



**MITSUBISHI  
ELECTRIC**

**MITSUBISHI ELECTRIC  
HYDRONICS & IT COOLING SYSTEMS S.p.A.**

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Manual code:

UM\_W3000X+\_VA02\_00\_09\_22\_EN

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# **W3000X+ Version VA02**

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## **USER MANUAL**

**EN**

English is the original language. All other languages are translations from the original.

For safe and correct use, carefully read this manual and the installation, use and maintenance manual of the unit.

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**Before carrying out any operation on the machine, you must carefully read this manual and make sure you understand all the instructions and information given.**

**Keep this manual in a known and easily accessible place to refer to as necessary during the entire life-span of the unit.**

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**TABLE OF CONTENTS****USER MANUAL**

<b>SYMBOL .....</b>	<b>5</b>
<b>1. USER INTERFACE .....</b>	<b>6</b>
1.1 Available keyboard .....	6
1.1.1 Connection specifications .....	6
1.1.2 Icons description .....	7
1.2 Alarm management .....	8
1.3 Navigation menu .....	12
<b>2. ALARMS .....</b>	<b>19</b>

**SYMBOL****USER MANUAL**

A number of symbols are used to highlight some parts of the text that are of particular importance. These are described below.

**CAUTION:**

Information on the occurrence of situations/operations which, if ignored or not duly acted upon, could put not only the Unit but also the functions of the Software and the various electronic parts at risk.

**OBLIGATION:**

Indicates the need to take appropriate precautions/perform specific operations to avoid compromising protection of the points of access reserved for authorised operators and/or operators who guarantee the proper operation of the Unit.

**INFORMATION:**

Indicates technical/functional information of particular importance which should not be overlooked.

**NOTICE:**

This is used to address practices not connected with possible physical injury.

# 1. USER INTERFACE

## 1.1 Available keyboard

The following user panel, called HMI-TM, is available:

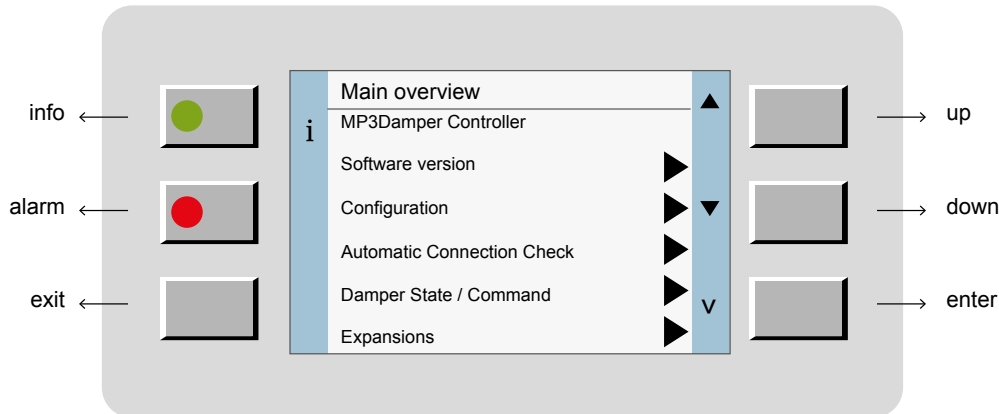


Figure 1-1: view of the HMI-TM.

Meanings of the keys:

NAME	ACTION	FUNCTION
UP	Press	Increase the input value.
	Press and hold	Press and hold for more than 1.5 seconds to enable the acceleration function to increase the value in a large extent.
DOWN	Press	Decrease the input value.
	Press and hold	Press and hold for more than 1.5 seconds to enable the acceleration function to decrease the value in a large extent.
ENTER	Press	Selection / Confirmation.
	Press and hold	If logged in with one user level, press and hold key ENTER for 3 seconds to activate the log in/ off window. If not, press and hold key ENTER for 3 seconds to display the password entering page.
INFO	Press	1. If users have defined which page it redirects to and the current user level has enough privileges, HMI-TM will go to the page. Otherwise, it will go to the controller home page (please refer to Climatix Scope online help for detail information about how to define the target page). 2. In the password related page, the function of pressing key INFO depends on the templates users defined (please refer to the "password management" chapter for details).
ALARM	Press	Activate and switch among alarm related pages (please refer to the "alarm management" chapter for details).
ESC	Press	Cancel modification / Exit to the upper level of menu or back to the previous page.
	Press and hold	Redirects to the HMI setting page.

Table 1: explanation of the keys.

### 1.1.1 Connection specifications

#### Local connection

The local connection is a peer-to-peer connection between one HMI-TM and one Climatix controller.

By shielded standard 8-wire twisted net cable, the maximum distance between HMI-TM and controller is 50 m.

For detailed information, please refer to Mounting Instruction CB1M3917en.



#### NOTE:

In case the Climatix controller is connecting to a HMI-DM (POL895.50) and downloading the HMI.BIN file, the connection will not start until the downloading process completes.

# 1. USER INTERFACE

## Standard cable

CABLE FOR HAND-HELD AND MAGNETIC MOUNTING VERSION POL871.71	CABLE FOR PANEL MOUNTING VERSION POL871.72
3 m customized cable with 1 RJ45 plug and 1 slim connector (4- wire twisted pair).	1.5 m Cat-5 Ethernet cable with 2 RJ45 plugs (8-wire twisted pair).

Table 2: standard cable versions.

## 1.1.2 Icons description






ICON	DESCRIPTION
i	Key INFO.
	Key ALARM.
	Key ESC.
...	Indicates there are characters hidden in this line. 1. If the string is longer than the length of the line, “...” will be displayed at the end of the line. If this line is highlighted, it will scroll automatically character by character. 2. In a line with more than one string, if the end part of a string is covered by the string of next position, “...” will be displayed at the end of the string. When this line is highlighted, the first string with covered text will scroll automatically character by character. The character scrolling function assures that every character is displayed completely each time.
▶	Indicates that a sub-menu exists.
a	Key ENTER.
▶	The icon on the right margin is to indicate key UP. The icon on the upper margin is to indicate there are other line(s) hidden above the current page.
+	On the value-editing page, the icon “▲” becomes “+” to indicate that the key is used for value increasing.
▶	The icon on the right margin is to indicate key DOWN. The icon on the upper margin is to indicate there are other line(s) hidden below the current page.
-	On the value-editing page, the icon “▼” becomes “-” to indicate that the key is used for value decreasing.
	Indicates the HMI-TM does not login with any user level.
	Indicates the current user level is End User.
	Indicates the current user level is Service.
	Indicates the current user level is OEM Factory.
1/11	Indicates the total number of lines in this page is “11”, and the 1st line is currently being selected.
Title area	The title line, which will never be highlighted, supports all tokens and has the same characteristics as a normal line in content area. Application engineer can define the target page on this line. When users press key INFO and the current user level has the privilege to access to this target page, it will redirect to this page. Regarding how to program a title line, please refer to Climatix Scope online help.

Table 1: explanation of the keys.

# 1. USER INTERFACE

## 1.2 Alarm management

To log-in press the enter button for three seconds.

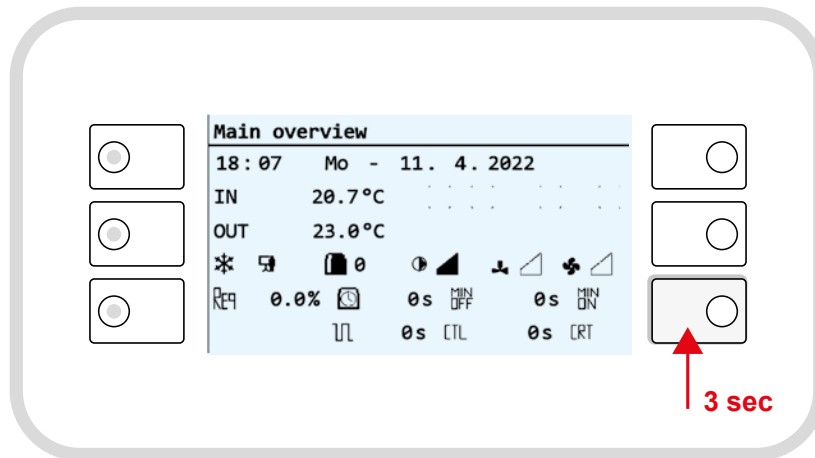


Figure 1-2: first step to log-in.

Then, enter the end user password and press the enter button again.

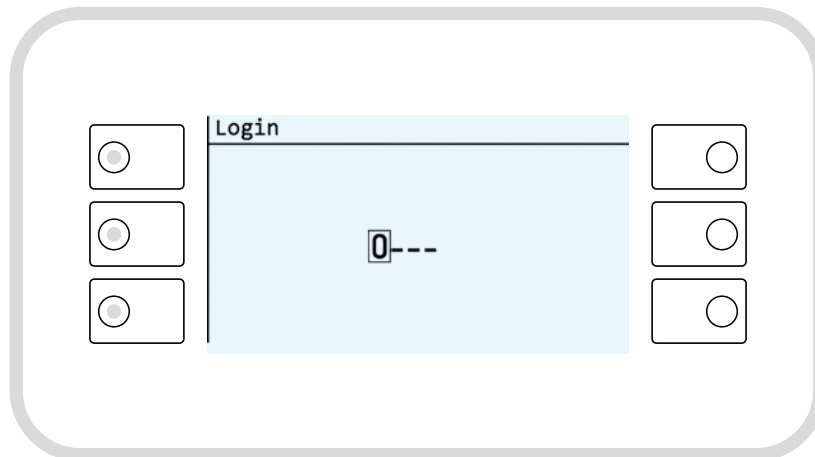


Figure 1-3: password entry.

The "key"  on the top right indicates that the log-in was successful.

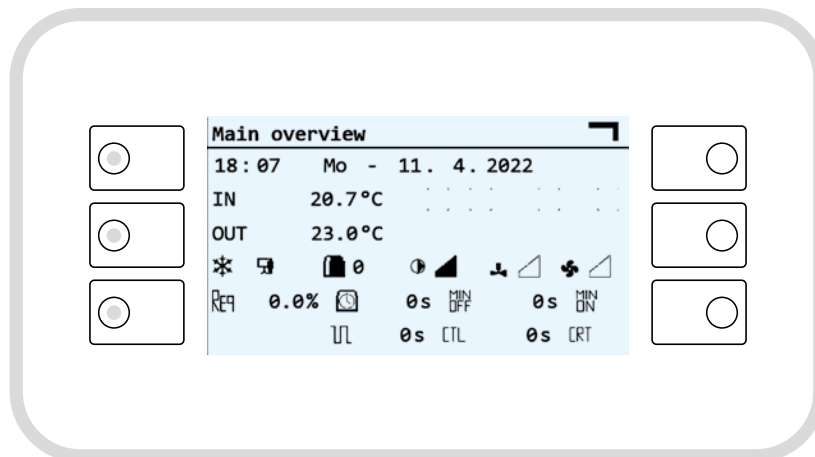


Figure 1-4: logged in.

# 1. USER INTERFACE

## USER MANUAL

If an error occurs, the ALARM LED will blink.

If no alarm exists, the ALARM LED will turn off. The alarm related pages in the Climatix Scope are listed as below:

Press key ALARM and the alarm related pages will be displayed by the following order:

Alarm list detail → alarm list → alarm history → alarm list/history settings.

When an alarm occurs press the blinking alarm button.

You will enter the “alarm list detail” page where it is possible to see the alarm details.

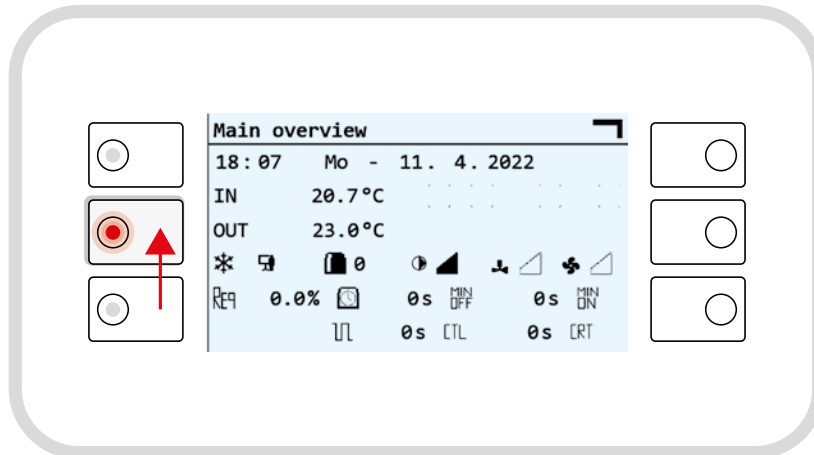


Figure 1-5: blinking alarm button.

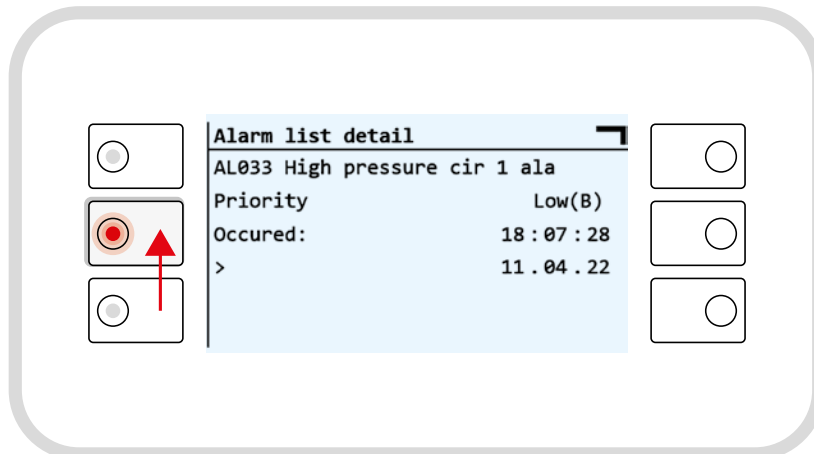


Figure 1-6: alarm list detail screen.

If you press the enter button you can enter the page dedicated to the acknowledge.

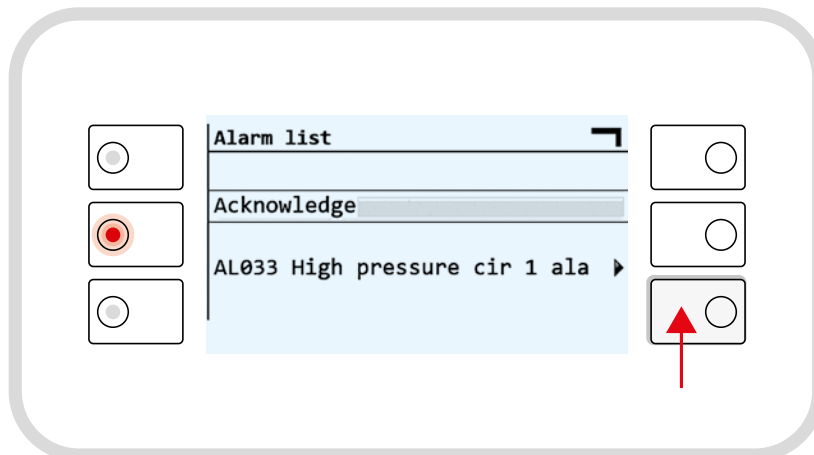


Figure 1-7: alarm list detail screen.

# 1. USER INTERFACE

## USER MANUAL

Go to the “execute” writing and you can confirm the acknowledge by pressing the “down” and “enter” button.

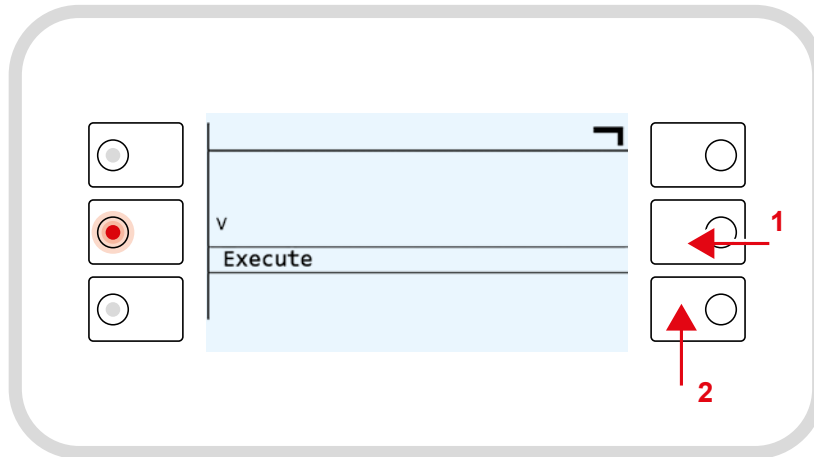


Figure 1-8: alarm list screen.

The LED will stop blinking and the alarm will disappear from the screen.

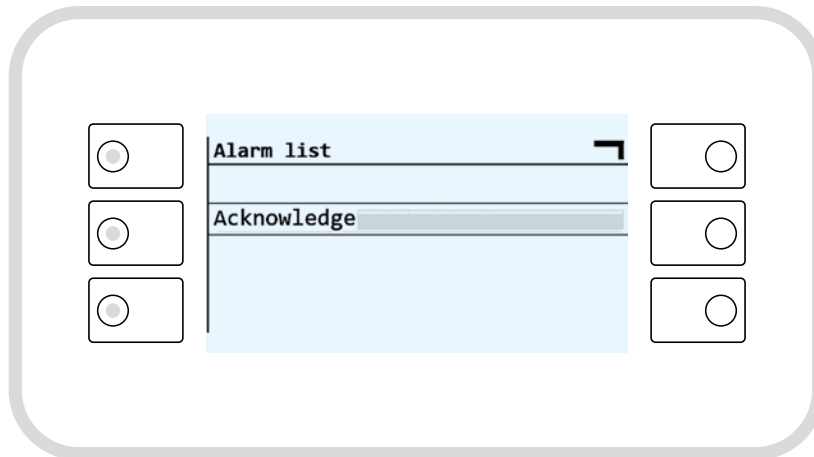


Figure 1-9: acknowledge page.

If you scroll through the screens, it is possible to display the “alarm history” and “alarm history setting” pages.

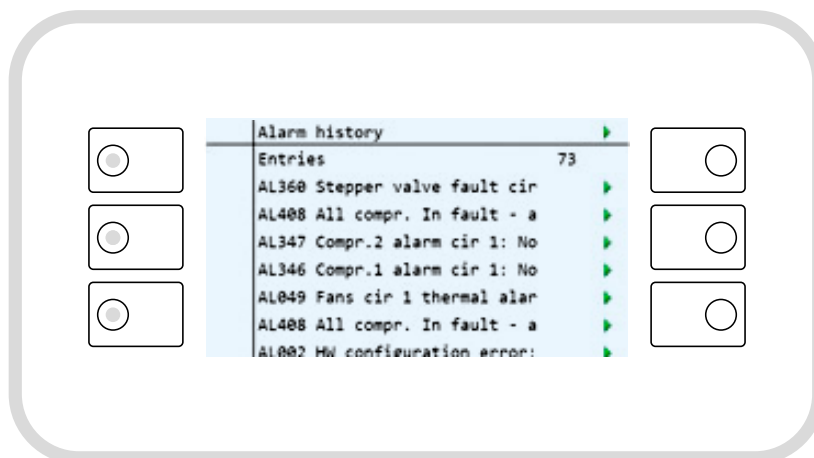


Figure 1-10: alarm history screen.

# 1. USER INTERFACE

## USER MANUAL

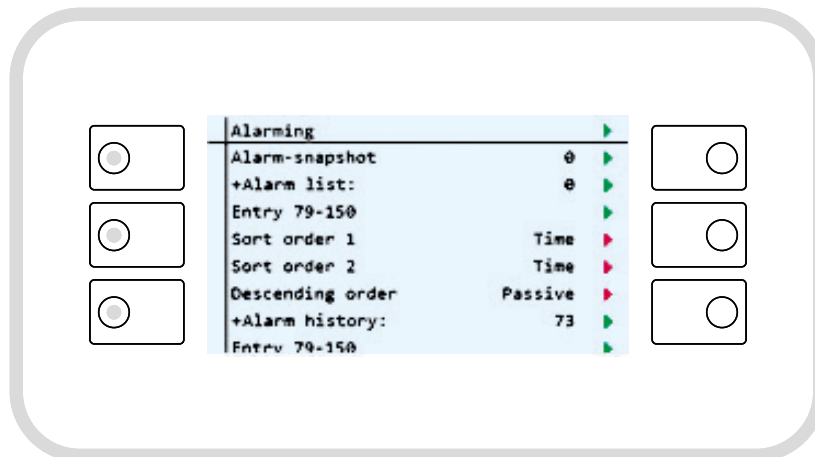


Figure 1-11: alarm list/history settings screen.

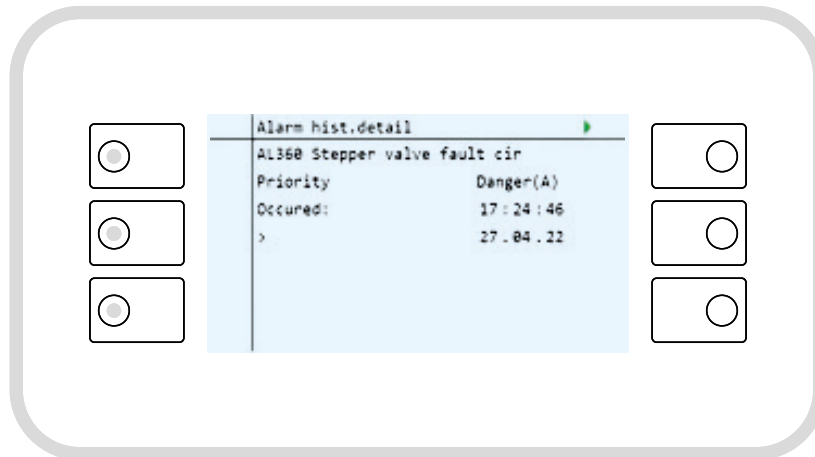


Figure 1-12: alarm history detail screen.

If one of the four pages does not exist, the HMI-TM will display the next page directly.

# 1. USER INTERFACE

## 1.3 Navigation menu

The main overview page containing information on the machine and its status is the following:

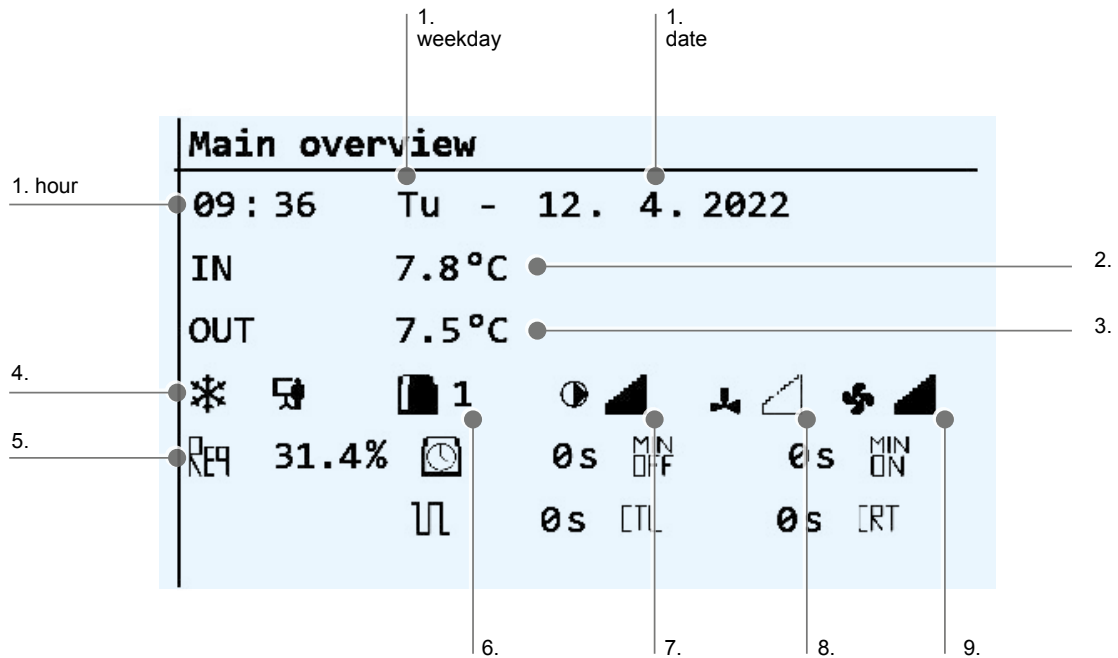


Figure 1-13: main overview page.

- |                        |                                  |                                |
|------------------------|----------------------------------|--------------------------------|
| 1. Date and time.      | 4. Operative mode.               | 7. Water pump regulation ramp. |
| 2. Inlet temperature.  | 5. % request.                    | 8. EEV regulation.             |
| 3. Outlet temperature. | 6. Number of active compressors. | 9. Fans regulation ramp.       |

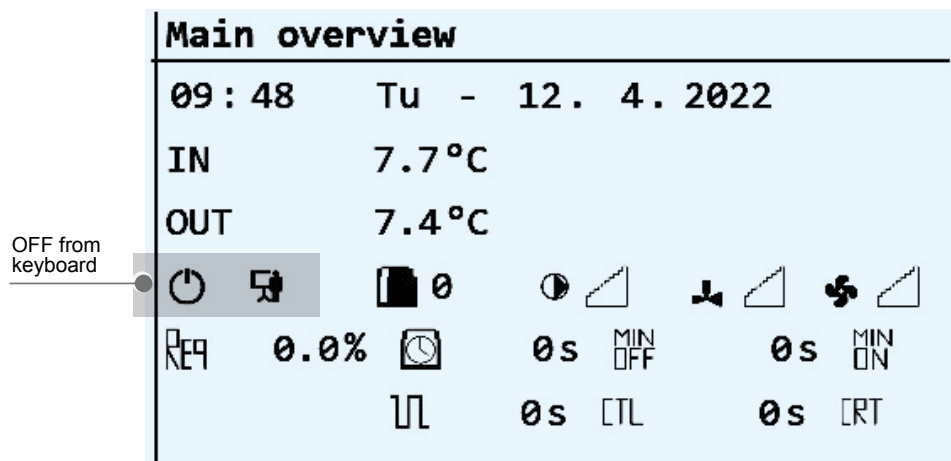


Figure 1-14: main overview "off from keyboard".

# 1. USER INTERFACE

The other symbols are the following:







SYMBOL	MEANING
	OFF status
	Cooling mode
	Heating mode
	Operative mode from keyboard
	Operative mode from summer/winter switch (digital input)
	OFF from manual switch (digital input)

Table 4: symbols meaning.

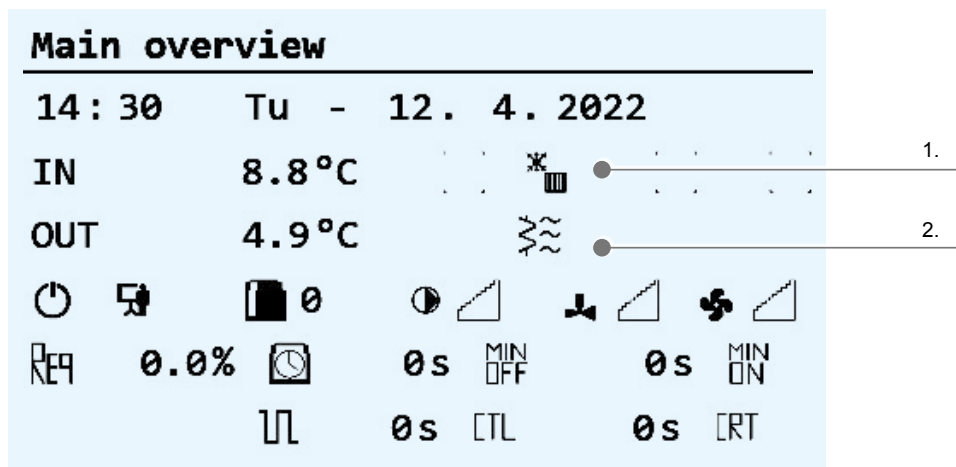


Figure 1-15: antifreeze and antifreeze heater.

1. Frost protection (antifreeze) is active
2. Antifreeze heater is active

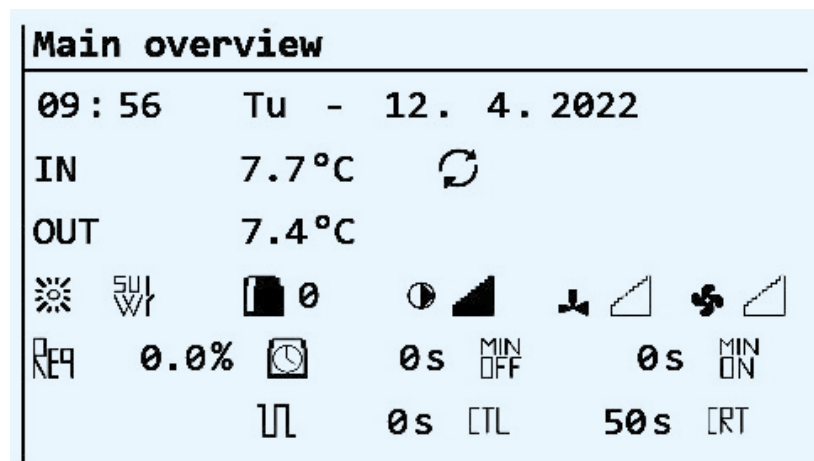


Figure 1-16: cycle reversing symbol.

# 1. USER INTERFACE

This symbol is called “cycle reversing” and it indicates that the operative mode is changing from cooling to heating or viceversa. Other symbols can be the following:

SYMBOL	MEANING
↑	Start-up: the unit is switching on
↓	Shut-down: the unit is switching off

Table 5: symbols meaning.

From the home page, entering in the “Mode” menu, it is possible to switch off the unit by selecting “OFF” or to switch on the unit by selecting the operative mode (cooling, heating or the operative mode from summer/winter switch, represented with the symbols reported in Table 4).

Home page		▶
Mode	⏻ Off	▶
Set point		▶
Status		▶
Setting		▶

Figure 1-17: home page.

Inside the “Setpoint status” menu it is possible to visualize the cooling and heating setpoints selected by the user and the actual setpoints which take into account the possible variations (i.e., from external setpoint offset, see chapter “setpoint offset from analog input”).

Set point Status		▶
Selected Cool	8.0 °C	
Selected Heat	45.0 °C	
Actual Cool	8.0 °C	
Actual Heat	45.0 °C	

Figure 1-18: setpoint status page.

The setpoints values can be changed by accessing the “Capacity Control” menu, inside the Setting/Machine settings page:

Capacity control	CC	▶
CC-10 Sp TSu1 Cool	8.0 °C	▶
CC-11 Sp TSu2 Cool	8.0 °C	▶
CC-12 Sp TRt1 Cool	8.0 °C	▶
CC-13 Sp TRt2 Cool	8.0 °C	▶
CC-14 Sp TSu1 Heat	45.0 °C	▶
CC-15 Sp TSu2 Heat	45.0 °C	▶
CC-16 Sp TRt1 Heat	45.0 °C	▶
CC-17 Sp TRt2 Heat	45.0 °C	▶

Figure 1-19: capacity control page.

# 1. USER INTERFACE

## USER MANUAL

Other information on the machine is available in the following pages:



Figure 1-20: status page.

In the Info page, it is possible to monitor the general status of the machine, the supply state and the refrigeration circuit state.



Figure 1-21: info page.

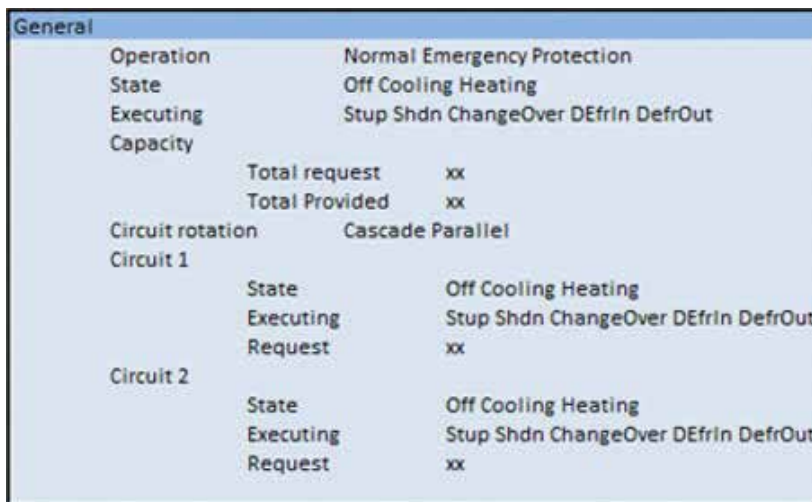


Figure 1-22: general page.



Figure 1-23 refrigeration circuit state page.

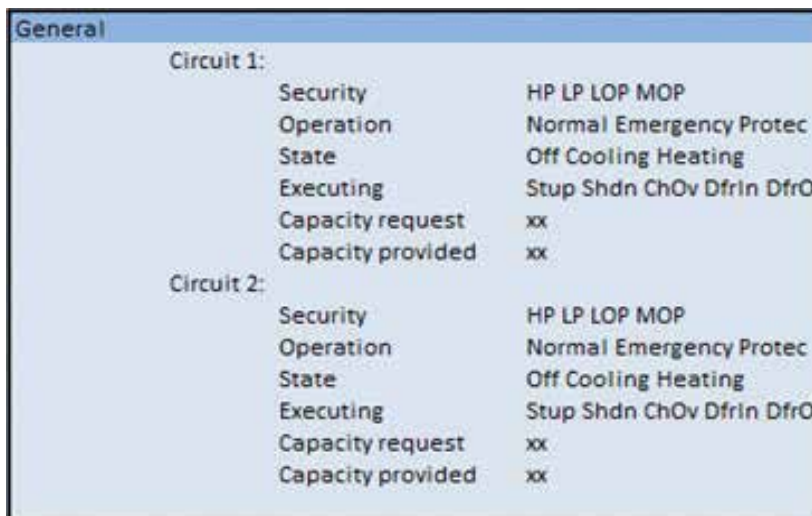


Figure 1-24: general refrigeration circuit page.

# 1. USER INTERFACE

## USER MANUAL



Figure 1-25: circuit 1 page.

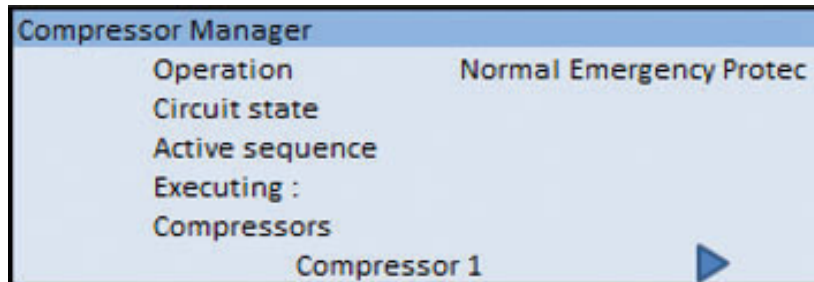


Figure 1-26: compressor manager page.

Cpr1 Circ1			
Operating State			
	Nominal	Minimum	
	75.0 kW	0.0%	
Available			100%
Provided			0%
Increase	Stage		100%
	Delay	0s	
	Op. Hours	0h	
Decrease	Stage		100%
	Delay	0s	
	Op. Hours	0h	
MaxStart Time		30 min	
Rst Max Start		No /Yes	M

Figure 1-27: compressor 1 circuit 1 page.

# 1. USER INTERFACE

## USER MANUAL

Information on the inputs and outputs of the unit is available in the input/output page:



Figure 1-28: input/output page.

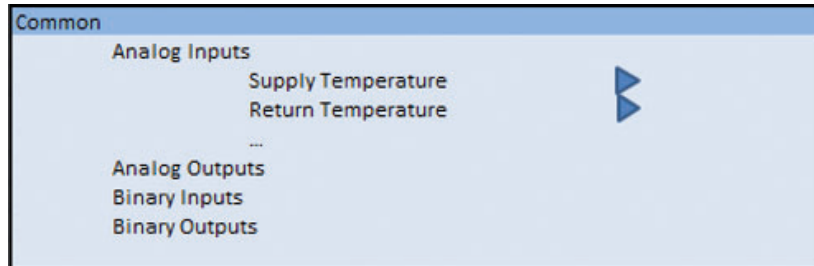


Figure 1-29: common page.

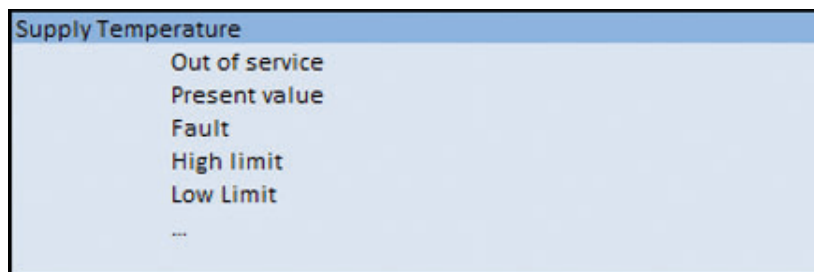


Figure 1-30: supply temperature page.

In the setting page, it is possible to set the parameters and configure the alarm outputs.

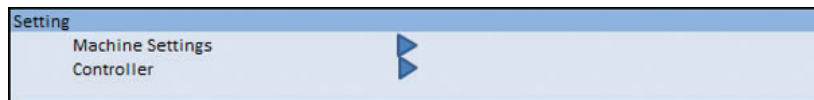


Figure 1-31: setting page.

The machine settings menu includes different lists of parameters according to the access level.

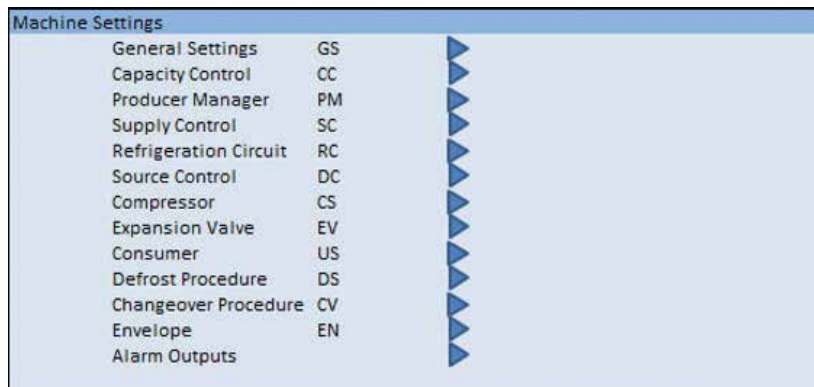


Figure 1-32: machine settings.

# 1. USER INTERFACE

## USER MANUAL

General Settings	
GS-1	Num. Producers
GS-2	Unit Type
GS-3	Service kit
GS-4	Service Func.
...	

Figure 1-33: general settings.

Alarm Outputs			
Alm1	Alm2	Alm3	Alm4
Free Set Rst	Free Set I	Free Set R	Free Set Rst
Advanced Configuration			▶

Figure 1-34: alarm outputs.

Advanced Configuration					
	Outputs D	1	2	3	4
AL002		x		x	x
AL033			x	x	
AL034		x	x	x	x
...					

Figure 1-35: advanced configuration.

## 2. ALARMS

### USER MANUAL

CODE	DESCRIPTION	RESET
AL002	Hardware configuration error	A
AL005	High pressure probe circuit 1	A
AL006	High pressure probe circuit 2	A
AL009	External temperature probe fault	A
AL010	User inlet temperature probe fault	A
AL011	User outlet temperature probe fault	A
AL013	FreeCool temperature Probe fault	A
AL016	Compressor A circuit 1 discharge temperature probe fault	A
AL017	Compressor B circuit 1 discharge temperature probe fault	A
AL018	Compressor C circuit 1 discharge temperature probe fault	A
AL019	Compressor A circuit 2 discharge temperature probe fault	A
AL020	Compressor B circuit 2 discharge temperature probe fault	A
AL021	Compressor C circuit 2 discharge temperature probe fault	A
AL028	Liquid gas circuit 1 temperature probe fault	A
AL029	Liquid gas circuit 2 temperature probe fault	A
AL032	Setpoint adjust input fault	A
AL033	High pressure circuit 1 alarm	A
AL034	High pressure circuit 2 alarm	A
AL037	Low pressure circuit 1 alarm	A
AL038	Low pressure circuit 2 alarm	A
AL041	General alarm	A
AL045	User Flow	M
AL048	Power supply fault	A
AL049	Fans circuit 1 thermal alarm	A
AL050	Fans circuit 2 thermal alarm	A
AL051	User pump1 thermal alarm	A
AL052	User pump2 thermal alarm	A
AL053	FreeCool Pump	A
AL063	Anti-freeze 1 alarm	A
AL064	Anti-freeze 2 alarm	M
AL088	Low pressure probe circuit 1 fault	A
AL089	Suction temperature circuit 1 probe fault	A
AL111	Low pressure probe circuit 2 fault	A
AL112	Suction temperature circuit 2 probe fault	A
AL297	User Twin pump and flow fault	M
AL298	User Twin pump flow fault	A
AL299	Compressors circuit 1 alarm	A
AL300	User Twin pump flow alarm	A
AL301	Compressors circuit 2 alarm	A
AL302	User Variable speed pump	A
AL303	Condenser flow	M
AL304	Condenser fan alarm	A
AL305	Condenser Variable speed fan fault	A
AL306	Condenser fan fault	A
AL307	Condenser pump thermal alarm	A
AL308	Condenser Variable speed pump thermal alarm	A
AL309	Condenser pump fault	A
AL310	Electric heater fault	A
AL311	Setpoint2 switch fault	A
AL312	External Alarm switch fault	A
AL313	Manual switch fault	A
AL314	ChHp switch fault	A
AL315	General warning	A
AL316	User pump fault	A

A: automatic – M: manual

## 2. ALARMS

### USER MANUAL

CODE	DESCRIPTION	RESET
AL317	User twin pump fault	A
AL318	User twin pump1 fault	A
AL319	User twin pump2 fault	A
AL320	Condenser In probe fault	A
AL321	Condenser Out probe fault	A
AL322	Demand limit switch fault	A
AL323	Desuperheater fault	A
AL324	Water cycle valve in fault	A
AL326	Discharge temperature Probe fault circuit 1	A
AL327	Discharge temperature Probe fault circuit 2	A
AL328	Gas recycle reverse valve fault circuit 1	A
AL329	Gas recycle reverse valve fault circuit 2	A
AL330	Compressor 1 fault circuit 1	A
AL331	Compressor 2 fault circuit 1	A
AL332	Compressor 3 fault circuit 1	A
AL333	Compressor 1 fault circuit 2	A
AL334	Compressor 2 fault circuit 2	A
AL335	Compressor 3 fault circuit 2	A
AL336	Condenser Variable speed pump fault circuit 1	A
AL337	Condenser Variable speed pump fault circuit 2	A
AL338	Condenser pump thermal alarm circuit 1	A
AL339	Condenser Pump thermal alarm circuit 2	A
AL340	Condenser pump fault circuit 1	A
AL341	Condenser pump fault circuit 2	A
AL342	Condenser Variable speed fan fault circuit 1	A
AL343	Condenser Variable speed fan fault circuit 2	A
AL344	Condenser fan fault circuit 1	A
AL345	Condenser fan fault circuit 2	A
AL346	Compressor 1 alarm circuit 1	A
AL347	Compressor 2 alarm circuit 1	A
AL348	Compressor 3 alarm circuit 1	A
AL349	Compressor 1 fault circuit 2	A
AL350	Compressor 2 fault circuit 2	A
AL351	Compressor 3 fault circuit 2	A
AL352	Compressor 1 fault circuit 1	M
AL353	Compressor 2 fault circuit 1	M
AL354	Compressor 3 fault circuit 1	M
AL355	Compressor 1 fault circuit 2	M
AL356	Compressor 2 fault circuit 2	M
AL357	Compressor 3 fault circuit 2	M
AL358	Expansion valve fault circuit 1	A
AL359	Expansion valve fault circuit 2	A
AL360	Stepper valve fault circuit 1	A
AL361	Stepper valve fault circuit 2	A
AL362	Shut off valve fault circuit 1	A
AL363	Shut off valve fault circuit 2	A
AL364	Compressor 1 second stage fault circuit 1	M
AL365	Compressor 2 second stage fault circuit 1	M
AL366	Compressor 3 second stage fault circuit 1	M
AL367	Compressor 1 second stage fault circuit 2	M
AL368	Compressor 2 second stage fault circuit 2	M
AL369	Compressor 3 second stage fault circuit 2	M
AL370	Compressor 1 bypass valve fault circuit 1	A
AL371	Compressor 1 bypass valve fault circuit 2	A

A: automatic – M: manual

## 2. ALARMS

### USER MANUAL

CODE	DESCRIPTION	RESET
AL372	Compressor 1 Variable speed fault circuit 1	A
AL373	Compressor 1 Variable speed fault circuit 2	A
AL374	SuperHeat alarm circuit 1	A
AL374	SuperHeat alarm circuit 1	A
AL375	Super Heat alarm circuit 2	A
AL375	Super Heat alarm circuit 2	A
AL376	SuperHeat repeated alarm circuit 1	M
AL377	SuperHeat repeated alarm circuit 2	M
AL378	Condenser pump repeated alarm circuit 1	M
AL379	Condenser pump repeated alarm circuit 2	M
AL380	Compressor1 repeated alarm circuit 1	M
AL381	Compressor2 repeated alarm circuit 1	M
AL382	Compressor3 repeated alarm circuit 1	M
AL383	Compressor 1 repeated alarm circuit 2	M
AL384	Compressor 2 repeated alarm circuit 2	M
AL385	Compressor 3 repeated alarm circuit 2	M
AL386	Compressor repeated alarm circuit 1	M
AL387	Compressor repeated alarm circuit 2	M
AL388	Low pressure circuit 1 repeated alarm	M
AL389	Low pressure circuit 2 repeated alarm	M
AL390	Envelope Maximum Condensing Pressure circuit 1	M
AL391	Envelope Maximum Condensing Pressure alarm circuit 2	M
AL392	Envelope Minimum Condensing Pressure circuit 1	A
AL393	Envelope Minimum Condensing Pressure alarm circuit 2	A
AL394	Envelope Minimum Condensing Pressure repeated alarm circuit 1	M
AL395	Envelope Minimum Condensing Pressure repeated alarm circuit 2	M
AL396	Envelope LOP repeated circuit 1	A
AL397	Envelope LOP alarm circuit 2	A
AL398	Envelope LOP repeated alarm circuit 1	M
AL399	Envelope LOP repeated alarm circuit 2	M
AL400	Envelope MOP repeated circuit 1	A
AL401	Envelope MOP alarm circuit 2	A
AL402	Envelope MOP repeated alarm circuit 1	M
AL403	Envelope MOP repeated alarm circuit 2	M
AL404	Expansion Valve open - no compressor Running - alarm circuit 1	A
AL405	Expansion Valve open - no compressor Running - alarm circuit 2	A
AL406	No available compressor alarm circuit 1	A
AL407	No compressor Available alarm circuit 2	A
AL408	All compressors in fault - alarm circuit 1	A
AL409	All compressors In fault - alarm circuit 2	A
AL420	Maximum Number Start Compressor 1 Circuit 1	A
AL421	Maximum Number Start Compressor 2 Circuit 1	A
AL422	Maximum Number Start Compressor 3 Circuit 1	A
AL423	Maximum Number Start Compressor 1 Circuit 2	A
AL424	Maximum Number Start Compressor 2 Circuit 2	A
AL425	Maximum Number Start Compressor 3 Circuit 2	A
AL430	External EEV driver - alarm circuit 1	A
AL432	Low pressure circuit 1 alarm	M
AL433	Low pressure circuit 2 alarm	M
AL436	Envelope Zone E circuit 1 alarm	M
AL438	Envelope Zone B circuit 1 alarm	M

A: automatic – M: manual





**mitsubishi electric**  
**HYDRONICS & IT COOLING SYSTEMS S.p.A.**

**Head Office:**

Via Caduti di Cefalonia 1 - 36061 Bassano del Grappa (VI) - Italy

Tel (+39) 0424 509 500 - Fax (+39) 0424 509 509

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