



MULTI-PURPOSE FOR 2 | 4 PIPE SYSTEMS

USER MANUAL

MULTIPURPOSE UNIT









IPOLUY .1402. 4724311_01

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1. USER INTERFACE (pGD1)

The control panel allows quick setting of the machine functioning parameters and their display.

The display is made up from a graphical matrix with 132 x 64 pixel in order to signal the type of functioning, displaying set parameters and any alarms that have intervened.

All default settings and any modifications are memorised in the board.

With the installation of the PGD1 remote panel, all of the functions and settings available on the machine can be replicated at a distance.

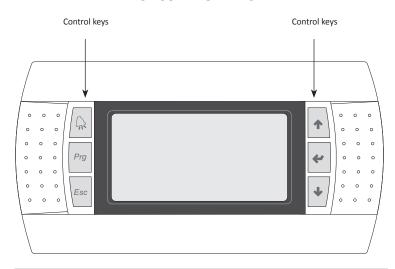
After a power cut, the unit can re-start automatically keeping the original settings.

The user interface is represented by a graphic display with six keys for navigation.

The displays are organised via a menu hierarchy, which can be activated by pressing the navigation keys. The default for displaying these menus is represented by the main menu.

Navigation between the various parameters takes place using the arrow keys positioned on the right side of the panel. These keys are also used to modify the parameters selected.

INTERFACE CONTROL KEYS



KEY	FUNCTION
	ALARMS KEY Displays the list of alarms and the alarms log;
Prg	MENU ACTIVATION KEY • Pressing this key activates navigation among the menus;
Esc	MENU EXIT KEY • Pressing this key leads to the display of the previous window;
1	NAVIGATION KEY (+) • Pressing this key during navigation through the menus/parameters, allows to pass to the next menu/parameter; • Pressing this key during parameter modification, increases the value of the parameter modified;
4	NAVIGATION KEY (ENTER) • Pressing this key during navigation through the menus, allows to enter the selected menu; • Pressing this key during navigation through the parameters, allows to select the parameter displayed and enter the modification mode; • Pressing this key during parameter modification, confirms the modification to the value of the parameter selected;
•	NAVIGATION KEY (-) • Pressing this key during navigation through the menus/parameters, allows to pass to the previous menu/parameter; • Pressing this key during parameter modification, decreases the value of the parameter modified;



ATTENTION

The **2-pipe NRP** is set up for the production of cooled water, hot water and Domestic Hot Water (D.H.W.).

- No Anti-legionella Cycle is included

The **4-pipe NRP** is set up for the production of cooled water and hot water.



WARNING

Tampering of parameters contained in the assistance and the manufacturer menu can cause unit malfunctioning. It is therefore recommended that these parameters are modified only by authorised staff.

2. REMOTE TERMINAL (pGD1)

The terminal can be remote-controlled up to 50 m using a telephone cable, while using a shielded twin cable, a TCONN6J000 and a separate power supply it can be remote-controlled as far as 500 m.



ATTENTION

The cable must always be shielded for domestic use of the terminal.

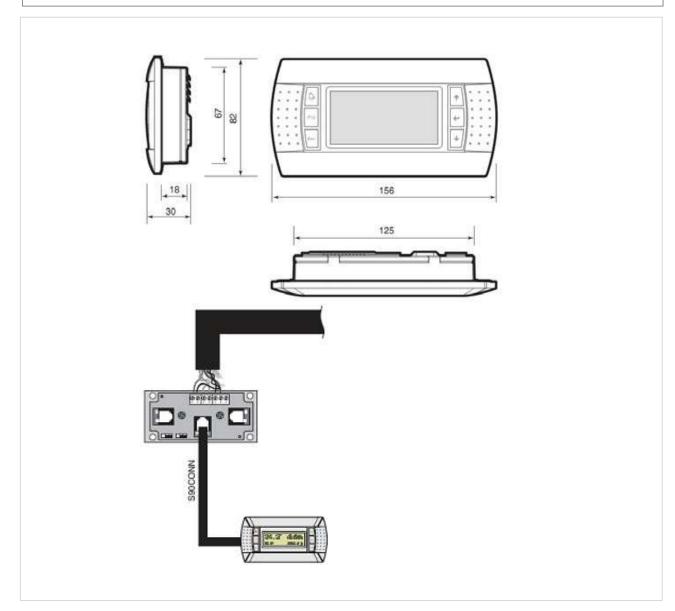
Address configuration

- If two pGD1 terminals are connected to the same board, the second terminal must be assigned with a different address than the first (which is 32).
- 1. Power the pGD1 with the telephone connector.
- 2. Pressi $\downarrow \uparrow$ Enter simultaneously for at least 5 seconds.
- 3 To modify the terminal address (display address setting) press
- Enter once: the cursor will move onto the address field (nn).
- 4 Use the $\downarrow \uparrow$ keys to select the desired value and confirm by pressing



ATTENTION

For further information concerning installation of the remote terminal, see the instructions inside the accessory.



3. USE OPERATIONAL PROCEDURES

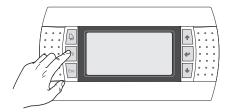
To manage or modify the NRP unit operational parameters, the control board interface on the machine must be used. The fundamental operations that the user must be able to perform for correct use of the unit are:

- (1) To pass from one menu to another;
- (2) To select and modify a parameter;

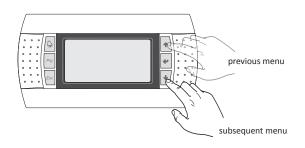
1

To pass from one menu to another

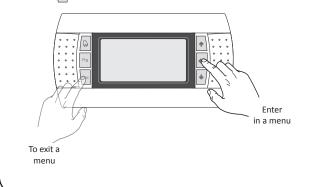
(a) In order to scroll the various menus (the order with which the menus are displayed is represented in the previous page) it is first necessary to enter the menu selection mode, pressing the $\binom{p_0}{p_0}$ key;



(b) Once the menu selection mode has been entered, these can be scrolled using the arrow keys: the (+) key to pass to the previous menu and the (+) key to pass to the next menu;



(c) When the desired menu is displayed, press the () key to enter the menu. To exit the menu and go back to menu selection mode, press the () key;



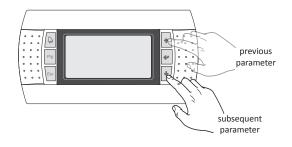
ATTENTION

To adjust **display contrast**, press **Alarm + Prg** simultaneously and use the \uparrow keys to increase or decrease contrast.

2

To select and modify a parameter

(a) Once the selected menu has been entered (following the procedure (1)) it is possible to scroll the windows that make it up, using the arrow keys, using the (1) key to pass to the previous parameter and the (1) key to pass to the next parameter;



(c) When the desired parameter is displayed, press the () key to enter the parameter. To exit the parameter and go back to parameters selection mode, press the



ATTENTION:

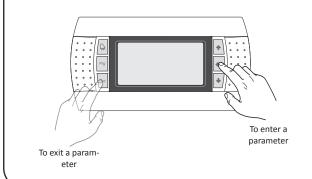
Once a parameter has been selected, press the (w) key to automatically enter the modification mode of that parameter. From this mode it is possible to set the desired values for the parameters, following the procedure below:

(1) by pressing the () key, a flashing cursor will appear near the first modifiable field of the parameter (if fields that can be modified do not appear, no cursor will appear);

(2) by pressing the (*) key or the (*)key the value in the field will be increased or decreased;

(3) by pressing the () key, the modifications to the field value will be confirmed, saving in the memory;

On the basis of the type of the type of parameter selected, the number of fields that can be modified could vary;



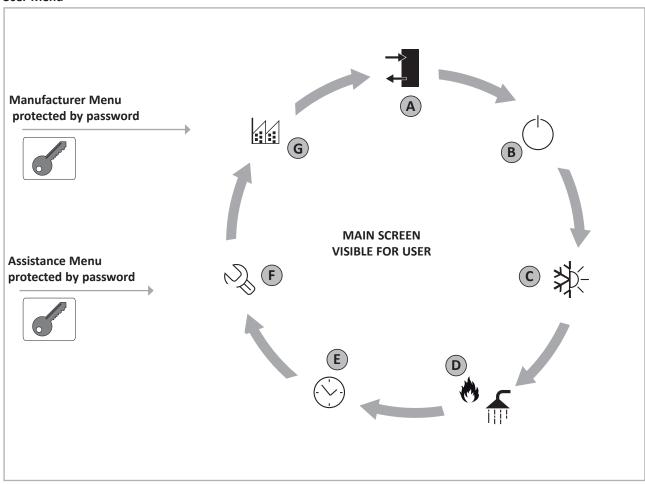
4. MENU STRUCTURE AND NAVIGATION

Menu display is organised by rotation of the icons representing them.

Having selected the desired icon, you enter the chosen menu, allowing you to view or modify the parameters making it up.

The procedure for navigating the menus or modifying the parameters is explained in detail in the chapter "Use operational procedures". See it for further information.

User Menu



MAIN SCREEN VISIBLE FOR USER

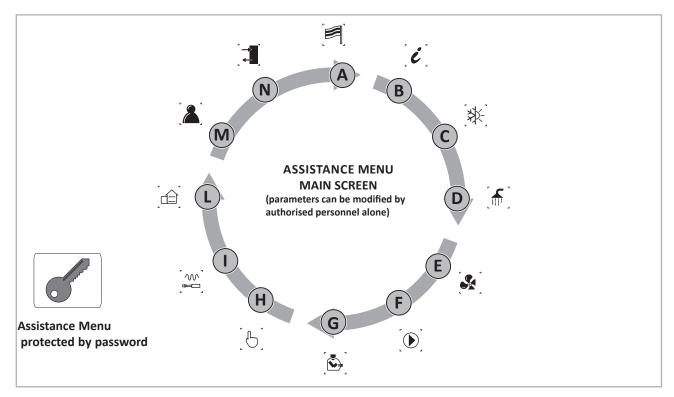
Index	Icon	Menu	Menu function
A		IN/OUT	Contains the information (temperature, pressure, etc.) of the system components.
В	[0]	ON/OFF	Switches the unit on and off and sets its functioning mode (summer/winter) and eventual time periods.

2-PIPE VERSION					
C	[**]	SYSTEM	Management of the chiller parameters, standard/energy saving work set-point.		
D		RECOVERY	DHW management parameters(set-point, consent, temperature, time periods, etc).		

4-PIPE VERSION					
C	[*	COLD	Management of the chiller parameters, standard/energy saving work set-point when functioning in cooling mode.		
D	[👏]	нот	Management of the chiller parameters, standard/energy saving work set-point when functioning in heating mode.		

Index	Icon	Menu	Menu function
E		CLOCK	Manages all parameters linked to the system time (hour, date, etc).
F		AFTER-SALES ASSISTANCE	Protects the after-sales assistance menu with password request.
G		MANUFACTURER	Protects the manufacturer menu with password request.

Assistance Menu (protected by password)

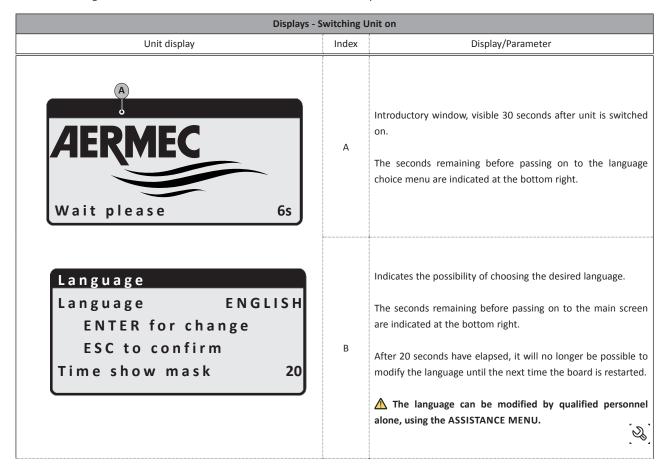


ASSISTANCE MENU MAIN SCREEN (parameters can be modified by authorised personnel alone)

Index	Icon	Menu	Menu function
A		LANGUAGE	Selecting the user interface language
В	[6]	INFO	Information regarding the software
_		2 PIPES	Assistance parameters for the chiller
(C)	≱⊱	CHILLER	· ·
	["4",	4 PIPES	Assistance parameters in cooling mode
	r 7	COLD 2 PIPES	
	[4]		Assistance parameters for the DHW
(D)	[lill]	RECOVERY	
	[👏]	4 PIPES	Assistance nevernotors in heating mode
	[63]	НОТ	Assistance parameters in heating mode
E		VENTILAT.	Ventilation assistance parameters
E		Geothermal side	Service parameters of geothermal pump
F		PUMPS	Pumps assistance parameters
G		TIMER	Devices working hours timer
H	[6]	MANUAL	Manual controls forcing
	[w]	ACCESSORIES	Enabling of accessories modules
L	[_	C.SYSTEM	Definition of system features
M	[2]	VARIOUS	Setting assistance parameters
N		IN/OUT	Input and output states

5. DISPLAYS - SWITCHING UNIT ON

The following table shows the windows visible for the user when the unit is powered.





WARNING

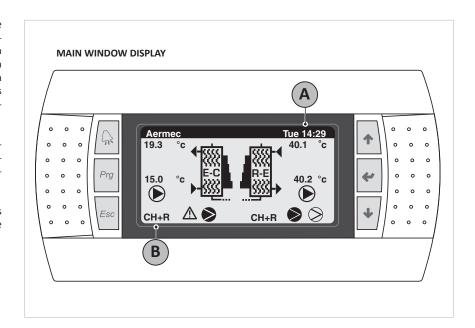
tampering of parameters contained in the assistance and the manufacturer menu can cause unit malfunctioning. It is therefore recommended that these parameters are modified only by authorised staff.

6. MAIN DISPLAY

During normal functioning of the unit, the PGD1 panel display shows the main window. This window contains the information on the system status and this information will allow the user to have a clear indication regarding functioning of the NRP unit as well as to supply any error and/or malfunctioning messages.

Depending on the functioning mode, different information can be displayed concerning the current status of the unit, user settings, etc.

To have a clear interpretation of the icons present in the main window, refer to the table below.



Description of icons displayed on main window

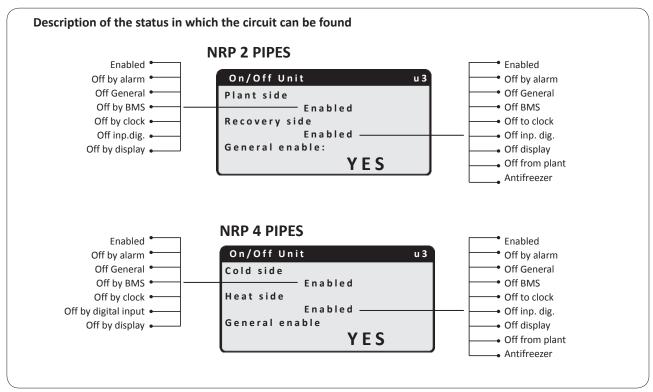
Icon	Meaning		
A	Indicates the day of the week and the time.		
+ (iii) (cn) (cn) (cn) (cn) (cn) (cn) (cn) (cn	Indicates water inlet and outlet temperature (evaporator in summer and condenser in winter).		
RE	Indicates water inlet and outlet temperature of DHW side heat exchanger (recovery).		
1	Indicates the percentage of water requested by the machine intended for the system or for recovery.		
	Indicates which pump is running. The icon on the left refers to the pump on the system side, on the right to the heat recovery pump. The number below shows which pump is on		
лл.	NRP Indicates that the anti-freeze resistance is active.		
_ • -	NXP	Option not present	
-(F)-	Indicates that the flow switch is open. If it remains open too long the compressors switch off. The pumps will release the flow switch.		

Icon	Meaning
LT	Indicates that the outlet low temperature antifreeze prevention is active. Switches compressors off.
HT	Indicates that the outlet high temperature prevention is active. Switches the compressors/mode change off.
В	Indicates the states in which the circuit can be found Indicates the status in which the unit can be found.
	Indicates compressor status: disabled(1), off (2), on (3), in alarm (4).

Multipurpose Unit - User Manual - Main Display

Description of the status in which the circuit can be found

State	Meaning
C1 C2	The system is active and running
СН	Chiller functioning
CH + R	Chiller + total recovery functioning
PC	Heat pump functioning
REC	Total recovery
DEFR	Defrost active
WAIT	The circuit is in standby because configuration is changing
LC	Low load: Indicates low water content or low thermal load
OK	Set point achieved



State	Meaning				
Enabled	The sy	stem is active and running			
Off by alarm		There is a serious alarm which stops the system (check the list of alarms, below the alarm key)			
General Off	The s	ystem is switched OFF by the terminal; check the ON/OFF screen			
Off by supervisor (BMS)	The su	pervision system has prevented unit start-up			
Off by clock	Le fas	Le fasce orarie impostate impongono l'OFF del intero sistema			
Off by digital input	L'ingresso digitale (ID8) è chiuso e pone il sistema in OFF				
Off by display	Ľimpi	L'impianto e' in OFF da terminale. Controllare la schermata IMPIANTO			
Off by Plant side /Cold side	NRP	Plant-side/Cold side disable/off: Recovery/Heat side not working			
Off by Plant-side/Cold side	NXP	Option not present			
Autifuses	NRP	Azione di prevenzione gelo all''interno degli scambiatori d'acqua			
Anti-freeze	NXP	Option not present			
Manual Mode	The compressors or pumps are forced to manually				

ATTENTION

NRP 2-pipe system - Deactivated system /Off: also the recovery side is excluded NRP 4-pipe system - Deactivated Cool Side /Off: also the heating side is excluded *for NRP units

Function not present

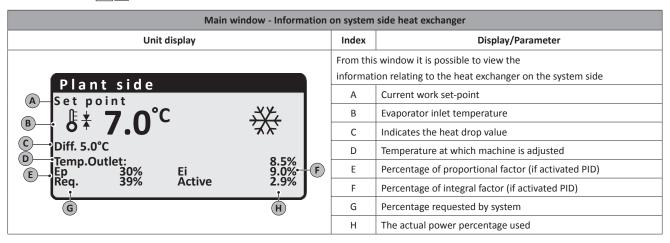
If a function is not present the following screen will be shown.

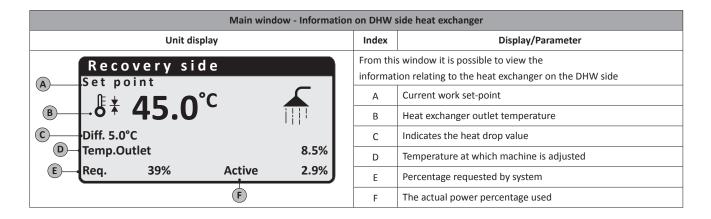
To return to the main screen press ESC.



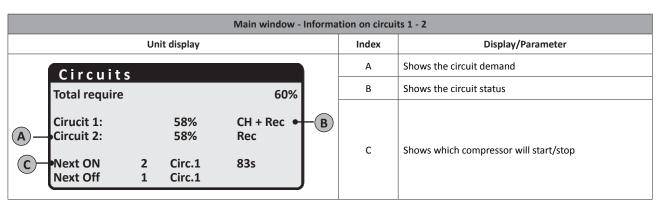
NRP 2 PIPES

By pressing the 🖈 👈 keys it is possible to access other displays of the main window



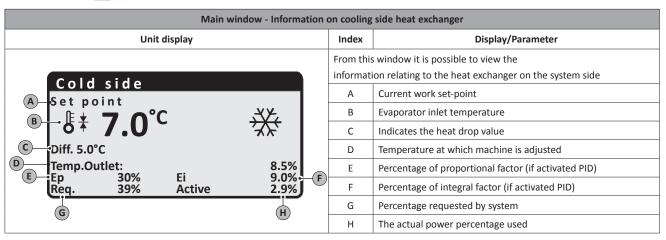


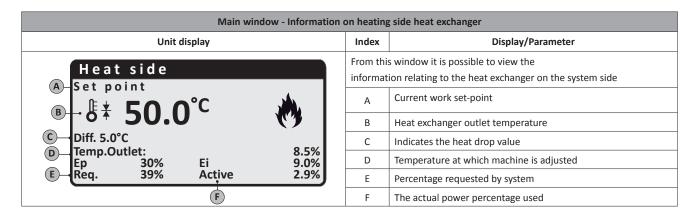
Main window - Information on DHW side heat exchanger					
Unit display	Index	Display/Parameter			
	Α	Leaving domestic hot water temperature			
Recovery side	В	Temperature within storage tank			
Temp.Prod 42.4°C B 10.5°C	С	Indicates domestic hot water demand (in steps of 0 to 10)			
Set 45.0°C Diff 5.0°C Req. 64% Active 58%	D	Is shown when the heat recovery pump is on. The number below shows which pump is on. If heat recovery and domestic hot water is enabled the pump will start if there is a demand for domestic hot water.			

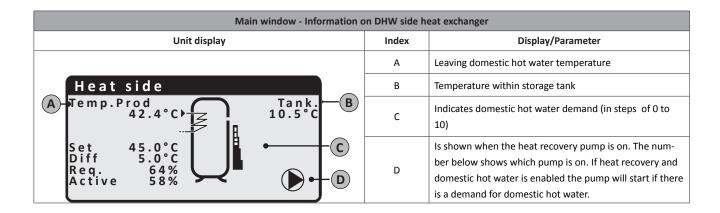


NRP 4 PIPES

By pressing the + keys it is possible to access other displays of the main window







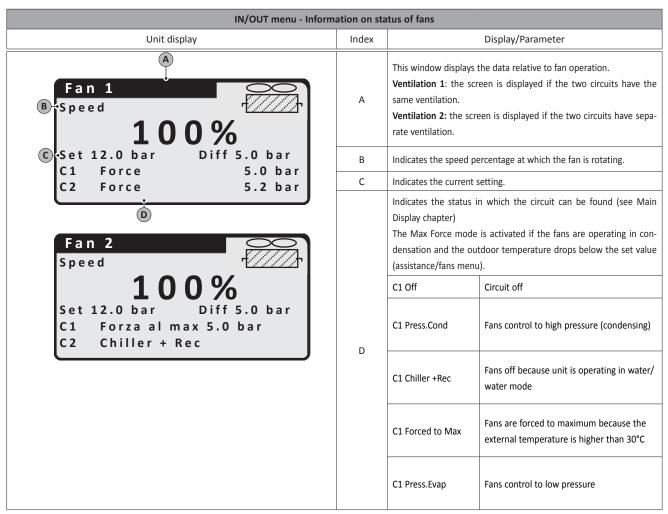
	Main window - Information on circuits 1 - 2					
		Ur	nit display		Index	Display/Parameter
	Circuits				Α	Shows the circuit demand
	Total require			60%	В	Shows the circuit status
(A)	Cirucit 1: Circuit 2: Next ON Next Off	2 1	58% 58% Circ.1 Circ.1	CH + Rec ◆ B Rec 83s	С	Shows which compressor will start/stop

7. IN/OUT MENU

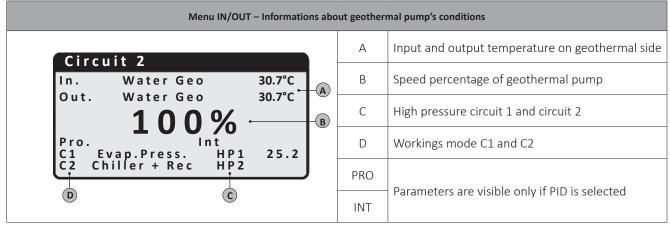


IN/OUT menu - Information regarding external temperature						
Unit display	Index	Display/Parameter				
A	А	External temperature: this window displays the data relative to the external temperature.				
Outdoor temp.		Today: indicates the MIN and MAX temperature recorded during the day.				
B— Today 5.7°C 5.7°C 5.7°C 5.7°C 5.7°C	С	Yesterday: indicates the MIN and MAX temperature recorded the previous day.				
Temp. Temp. Min Max	D	External temperature: Indicates the external temperature currently detected by the outdoor air probe.				

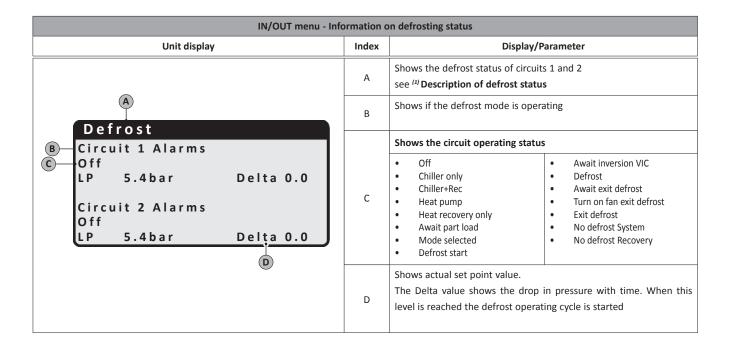
Menu IN/OUT - Information on circuit status and capacity							
Display shown on the unit	Index		Display/Parameter				
		Shows the	circuit operating status				
	А	Await	+Rec				
Circuit 1	В	Shows how	many seconds until the next change of operation				
Chiller + Rec Pros.change mode 163s	С	Shows the	circuit demand				
C Req. 58% Active: 58%		Shows the	compressor status				
Compr.1:		\Diamond	Compressor off				
Compr.2:			Compressor on				
E	D	Min.On	Compressor on and in minimum run timer, right when this will finish				
		Min.Off	Compressor on and in minimum stop timer, right when this will finish				
		Off alarm	Compressor off due to alarm, see Alarm key				
	E	Shows the	circuit active capacity				



*for NRP units

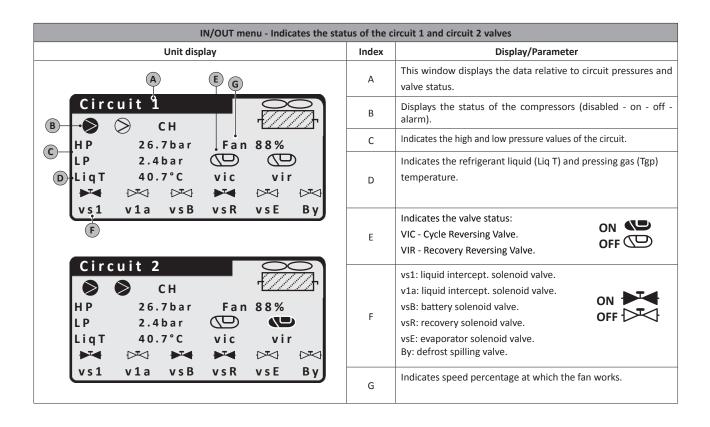


*for NRP units



Description of defrosting states

Description of defrosting states			
States	Description		
No SBR	No defrost		
Off	Circuit off from display panel, or time clock, or digital input		
Sbr.Attivo	Defrost active (the unit condenses in the ventilated coil)		
On Smart	Defrost started due to drop		
On Min LP	Defrost started due to low pressure reached		
On Reboot	Defrost started after power loss		
On Force	Defrost started forced from the display panel or forced by another defrost cycle		
On TGP	Defrost started due to high discharge temperature		
End Liq.T	Defrost stopped due to high liquid temperature		
End Tempo	Defrost stopped after maximum time reached		
End Force	Defrost stopped forced from display panel		
Startup Cmp	Defrost inhibited due to time after compressor start		
Alta P.Evap	Defrost inhibited due to high evaporating pressure		
Alta T.Ext	Defrost inhibited due to high external temperature		
T.Bw Sbr	Defrost inhibited due to delay timer between two defrost cycles		
Allarmi	Circuit in alarm		
On da Alarm	Defrost started due to return to alarm		

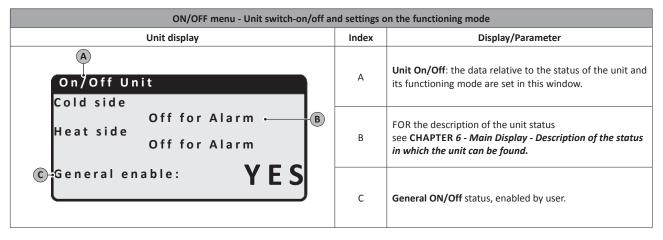


8. ON/OFF MENU

NRP 2 PIPES

ON/OFF menu - Unit switch-on/off and settings on the functioning mode					
Unit display	Index	Display/Parameter			
On/Off Unit	A	Unit On/Off: the data relative to the status of the unit and its functioning mode are set in this window.			
Plant side Off to clock Recovery side Off to clock	В	FOR the description of the unit status see CHAPTER 6 - Main Display - Description of the status in which the unit can be found.			
© General eable: YES	С	General ON/Off status, enabled by user.			

NRP 4 PIPES



ATTENTION

NRP 2-pipe system - Deactivated system /Off: also the recovery side is excluded NRP 4-pipe system - Deactivated Cool Side /Off: also the heating side is excluded

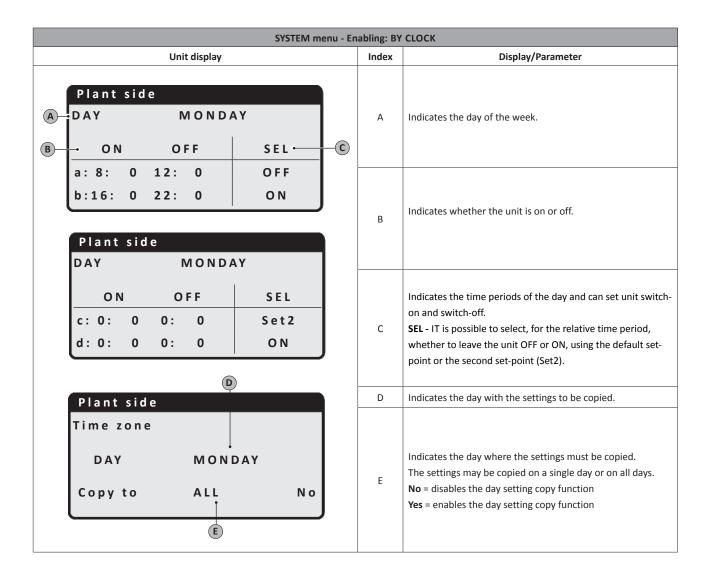
9. PLANT (2 PIPES)



SYSTEM menu - System set-point display					
Unit display	Index	Display/Parameter			
	А	Displays the current settings of the chiller.			
Impianto OFF to clock	В	NO: The system does not produce cold/hot water, recovery is managed separately. Yes: the unit is running and the system is adjusted at the default set-point. Yes with set2: the unit is running and the system is adjusted at the second set-point. BY CLOCK: the system is adjusted by the set time periods, when active.			
BY CLOCK MODE SELECTION BY CALENDAR	С	MODE selection: BY SUPERV: the unit is managed by remote control via the BMS system. BY DIG INPUT: if the digital contact (auxiliary device) closes, the heating mode is activated. BY EXT TEMP.: cooling or heating mode is selected depending on the external temperature. BY CALENDAR: the unit produces hot water depending on the period set. HEATING: the unit produces hot water. COOLING: the unit produces cold water.			

SYSTEM menu - System set-point display				
Unit display	Index	Display/Parameter		
Plant side	А	Displays the current settings of the chiller.		
B Setpoint 1 7.0°C	В	Indicates the cold water production set-point.		
©	С	Indicates the hot water production set-point.		

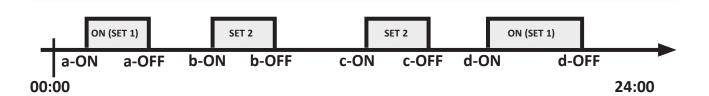
SYSTEM menu - System set-point display						
Unit display	Index	Display/Parameter				
Plant side Setpoint 2	А	Displays set-point 2 (only if enabled)				
B	В	Indicates the set-points for production of cold water.				
©	С	Indicates the set-points for production of hot water.				





ATTENTION: Each program has **8 days** and each day is divided into **4 time periods** at which the recovery switch-on and switch-off time, set-point2 or switch-on/switch-off can be set.

ATTENTION: outside of the 4 time periods the program will switch the system off.



SYSTEM menu - Mode Selection: BY CALENDAR					
Unit display	Index	Display/Parameter			
Cooling/Heating Select Cool/Heat with Calendar	А	Sets the starting date of the period at which the heating unit can be activated.			
A Start Heating 0/ B Finish Heating 0/	В	Sets the final date of the period at which the heating unit can be deactivated.			

SYSTEM menu - Mode Selection: EXTERNAL TEMPERATURE				
Unit display	Index	Display/Parameter		
Cooling/Heating Select Cool/Heat with External Temperature	А	Sets the external temperature at which the unit must be activated in cooling mode.		
A→Set ON Heating 26°C B→Set ON Cooling 07.0°C	В	Sets the external temperature at which the unit must be activated in heating mode.		

10. RECOVERY MENU (2 PIPES)





WARNING

- The **NRP 2-pipe** unit è is set up for production of **Domestic Hot Water (D.H.W.).**
 - No Anti-legionella Cycle is included.

RECOVERY menu - Recovery set-point display				
Unit display	Index	Display/Parameter		
(A)	А	Displays the current settings of the heat exchanger.		
Recovery side Off to clock External temperature B—Enable:	В	YES: the unit does not produce hot water for DHW use. NO: the unit is running and the system is adjusted at the default set-point. BY CLOCK: the system is adjusted by the set time periods, when active. Yes with set2: the unit is running and the system is adjusted at the second set-point.		

RECOVERY menu - Reco	very set-po	int display		
Unit display	Index	Index Display/Parameter		
Recovery side (B) Setpoint 1: 45 0 ° C	А	Displays the current settings of the chiller.		
45.0 6	В	Displays the heat exchanger outlet water temperature at the default set-point.		
Setpoint 2: 45.0°C	С	Displays the heat exchanger outlet water temperature at the second set-point.		

11. COOL MENU (4PIPES)



COOLING menu - Display of co	oling side he	at exchanger set-point
Unit display	Index	Display/Parameter
(A)	A	Displays the current settings of the chiller.
Cold side B OFF for Alarm C Enable: BY CLOCK	В	NO: the system does not produce cold/hot water Yes: the unit is running and the system is adjusted at the default set-point Yes WITH SET2: the unit is running and the system is adjusted at the second set-point BY CLOCK: the system is adjusted by the set time periods, when active.

COOLING menu - Display of cooling side heat exchanger set-point			
Unit display	Index	Display/Parameter	
$(\widehat{\mathbf{A}})$	А	Displays the current settings of the chiller.	
Cold side	В	Indicates that the system default set-point is active.	
B Setpoint 1 C 7.0°C	С	Indicates the cooling set-point temperature.	

Menù FREDDO - Visualizzazione set point scambiatore lato freddo			
Visualizzazione sul display dell'unità	Indice	Visualizzazione/Parametro	
Cold side	A	Displays the current settings of the chiller.	
Setpoint 2 C	В	Indicates that the system default set-point is active.	
	С	Indicates the cooling set-point temperature.	



WARNING

To set the time periods, see the chapter relative to **system menu (2 pipes) enabling: by clock.**

12. HEAT MENU (4 PIPES)





ATTENTION

The NRP - 4-pipe unit is set up for production of Domestic Hot Water (D.H.W.).

HEATING menu - Display o	of heating s	side set-point
Unit display	Index	Display/Parameter
A	A	Displays the current settings of the heat exchanger.
Heat side		
Off to Clock External Temperature	_	NO: the unit does not produce hot water on system side. YES: the unit is running and the system is adjusted at the default set-point. BY CLOCK: the system is adjusted by the set time periods,
Switch On: YES	В	when active. Yes with set2: the unit is running and the system is adjusted at the second set-point.

RECOVERY menu - Display	of heating	side set-point
Unit display	Index	Display/Parameter
Heat side B Setpoint 1: 4 F 0 9 C	А	Displays the current settings of the chiller.
45.0°C	В	Displays the heat exchanger outlet water temperature at the default set-point.
© Setpoint 2: 45.0°C	С	Displays the heat exchanger outlet water temperature at the second set-point.

13. CLOCK MENU



Clock Menu - System time and date settings				
Unit display	Index	Display/Parameter		
Clock A Day: Tuesday	A	Displays the day of the week (it cannot be changed from this window).		
Time: 3 May. 2011	В	THE date of the system can be modified.		
C Hour: 14:04	С	THE time of the system can be modified.		

Clock Menu - Daylight	saving tim	e settings
Unit display	Index	Display/Parameter
	A	Clock: the daylight saving time settings are displayed in this window.
	В	Day-light saving time: this parameter indicates whether to enable adjustment of system time based on the date, according to the subsequent settings.
	С	Transition time: This parameter indicates how much the system time must be increased or decreased based on time change (depending on whether it is the start or finish of daylight savings time).
Clock B Automatic change Hour solar/legal YES Transition Time: 1h	D	Start of daylight saving time use: this parameter indicates which day of the month you must start to use daylight saving time; in order to specify this, you must set two parts of the same parameter, the first indicating the week (first, second, third or last), the second indicating the day of the week.
D Start: LAST SUNDAY in MARCH at 02.00 G End: LAST SUNDAY in OCTOBER at 03.00	E	Start month: this parameter indicates the month in which to start to use the daylight saving time setting.
W (III OCTOBER at 03.00)	F	Start time: this parameter indicates the time in which to start to use the daylight saving time setting.
	G	End of daylight saving time use: this parameter indicates which day of the month you must quit using daylight saving time; in order to specify this, you must set two parts of the same parameter, the first indicating the week (first, second, third or last), the second indicating the day of the week.
	Н	End month: this parameter indicates the month in which to quit using the daylight saving time setting.
	ı	End hour: this parameter indicates the time in which to quit using the daylight saving time setting.

CLOCK menu - S	etting the	calendar function
Unit display	Index	Display/Parameter
	А	Calendar: this window sets the actions to be carried out in the calendar function; this function allows you to set 5 periods, specifying the length in days, and to connect a specific action to be carried out to each one of them.
	В	Start: Indicates the start date for the 5 periods that can be set.
	С	End: Indicates the end date for the 5 periods that can be set.
(A) (C) (D)	D	Action: indicates the action to be carried out for each of the 5 periods set in the calendar.
Calendar B-Start Finish Action	E	Time periods start date: these parameters specify the starting date (day/month) for each period; if you set 00/00 as the start and end value, this period will be disabled.
01/JAN.	F	Time periods end date: these parameters specify the end date (day/month) for each period; if you set 00/00 as the start and end value, this period will be disabled.
0/ 0/	G	Actions set for the time periods: these parameters specify the action to be carried out corresponding to the set periods; the actions can be: • Off (unit switch-off during the period selected); • Fest (for each day of the period selected, settings relative to the time periods specified for the "HOLIDAY" will be carried out); • (no action).

14. ALARMS MENU



Every time an alarm is generated, it is saved in an area of memory called "alarms log", which contains the last 100 alarms recorded in the unit. For every alarm saved, different information is recorded regarding the unit situation at $% \left(t\right) =\left(t\right) \left(t\right)$ that time (work temperatures and pressures), so that the technical after-sales staff can have a clear view of the unit when a given alarm occurs.

To access the alarms log:

(a) press the key (and enter the alarms dis-

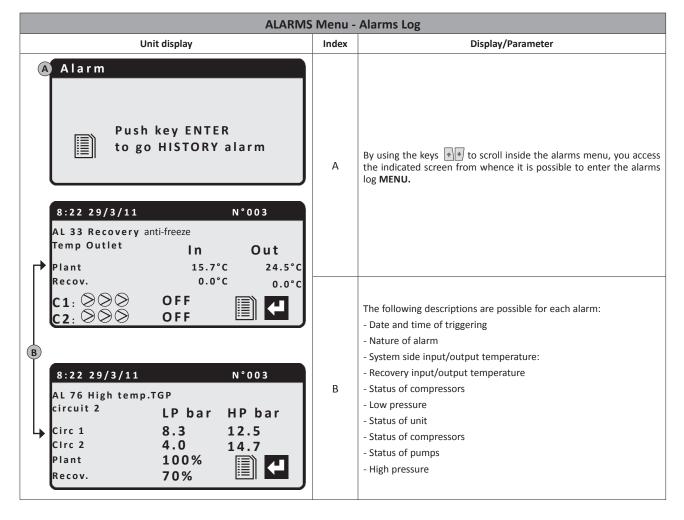
(b) if they are present, scroll all active alarms using the (+) key and reach the icon that indicates the activation of the alarms log;
(3) press the key (+) to enter the alarms log;

(4) to exit the alarms log, press (Prg) or (Esc).

	ALARMS M	lenu
Unit display	Index	Display
A	А	Alarm code: this parameter indicates the alarm code. This code can be found in the previous pages (alarms summary table).
Alarm AL05 B) High pressure sensor	В	Alarm description: this parameter indicates the description of the alarm saved.
circuit 1 broken or not connect	С	Alarm number: this value indicates the progressive number assigned to the alarm; this value goes from 0 (first alar recorded) to 99 (last alarm recorded).
Active alarms: 15 ©	D	Indicates the possibility of scrolling the displays of the various active alarms signalled by pressing the keys .

15. ALARMS LOG MENU





TYPE OF REARMING

AUTO= automatic, the alarm is rearmed automatically as the event which generated it ceases.

SEMI = semiautomatic, the alarm is rearmed automatically, but if the event that generated it repeats itself more than 3 times in one hour, it must be rearmed manually.

MAN = manual, the alarm is only rearmed by means of the manual control.



button pressed to rearm the alarm manually.



ATTENTION: the alarms log display always starts from the latest alarm generated. To navigate through the alarms saved, use the (+) and (+) arrow keys.

THE ALARMS LOG CANNOT BE RESET and as the memory available is suitable to contain 100 alarms, once the index has reached the value of 99, its increase will start from 00 again (over-writing the oldest alarm).

16. ALARMS LIST

Code		Log Text	Note	Delay	Manual Reset
AL01		Clock battery discharged error			Yes
4L02		Flash memory error			Yes
AL03		ID8 phase monitor			
AL04		Automatic restart after power supply cut off	not alarm		
AL05		Circ1 high pressure broken or disconnected	B1	30s	
AL06		Circ2 high pressure broken or disconnected	В6	30s	
AL07		Circ1 low pressure broken or disconnected	B2	30s	
AL08		Circ2 low pressure broken or disconnected	В7	30s	
\L09		Evap In. Temp. broken or disconnected	B4	30s	
AL10		Evap Out. Temp. broken or disconnected	В3	30s	
\L11		Evap Out. Temp. broken or disconnected	B3 uPC	30s	
AL12		Rec. In. Temp. broken or disconnected	B1 uPC	30s	
\L13		Rec. 1 Out. Temp. broken or disconnected	B2 uPC	30s	
\L14		Rec. 2 Out. Temp. broken or disconnected	B6 uPC	30s	
\L15		Com. Out.Rec. Temp. broken or disconnected	B4 uPC	30s	
\L16		External Air Temp broken or disconnected	В9	30s	
AL17	NRP	Circ1 Liquid Temp broken or disconnected		30s	
4L17	NXP	Geothermal input's temperature probe is broken or not connected		30s	
AL18	NRP	Circ2 Liquid Temp broken or disconnected		30s	
4L18	NXP	Geothermal input's temperature probe is broken or not connected		30s	
\L19		Circuit 1 Comp.1 maintenance			Yes
\L21		Circuit 1 Pump 1 Rec. maintenance			Yes
AL22		Circuit 1 Pump 1 system maintenance			Yes
\L23		Circuit 1 Compres.1 overload			Yes
\L24		ID13 Pump 1 system overload	ID 6		Yes
\L25		ID14 Pump 2 system overload			Yes
AL26		Pump 1 rec. overload			Yes
AL27		Pump 2 rec. overload			Yes
AL28	NRP	ID15 Fan 1 overload			Yes
AL28	NXP	Geothermal input's temperature probe is broken or not connected			Yes
L29		ID16 Fan 2 overload			Yes
L30		Circuit 1 LP 1 pressure switch		180s + 3s "M48"	Semi automatic
\L31		Low pressure probe			Semi automatic
\L32		HP 1 pressure switch by digital input			Yes
\L33		High pressure 1 by probe			Yes
\L34		Low pressure 1 by probe (serious)			Yes
AL35		Low pressure 2 by probe (serious)			Yes
AL36		Circ 1 prevention by probe			
AL37		Circ 2 prevention by probe			
AL38		Syst. flow meter			Semi automatic
AL39		Rec. flow switch			Semi automatic
AL40		Evap. output temp system anti-freeze		3°C "Ma9"	
AL41		Evap. output temp com. system anti-freeze		3°C "Ma9"	
AL42		Output temp recovery 1 anti-freeze		3°C "Ma12"	

- Multipurpose Unit - User Manual - Alarms List —

tput temp recovery 2 anti-freeze tput temp com. rec. anti-freeze pansion IO (µPC) OffLine c. 1 high discharge temperature broken or disconnected c. 2 high discharge temperature broken or disconnected tomatic restart after power supply cut off cuit 1 Comp. 2 maintenance cuit 2 Comp. 3 maintenance cuit 2 Comp. 1 maintenance cuit 2 Comp. 2 maintenance cuit 2 Fan maintenance cuit 1 Pump 2 Rec. maintenance cuit 1 Pump 2 syst. maintenance cuit 1 Compres.2 overload cuit 1 Compres.3 overload cuit 2 Compres.4 overload cuit 2 Compres.5 overload cuit 2 Compres.5 overload cuit 2 Compres.6 overload cuit 2 Compres.7 overload cuit 2 Compres.7 overload cuit 2 Compres.8 overload cuit 2 Compres.9 overload	not alarm Display only	3°C "Ma12" 20 s 20 s 30 s 30 s 30 s "W18" W18" W18" W18" W18" W18" W18" W18	Yes Yes Yes Yes Yes Yes Semi automatic Semi automatic
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th pressure 2 by probe			Yes
			Yes
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c.2 low pressure prevention			
covery 2 output anti-freeze		3°C "Ma12"	
rcing off recovery 2			
c. common output anti-freeze		3°C "Ma12"	
rcing off common recovery			
cuit 1 TGP prevention		"Ma39"	
cuit 2 TGP prevention		"Ma39"	
c. 1 high discharge temperature		"Ma54"	
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17. INPUTS/OUTPUTS LIST

17.1. INPUTS/OUTPUTS LIST - PCO3 LARGE BOARD

DIGITAL OUTPUTS	MASTER	
NO1	CP1(compressor) circuit 1 (CC1)	
NO2	CP2 (compressor) circuit 1 (CC1A)	
NO3	CP1 (compressor) circuit 2 (CC2)	
NO4	CP2 (compressor) circuit 2 (CC2A)	
NO5	VS1 (liquid interception solenoid valve) circuit 1	
NO6	VS2 (liquid interception solenoid valve) circuit 1	
NO7 (exchange)	Evaporator pump 1	
NO8	Serious alarm	
NO9	Evaporator pump 2	
NO10	Condenser fan 1	
NO10	Geothermal pump	
NO11	Condenser fan 2	
NO12	VIC1 (cycle reversing valve)	
NO13	VIR1 (recovery reversing valve)	
NO14	VIC2 (cycle reversing valve)	
NO15	VIR2 (recovery reversing valve)	
NO16	Anti-freeze resistance	
NO17	VS1 (liquid interception solenoid valve) circuit 2	
NO10	VS2 (liquid interception solenoid valve) circuit 2	
NO18	vsz (liquia interception solellola valve) circuit z	
DIGITAL INPUTS	MASTER	
DIGITAL INPUTS	MASTER	
DIGITAL INPUTS	MASTER High pressure circuit 1	
DIGITAL INPUTS ID1 ID2	MASTER High pressure circuit 1 Low pressure circuit 1	
DIGITAL INPUTS ID1 ID2 ID3	MASTER High pressure circuit 1 Low pressure circuit 1 Remote On-Off	
ID1 ID2 ID3 ID4	MASTER High pressure circuit 1 Low pressure circuit 1 Remote On-Off Remote heating/cooling	
ID1 ID2 ID3 ID4 ID5	MASTER High pressure circuit 1 Low pressure circuit 1 Remote On-Off Remote heating/cooling Evaporator flow switch	
ID1 ID2 ID3 ID4 ID5 ID6	MASTER High pressure circuit 1 Low pressure circuit 1 Remote On-Off Remote heating/cooling Evaporator flow switch Circuit 1 circuit breaker CP1 (MT1)	
ID1 ID2 ID3 ID4 ID5 ID6 ID7	High pressure circuit 1 Low pressure circuit 1 Remote On-Off Remote heating/cooling Evaporator flow switch Circuit 1 circuit breaker CP1 (MT1) Circuit 1 circuit breaker CP2 (MT1A)	
ID1 ID2 ID3 ID4 ID5 ID6 ID7 ID8	High pressure circuit 1 Low pressure circuit 1 Remote On-Off Remote heating/cooling Evaporator flow switch Circuit 1 circuit breaker CP1 (MT1) Circuit 1 circuit breaker CP2 (MT1A) Phase monitor alarm	
ID1 ID2 ID3 ID4 ID5 ID6 ID7 ID8 ID9	High pressure circuit 1 Low pressure circuit 1 Remote On-Off Remote heating/cooling Evaporator flow switch Circuit 1 circuit breaker CP1 (MT1) Circuit 1 circuit breaker CP2 (MT1A) Phase monitor alarm High pressure circuit 2	
ID1 ID2 ID3 ID4 ID5 ID6 ID7 ID8 ID9 ID10	High pressure circuit 1 Low pressure circuit 1 Remote On-Off Remote heating/cooling Evaporator flow switch Circuit 1 circuit breaker CP1 (MT1) Circuit 1 circuit breaker CP2 (MT1A) Phase monitor alarm High pressure circuit 2 Low pressure circuit 2	
ID1 ID2 ID3 ID4 ID5 ID6 ID7 ID8 ID9 ID10 ID11	High pressure circuit 1 Low pressure circuit 1 Remote On-Off Remote heating/cooling Evaporator flow switch Circuit 1 circuit breaker CP1 (MT1) Circuit 1 circuit breaker CP2 (MT1A) Phase monitor alarm High pressure circuit 2 Low pressure circuit 2 Circuit 2 circuit breaker CP1 (MT2)	
DIGITAL INPUTS ID1 ID2 ID3 ID4 ID5 ID6 ID7 ID8 ID9 ID10 ID11 ID12	High pressure circuit 1 Low pressure circuit 1 Remote On-Off Remote heating/cooling Evaporator flow switch Circuit 1 circuit breaker CP1 (MT1) Circuit 1 circuit breaker CP2 (MT1A) Phase monitor alarm High pressure circuit 2 Low pressure circuit 2 Circuit 2 circuit breaker CP1 (MT2) Circuit 2 circuit breaker CP2 (MT2A)	
DIGITAL INPUTS ID1 ID2 ID3 ID4 ID5 ID6 ID7 ID8 ID9 ID10 ID11 ID12 ID13 ID13 ID12 ID13 ID13 ID13 ID13 ID13 ID13 ID13 ID13 ID14 ID15 ID15 ID16 ID17 ID17	High pressure circuit 1 Low pressure circuit 1 Remote On-Off Remote heating/cooling Evaporator flow switch Circuit 1 circuit breaker CP1 (MT1) Circuit 1 circuit breaker CP2 (MT1A) Phase monitor alarm High pressure circuit 2 Low pressure circuit 2 Circuit 2 circuit breaker CP1 (MT2) Circuit 2 circuit breaker CP2 (MT2A) Evaporative pump 1 circuit breaker	
DIGITAL INPUTS ID1 ID2 ID3 ID4 ID5 ID6 ID7 ID8 ID9 ID10 ID11 ID12 ID13 ID14 ID14 ID15 ID14 ID14	MASTER High pressure circuit 1 Low pressure circuit 1 Remote On-Off Remote heating/cooling Evaporator flow switch Circuit 1 circuit breaker CP1 (MT1) Circuit 1 circuit breaker CP2 (MT1A) Phase monitor alarm High pressure circuit 2 Low pressure circuit 2 Circuit 2 circuit breaker CP1 (MT2) Circuit 2 circuit breaker CP2 (MT2A) Evaporative pump 1 circuit breaker Evaporative pump 2 circuit breaker	
DIGITAL INPUTS ID1 ID2 ID3 ID4 ID5 ID6 ID7 ID8 ID9 ID10 ID11 ID12 ID13 ID14 ID15 ID14 ID15 ID15	MASTER High pressure circuit 1 Low pressure circuit 1 Remote On-Off Remote heating/cooling Evaporator flow switch Circuit 1 circuit breaker CP1 (MT1) Circuit 1 circuit breaker CP2 (MT1A) Phase monitor alarm High pressure circuit 2 Low pressure circuit 2 Circuit 2 circuit breaker CP1 (MT2) Circuit 2 circuit breaker CP2 (MT2A) Evaporative pump 1 circuit breaker Evaporative pump 2 circuit breaker Fan 1 circuit breaker	
DIGITAL INPUTS ID1 ID2 ID3 ID4 ID5 ID6 ID7 ID8 ID9 ID10 ID11 ID12 ID13 ID14 ID15 ID15	MASTER High pressure circuit 1 Low pressure circuit 1 Remote On-Off Remote heating/cooling Evaporator flow switch Circuit 1 circuit breaker CP1 (MT1) Circuit 1 circuit breaker CP2 (MT1A) Phase monitor alarm High pressure circuit 2 Low pressure circuit 2 Circuit 2 circuit breaker CP1 (MT2) Circuit 2 circuit breaker CP2 (MT2A) Evaporative pump 1 circuit breaker Evaporative pump 2 circuit breaker Fan 1 circuit breaker Circuit breaker of geothermal pump	

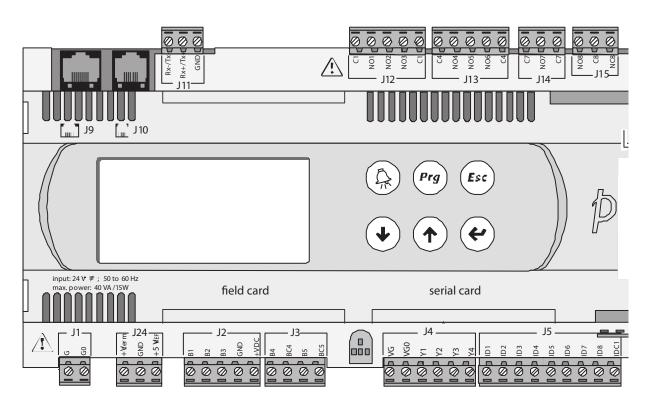
— Multipurpose Unit - User Manual - Inputs/Outputs List - pCO3 LARGE BOARD

ANALOGUE C	DUTPUTS	MASTER	
Y1 (0-10V)			
Y2 (0-10V)		Evaporator modulating pump	
Y3 (0-10V)	NRP	Modulating 1 fan	
Y3 (0-10V)	NXP	Geothermal modulating pump	
Y4 (0-10V)		Modulating 2 fan	
ANALOGUE INPUTS		MASTER	
B1		High pressure circuit 1	
B2		Low pressure circuit 1	
В3		Evaporator water outlet temperature	
B4		Evaporator water inlet temperature	
B5		Pressing line gas temperature (PT1000) Circuit1	
В6		High pressure circuit 2	
B7		Low pressure circuit 2	
B8		Multi-function input	
В9		External air temperature	
B10		Pressing line gas temperature (PT1000) Circuit2	



ATTENTION: The basic configuration includes a pCO3 large board.
In addition a series of accessories can be managed through a μPC board.

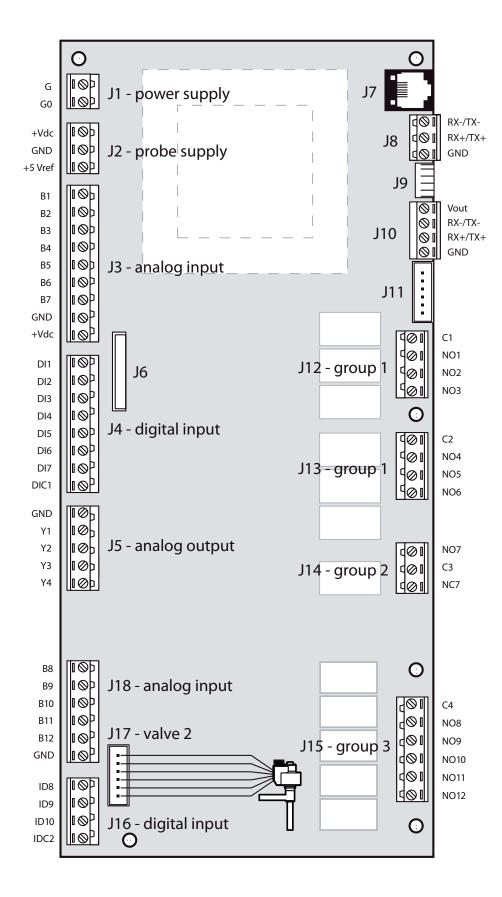
pCO3 LARGE BOARD



17.2. μPC BOARD

DIGITAL OUTPUTS	Master				
NO1	Recovery pump 1				
NO2	Recovery pump 2				
NO3	CP3 circuit 1 (CC1B)				
NO4	CP3 circuit 2 (CC2B)				
NO5	VS-R (recovery solenoid valve) circuit 1				
NO6	VS-R (recovery solenoid valve) circuit 2				
NO7 (exchange)	VS-B (battery solenoid valve) circuit 1				
NO8	VS-B (battery solenoid valve) circuit 2				
NO9	VS-E (evaporator solenoid valve) circuit 1				
NO10	VS-E (evaporator solenoid valve) circuit 2				
NO11	VBY (bypass solenoid valve) circuit1				
NO12	VBY (bypass solenoid valve) circuit2				
DIGITAL INPUTS					
ID1	Recovery flow switch				
ID2	Recovery pump 1 circuit breaker				
ID3	Recovery pump 2 circuit breaker				
ID4	Circuit 1 circuit breaker CP3 (MT1B)				
ID5	Circuit 2 circuit breaker CP3 (MT2B)				
ID6	On/Off remote D.H.W. /Hot water				
ID7	Qualify according to setpoint D.H.W.				
ID8					
ID9					
ID10					
ANALOGUE OUTPUTS					
Y1 (0-10V)					
Y2 (0-10V)					
Y3 (0-10V)					
Y4 (0-10V)					
ANALOGUE INPUTS					
B1 (NTC)	Recovery inlet water temperature				
B2 (NTC)	Recovery 1 outlet water temperature				
B3 (NTC)	Evaporator common outlet water temperature (Master/Slave)				
B4 (NTC)	Recovery common outlet water temperature (Master/Slave)				
B5 (NTC; NTC HT; 0-1V; 4-20 mA)					
B6 (NTC)	Recovery 2 outlet water temperature				
B7 (NTC) NXP	Liquid temperature (defrost end) Circuit 1				
B7 (NTC) NXP	Geothermal's input water temperature (end of defrosting) Circuit 1				
B8 (NTC)					
B9 (NTC; NTC HT;)					
B10 (NTC) NRP	Liquid temperature (defrost end) Circuit 2				
B10 (NTC) NXP	Geothermal's output water temperature				
B11 (0-5V)					
B12 (0-5V)					

μPC BOARD





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