the time change takes place again

I. **Time return time:** this value indicates at what time the time change takes place again

9.3 SET HOLIDAYS



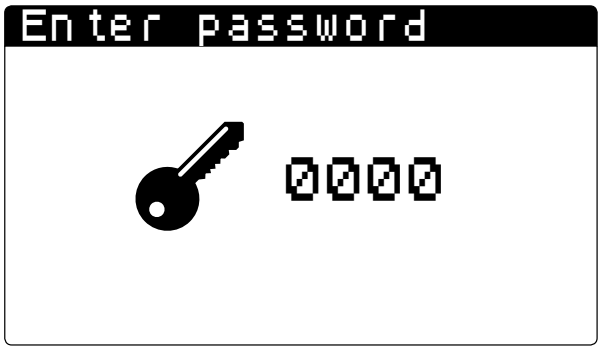
1. **Start date:** this value indicates the start date of the holiday; the calendar can manage a maximum of 5 days called holidays during which a certain action is activated
2. **End date:** this value indicates the end date of the holiday; the calendar can manage a maximum of 5 days called holidays during which a certain action is activated
3. **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)

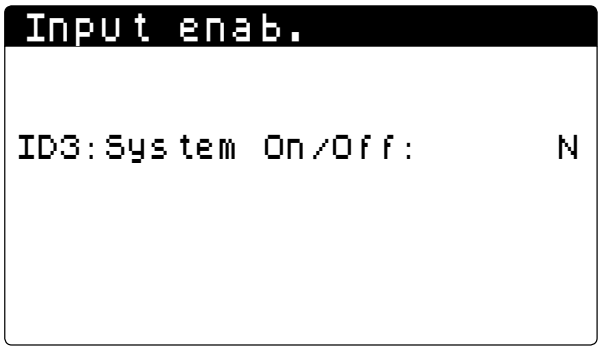
= Parameters that can be changed by the user.

10.1 ENTER THE PASSWORD TO ACCESS THE MENU



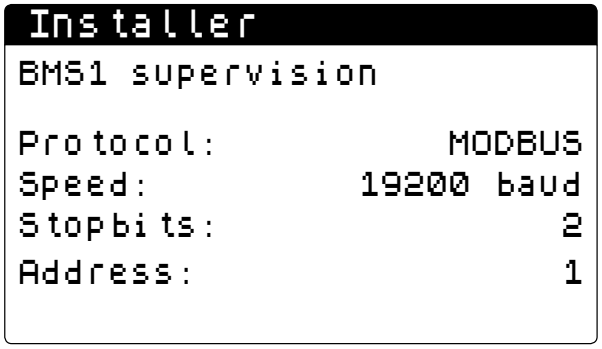
Menu password: this value indicates the password to use to access the installer menu; remember that for access, the default value (0000) must be entered.

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

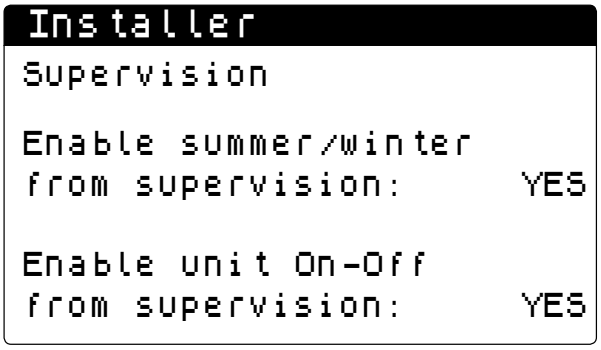


1. **Select protocol:** this value indicates which protocol is used to communicate with the BMS supervision system; the support protocols are:

— 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.

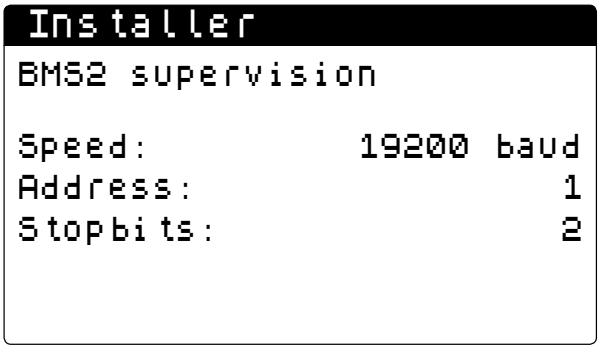
2. **Transmission speed:** this value indicates which speed is set for serial communication
3. **Stopbits:** this value indicates the number of bits used to indicate the bitstop in serial communication
4. **Address:** this value indicates the address assigned to the BMS supervision system towards which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

10.4 PRIMARY COMMAND ENABLING FROM BMS



1. **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
2. **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)



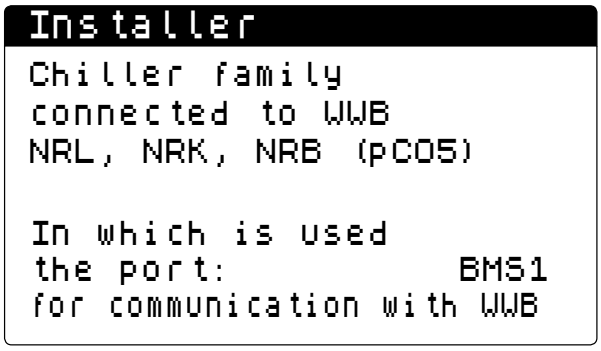
1. **Transmission speed:** this value indicates which speed is set for serial communication
2. **Address:** this value indicates the address assigned to the secondary supervision system (remember that this system is based on a non opto-isolated serial, therefore the available distances for connection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

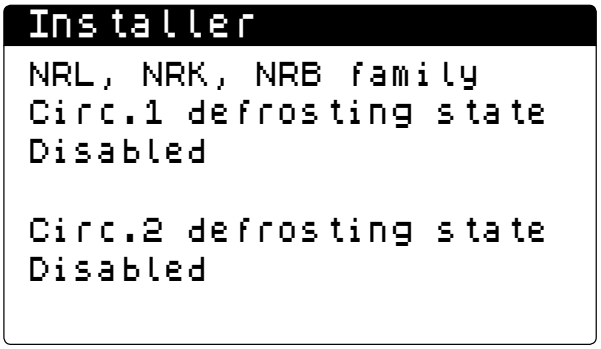
3. **Stopbits:** this value indicates the number of bits used to indicate the bitstop in serial communication

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



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

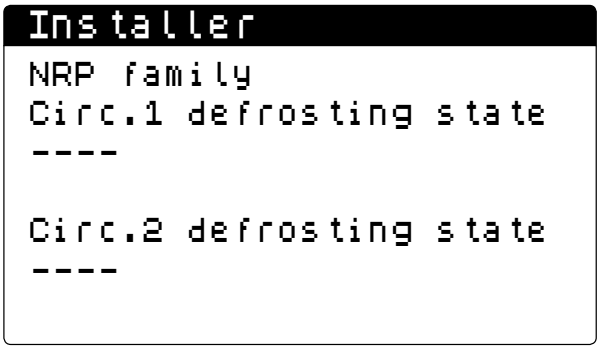
10.7 CHILLER DEFROSTING MONITOR



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.

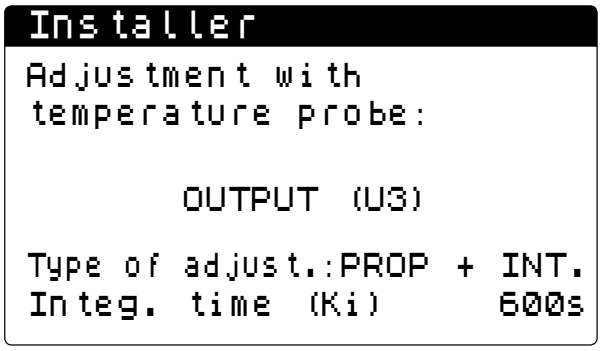


The status of the defrosting in which the two circuits of the connected chiller are located is displayed.

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



1. **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)

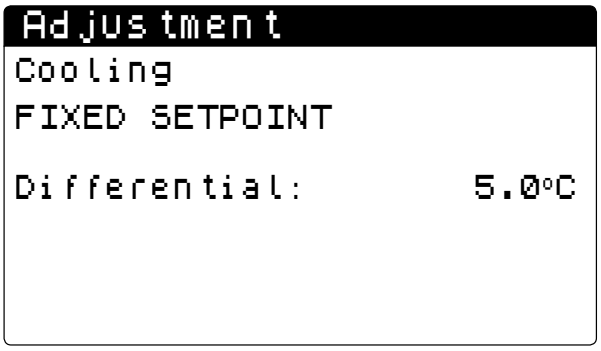
NOTICE

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.

2. **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

3. **Integral time:** this value indicates the integral time to add to the proportional control (if the regulation type proportional + integral was selected)

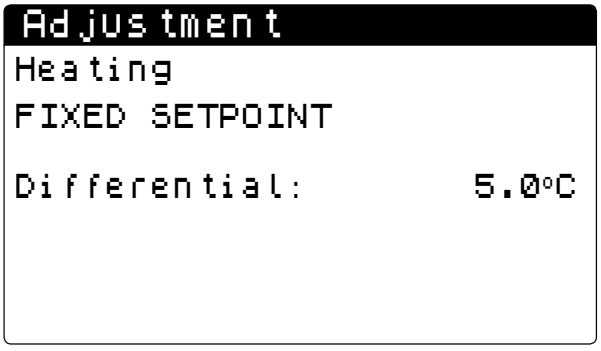
10.9 PARAMETER SETTING FOR COLD ADJUSTMENT



1. **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

2. **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

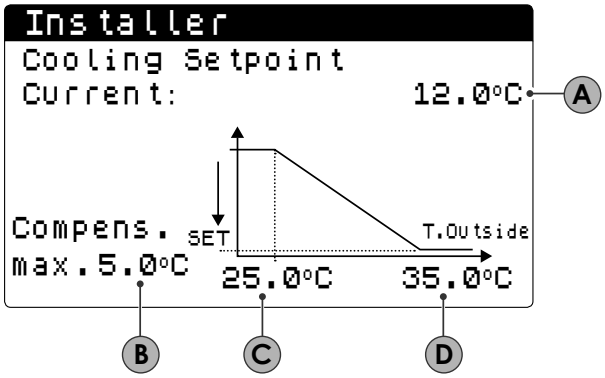
10.10 PARAMETER SETTING FOR HOT ADJUSTMENT



1. **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

2. **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)



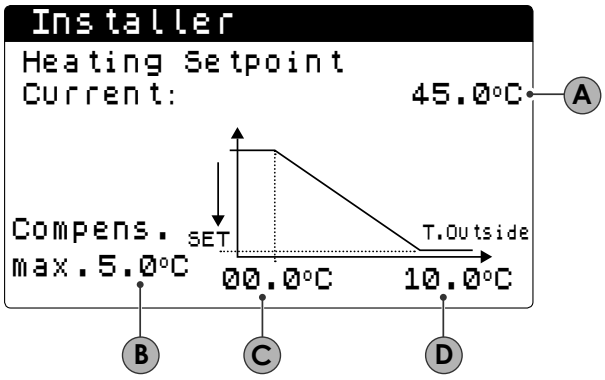
A. Current setpoint: this value indicates the current work setpoint calculated with the climatic curve

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)



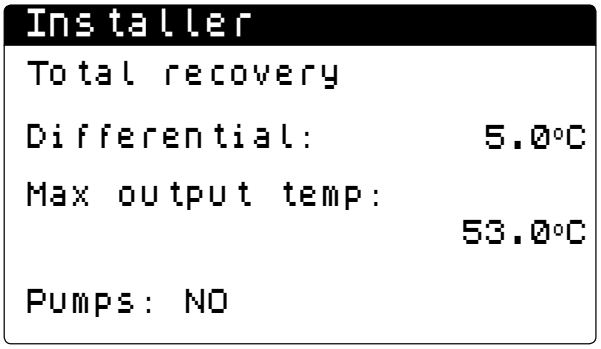
A. Current setpoint: this value indicates the current work setpoint calculated with the climatic curve

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

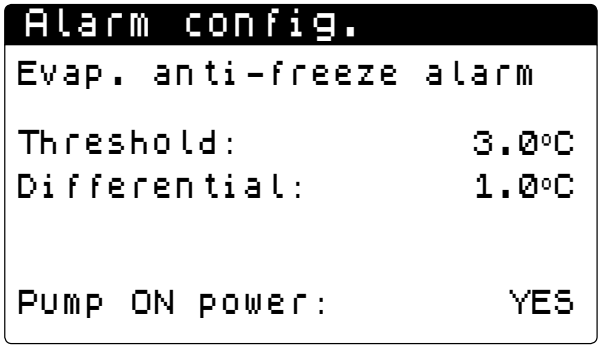
2. Maximum temperature of hot water production with recovery: this value indicates the maximum temperature of water produced with total recovery, above which the unit is forced to exit recovery mode

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;

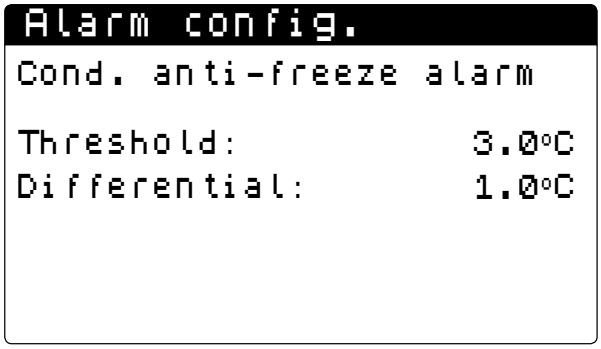
— YES: The pump is managed by the unit. It turns off when the recovery input temperature setpoint is reached (remotely control the domestic hot water storage tank probe). It turns back on when the temperature of the probe at the recovery input drops down below the recovery setpoint. In addition to the flow switch, also any pump thermal protection that cases the pump to shut off and the recovery output.

10.14 EVAPORATOR ANTI-FREEZE ALARM MANAGEMENT CONFIGURATION



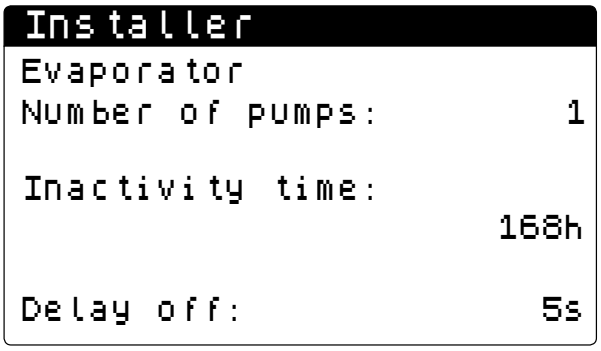
1. **Anti-freeze alarm activation threshold:** this value indicates the activation or deactivation threshold (adding or subtracting the value specified as the differential) of the anti-freeze alarm on the evaporator;
2. **Differential:** this value indicates the differential to add or subtract to or 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



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



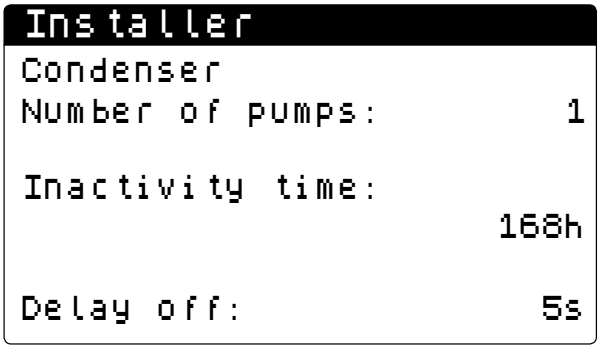
1. **Number of pumps:** this value indicates the number of pumps managed by the unit

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



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

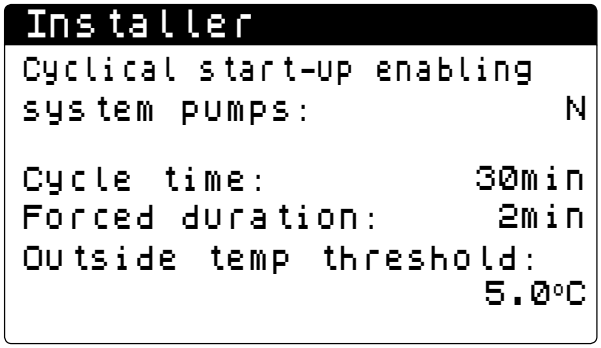
NOTICE

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 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 deactivating the compressors or other sources (heaters, etc.)

10.18 SETS ANTI-FREEZE FUNCTION

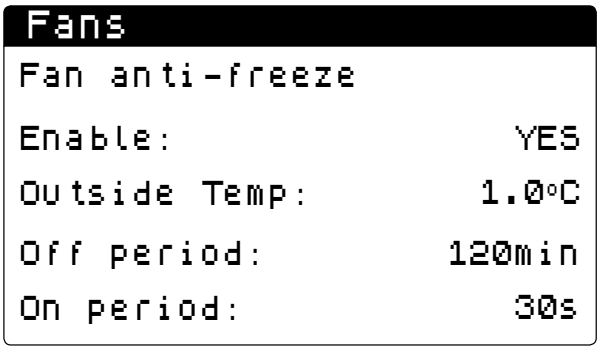


1. **Anti-freeze function enabling:** this value indicates whether to enable the pump start-up cycle for the anti-freeze function
2. **Cycle time:** this value indicates the interval time between pump activation periods
3. **Pump activation time:** this value indicates the time the pumps will be made 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

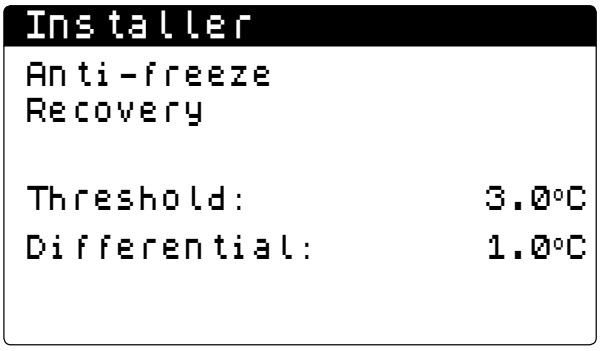
The outdoor temperature threshold is not present in the WWM and WWMG units.

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



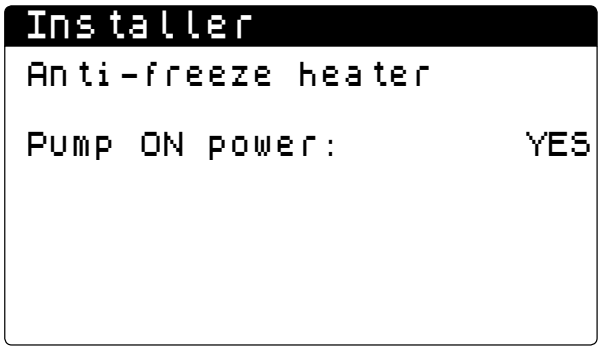
1. **Enabling:** this value indicates if the fan anti-freeze function is active or not
2. **Minimum outside temperature:** this value indicates the outside temperature below which the fans execute the anti-freeze cycles (if the function is active)
3. **Off period:** this value indicates the number of 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)



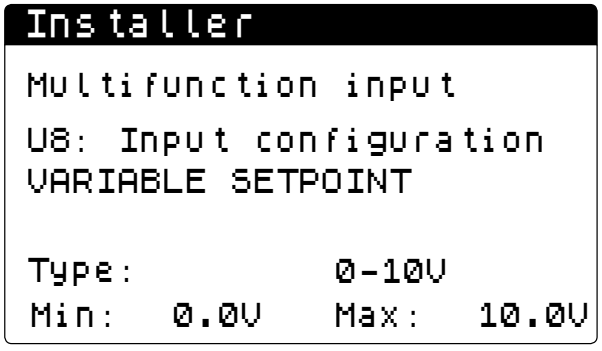
1. **Threshold:** this value indicates the temperature measured by the recovery adjustment probe below which the recovery anti-freeze alarm is tripped
2. **Differential:** this value indicates the differential to apply to the temperature detected by the recovery adjustment probe to end the anti-freeze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

10.21 SETS PUMP OPERATION WHEN USING THE ANTI-FREEZE HEATER



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)



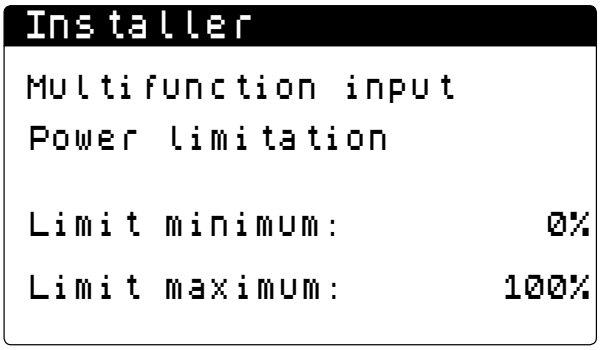
1. **Multifunction input function:** this value indicates which function to assign to the multifunction input U8; the possible states are:
— NOT PRESENT: the multifunction input is disabled;
— POWER LIMITATION: input U8 is used to limit the unit power proportionally to the signal applied to input U8 (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.

2. **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
3. **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)

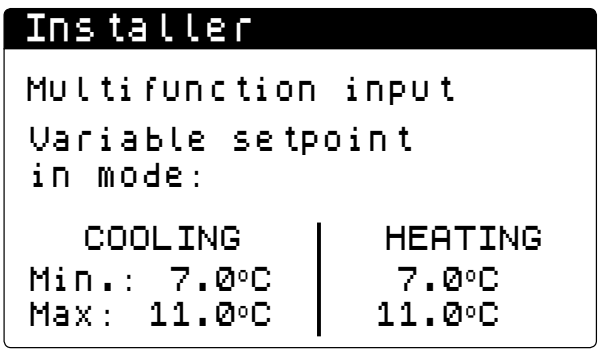


1. **Minimum power limit:** this value indicates the minimum power level that can be reached based on the input signal
2. **Maximum power limit:** this value indicates the maximum power level that can be reached based on the input signal

NOTICE

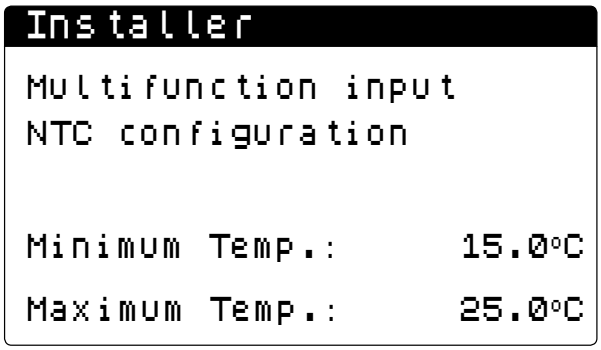
Screen present only on WRK, WWB, WWBG, NXW units.

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



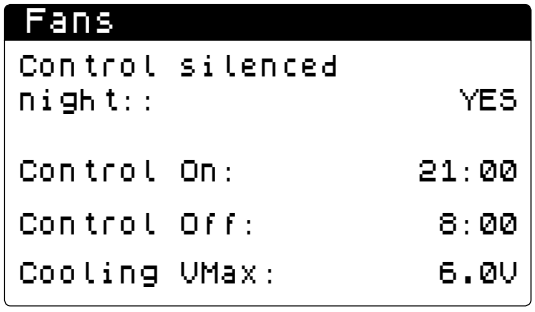
1. **Minimum setpoint:** these values (COLD and HOT) indicates the minimum setpoints set based on the input signal (on multifunction input U8)
2. **Maximum setpoint:** these values (COLD and HOT) indicates the maximum setpoints set based on the input signal (on multifunction input U8)

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



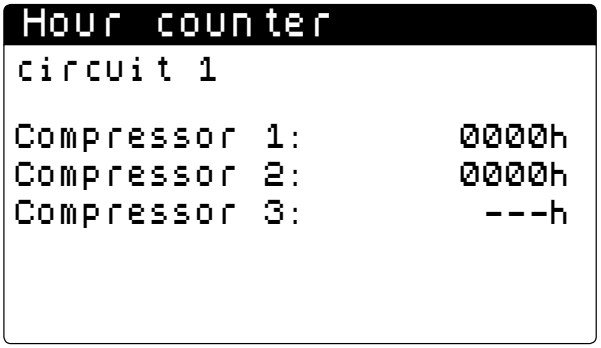
1. **Minimum temperature:** this value indicates the minimum temperature to which the minimum power level corresponds or the minimum setpoint connected to the trend of the temperature read by the NTC probe connected to the multifunction input
2. **Maximum temperature:** this value indicates the maximum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



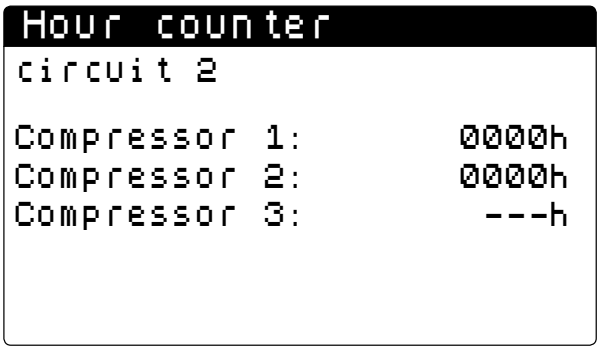
1. **Enabling:** this value indicates if the fan night mode function (night-time silenced operation) is active or not
2. **Control on:** this value indicates the time the night mode function starts
3. **Control off:** this value indicates the time the night mode function ends
4. **Cooling VMax:** this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



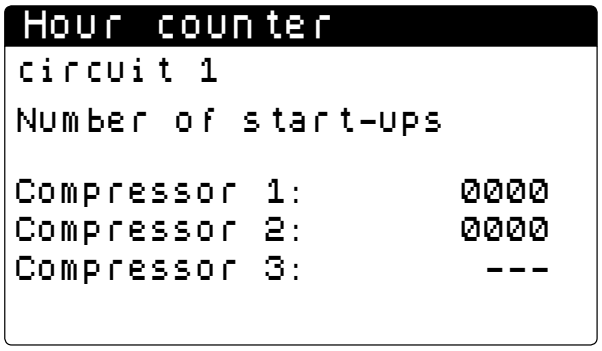
1. **Compressor 1 operating hours:** this value indicates the operating hours for compressor 1 in circuit 1
2. **Compressor 2 operating hours:** this value indicates the operating hours for compressor 2 in circuit 1 (if present)
3. **Compressor 3 operating hours:** this value indicates the operating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

10.28 CIRCUIT 2 COMPRESSOR OPERATING HOURS MONITOR (IF PRESENT)



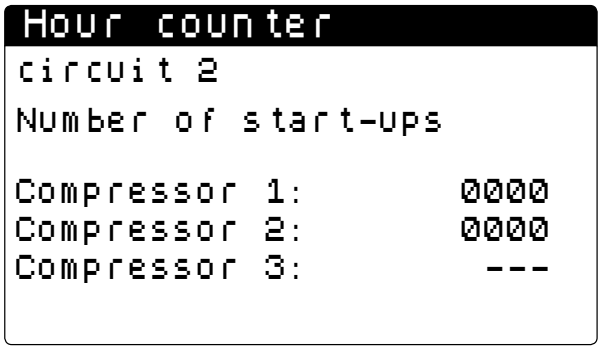
1. **Compressor 1 operating hours:** this value indicates the operating hours for compressor 1 in circuit 2
2. **Compressor 2 operating hours:** this value indicates the operating hours for compressor 2 in circuit 2 (if present)
3. **Compressor 3 operating hours:** this value indicates the operating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

10.29 CIRCUIT 1 COMPRESSOR NUMBER OF START-UPS MONITOR



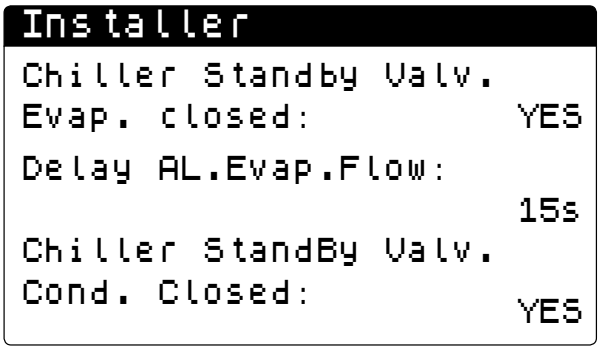
1. **Number of compressor 1 starts:** this value indicates the number of start-ups for compressor 1 in circuit 1
2. **Number of compressor 2 starts:**this value indicates the number of start-ups for compressor 2 in circuit 1 (if present)
3. **Number of compressor 3 starts:**this value indicates the number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

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



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

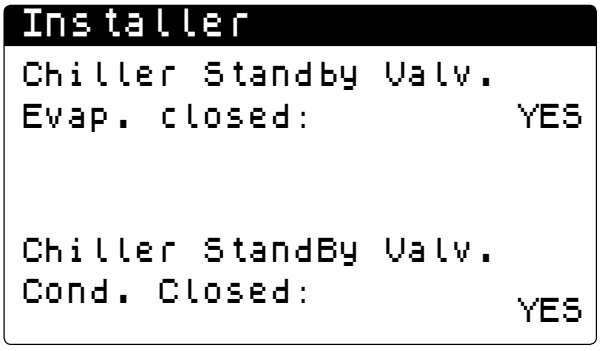


1. **Evaporator valves closed:** this value indicates whether or not to close the valves on the evaporator when the units are in standby
2. **Flow switch alarm delay:** only visible if the evaporator valves are closed with the chiller in standby. It applies an alarm bypass to allow the valve to open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

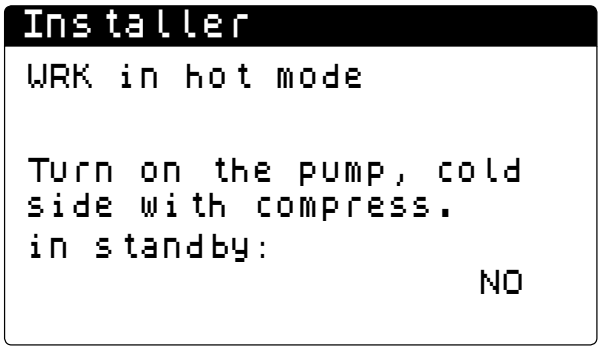
For WWMG units, on the other hand, the screen is as follows:



10.32 CONFIGURES THE Y1 OUTPUT WITH CHILLER ON

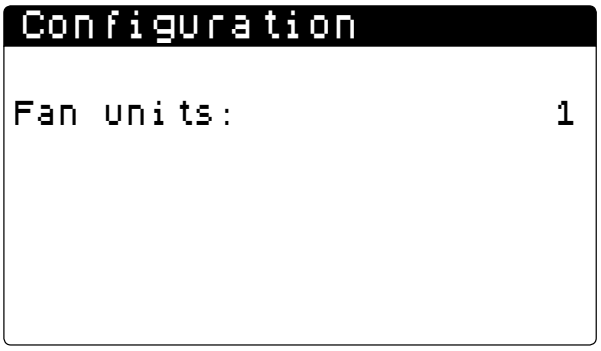
1. **Chiller adjustment ON:** this value indicates the type of adjustment set; The possible values are:
— MODULATING ADJUSTMENT: the adjustment will be controlled with Set+Band management;
— FIXED ADJUSTMENT: adjustment is fixed
2. **Set speed:** this value indicates the signal to give to the output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

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



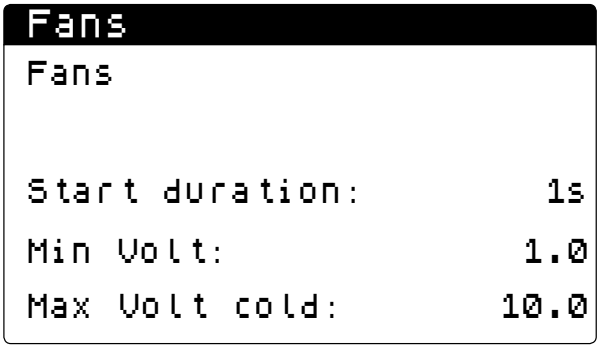
Turn on the pump, cold side: this value enables the turning on of the pump cold side with the compressors in standby (off because there is not enough demand from the thermostat to turn on the compressor). If it remains "No"(-default) it turns only when there is demand from the thermostat to turn on a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

10.34 FAN UNIT CONFIGURATION (ONLY NXW-E)



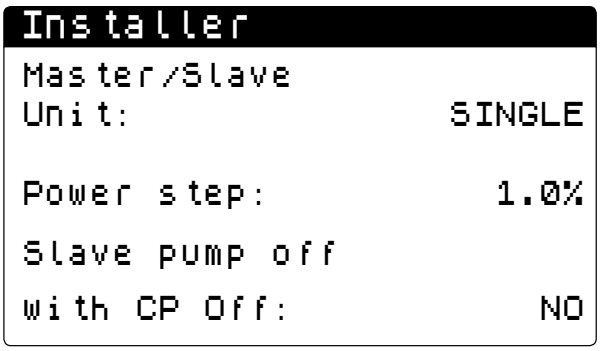
Fan units: this value indicates whether the fan unit is single (1) or double (2)

10.35 FAN SPEED SETTING (ONLY NXW-E)



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

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

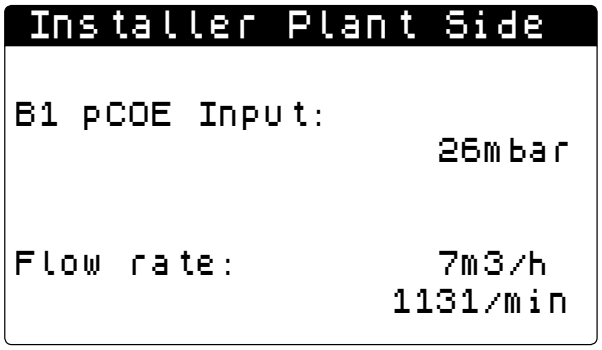


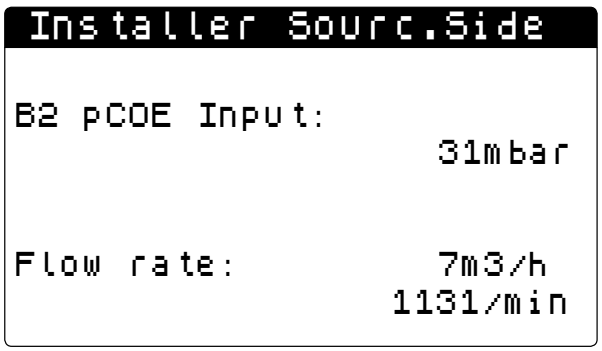
1. **Unit type:** this value indicates the type of unit; The possible values are:
— SINGLE: the unit is the only one in the system;
— MASTER: the unit is the master;
— SLAVE: the unit is the slave;

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

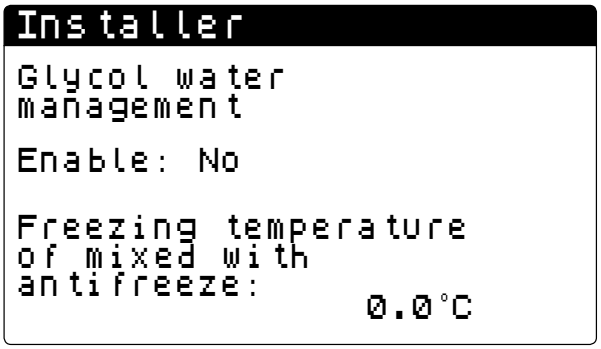
10.37 SYSTEM FLOW RATE MONITOR (WWMG)





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

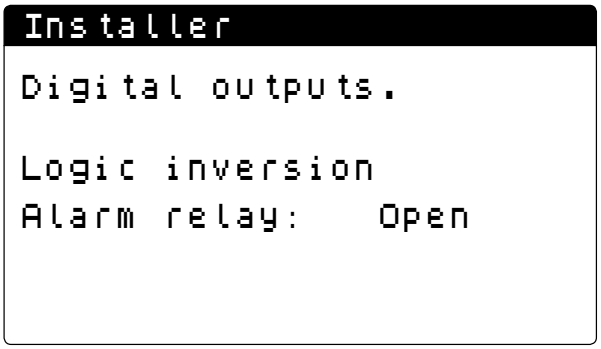
10.38 GLYCOL WATER MANAGEMENT (WWMG)



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.

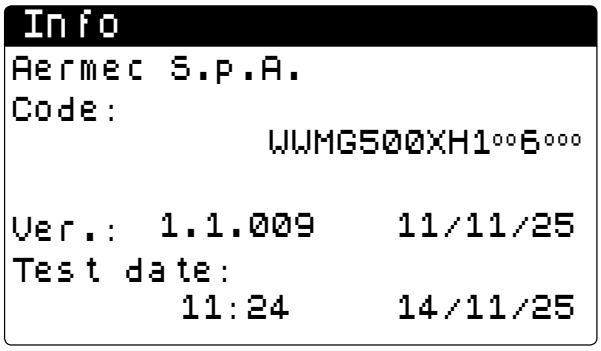
10.39 ALARM RELAY LOGIC

Alarm relay logic digital output NO8.



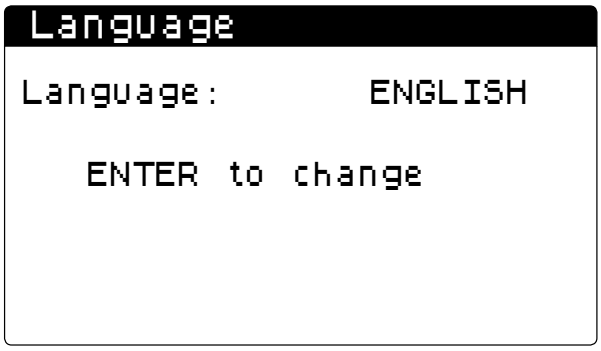
— Open (if there are no alarms, the relay is closed)
— Closed (if there are no alarms, the relay is open)

10.40 UNIT CONFIGURATOR AND TESTING INFO MONITOR



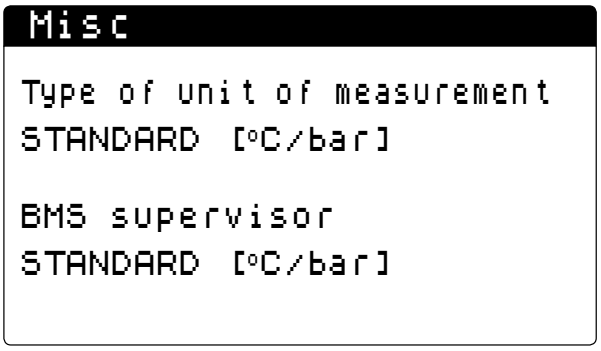
1. **Configurator code:** this value indicates the commercial code that identifies the unit and its configuration
2. **Software version:** this value indicates the version of the software installed in the unit
3. **Software version date:** this value indicates date of the version of the software installed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

10.41 SELECTION OF SYSTEM LANGUAGE



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).

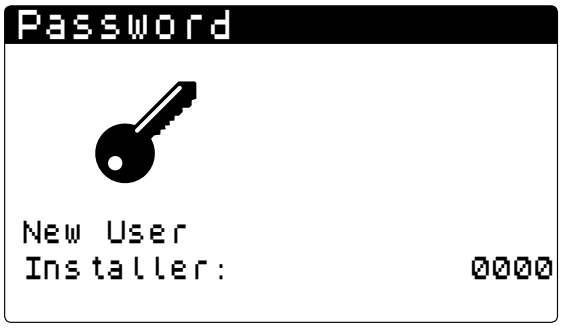
10.42 SELECTS THE TYPE OF UNIT OF MEASUREMENT



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);

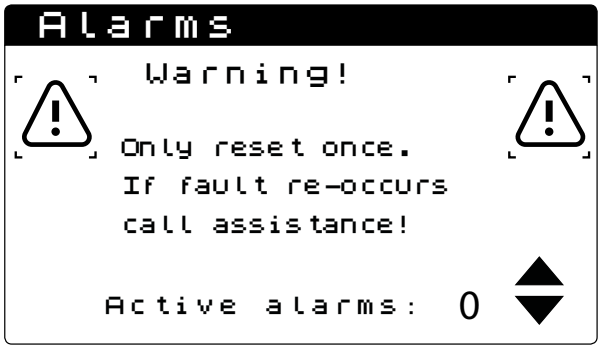
10.43 CHANGES THE INSTALLER MENU PASSWORD



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

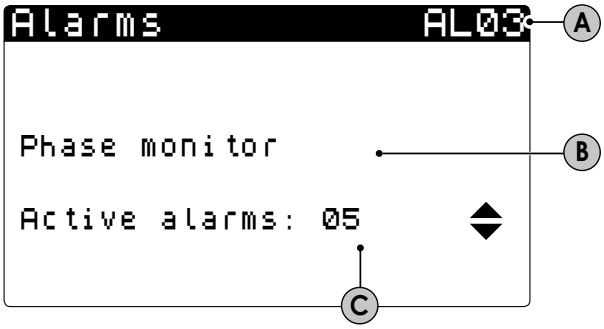
If the default parameters are loaded (via the manufacturer menu), the alarms and attempts stored up to that point are reset.

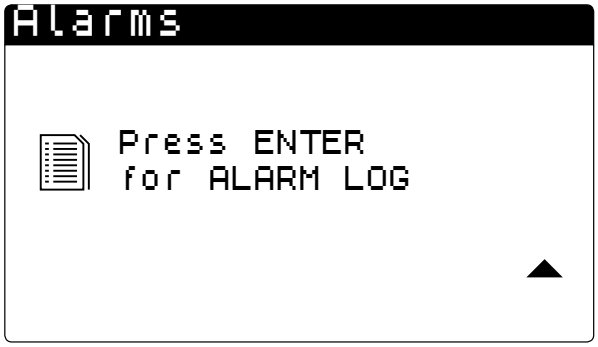
11.2 ALARM HISTORY

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:

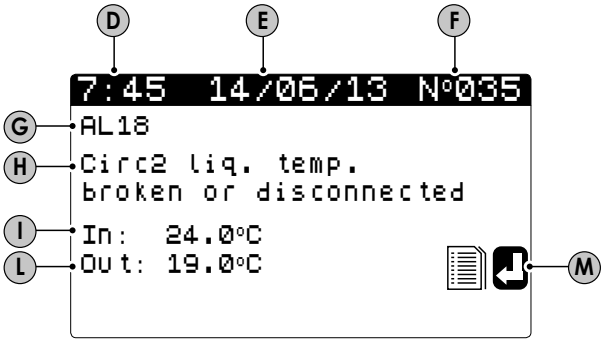
1. Press the key ( ) and enter the alarm view;
2. If alarms are present, scroll the active alarms with the key ( ) and reach the icon that indicates the activation of the alarm log;
3. Press the key ( ) to enter the alarms log;
4. To exit the alarms log, press ( ) or ( ).

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)	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	
AL61	Circuit breaker compressor 1 circuit 2	Manual	

Code	Description	Reset	Note
AL01	Clock battery faulty or not connected	Manual	
AL62	Circuit breaker compressor 2 circuit 2	Manual	
AL64	Low pressure from circuit 2 pressure switch (Only for WWMG)	Manual	Software Version: ≥ 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: ≥ 1.1.9
AL93	High overheating Circuit 2 – Exhaust Circuit (Only for WWMG)	Manual	Software Version: ≥ 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: ≥ 1.1.9
AL100	Flow switch relay feedback (Only for WWMG)	Manual	Software Version: ≥ 1.1.9
AL101	External mechanical ventilation system (Only for WWMG)	Manual	Software Version: ≥ 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. temperat.	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	
AL138	LowSH Circuit 2 Driver EVD (low overheating)	Manual	

Code	Description	Reset	Note
AL01	Clock battery faulty or not connected	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: ≥ 1.1.6
AL147	Valve driver 1 circuit 1 (Only for WWB, WWBG, NXW)	Manual	Software version: ≥ 1.1.6
AL148	Valve driver 2 circuit 2 (Only for WWB, WWBG, NXW)	Manual	Software version: ≥ 1.1.6
AL149	Driver EVD battery discharged	Manual	Software Version: ≥ 1.1.9
AL150	Configuration Driver EVD error	Manual	Software Version: ≥ 1.1.9
AL151	EVD firmware not compatible	Manual	Software Version: ≥ 1.1.9
AL152	Circuit 1 EVD alarm summary	Manual	Software Version: ≥ 1.1.9
AL153	Circuit 2 EVD alarm summary	Manual	Software Version: ≥ 1.1.9

SCARICA L'ULTIMA VERSIONE:

http://www.aermec.com/qrcode.asp?q=13634

DOWNLOAD THE LATEST VERSION:

http://www.aermec.com/qrcode.asp?q=5642

TÉLÉCHARGER LA DERNIÈRE VERSION:

http://www.aermec.com/qrcode.asp?q=5676

Aermec S.p.A.
Via Roma, 996 - 37040 Bevilacqua (VR) - Italia
Tel. +39 0442 633 111 - Fax +39 0442 93577
marketing@aermec.com - www.aermec.com

BITTE LADEN SIE DIE LETZTE VERSION HERUNTER:

http://www.aermec.com/qrcode.asp?q=5625

DESCARGUE LA ÚLTIMA VERSIÓN:

http://www.aermec.com/qrcode.asp?q=5659