Comfort Flex®
Air Conditioning
a member of DAIKIN group

Control Manual

CM

Group: Chiller
Part Number: CM CLII
Date: 30 May 2023

CLII Series
Water Cooling Unit

Model

30 RT to 300 RT

Refrigerant HFC-410A

50/60 Hz

Table of Contents

Manufactured in an ISO 9001 certified facility

Safety Warnings

This manual provides information on the control data of the Comfort Flex CLII series..

NOTES: Installation and maintenance must be performed only by qualified personnel who are familiar with local codes and regulations and who have experience with this type of equipment.

⚠ DANGER ⚠

LOCK OUT/LABEL all power sources before starting, pressurizing, depressurizing or shutting down the chiller.

Disconnect electrical power before servicing equipment. More than one disconnection may be required to deenergize the unit. Failure to follow this warning to the letter can result in serious injury or death. Be sure to read and understand the installation, operating and service instructions in this manual.

⚠ WARNING ⚠

Electric shock danger. Improper handling of this equipment can cause personal injury or equipment damage. This equipment must be properly grounded. Control panel connections and maintenance should be performed only by personnel knowledgeable in the operation of the equipment being controlled. Disconnect electrical power before servicing equipment.

⚠ CAUTION ⚠

Static sensitive components. Static discharge during handling of the electronic circuit board can cause damage to components. Use a static strap before performing any service work. Never unplug any cables, circuit board terminal blocks, or power plugs while power is applied to the panel.

⚠ CAUTION ⚠

When moving refrigerant to/from the cooler using an auxiliary tank, a grounding strap should be used. An electrical charge builds up when halo-carbon refrigerant travels in a rubber hose. A grounding strap should be used between the auxiliary refrigerant tank and the cooler end sheet (ground to ground), which will safely carry the charge to ground. Failure to follow this procedure may result in damage to sensitive electronic components.

⚠ WARNING ⚠

If refrigerant leaks from the unit, there is a potential choking danger as the refrigerant will displace air in the immediate area. Be sure to follow all applicable published industry-related standards and local, state, and federal statutes, regulations, and codes if refrigerant is produced. Avoid exposing refrigerant to an open flame or other ignition source.

⚠ WARNING ⚠

Polyolester oil, commonly referred to as POE oil, is a synthetic oil used in many refrigeration systems and may be present in this Comfort Flex product. POE oil, if it ever comes in contact with PCV/CPVC, will coat the inside wall of the PVC/CPVC pipe and cause environmental stress fractures. Although there is no PCV/CPCV pipe in this product, keep this in mind when selecting piping materials for your application, as system failure and property damage could occur. Consult the pipe manufacturer's recommendations to determine appropriate pipe applications.

DANGER IDENTIFICATION INFORMATION

⚠ DANGER ⚠

Danger indicates a dangerous situation which, if not avoided, will result in death or serious injury.

⚠ WARNING ⚠

Warning indicates a potentially dangerous situation which may result in property damage, personal injury or death if not avoided

⚠ CAUTION ⚠

Caution indicates a potentially dangerous situation which may result in minor injury or equipment damage if not avoided.

NOTES: Indicate important details or clarifying statements for the information presented.

Our units are built with design and control in mind, so we use specialized technical control software. Some of our special features are our own piping and wiring, fixed type compressors, new generation evaporators, air cooler condensers, optional hydraulic components and various safety protections.
Our units are environmentally friendly and operate with R-410A refrigerant.

NOMENCLATURE

CLII-360-HC-C-1-N-N-D-F-N-M-N-N-0-6-S-N-D-N-4-L-0

FAMILY
D - Daikin
W2W - Water to Water

CAPACITY (BTU)
360 - 360,000

TYPE
HC - High Capacity

OPERATION
C - Cooling Only

UNITS
1 - Stand alone
2 - 2 units
3 - 3 units
4 - 4 units
5 - 5 units
6 - 6 units
7 - 7 units
8 - 8 units
9 - units
10 - 10 units

EXP VALVE
T - TxV
E - EeV

ANTICORROSION
M - Total Coating
N - None

VOLTAGE
C - 208-230 / 3 / 60
D - 460 / 3 / 60

COMPRESSOR
F - Fixed
T - Tandem

CONDENSER
N - N/A

EXTRA
0 - TBD

CONTROL
L - c.Pco

REFRIGERANT
4 - R410-A

SINGLE SKID
O - With base
N - N/A

PACKAGING
D - Domestic
I - Internacional

HIDRAULIC CONNECTION
N - Not included
Y - Yes included

ELECTRICAL CONNECTION
M - Multipoint
S - Single Point

PIPE
6 - 6”

GRILLS
0 - N/A

FREE COOLING
N - N/A

HEAT RECOVERY
N - N/A

PROTOCOL
M - Modbus
B - BACnet IP

FEATURES / BENEFITS

EFFICIENCY

Our units are designed to meet the needs of any project.
Our intelligent process controllers and smart temperature sensors provide maximum performance and energy savings.

The system automatically modifies the operating mode to maintain optimum system conditions, making it very easy to operate.

All temperature sensors are calibrated and adjusted at the factory prior to shipment. Start-up should be performed by a qualified technician, during initial start-up the unit will be adjusted to local conditions and all operating points will be checked.

Once the unit has been placed in place, operation is a matter of pressing the start/stop button until it is certain that the unit is functioning properly, after which the unit will operate automatically, turning itself on according to the demand of the refrigeration system and local conditions.

FLEXIBILITY

The units feature intelligent processors and sensors that automatically control the temperature at optimum operating conditions.

The units were designed to be coupled with each other and combined to meet different load variations (Tandem Installation). Up to 10 modules can be combined; these combinations can be made with Water Chiller Units of different capacities ranging from 30 to 300 tons. Capacities vary depending on the number and type of units.

SAFETY

All structures are made of galvanized sheet steel, coated with electrostatic baked-on paint to ensure long durability and freedom from corrosion under all weather conditions, such as direct sunlight, rain and wind.

All units are designed to fit into a small installation space, thus eliminating large installation areas. We use only high quality components to ensure durability and safety even in harsh environmental conditions.

NOTE: For applications in tropical climates our units are coated inside and out with corrosion protection (over-ordering).

Our products have AHRI efficiency certifications and ETL safety certifications, in addition to meeting all industry safety standards.
We are members of the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE). To show our commitment to our customers and stakeholders; our equipment comes with a 1 year major warranty after start-up.

Our units use R410A refrigerant, which is harmless to the ozone layer and is non-toxic and non-flammable, even in case of leakage.

Finally, the efficiency of the heat exchanger and its modular design allow for quick and easy installation.

DESIGN

Research conducted by the Engineering Department has resulted in units with high design efficiency and optimum performance. The selection of the main components, our quality and control system guarantee high performance and safety.

All major components are rigorously tested and qualified before installation. Each designed unit has undergone long hours of rigorous testing to ensure the safety, durability and quality of the entire system.

COMMUNICATION

The units can be controlled in tandem mode and/or can be connected to a central control unit. Operation and user access will be through a 7” color touch screen.

Our units can be managed through different communication protocols; such as Modbus and BACnet, the most commonly used protocols in the Air Conditioning industry.

Our units keep track of all programmable variables in real time, such as performance monitoring, refrigeration cycle specific alarms and electrical system.

The control and monitoring system ensures the correct operation of the unit by monitoring in real time the condition of the major components (high or low refrigerant pressure and compressor, etc.).

In case of failure, the event will be recorded for later analysis, facilitating the localization of a possible failure and its solution.

INSTALLATION

The units have been designed for easy installation. The screw connections provide easy installation of the water piping, which are located on both sides of the unit, so that the piping can be connected to either side of the unit.

The individual assembly of the units reduces installation cost, the units have a rigid base that balances the weight of the unit and allows for easy installation.

MAINTENANCE

The simplicity in the design of each unit allows for maximum ease of maintenance. All major components are available to maintenance personnel by simply opening the service panel.

If an emergency shutdown occurs, the control section will indicate in detail the cause of the failure, helping to facilitate and accelerate troubleshooting.

TESTING

Each unit is pressure and vacuum tested and then charged with the refrigerant required for proper operation based on the customer's installation conditions.

The units are evaluated at full load operation with water flow, heat load and line voltage placed at actual operating conditions.

NOTE: The warranty policy requires that commissioning be performed by qualified personnel authorized by the company.

INSITUM ® CORROSION PROTECTION

Spray for coating hvac/r products

Coating is a flexible, water-based, water-reducible, synthetic polymer corrosion coating designed specifically for the protection of HVAC/R coils and components. Insitu® Spray Applied Coating contains ES2 (embedded stainless steel pigment) technology, an anti-corrosion coating specifically designed for the protection of coils mounted in corrosive areas.

HVAC/R coils, components and enclosures will have a permanent water-based synthetic coating with ES2 pigment applied to all areas of the coating surface with no bridging of material between fins. Therefore, ES2 pigments are suitable for even the most corrosive environments and will maintain their appearance after many years of exposure. UV degradation ES2 pigments form a multilayer structure throughout the paint film.

This creates a barrier layer that reflects sunlight away from the paint film preventing UV rays from penetrating. As a result, UV degradation of individual polymer molecules is eliminated, film integrity is maintained and the pigment particles remain well anchored to the substrate.

The resulting smooth, hard finish prevents dirt build-up. The multilayer structure of ES2 pigments delays the passage of water molecules into the film and acts as an effective moisture barrier.

Ideal applications for Insitu® spray-applied coatings.

- Mini-splits
- Packaged enclosures
- Condensing units
- Modular air handlers
- Air-cooled chillers
- Indoor and outdoor HVAC cabinets and copper tubing
- Heat exchange coils (water, condenser, evaporator, DX)

CONTROL PANEL

BUTTON	DESCRIPTION	BACKGROUND LIGHT	
	Alarm	White / Red	Pressed together with Enter, accesses the screens managed by the operating system.
	Prg	White / Yellow	–
	Esc	White	Up one level
	Up	White	Increase value
	Enter	White	Confirm value
	Down	White	Decrease value

CONTROL PANEL INSPECTION

Check the control panel for foreign objects.

After completing the inspection of the installation points, and making sure that all elements of the unit are correct, the unit can be turned on.

- Energize the unit with electric power.
- Phase balance should be less than 2% on average.
- Turn on the water pump (if applicable), to make sure it is properly energized.

NOTE: Before powering up the unit, make sure that the control switches on each module are in the correct pre-start positions

MOTHER UNIT	
Switch	Correct pre-start position
24 VAC	OFF (-)
System	ON (O)
Compressor 1	ON (O)
Compressor 2	ON (O)

CHILD UNITS	
Switch	Correct pre-start position
24 VAC	ON (O)
Compressor 1	ON (O)
Compressor 2	ON (O)

START-UP

After turning the unit on, wait 5 minutes for the unit to be ready for operation.

The operating sequence will begin by checking all pre-programmed safety points on the unit. If all required conditions are correct, the unit is ready to start operations.

24vac On / Control Bus Start:
To start operations, place the 24 VAC switch (FIG. 1) on the Mother Unit in the ON (-) position.
This will turn on the unit's digital control (control display). After a few seconds the unit can be turned on from the control screen.

Power On/Off:
Use the digital on/off control in the lower right corner of the control screen to turn the unit on and off (FIG.1).

COMPRESSORS

The COMPRESSOR 1 and COMPRESSOR 2 switches (FIG.1) allow the compressors to be switched on and off independently. If for any reason (maintenance, diagnostics, etc.) you wish to safely disable the operation of a compressor, you can do so using these switches.

SYSTEM

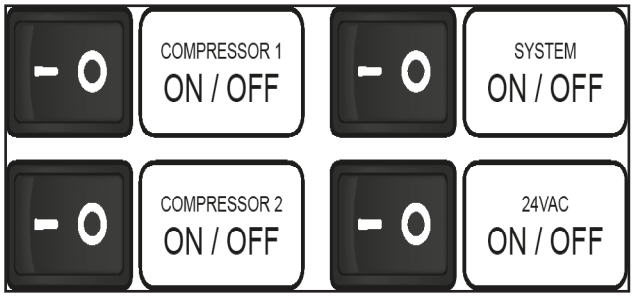
The SYSTEM switch enables the operation of the system logic. If you wish to return the equipment to its initial operating state, set the SYSTEM switch to the OFF position for 5 seconds and return it to the ON position.

OPERATION

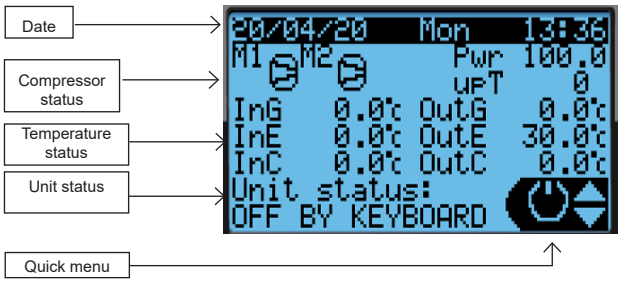
If your unit is a Heat Pump, the OPERATION switch will allow you to set the operating mode between COOLING (cooling only mode) and HEATPUMP (heat pump mode), select the desired operating mode.

NOTE: If your equipment is not a Heat Pump, the OPERATION switch will not be present on your equipment.

Figure 1. Cold only mode



Start-up



Date

Current date set.

Compressor status

Displays the current status of each compressor in the unit.

Temperature status

Displays the unit temperatures located in the unit.

InG= General Input (header)
OutG= General outlet (header)
InE= Evaporator inlet side (exchanger)
OutE= Evaporator outlet side (exchanger)
InC= Inlet side of condenser (exchanger)
OutC= Outlet condenser side (exchanger)

Unit status

Displays the current status of the unit (Off, On, etc.)

Quick menu

It is the quick access to a menu with essential information without password, to display the system configuration, information and current values for different types of units describing and configuring the system control.

QUICK MENU

On the home page this menu allows different submenus to configure and monitor the unit To select one by using ↑↓ then pressing ↵.

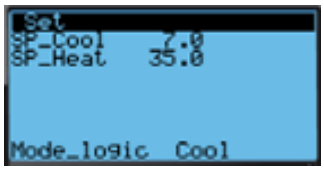
On / Off		Activate or deactivate the unit to start
Configuration		Configure the cooling and heating set point of the unit
Information		Display software information
Review		Show the value of the entries

On / Off

By ↑↓ selecting an ON or OFF option, then back ↩

Configuration

Press ↵ to move through the different options to change the set point, do not change the mode logic, this part is a critical setting.

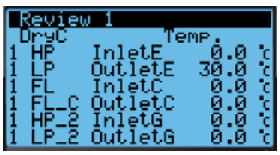


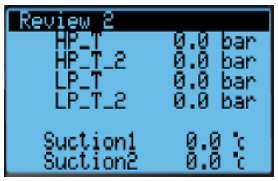
Information

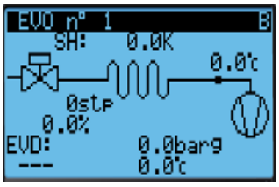
Display the information about the software movement in the menu with ↑↓

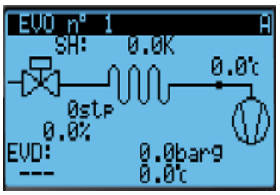
Review

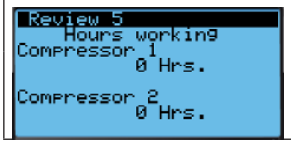
Display the status of some variables on the functionality and operation, move in the menu with ↑↓









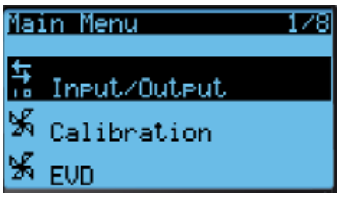


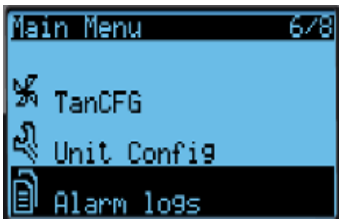
INPUTS
HP= High pressure switch status circuit 1
LP= Low pressure switch 1 status circuit
FL= Evaporator water flow switch FL_C= Condenser water flow switch
FL_C= Condenser water flow switch
HP_2= High pressure switch status circuit 2
LP_2= Low pressure switch 2 status circuit
InG= General inlet (header)
OutG= General outlet (header)
InE= Evaporator side inlet (exchanger)
OutE= Evaporator side outlet (exchanger)
InC= Inlet Condenser side (exchanger)
OutC= Outlet condenser side (exchanger)
ELECTRONIC VALVE A (CIRCUIT 1)
Show valve information
SH= superheat
Suction temperature Opening percentage Suction pressure
ELECTRONIC VALVE B (CIRCUIT 2)
Display information about the valve
SH= superheat
Suction temperature Opening percentage Suction pressure
WORKING HOURS
Displays the working hours of each compressor

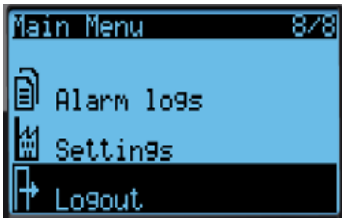
MENU

On the home page press ⊙ to go to the menu, and enter the correct password, change the value using ↑↓ and then press ↵ o go to the next value until all digits are completed.

If you are successful move in the menu using ↑↓





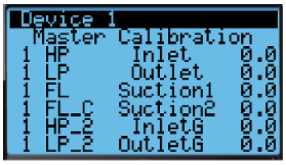


Input / Output

Any information to show at this point (under construction)

Calibration

In this part you can change the status of the inputs and calibrate the probes. ⇅ To move in the menu use to change any value press to ↵ insert the correct value and press again to confirm. To exit press ↩



DIGITAL CALIBRATION INPUTS
0= NO (normally open) 1=NC (normally closed)
HP= High pressure switch status circuit 1
LP= Low pressure switch status circuit 1
FL= Evaporator water flow rate status
FL_C= Condenser water flow rate status
HP_2= High pressure switch status circuit 2
LP_2= Low pressure switch status circuit 2
MS= Electrical protection switch status
Flood= Flood detector status

ANALOG CALIBRATION INPUTS PLUS ONE ANALOG VALUE +/- (0,0)
InG= General Input (header)
OutG= General output (header)
InE= Input Evaporator side (exchanger)
OutE= Output Evaporator side (exchanger)
InC= Inlet Condenser side (exchanger)
OutC= Outlet condenser side (exchanger)

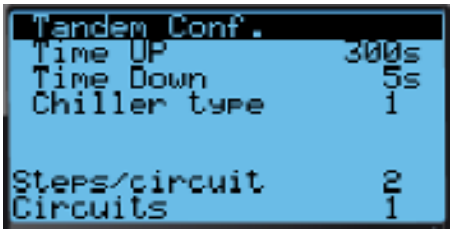
DIGITAL CALIBRATION OUTPUT 0=NO (NORMALLY OPEN) 1=NC (NORMALLY CLOSED)
4WV=four-way valve

EVD

Displays all the information and variables to configure and calibrate the EVD (electronic expansion valve) controller to work efficiently for the unit, this is a critical configuration that could change the functionality of the unit. To move through the menu use ⇅

TANDEM CONFIGURATION

Set the rise time between steps, the down time before stopping any compressor, the type of chiller (heat or cold), the circuits and the steps, these settings cannot be changed by the user.



UNIT CONFIGURATION

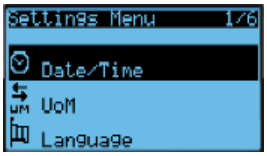
Allows the option of exporting the import configuration and exporting the alarm logs.

ALARM LOGS

Displays the entire alarm log at current time.

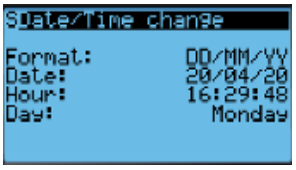
SETTINGS

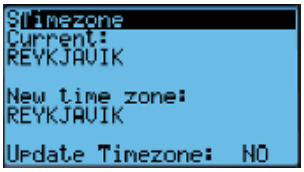
Allows the option to configure date and time, units of measurement, language, serial ports, password and controller initialization.



Date / Time

To change the current date, time and time zone





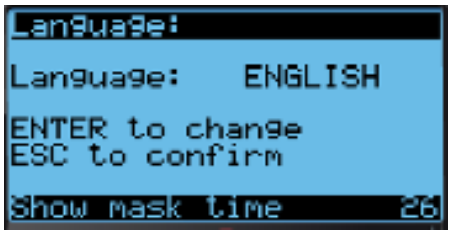
Unit of measure

Allows the option to change the type of unit of measure, American, International, and Press ↵ to select and press again ↵ to confirm. To exit press ↩

Language

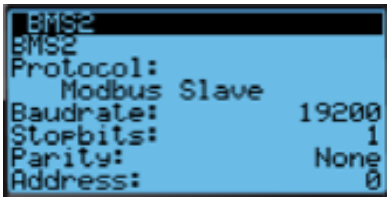
Allows the option to change the language, English, Spanish, Italian, etc.

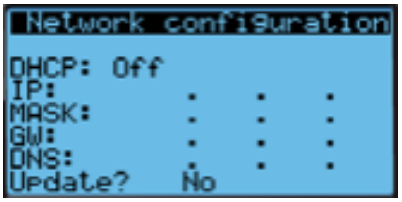
Press ↵ to select and press again ↵ pto confirm. To exit press ↩



Serial ports

Allows the option to change the configuration of the ports, Modbus RTU, controller IP and Pgdx if required.

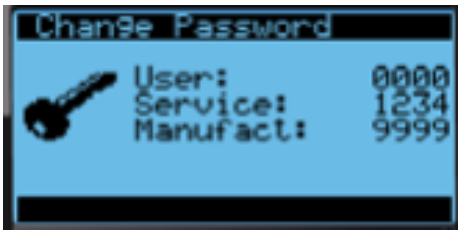




Password change

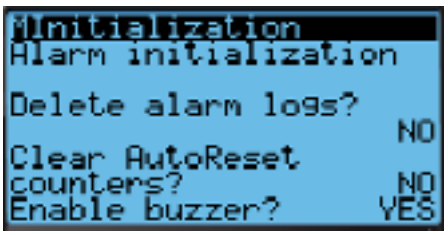
Allows the option to change the current passwords.

Press ↵ to select and press again ↵ to confirm. To exit press ↩



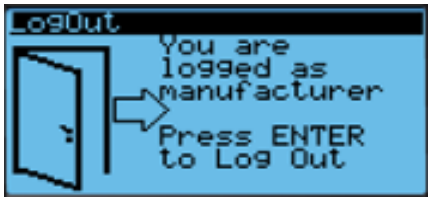
Initialization

It allows the option to change to the default configuration the register, the counters, enable or disable the buzzer and clear the memories. This configuration cannot be modified by the user.



Logging out

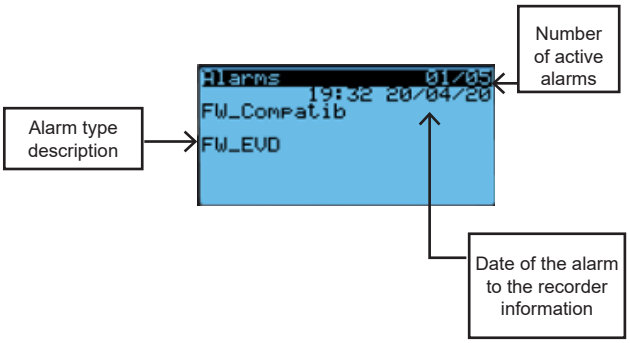
Exit to the home page.



ALARMS

If there is an alarm, the following screen will appear when you press !⚠

At the moment of an alarm. The controller displays a red indicator on the alarm button. In this case it is necessary to press ! to see the present/current alarms activated.



To reset one or all alarms, go to the end of the list on the next screen and press ⚠ for 3 seconds.

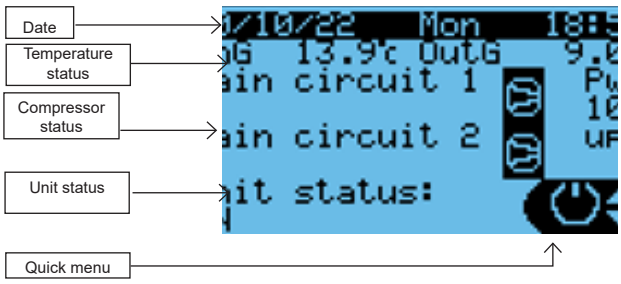
NOTE: If the event that triggered the alarm is still present, it cannot be reset.

ELECTRONIC CLII QUICK MENU

On the home page this menu allows different submenus to configure and monitor the unit to select one by using ↑↓ and then pressing↵.

Power on menu		This icon leads to the unit power up page.
Slave units menu		This menu leads to the slave units status screen which allows us to observe the status of the circuits of the slave units.
System information menu		This menu leads directly to the control system information screens.
Unit status menu		This menu leads to the unit status screen in which you can see the status of analog digital inputs and status of temperatures and pressures of the unit.

Start-up



Date

Current date set.

Compressor status

Displays the current status of each compressor in the unit.

Temperature status

Displays the unit temperatures located in the unit.

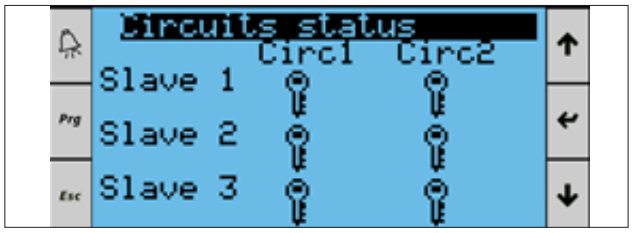
InG= General water temperature probe.
OutG= General water temperature probe.
Pwr= Indicates the working percentage of the unit or the one configured as tandem.
UpT= Indicates the amount of time between compressor starts.
Unit Status: Indicates the status of the unit, which can contain several states:

- **ON:** Indicates when the unit is operating.
- **OFF:** Indicates when the unit is in shutdown mode.
- **Off by DI:** Indicates when the unit is turned off by an external digital input.

- **Off by Keyboard:** Indicates when the unit is off from the power up menu.
- **Main Circuit 1 and 2:** Indicates the on state of the compressor units. This icon can change in three states depending on the compressor drive; as shown in the picture the compressor is in the on state which means that the units are currently running.

Slave unit circuit status screen

From this menu you can see the status of the slave units. In this image the units that are with key symbol are disabled; otherwise if the unit is enabled a different icon will be displayed in this case the compressor icon transparent or black in the background.

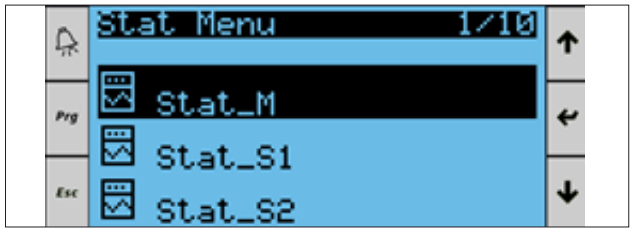


Unit status selection screen

From this menu you can access the status of each slave unit that is configured to work, the nomenclature is as follows:

- Stat_M: The status screen of the master unit is accessed.
- Stat_S1: The status screen of slave unit 1 is accessed.

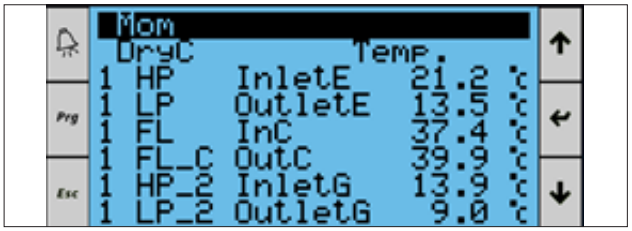
And so on.



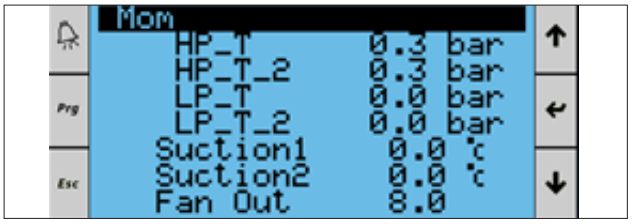
Master unit status screen

This screen indicates the status of digital inputs and analog temperature values of the probes that are in the unit, each of the descriptions that make up this screen are described below:

- **HP:** Indicates the status of the digital input of the high pressure switch of circuit 1 where 1 indicates on and 0 off.
- **LP:** Indicates the status of the digital input of the low pressure switch of circuit 1 where 1 indicates on and 0 off.
- **FL:** Indicates the status of the evaporator water flow sensor digital input where 1 indicates on and 0 indicates off.
- **FL_C:** Indicates the status of the condenser water flow sensor digital input where 1 indicates activated and 0 deactivated.
- **HP_2:** Indicates the status of the digital input of the circuit 2 high pressure switch where 1 indicates on and 0 indicates off.
- **LP_2:** Indicates the status of the digital input of the low pressure switch of circuit 2 where 1 indicates on and 0 off.
- **InletE:** Temperature sensor in evaporator temperature exchanger water inlet.
- **OutletE:** Temperature sensor at evaporator temperature exchanger water outlet.
- **InC:** Temperature sensor at condenser temperature exchanger water inlet.
- **OutC:** Temperature sensor at condenser temperature exchanger water outlet.
- **InletG:** General water inlet header temperature sensor feeding the evaporator heat exchangers.
- **OultetG:** General water outlet header temperature sensor supplying from the evaporator heat exchangers.



- **HP_T:** high pressure transducer sensor of circuit 1.
- **HP_T_2:** high pressure transducer sensor of circuit 2.
- **LP_T:** low pressure transducer sensor of circuit 1.
- **LP_T_2:** low pressure transducer sensor of circuit 2.
- **Suction1:** Suction temperature of the electronic valve of circuit 1 this sensor goes to the evaporator outlet.
- **Suction2:** Suction temperature of the electronic valve of circuit 2.
- **Fan out:** this indicator only works when the equipment is air-water in this case the water-water unit does not need this value.

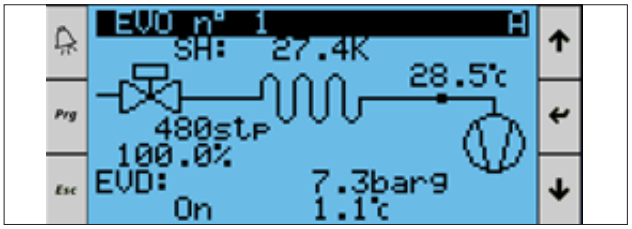


- **Cond. T In-G :** General water inlet header temperature sensor feeding the condenser heat exchangers.
- **Cond. T In-G :** General water outlet header temperature sensor supplying condenser heat exchangers.

Electronic valve status display

This screen has the function of showing the operation status of the electronic valve for this equipment, the following will describe each element for displaying and reading data for each valve.

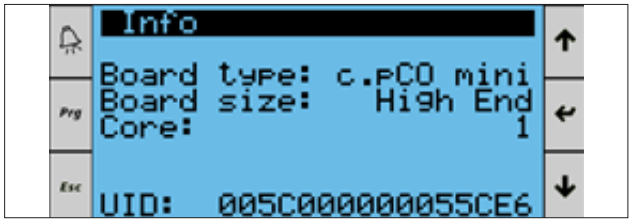
- **SH:** Indicates the calculated superheat value of the expansion valve of circuit 1.
- **EVD:** Indicates the status of the electronic expansion valve.
- **STP: I**ndicates the number of opening steps of the electronic valve. This value can vary depending on the temperature operation and the opening is also represented by the calculated percentage of the valve.



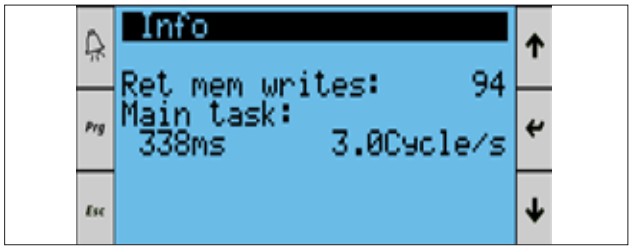
System information menu

- **SW VER:** Indicates the software version of the controller.
- **OS VER:** Indicates the operating system version installed on the controller.
- **BOOT VER:** Indicates the bootloader version installed on the controller.

- **Board type:** Controller type model.
- **Board size:** Controller size in terms of inputs and outputs and functions.
- **Core:** Hardware version of controller core.
- **UID:** Controller identifier.



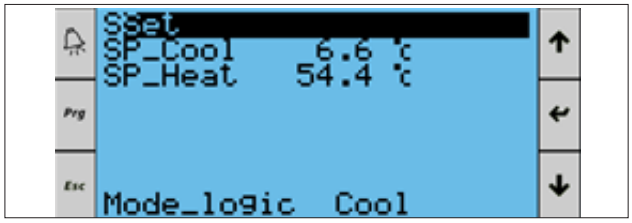
Controller memory processing information screen.



Display of controller operation time and shutdown time information.

Menu for setpoint selection

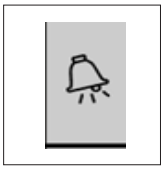
From this menu you can enter the setpoint selection screen and modify the setpoint at which you need to operate the equipment.



- **SP_Cool:** Equipment cooling setpoint.
- **Sp_Heat:** Equipment heating setpoint.
- **Mode_Logic:** Equipment heating or cooling working **mode.**

System alarms menu

In order to enter the alarm screen of the system, press the button with the alarm icon. This button also has an integrated LED which will light up red when an alarm occurs, indicating that there is a problem in the equipment.



System alarms screen

When there is an alarm in the system in this screen you can review the alarm that is active in this image the system has no alarm so the screen shows that there are no alarms present.

When there are no alarms present, the alarm log can be accessed from the alarms screen and then by pressing the enter button you can access the alarms that occurred some time ago, scrolling up and down will show the alarms that occurred.

Equipment configuration menu

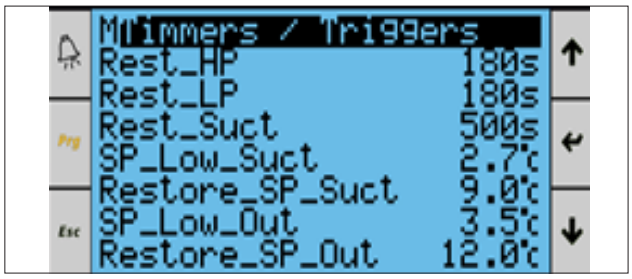
In order to enter the equipment configuration menu, press the PRG key, which will take you directly to the LOGIN screen, where you will have to enter the manufacturing password to enter the configuration menu.

Time / Trigg menu

In this menu you will be able to access the modification of times for stops and starts depending on alarms.

Timmers screen / Triggers:

- **Rest_HP:** From this parameter the reset time for a high pressure failure can be modified.
- **Rest_LP:** From this parameter it is possible to modify the reset time for a low pressure failure.
- **Rest_Suct:** From this parameter it is possible to modify the reset time in case of a low suction failure.
- **SP_Low_Suct:** From this parameter you can modify the temperature at which we want the low suction failure to occur.
- **Restore_SP_Suct:** From this parameter we can modify the temperature at which we want the low suction fault to reset.
- **SP_Low_Out:** From this parameter we can modify the temperature at which we want the chilled water alarm to happen.
- **Restore_Sp_Out:** From this parameter we can modify the temperature at which we want the chilled water alarm to reset

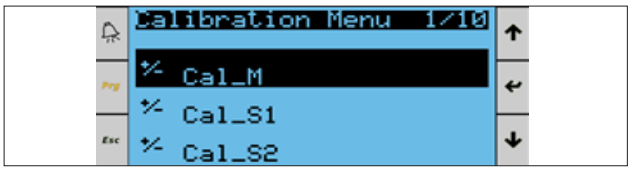


- **SP_HTC:** From this parameter we can modify the temperature at which we want the system to alarm when the condenser temperature water is high.
- **Restore_SP_HTC:** From this parameter we can modify the temperature at which we want the system to reset after a high temperature failure in the condenser.

Calibration menu

From this menu you can access the calibration screen. The purpose of these screens is to be able to modify the values of the analog and digital inputs.

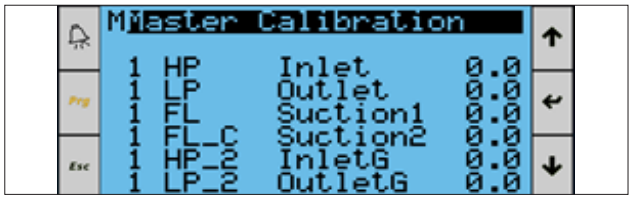
Equipment calibration screen: From this screen you can access each of the slaves that have been configured.



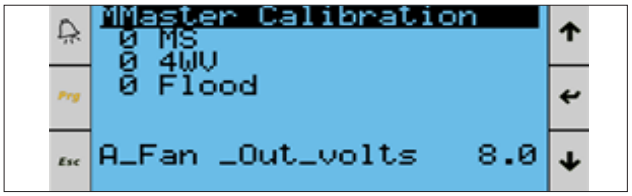
Each of the parameters that can be modified is described below.

- **HP:** From this parameter it is possible to modify whether the pressure switch of high pressure circuit 1 is normally closed or normally open.
- **LP:** From this parameter you can modify whether you want the pressure switch of the low pressure circuit 1 to be normally closed or normally open.
- **FL:** From this parameter you can modify whether you want the evaporator flow switch to be normally closed or normally open.
- **FL_C:** From this parameter it is possible to modify whether the condenser flow switch is normally closed or normally open.
- **HP_2:** From this parameter it is possible to modify whether the pressure switch of the high pressure circuit 2 is normally closed or normally open.

- **LP_2:** From this parameter you can change whether you want the pressure switch of low pressure circuit 2 to be normally closed or normally open.
- **Inlet:** From this parameter you can change the temperature calibration of the condenser inlet sensor.
- **Outlet:** From this parameter you can change the temperature calibration of the evaporator inlet sensor.
- **Suction1:** From this parameter you can change the temperature calibration of the circuit 1 suction sensor.
- Suction2: From this parameter the temperature calibration of the suction sensor of circuit 2 can be changed.
- **InletG:** From this parameter the temperature calibration of the general evaporator inlet sensor can be changed.
- **OutletG:** From this parameter you can change the temperature calibration of the general condenser outlet sensor.



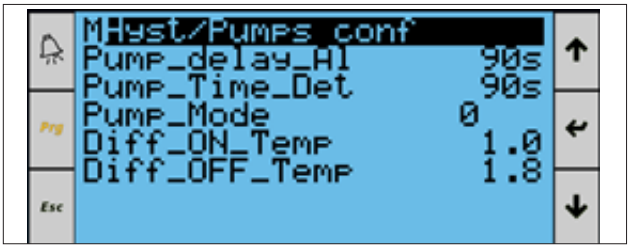
- **MS:** From this parameter you can change the saver motor configuration from normally open to normally closed.
- **4WV:** From this parameter you can change the direction of the valve depending on whether the equipment configuration has the heating capability from normally open to normally closed.
- **FLOOD:** From this parameter you can change the direction of the flooding sensor from normally closed to normally open.



Pump configuration screen

In this menu you can change the pump configuration depending on whether the equipment has several pumps to handle, in this menu you can also change the water pump start-up times.

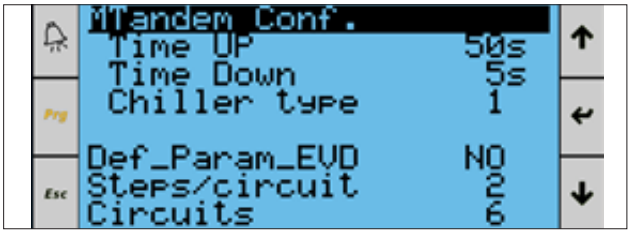
- **Pump_delay_AI:** From this parameter the pump start time can be changed.
- **Pump_Time_Det:** From this parameter you can change the pump stop time in case of equipment failure.
- **Pump_Mode:** From this parameter you can modify the pump behavior, this depends a lot on whether the equipment has the capacity to handle several pumps.
- **Diff_ON_Temp:** From this parameter you can change the on zone of the pump. This option is only compatible in case independent pumps are configured for each equipment.
- **Diff_OFF_Temp:** From this parameter the pump off zone can be changed. This option is only compatible if independent pumps are configured for each unit.



Tang equipment configuration menu

From this menu you can configure the enabling and disabling of equipment. Valve opening control can also be performed in this menu.

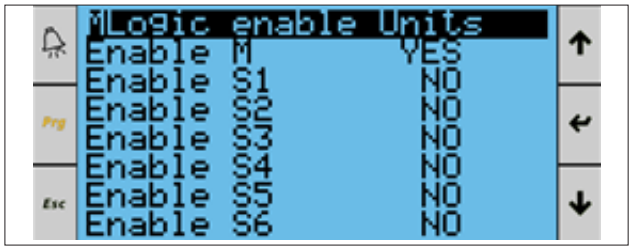
- **Time up:** This parameter is used to change the compressor on time.
- **Time Down:** This parameter allows changing the compressor off time.
- **Chiller Type:** This parameter allows to select the type of unit that will be working with air-water or water-water.
- **Def_Param_EVD:** This parameter allows to return the default values of the electronic valve.
- **Steps/circuit:** This parameter allows to select the number of units to be working with.
- **Circuits:** This parameter allows selecting the number of circuits the chiller has.



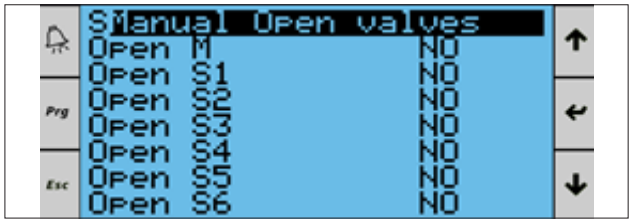
The regulation screen allows modifying the calculation values for the setpoint control, in this chiller equipment the control is managed proportionally so these two values allow modifying the setpoint behavior.

Reset counters: Allows to delete the record of chilled water or freezing faults.

This screen allows you to enable or disable units that do not require work or are under maintenance.



This screen allows you to enable or disable the water flow valves to the condenser supply.



Configuration menu

This screen allows you to import and export alarms to an external memory.

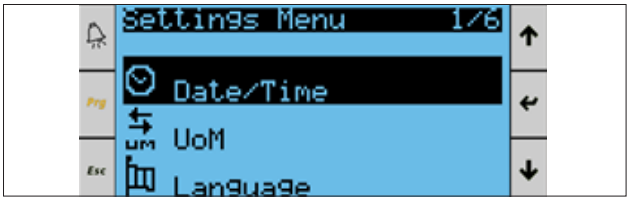
Alarm logs menu

This menu allows you to review the log of past alarms that have occurred in the equipment.

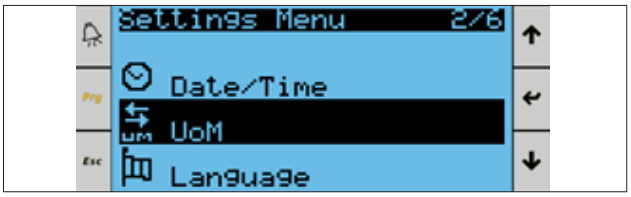
Menú settings

This menu allows internal configurations within the control such as changing the time and date, selecting units, interface language, modifying serial ports and changing passwords.

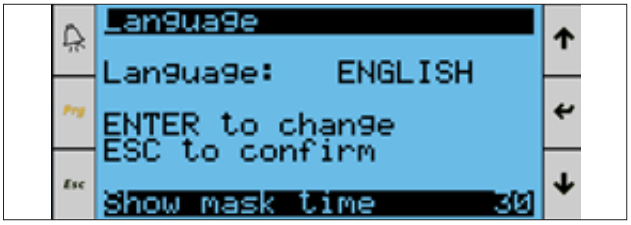
Date/Time menu: Allows you to modify the time and date values.



UoM menu: Allows to select the change of units in the equipment.



Language menu: Allows you to select the language for the interface descriptions.



Serial Ports menu: Allows you to change the settings of the serial ports and Ethernet communications.

Pwd Change menu: Allows you to change the password to enter the settings menu.

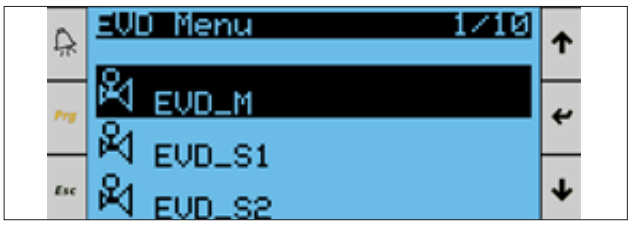
Initialization menu: Allows you to reset the parameters of the initial default settings to factory defaults.

EVD Stat menu

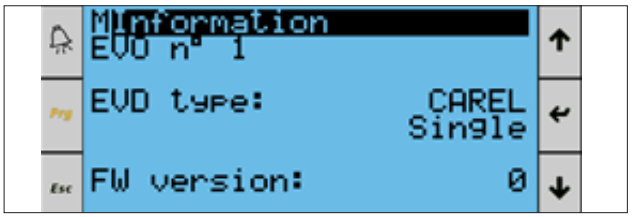
This menu allows you to view the status of each electronic valve and access the parameters to adjust it according to your needs.

Electronic valve selection screen

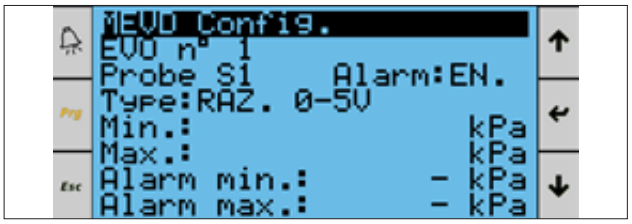
From this menu you can access the status of each electronic valve of each unit.



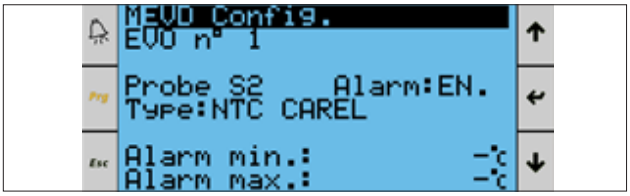
- **EVD type:** Indicates the type of valve that is connected to the evd.
- **FW version:** Indicates the firmware currently managed by the electronic valve controller.



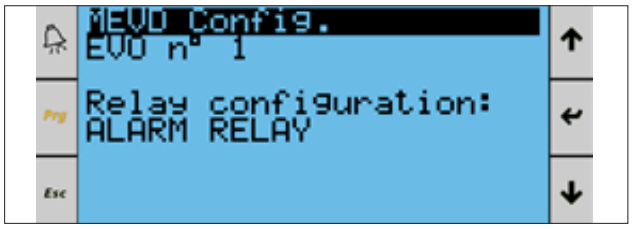
- **Probe S1:** Transducer 1 input configuration of the EVD controller.
- **Type:** Indicates the type of probe or reading to which the sensor will take the input reference.
- **Min:** Indicates the maximum configurable value of the sensor reading of the S1 input.
- **Max:** Indicates the minimum configurable value of the sensor reading of input S1.
- **Alarm Min:** Indicates the minimum configurable alarm value of the sensor reading of input S1.
- **Alarm Max:** Indicates the maximum configurable alarm value of the sensor reading of input S1.



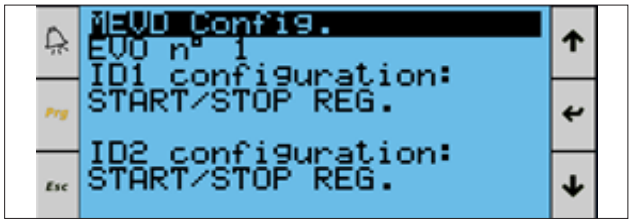
- **Probe S2:** Probe 2 input configuration of the EVD controller.
- **Type:** Indicates the type of probe or reading to which the sensor will take the input reference.
- **Alarm Min:** Indicates the minimum configurable alarm value of the sensor reading of input S2.
- **Alarm Max:** Indicates the maximum configurable alarm value of the sensor reading of input S2.



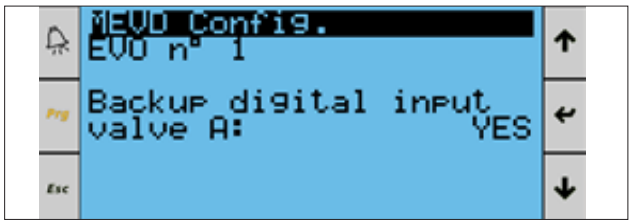
Relay configuration: Indicates the alarm configuration of the electronic valve.



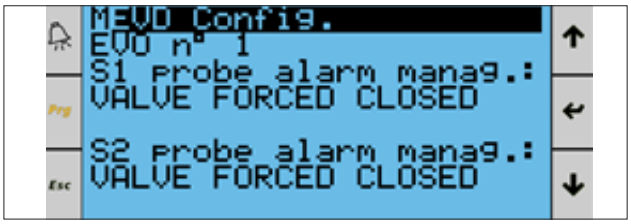
- **ID1 configuration:** Indicates the configuration of input one of the EVD controller.
- **ID2 configuration:** Indicates the configuration of input two of the EVD controller.



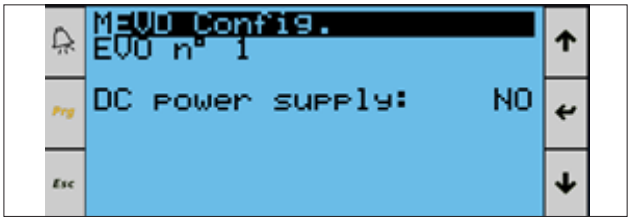
Backup digital Input: This configuration backs up the EVD unit from a digital input.



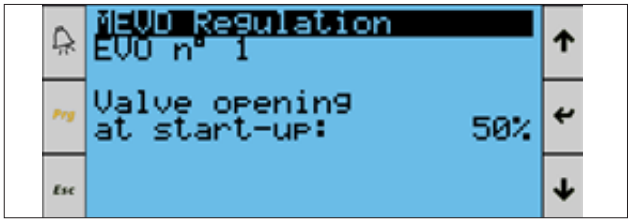
- **S1 Probe alarm manag:** Indicates what to do with the electronic valve when there is an alarm on probe 1 of the electronic valve system.
- **S2 Probe alarm manag:** Indicates what should happen with the electronic valve when there is an alarm in probe 1 of the electronic valve system.



DC Power supply: Indicates whether the EVD system is powered by an external voltage source.

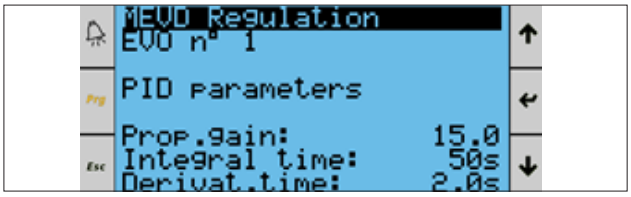


Valve opening at start-up: Indicates the maximum opening of the electronic valve at the start of compressor operation.

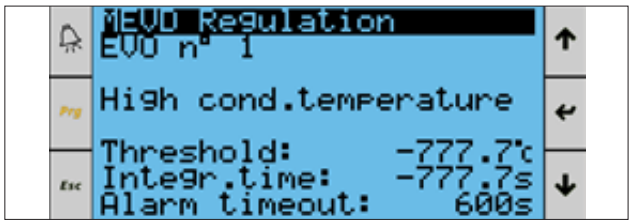


- **Valve opening at start-up:** Indicates the maximum opening of the electronic valve at compressor start-up.
- **Valve opened in stand-by:** This parameter tells the electronic valve whether it should remain open when the system is in stand-by mode.
- **Vlv open in st-by:** Indicates the percentage of valve opening when the system is in stand-by.
- **Start-up delay after Defrost:** Indicates the valve opening time after starting a defrost process.
- **Vlv prepos dt:** Indicates the valve opening time in manual mode.

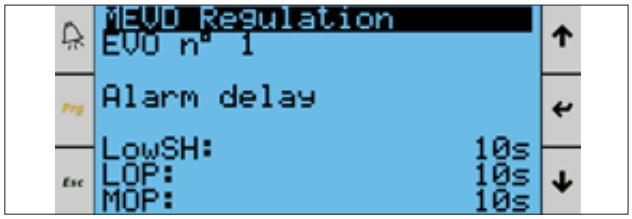
PID Parameters: This screen contains the response time values of the electronic valve, these values can only be changed by trained personnel.



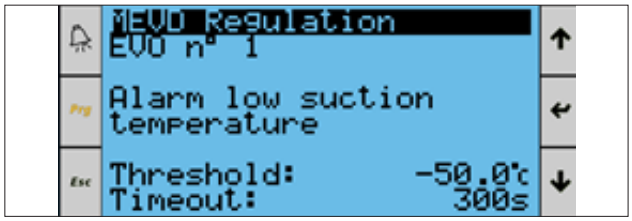
High cond. Temperatura: This alarm indicates when there is a high condenser water temperature alarm. This alarm will only be activated if the system has this option enabled in the EVD controller.



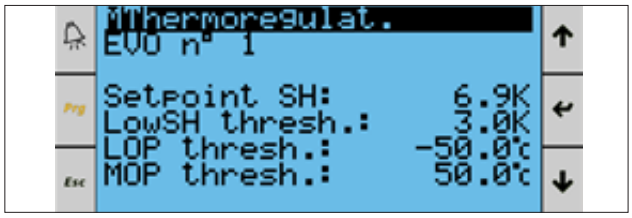
Alarm delay: Indicates the Low Suction Alarm Time (LowSH), LOP and MOP.



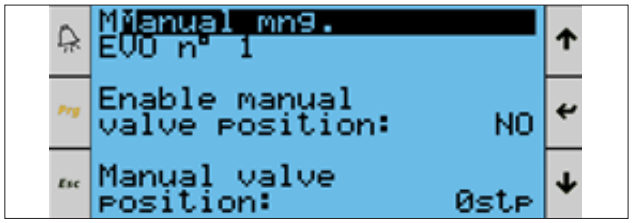
Alarm low Suction: From this parameter you can change the low suction alarm time and temperature range.



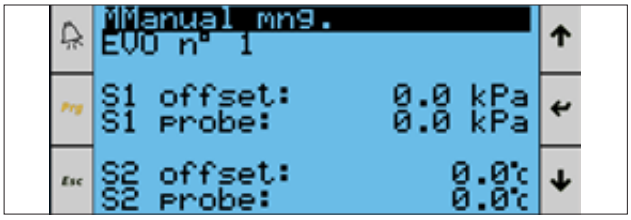
- **Setpoint SH:** From this parameter you can change the superheat setpoint.
- **LowSH rest_hp:** From this parameter you can change the low superheat temperature alarm.



Enable manual valve position: From this parameter you can manually enable the valve to manipulate it and see its status.



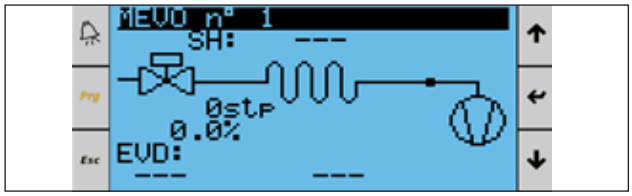
- **S1 offset:** From this parameter you can modify the transducer calibration of the S1 input of the EVD control.
- **S1 probe:** This parameter can be used to read the current value of the EVD control input S1 transducer.
- **S2 offset:** From this parameter you can modify the calibration of the temperature probe of input S2 of the EVD control.
- **S2 probe:** From this parameter it is possible to read the actual value of the temperature probe of input S2 of the EVD control.



Electronic valve status display from STAT EVD menu

This screen has the function of showing the operation status of the electronic valve for this equipment, the following will describe each element for displaying and reading data for each valve.

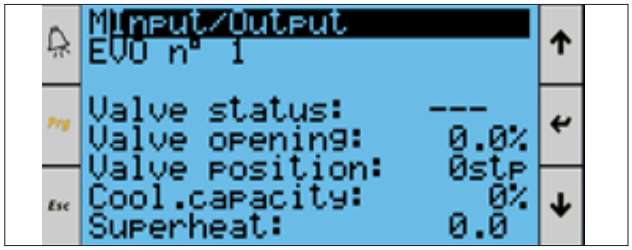
- **SH:** Indicates the calculated superheat value of the expansion valve of circuit 1.
- **EVD:** Indicates the status of the electronic expansion valve.
- **STP:** Indicates the number of opening steps of the electronic valve. This value can vary depending on the temperature operation and the opening is also represented by the calculated percentage of the valve.



EVD control inputs and outputs status screen

From this screen you can monitor the current operating status of the electronic valve.

- **Valve status:** This parameter indicates the working status of the electronic valve.
- **Valve opening:** This parameter indicates the opening percentage of the electronic valve.
- **Valve position:** This parameter indicates the number of steps the valve currently opens in relation to the opening percentage.
- **Cool Capacity:** This indicates the percentage of the cooling capacity in relation to the electronic valve opening.
- **Superheat:** Indicates the superheat calculation based on the pressure and temperature of the electronic valve.

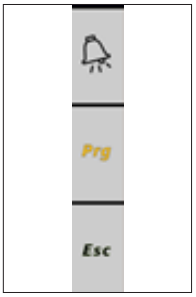


Menú logout: From the logout menu, you can log out of the open session for the configuration of device parameters.

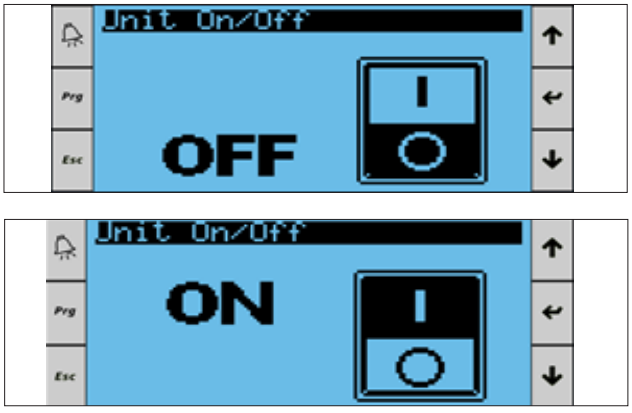
Alarm key: This key has the function of indicating when an alarm is active and also has an integrated LED which lights red in case of alarm.

PRG key: This key has the function of opening the parameter configuration menu to modify times and temperature values of the equipment.

ESC key: This key has the function of being able to exit the menus when necessary.



System start-up screen: From this screen the system can be started up to put the compressor circuit system into operation.

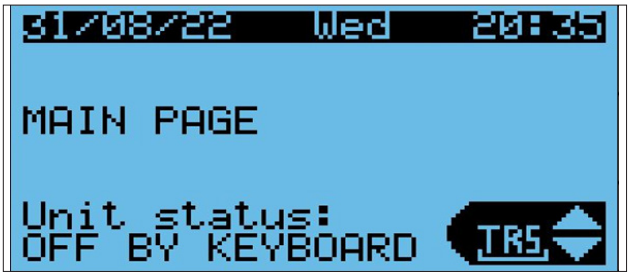


USER'S MANUAL FOR OPERATION OF CPCO EXPANSION CONTROL UNIT.

This manual is intended to explain the operation of the expansion control unit for CLII equipment in this brief manual will explain the screens and menus that the control has, this unit was added to include high pressure transducers and to display the values by modbus communication and through the control display.

As shown in Figure 2 the display of the control expansion unit has similar to the same features as the master control unit however this control expansion unit is only intended to display the values that has the high pressure transducers and display the values of the saturation temperature of the coolant.

Figure 2. Display CPCO



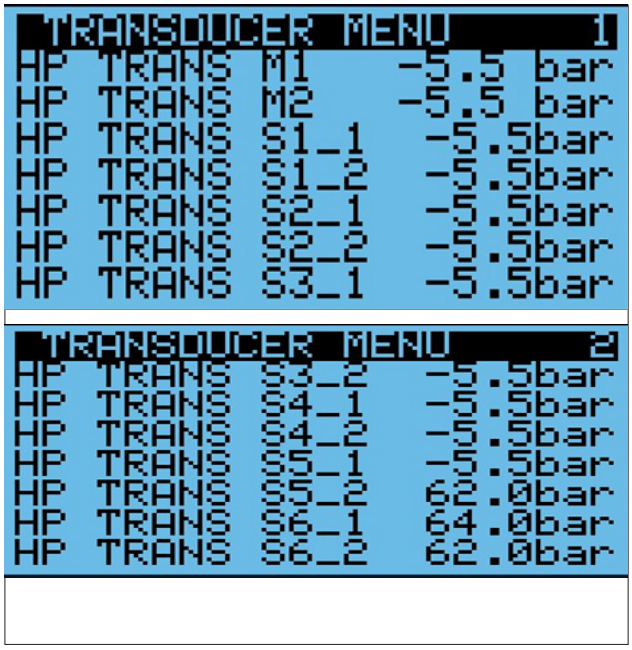
To select the display of the pressure transducers, simply access the menu at the bottom of the screen using the navigation buttons and select the option with the description TRS as shown in the following image.

Once the above menu has been selected, the legend corresponding to the description of the transducers will appear at the top, as shown below, along with the corresponding page number.

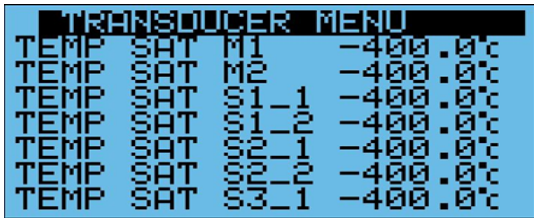
At the bottom of the menu you can see the transducer to which it is referenced and the unit from which the transducer is obtaining the reading as shown in figure 8; the nomenclature to which each transducer corresponds will be described below.

- **HP TRANS M1:** master circuit 1 high pressure transducer.
- **HP TRANS M2:** high pressure transducer of circuit 2 master.
- **HP TRANS S1_1:** high pressure transducer of circuit 1 slave 1.
- **HP TRANS S1_2:** high pressure transducer of circuit 2 slave 1.
- **HP TRANS S2_1:** high pressure transducer of circuit 1 slave 2.
- **HP TRANS S2_2:** high pressure transducer of circuit 2 slave 2.
- **HP TRANS S3_1:** high pressure transducer of circuit 1 slave 3.
- **HP TRANS S3_2:** high pressure transducer of circuit 2 slave 3.
- **HP TRANS S4_1:** high pressure transducer of circuit 1 slave 4.
- **HP TRANS S4_2:** high pressure transducer of circuit 2 slave 4.
- **HP TRANS S5_1:** high pressure transducer of circuit 1 slave 5.
- **HP TRANS S5_2:** high pressure transducer of circuit 2 slave 5

Figure 3. Transducers



By continuing the navigation to the next page you will be able to access the coolant saturation temperature reading for each circuit.

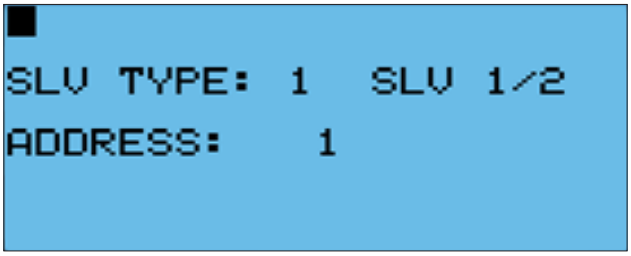


PROCEDURE FOR CONFIGURING upC3 CONTROLLERS FOR CLII

The upc3 controllers that replace the c.pCOe expansion modules must each be configured via a PGD1 screen.

The controller type and serial address must be configured.

Two programs are available for this project, one exclusively for the main c.pCOmini controller and one for the upC3s. Once the program is installed on the upC3, the following screen will appear:



There are 3 types of configuration (upC3):

- SLV TYPE 1: (SLV 1/2) - Sets the controller as expansion module 1. (Ex. expansion 1 of Module 1).
- SLV TYPE 2: (SLV 2/2) - Sets the controller as expansion module 2. (e.g. expansion 2 of Module 1)
- SLV TYPE 3: (Main) - Sets the controller as expansion module of the main controller (c.pCOmini).
-

Depending on the selected slave type, the inputs and outputs will be configured.

Once the control type has been configured, the controller must be restarted for the changes to take effect correctly.

The address of the controllers should be as follows:

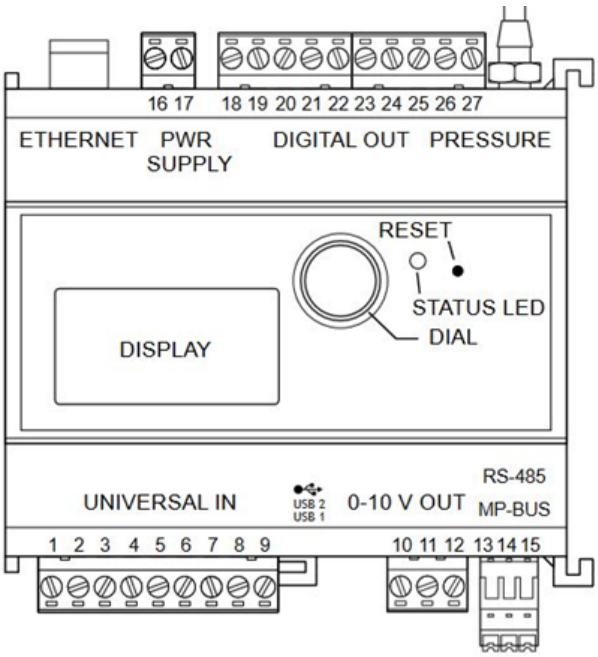
Module	Slave	Address
1	SLV 1	1
	SLV 2	2
2	SLV 3	3
	SLV 4	4
3	SLV 5	5
	SLV 6	6
4	SLV 7	7
	SLV 8	8
5	SLV 9	9
	SLV 10	10
6	SLV 11	11
	SLV 12	12
7	SLV 13	13
	SLV 14	14
8	SLV 15	15
	SLV 16	16
9	SLV 17	17
	SLV 18	18
Master	SLV M	20
	c.pCOmini	---

LOYTEC CONTROLLER

This manual is intended to explain the operation and use of the LOYTEC controller for thermostatic CLII equipment this controller is a communication extension to monitor temperatures, compressor status and pressure switch status through Modbus communication taking information from the two CPCO controllers that are enabled in the CLII equipment.

As shown in the following figure 4 loytec controller contains a display interface but which also contains a web interface, from the 2 interfaces can control the equipment depending on the current configuration and the parameters it contains according to the operating equipment.

Figure 4. Loytec controller



As shown below in the following image the display shows the current status of the controller in this case it can show a serial number of the controller, the current communication configuration, percentage of memory usage, current internal voltage of the controller.

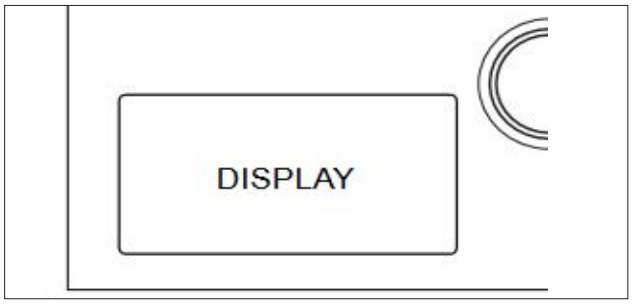
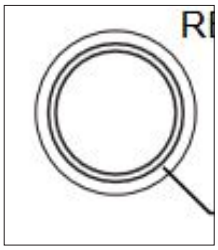


Figure 5. Dial



As shown in Figure 5, the dial has the purpose of being able to enter and exit menus, in this case as a practical example the dial can be manipulated by turning the knob to the right or to the left; to enter a menu simply press the dial as a simple button and in this way the desired menu can be accessed.

As shown below in the image, the status led is intended to send a status in which the controller is currently this led many of the times does not mean that there is an error within the controller however it has 2 states:

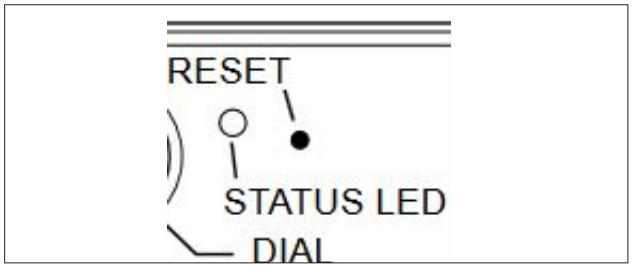
- Color the color green:

It means that the controller is in a healthy state according to the correct settings that have been programmed.

- Red LED:

It will indicate if there is a failure in terms of settings or hardware problem in many cases this led does not imply a failure as such but this red led indicates a warning which has to be reviewed thoroughly in the controller portal.

Next to this LED there is a reset button which has the purpose of erasing the configuration of the controller to perform this procedure will require a thin pointed object and pressing the button for 3 seconds the controller will be completely erased this in turn results in the loss of data and loss of communication settings of the controller.



Next, we will describe an example of navigation inside the controller which is intended to make more sensitive the handling of the dial for the selection of menus within the control.

- Step number 1: depending on the menu where you are, take the knob with your index finger and thumb and turn it to the right or to the left at that moment you will see that the icons or the menu to which the day is pointing will take a black background.

Example:

As shown in figure 6 this is the main menu of the controller screen, for this practical example we are going to.

As you can see, currently the folder icon is with a white background, in this case it has not been selected and therefore the dial for the selection of the folder icon has not been moved.

Figure 6. Main menu

- Step 2: Once the folder icon is selected, press the dial and you will be able to access the content of that icon and the content of the menus inside it.

For the other steps or to access other configurations, simply repeat steps 1 and 2 in order to navigate between icons or menus.

Accessing folder icon menus.

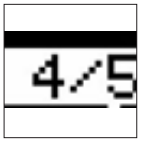
In this section we will take the menus contained in the folder icon and at the same time we will explain how to access these icons to be able to modify the equipment's operating parameters.

To access these parameters, first select the folder icon as shown in the following image and once this icon is selected, press the dial to access the parameters it contains.

After pressing the dial the Datapoints menu can be accessed as shown below and as can be seen, the Datapoint menu is shaded black which means that the dial is currently pointing to that menu.

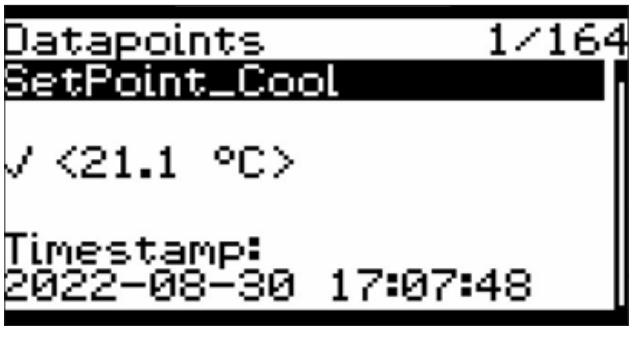
By moving the dial to the right or to the left, the pointer can be moved either to the top of the menu or to the menu to be selected as shown in the following image; in this case, in order to access the time or shutdown configuration parameters for the equipment, it is necessary to move to the Modbus menu. Once this menu is selected by the pointer, press the dial and you will be able to access the menu that will guide you to the parameters.

Each menu has a number at the top of the screen, this number indicates the current position of the menu to which you want to access, in this case the parameters to which you want to access is number 4 .



After having pressed the dial as mentioned in the previous step and as shown in the following image, you can access the Modbus parameters menu within this menu it is necessary to turn the dial and select the Dapoints folder once the datapoints folder is selected it is necessary to press the dial to access it.

After pressing the dial as shown below and as discussed in the previous step, you will be able to access and observe the values to which the Modbus points are referenced to the communication with the CPCO control.



Web connection for parameter display.

The CLII device has a web interface that allows a more detailed view of the parameters for manipulation and visualization, and a brief introduction to configure this interface and visualize it, if necessary, through a PC.

To be able to make a connection to an Ethernet network can be done in two ways either by connecting the device to a local network or connecting it to an network for either of the two cases you have to enter the parameters menu to access the address of the device, the steps to perform this procedure are shown below.

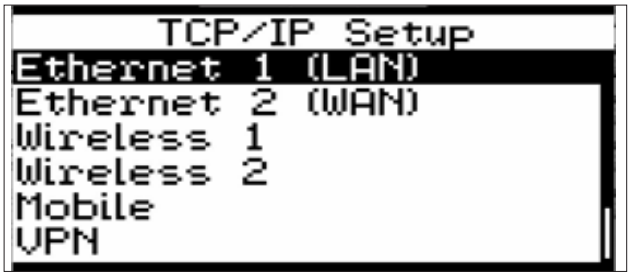
In the main screen you have to select the configuration menu as shown in figure 7.

Figure 7. Setup Menu

After the previous step a screen like the one shown below will appear, turn the dial until the Device Management option is selected.

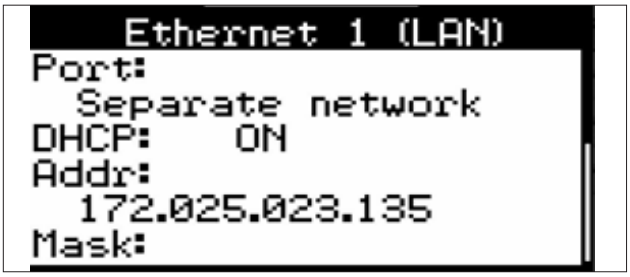
After selecting this option, press the dial to access the communications setup sub menu and select the TCP/IP Setup option and then press the dial to access the sub menu option.

After having performed the previous step, select the Ethernet 1 menu selection option as shown in the following image.

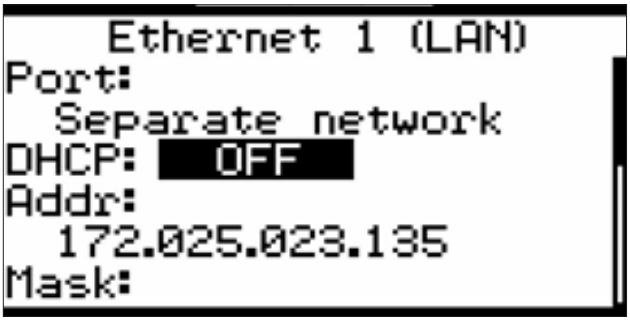


Once the previous menu is selected, the network address of the device can be accessed, as can be seen in the following image, there are different options to which the device has to be adapted depending on the network installation needs or remote monitoring requirements of either the device itself or a third party device such as PC'S, Tablets, or mobile devices.

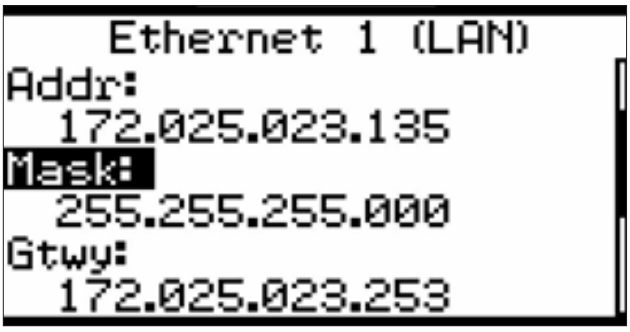
The following is a brief explanation of the options offered by this menu for quick configuration of viewing through the device.



In the following image you can see that selecting the **DHCP** option in **ON** mode means that the device can connect to a router that can provide an automatic IP address, depending on whether this router has an Internet connection the device acquires the IP that the router or the Internet connection provides.



Once the previous steps are completed and depending on the desired selection to be able to connect the device to the needs of the network to which it is required to connect, the following options will be verified; these options are found by turning the dial to select them as shown in the image below.



- **ADDR:** This is the IP address of the device to which the address is assigned depending on the automatic or manual selection.
- **MASK:** This is the network mask assigned to the device depending on the automatic or manual selection.
- **GTWY:** This is the subnet mask that is assigned to the device and the selection can be automatic or manual.

Once the above steps have been completed and the above information has been verified, the device information will be saved by selecting the following menu.

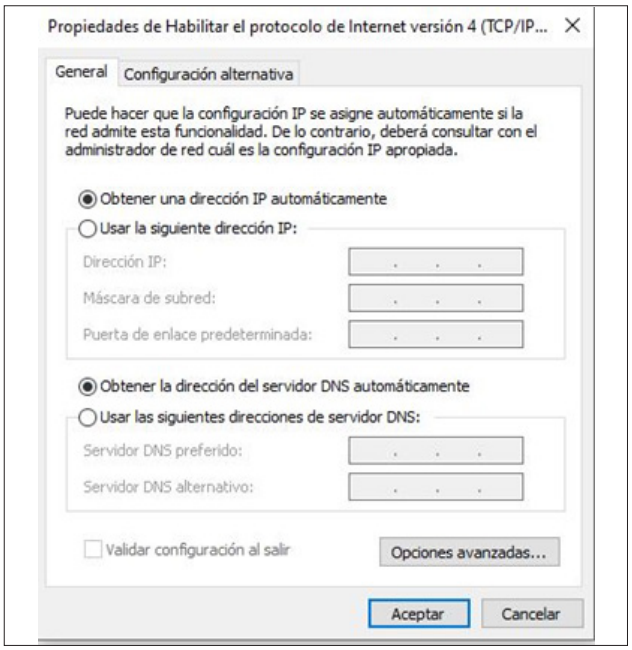
Once this step is completed, the device will restart showing the device's network address on the main screen.

Once the previous steps have been taken and the IP address has been verified, the connection will be made through a PC web application, so that the device data can be monitored through a browser and the necessary parameters can be manipulated depending on the adaptation that needs to be made to the equipment.

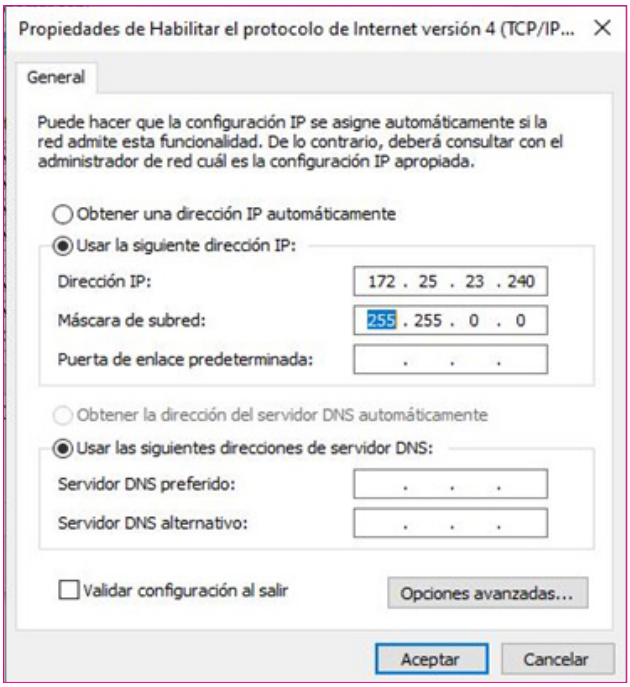
Connection to the loytec device when a manual address is assigned.

This example will show how to make a local connection to the loytec controller. This in order to make a direct connection to the controller through an ethernet port.

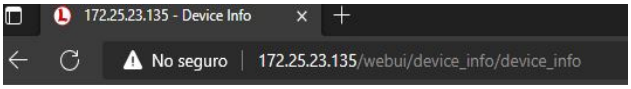
The first thing to do is to verify the address that contains the controller this address can be seen in the main screen, after verifying this address we proceed to configure the IP address of the computer or device to which you want to connect to the controller for this you have to go to the start menu and then to the control panel and access the network settings of the device as shown in the following image.



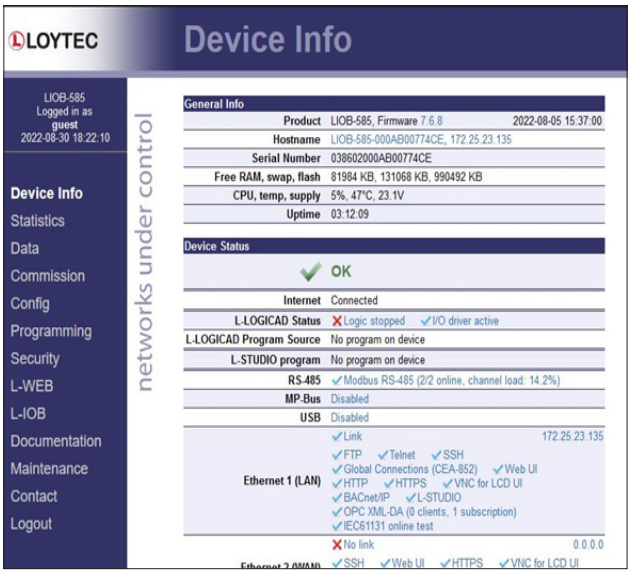
You have to change the IP address as shown in the image below and once this procedure is done you will be able to open a web browser either Firefox, Internet Explorer or another favorite search engine.



Once the web browser is open, type the address containing the controller in the address bar.
To do this, simply look at the main screen.



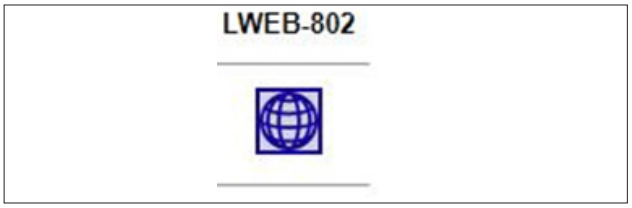
Once the previous step has been completed, a page with the following menus will appear in the web browser:



Viewing the page we access the LWEB menu.

After clicking on the LWEB option a user and password selection menu will appear, to access this sub menu the user is: operator and the password: operator and click on login.

After logging in with your username and password, click on the icon shown below:



Next, it will ask again for the user: operator and password: operator

From here you can access the status parameter display page for each unit.

CLII THERMOSTATIC ALARMS

The alarms described below are intended to explain which are the most recurrent problems in the equipment. These alarms are the same in terms of the modules contained in the equipment.

ALARM	NAME	DESCRIPTION
MS_M	Motor saver alarm	Phase diagnostic device alarm: this device is located inside the panel and is responsible for checking that the AC voltage supplies are balanced and have no voltage rises or falls in case the device is alarmed it will send a signal which will be represented as a device alarm showing the legend MS_M on the controller.
HP_M	Refrigerant system high pressure switch	High pressure switch signal alarm on the refrigerant discharge line; this alarm is activated when the digital pressure switch on the refrigerant discharge line reaches the maximum pressure allowed by the device.
LP_M	Refrigerant system low pressure switch	Low pressure switch signal alarm on the refrigerant suction line; this alarm is activated when the digital pressure switch on the refrigerant suction line reaches the minimum pressure allowed by the device
Suction_M	Refrigerant system low pressure transducer	Coolant suction line pressure transducer analog signal alarm: this alarm is triggered when the analog pressure switch on the coolant suction line reaches the minimum pressure allowed by the device.
Outlet_M	Low evaporator water temperature	Low evaporator water temperature alarm; activated when the evaporator water outlet temperature probe detects temperatures outside the set limits.
Cont_Frez_M	Evaporator water low temperature count	This alarm indicates when the system has been reset more than 3 times by chilled water temperature; when the system is reset by evaporator outlet water temperature it starts working again in case the system has been reset more than 3 times this alarm will be activated.
Flood_Alarm_G	Flow alarm	This alarm will be active when the system detects flooding or water leakage in the system cannot be reset until this signal has been restored.
Flow_M	Evaporator flow alarm	This alarm will activate when the evaporator flow sensor is out of range; this alarm will not reset until the flow sensor is in range again.
Flow_Cond_M	Condenser flow alarm	This alarm will activate when the condenser flow sensor is out of range; this alarm will not reset until the flow sensor is within range again.
Hit_Cond	-	This alarm is present when there is a temperature outside the allowed range of high water temperature in the condenser.
Slv_M_Offline	-	When there is a communication problem with the slaves this alarm will be activated indicating the type of slave which is off line for this particular alarm means that the master's IO slave is deenergized or disconnected from the network.
Slv_1_1_Offline	-	When there is a communication problem with the slaves this alarm will be activated indicating the type of slave which is off line, for this alarm it means that slave 1 of address 1 is deenergized or off line.

CLII ELECTRONIC ALARMS

ALARM	NAME	DESCRIPTION
OfflineAlrm_CPCOE_1	Master unit alarm address 19	This alarm will be present when the IO expansion of the master unit is offline.
OfflineAlrm_CPCOE_E1	Slave unit alarm address 1	This alarm will be present when the IO expansion of slave unit 1 is offline.
OfflineAlrm_CPCOE_E2	Slave unit alarm address 2	This alarm will be present when the IO expansion of slave unit 1 is offline.
OfflineAlrm_CPCOE_E3	Slave unit alarm address 3	This alarm will be present when the IO expansion of slave unit 2 is offline.
OfflineAlrm_CPCOE_E4	Slave unit alarm address 3	This alarm will be present when the IO expansion of slave unit 2 is offline.
OfflineAlrm_CPCOE_E5	Slave unit alarm address 4	This alarm will be present when the IO expansion of slave unit 3 is offline.
OfflineAlrm_CPCOE_E6	Slave unit alarm address 6	This alarm will be present when the IO expansion of slave unit 3 is offline.
OfflineAlrm_CPCOE_E7	Address slave unit alarm 7	This alarm will be present when the IO expansion of slave unit 4 is offline.
OfflineAlrm_CPCOE_E8	Address slave unit alarm 8	This alarm is present when the IO expansion of slave unit 4 is offline.
OfflineAlrm_CPCOE_E9	Address slave unit alarm 9	This alarm shall be present when the IO expansion of slave unit 5 is offline.
OfflineAlrm_CPCOE_E10	Address slave unit alarm 10	This alarm is present when the IO expansion of slave unit 5 is offline.
OfflineAlrm_CPCOE_E11	Address slave unit alarm 11	This alarm shall be present when the IO expansion of slave unit 6 is offline.
OfflineAlrm_CPCOE_E12	Address slave unit alarm 12	This alarm is present when the IO expansion of slave unit 6 is offline.
OfflineAlrm_CPCOE_E13	Address slave unit alarm 13	This alarm shall be present when the IO expansion of slave unit 7 is offline.
OfflineAlrm_CPCOE_E14	Address slave unit alarm 14	This alarm is present when the IO expansion of slave unit 7 is offline.
OfflineAlrm_CPCOE_E15	Address slave unit alarm 15	This alarm is present when the IO expansion of slave unit 8 is offline.
OfflineAlrm_CPCOE_E16	Address slave unit alarm 16	This alarm is present when the IO expansion of slave unit 8 is offline.
OfflineAlrm_CPCOE_E17	Address slave unit alarm 17	This alarm is present when the IO expansion of slave unit 9 is offline.
OfflineAlrm_CPCOE_E18	Address slave unit alarm 18	This alarm will be present when the IO expansion of slave unit 9 is offline.

ALARM	DESCRIPTION
CfgErrAlrm_CPCOE_1	This alarm will be present when there is an internal configuration problem within the IO expansion of the master unit address 19.
CfgErrAlrm_CPCOE_1_E1	This alarm will be present when there is an internal configuration problem within the IO expansion of slave unit 1 address 1.
CfgErrAlrm_CPCOE_1_E2	This alarm will be present when there is an internal configuration problem within the IO expansion of slave unit 1 address 2.
CfgErrAlrm_CPCOE_1_E3	This alarm will be present when there is an internal configuration problem within the IO expansion of slave unit 2 address 3.
CfgErrAlrm_CPCOE_1_E4	This alarm shall be present when there is an internal configuration problem within the IO expansion of slave unit 2 address 4.
CfgErrAlrm_CPCOE_1_E5	This alarm shall be present when there is an internal configuration problem within the IO expansion of slave unit 3 address 5.
CfgErrAlrm_CPCOE_1_E6	This alarm shall be present when there is an internal configuration problem within the IO expansion of slave unit 3 address 6.
CfgErrAlrm_CPCOE_1_E7	This alarm shall be present when there is an internal configuration problem within the IO expansion of slave unit 4 address 7.
CfgErrAlrm_CPCOE_1_E8	This alarm shall be present when there is an internal configuration problem within the IO expansion of slave unit 4 address 8.
CfgErrAlrm_CPCOE_1_E9	This alarm shall be present when there is an internal configuration problem within the IO expansion of slave unit 5 address 9.
CfgErrAlrm_CPCOE_1_ E10	This alarm shall be present when there is an internal configuration problem within the IO expansion of slave unit 5 address 10.
CfgErrAlrm_CPCOE_1_ E11	This alarm shall be present when there is an internal configuration problem within the IO expansion of slave unit 6 address 11.
CfgErrAlrm_CPCOE_1_ E12	This alarm shall be present when there is an internal configuration problem within the IO expansion of slave unit 6 address 12.
CfgErrAlrm_CPCOE_1_ E13	This alarm shall be present when there is an internal configuration problem within the IO expansion of slave unit 7 address 13.
CfgErrAlrm_CPCOE_1_ E14	This alarm shall be present when there is an internal configuration problem within the IO expansion of slave unit 7 address 14.
CfgErrAlrm_CPCOE_1_ E15	This alarm shall be present when there is an internal configuration problem within the IO expansion of slave unit 8 address 15.
CfgErrAlrm_CPCOE_1_ E16	This alarm shall be present when there is an internal configuration problem within the IO expansion of slave unit 8 address 16.
CfgErrAlrm_CPCOE_1_ E17	This alarm shall be present when there is an internal configuration problem within the IO expansion of slave unit 9 address 17.
CfgErrAlrm_CPCOE_1_ E18	This alarm shall be present when there is an internal configuration problem within the IO expansion of slave unit 9 address 18.
Low_SH_A_EVD_M	This alarm shall be present when a low superheat reading exists within the master unit EVD control Circuit 1.
Low_SH_B_EVD_M	This alarm will be present when there is a low superheat reading within the master unit EVD control Circuit 2.

Low_SH_A_EVD_1_S1	This alarm will be present when there is a low superheat reading within the EVD control of slave unit 1 Circuit 1.
Low_SH_B_EVD_1_S1	This alarm will be present when there is a low superheat reading within the EVD control of slave unit 1 Circuit 2.
Low_SH_A_EVD_1_S2	This alarm will be present when there is a low superheat reading within the EVD control of slave unit 2 Circuit 1.
Low_SH_B_EVD_1_S2	This alarm will be present when there is a low superheat reading within the EVD control of slave unit 2 Circuit 2.
Low_SH_A_EVD_1_S3	This alarm will be present when there is a low superheat reading within the EVD control of slave unit 3 Circuit 1.
Low_SH_B_EVD_1_S3	This alarm will be present when there is a low superheat reading within the EVD control of slave unit 3 Circuit 2.
Low_SH_A_EVD_1_S4	This alarm will be present when there is a low superheat reading within the EVD control of the slave unit 4 Circuit 1.
Low_SH_B_EVD_1_S4	This alarm will be present when there is a low superheat reading within the slave unit EVD control 4 Circuit 2.
Low_SH_A_EVD_1_S5	This alarm will be present when there is a low superheat reading within the EVD control of the slave unit 5 Circuit 1.
Low_SH_B_EVD_1_S5	This alarm will be present when there is a low superheat reading within the slave unit EVD control 5 Circuit 2.
Low_SH_A_EVD_1_S6	This alarm will be present when there is a low superheat reading within the slave unit EVD control 6 Circuit 1.
Low_SH_B_EVD_1_S6	This alarm will be present when there is a low superheat reading within the slave unit EVD control 6 Circuit 2.
Low_SH_A_EVD_1_S7	This alarm will be present when there is a low superheat reading within the EVD control of the slave unit 7 Circuit 1.
Low_SH_B_EVD_1_S7	This alarm will be present when there is a low superheat reading within the EVD control of the slave unit 7 Circuit 2.
Low_SH_A_EVD_1_S8	This alarm will be present when there is a low superheat reading within the EVD control of the slave unit 8 Circuit 1.
Low_SH_B_EVD_1_S8	This alarm will be present when there is a low superheat reading within the EVD control of the slave unit 8 Circuit 2.
Low_SH_A_EVD_1_S9	This alarm will be present when there is a low superheat reading within the EVD control of the slave unit 9 Circuit 1.
Low_SH_B_EVD_1_S9	This alarm will be present when there is a low superheat reading within the EVD control of the slave unit 9 Circuit 2.
Low_SH_B_EVD_1_S9	This alarm will be present when there is a low superheat reading within the EVD control of the slave unit 9 Circuit 2.
EEV_A_EVD_M	This alarm will be present when there is a failure in the electronic valve of the master unit circuit 1.
EEV_B_EVD_M	This alarm will be present when there is a failure in the electronic valve of the master unit circuit 2.

EEV_A_EVD_1_S1	This alarm will be present when there is a failure in the electronic valve of the slave unit 1 circuit 1.
EEV_B_EVD_1_S1	This alarm will be present when there is a failure in the electronic valve of the slave unit 1 circuit 2.
EEV_A_EVD_1_S2	This alarm will be present when there is a failure in the electronic valve of slave unit 2 circuit 1.
EEV_B_EVD_1_S2	This alarm will be present when there is a failure in the electronic valve of the slave unit 2 circuit 2.
EEV_A_EVD_1_S3	This alarm will be present when there is a failure in the electronic valve of the slave unit 3 circuit 1.
EEV_B_EVD_1_S3	This alarm will be present when there is a failure in the electronic valve of the slave unit 3 circuit 2.
EEV_A_EVD_1_S4	This alarm will be present when there is a failure in the electronic valve of the slave unit 4 circuit 1.
EEV_B_EVD_1_S4	This alarm will be present when there is a failure in the electronic valve of the slave unit 4 circuit 2.
EEV_A_EVD_1_S5	This alarm will be present when there is a failure in the electronic valve of the slave unit 5 circuit 1
EEV_B_EVD_1_S5	This alarm will be present when there is a failure in the electronic valve of the slave unit 5 circuit 2
EEV_A_EVD_1_S6	This alarm will be present when there is a failure in the electronic valve of the slave unit 6 circuit 1.
EEV_B_EVD_1_S6	This alarm will be present when there is a failure in the electronic valve of the slave unit 6 circuit 2.
EEV_A_EVD_1_S7	This alarm will be present when there is a failure in the electronic valve of the slave unit 7 circuit 1
EEV_B_EVD_1_S7	This alarm will be present when there is a failure in the electronic valve of the slave unit 7 circuit 2
EEV_A_EVD_1_S8	This alarm will be present when there is a failure in the electronic valve of the slave unit 8 circuit 1.
EEV_B_EVD_1_S8	This alarm will be present when there is a failure in the electronic valve of the slave unit 8 circuit 2.
EEV_A_EVD_1_S9	This alarm will be present when there is a failure in the electronic valve of the slave unit 9 circuit 1
EEV_B_EVD_1_S9	This alarm will be present when there is a failure in the electronic valve of the slave unit 9 circuit 2.
LowSuct_A_EVD_M	This alarm will be present when the temperature probe of the EVD module detects a low temperature in the suction line of the master circuit 1.
LowSuct_B_EVD_M	This alarm will be present when the temperature probe of the EVD module detects a low temperature in the suction line of the master circuit 2.
LowSuct_A_EVD_1_S1	This alarm will be present when the temperature probe of the EVD module detects a low temperature in the suction line of slave 1 circuit 1.
LowSuct_B_EVD_1_S1	This alarm will be present when the EVD module temperature probe detects a low temperature in the suction line of slave 1 circuit 2.
LowSuct_A_EVD_1_S2	This alarm will be present when the temperature probe of the EVD module detects a low temperature in the suction line of slave 2 circuit 1.
LowSuct_B_EVD_1_S2	This alarm will be present when the temperature probe of the EVD module detects a low temperature in the suction line of slave 2 circuit 2.
LowSuct_A_EVD_1_S3	This alarm will be present when the temperature probe of the EVD module detects a low temperature in the suction line of slave 3 circuit 1.
LowSuct_B_EVD_1_S3	This alarm will be present when the temperature probe of the EVD module detects a low temperature in the suction line of slave 3 circuit 2.
LowSuct_A_EVD_1_S4	This alarm will be present when the EVD module temperature probe detects a low temperature in the suction line of slave 4 circuit 1.

LowSuct_B_EVD_1_S4	This alarm will be present when the temperature probe of the EVD module detects a low temperature in the suction line of slave 4 circuit 2.
LowSuct_A_EVD_1_S5	This alarm will be present when the temperature probe of the EVD module detects a low temperature in the suction line of slave 5 circuit 1.
LowSuct_B_EVD_1_S5	This alarm will be present when the temperature probe of the EVD module detects a low temperature in the suction line of slave 5 circuit 2.
LowSuct_A_EVD_1_S6	This alarm will be present when the temperature probe of the EVD module detects a low temperature in the suction line of slave 6 circuit 1.
LowSuct_B_EVD_1_S6	This alarm will be present when the temperature probe of the EVD module detects a low temperature in the suction line of slave 6 circuit 2.
LowSuct_A_EVD_1_S7	This alarm will be present when the temperature probe of the EVD module detects a low temperature in the suction line of slave 7 circuit 1.
LowSuct_B_EVD_1_S7	This alarm will be present when the temperature probe of the EVD module detects a low temperature in the suction line of slave 7 circuit 2.
LowSuct_A_EVD_1_S8	This alarm will be present when the temperature probe of the EVD module detects a low temperature in the suction line of slave 8 circuit 1.
LowSuct_B_EVD_1_S8	This alarm will be present when the EVD module temperature probe detects a low temperature in the suction line of slave 8 circuit 2.
LowSuct_A_EVD_1_S9	This alarm will be present when the EVD module temperature probe detects a low temperature in the suction line of slave 9 circuit 1.
LowSuct_B_EVD_1_S9	This alarm will be present when the temperature probe of the EVD module detects a low temperature in the suction line of slave 9 circuit 2.
S1_EVD_M	This alarm shall be present when the circuit 1 suction transducer presents a fault within the master unit EVD module at input S1.
S2_EVD_M	This alarm shall be present when the temperature probe of circuit 1 presents a fault within the EVD module of the master unit at input S2.
S3_EVD_M	This alarm shall be present when the suction transducer of circuit 2 presents a fault within the EVD module of the master unit at input S3.
S4_EVD_M	This alarm will be present when the circuit 2 temperature probe fails within the EVD module of the master unit at input S4.
S1_EVD_1_S1	This alarm will be present when the suction transducer of circuit 1 presents a fault within the EVD module of slave unit 1 at input S1.
S2_EVD_1_S1	This alarm shall be present when the temperature probe of circuit 1 presents a fault inside the EVD module of slave unit 1 at input S2.
S3_EVD_1_S1	This alarm shall be present when the suction transducer of circuit 2 presents a fault within the EVD module of slave unit 1 at input S3.
S4_EVD_1_S1	This alarm shall be present when the temperature probe of circuit 2 presents a fault inside the EVD module of slave unit 1 at input S4.
S1_EVD_1_S2	This alarm shall be present when the suction transducer of circuit 1 presents a fault inside the EVD module of slave unit 2 at input S1.
S2_EVD_1_S2	This alarm shall be present when the temperature probe of circuit 1 presents a fault inside the EVD module of slave unit 2 at input S2.

S3_EVD_1_S2	This alarm shall be present when the suction transducer of circuit 2 presents a fault within the EVD module of slave unit 2 at input S3.
S4_EVD_1_S2	This alarm will be present when the temperature probe of circuit 2 presents a fault inside the EVD module of slave unit 2 at input S4.
S1_EVD_1_S3	This alarm will be present when the suction transducer of circuit 1 presents a fault inside the EVD module of slave unit 3 at input S1.
S2_EVD_1_S3	This alarm shall be present when the temperature probe of circuit 1 presents a fault inside the EVD module of slave unit 3 at input S2.
S3_EVD_1_S3	This alarm shall be present when the suction transducer of circuit 2 presents a fault inside the EVD module of slave unit 3 at input S3.
S4_EVD_1_S3	This alarm shall be present when the temperature probe of circuit 2 presents a fault inside the EVD module of slave unit 3 at input S4.
S1_EVD_1_S4	This alarm shall be present when the suction transducer of circuit 1 presents a fault inside the EVD module of slave unit 4 at input S1.
S2_EVD_1_S4	This alarm shall be present when the temperature probe of circuit 1 presents a fault inside the EVD module of slave unit 4 at input S2.
S3_EVD_1_S4	This alarm shall be present when the suction transducer of circuit 2 presents a fault within the EVD module of slave unit 4 at input S3.
S4_EVD_1_S4	This alarm shall be present when the temperature probe of circuit 2 presents a fault inside the EVD module of slave unit 4 at input S4.
S1_EVD_1_S5	This alarm shall be present when the suction transducer of circuit 1 presents a fault inside the EVD module of slave unit 5 at input S1.
S2_EVD_1_S5	This alarm shall be present when the temperature probe of circuit 1 presents a fault within the EVD module of slave unit 5 at input S2.
S3_EVD_1_S5	This alarm shall be present when the suction transducer of circuit 2 presents a fault within the EVD module of slave unit 5 at input S3.
S4_EVD_1_S5	This alarm shall be present when the temperature probe of circuit 2 presents a fault within the EVD module of slave unit 5 at input S4.
S1_EVD_1_S6	This alarm will be present when the suction transducer of circuit 1 presents a fault inside the EVD module of slave unit 6 at input S1.
S2_EVD_1_S6	This alarm will be present when the temperature probe of circuit 1 presents a fault inside the EVD module of slave unit 6 at input S2.
S3_EVD_1_S6	This alarm shall be present when the suction transducer of circuit 2 presents a fault within the EVD module of slave unit 6 at input S3.
S4_EVD_1_S6	This alarm shall be present when the temperature probe of circuit 2 presents a fault within the EVD module of slave unit 6 at input S4.
S1_EVD_1_S7	This alarm shall be present when the suction transducer of circuit 1 presents a fault inside the EVD module of slave unit 7 at input S1.
S2_EVD_1_S7	This alarm shall be present when the temperature probe of circuit 1 presents a fault inside the EVD module of slave unit 7 at input S2.
S3_EVD_1_S7	This alarm will be present when the suction transducer of circuit 2 presents a fault inside the EVD module of slave unit 7 at input S3.

S4_EVD_1_S7	This alarm will be present when the temperature probe of circuit 2 presents a fault inside the EVD module of slave unit 7 at input S4.
S1_EVD_1_S8	This alarm shall be present when the circuit 1 suction transducer faults within the slave unit EVD module 8 at input S1.
S2_EVD_1_S8	This alarm shall be present when the temperature probe of circuit 1 presents a fault inside the EVD module of slave unit 8 at input S2.
S3_EVD_1_S8	This alarm shall be present when the suction transducer of circuit 2 presents a fault within the EVD module of slave unit 8 at input S3.
S4_EVD_1_S8	This alarm shall be present when the temperature probe of circuit 2 presents a fault inside the EVD module of slave unit 8 at input S4.
S1_EVD_1_S9	This alarm shall be present when the suction transducer of circuit 1 presents a fault inside the EVD module of slave unit 9 at input S1.
S2_EVD_1_S9	This alarm shall be present when the temperature probe of circuit 1 presents a fault inside the EVD module of slave unit 9 at input S2.
S3_EVD_1_S9	This alarm shall be present when the suction transducer of circuit 2 presents a fault within the EVD module of slave unit 9 at input S3.
S4_EVD_1_S9	This alarm will be present when the temperature probe of circuit 2 presents a fault inside the EVD module of slave unit 9 at input S4.
EEPROM_EVD_M	In case of an internal hardware damage of the controller or of the module memory this fault will appear in the EVD control of the master unit.
EEPROM_EVD_1_S1	In case of an internal hardware damage of the controller or of the module memory this fault will appear in the EVD control of the slave unit 1.
EEPROM_EVD_1_S2	In case of an internal hardware damage of the controller or of the module memory this fault will appear in the EVD control of the slave 1 unit.
EEPROM_EVD_1_S3	In case of an internal hardware damage of the controller or of the module memory this fault will appear in the EVD control of the slave 1 unit.
EEPROM_EVD_1_S4	In case of an internal hardware damage of the controller or of the module memory this fault will appear in the EVD control of the slave 1 unit.
EEPROM_EVD_1_S5	In case of an internal hardware damage of the controller or of the module memory this fault will appear in the EVD control of the slave 1 unit.
EEPROM_EVD_1_S6	In case of an internal hardware damage of the controller or the module memory this fault will appear in the EVD control of slave unit 1.
EEPROM_EVD_1_S7	In case of an internal hardware damage of the controller or the module memory this fault will appear in the EVD control of slave unit 1.
EEPROM_EVD_1_S8	In case of an internal hardware damage of the controller or of the module memory this fault will appear in the EVD control of the slave 1 unit.
EEPROM_EVD_1_S9	In case of an internal hardware damage of the controller or of the module memory this fault will appear in the EVD control of the slave 1 unit.
EmergencyClosing_ EVD_M	This alarm will be present when a power failure occurs and the valve will close due to the power backup supplied by the battery module in the master module of the two expansion valve circuits.
EmergencyClosing_ EVD_1_S1	This alarm will be present when a power failure occurs, the valve will close by the power backup supplied by the battery module in the slave module 1 of the two circuits of the expansion valve.

EmergencyClosing_ EVD_1_S2	This alarm will be present when a power failure occurs, the valve will be closed by the power backup supplied by the battery module in the slave module 2 of the two circuits of the expansion valve.
EmergencyClosing_ EVD_1_S3	This alarm will be present when a power failure occurs, the valve will close by the power backup supplied by the battery module in the slave module 3 of the two circuits of the expansion valve.
EmergencyClosing_ EVD_1_S4	This alarm will be present when a power failure occurs, the valve will close by the power backup supplied by the battery module in the slave module 4 of the two circuits of the expansion valve.
EmergencyClosing_ EVD_1_S4	This alarm will be present when a power failure occurs, the valve will close by the power backup supplied by the battery module in the slave module 5 of the two circuits of the expansion valve.
EmergencyClosing_ EVD_1_S6	This alarm will be present when a power failure occurs, the valve will close by the power backup supplied by the battery module in the slave module 6 of the two circuits of the expansion valve.
EmergencyClosing_ EVD_1_S7	This alarm will be present when a power failure occurs, the valve will close by the power backup supplied by the battery module in the slave module 7 of the two circuits of the expansion valve.
EmergencyClosing_ EVD_1_S8	This alarm will be present when a power failure occurs, the valve will close by the power backup supplied by the battery module in the slave module 8 of the two circuits of the expansion valve.
EmergencyClosing_ EVD_1_S9	This alarm will be present when a power failure occurs, the valve will close by the power backup supplied by the battery module in the slave module 9 of the two expansion valve circuits.
FW_CompatibErr_EVD_M	In case of damage or replacement of the EVD unit this fault will appear because the current firmware does not match the controller version of the master unit.
FW_CompatibErr_EVD_1_ S1	In case of damage or replacement of the EVD unit this fault will appear because the current firmware does not match the controller version of the slave unit 1.
FW_CompatibErr_EVD_1_ S2	In case of damage or replacement of the EVD unit this failure will appear because the current firmware does not match the driver version of the slave unit 2.
FW_CompatibErr_EVD_1_ S3	In case of damage or replacement of the EVD unit this failure will appear because the current firmware does not match the driver version of the slave unit 3.
FW_CompatibErr_EVD_1_ S4	This alarm will be present when a power failure occurs, the valve will be closed by the power backup supplied by the battery module in slave module 2 of the two expansion valve circuits.
FW_CompatibErr_EVD_1_ S5	This alarm will be present when a power failure occurs, the valve will be closed by the power backup supplied by the battery module in slave module 3 of the two expansion valve circuits.
FW_CompatibErr_EVD_1_ S6	This alarm will be present when a power failure occurs, the valve will be closed by the power backup supplied by the battery module in slave module 4 of the two expansion valve circuits.
FW_CompatibErr_EVD_1_ S7	This alarm shall be present when a power failure occurs, the valve shall be closed by the power backup supplied by the battery module in slave module 5 of the two expansion valve circuits.
FW_CompatibErr_EVD_1_ S8	This alarm shall be present when a power failure occurs, the valve shall be closed by the power backup supplied by the battery module in slave module 6 of the two expansion valve circuits.
FW_CompatibErr_EVD_1_ S9	This alarm shall be present when a power failure occurs, the valve shall be closed by the power backup supplied by the battery module in slave module 7 of the two expansion valve circuits.
EVD_Offline_EVD_M	This alarm will be present when a power failure occurs, the valve will be closed by the power backup supplied by the battery module in the slave module 8 of the two expansion valve circuits.
EVD_Offline_EVD_1_S1	This alarm will be present when a power failure occurs, the valve will be closed by the power backup supplied by the battery module in the slave module 9 of the two expansion valve circuits.
EVD_Offline_EVD_1_S2	In case of damage or replacement of the EVD unit this failure will appear because the current firmware does not match the version of the master unit controller.

EVD_Offline_EVD_1_S3	In case of damage or replacement of the EVD unit this fault will appear because the current firmware does not match the controller version of the slave unit 1.
EVD_Offline_EVD_1_S4	In case of damage or replacement of the EVD unit this fault will appear because the current firmware does not match the driver version of the slave unit 2.
EVD_Offline_EVD_1_S5	In case of damage or replacement of the EVD unit this fault will appear because the current firmware does not match the version of the slave unit controller 3.
EVD_Offline_EVD_1_S6	This alarm will be present when the EVD module is offline or has a hardware problem in the slave module 6 address 192.
EVD_Offline_EVD_1_S7	This alarm will be present when the EVD module is offline or has a hardware problem at slave module 7 address 191.
EVD_Offline_EVD_1_S8	This alarm will be present when the EVD module is offline or has a hardware problem on slave module 8 address 190.
EVD_Offline_EVD_1_S9	This alarm will be present when the EVD module is offline or has a hardware problem at slave module 9 address 189.
Oulet_G_OutR	This fault will be present when the general evaporator outlet temperature probe is disconnected or broken.
Inlet_G_OutR	This fault will be present when the evaporator outlet general temperature probe is disconnected or broken.
Suction_OutR_M	This alarm will be present when the temperature probe of the EVD module at input S2 of the master unit of circuit 1 is broken or disconnected.
Suction_OutR_S1	This alarm will be present when the temperature probe of the EVD module at input S2 of the slave unit 1 of circuit 1 is broken or disconnected.
Suction_OutR_S3	This alarm will be present when the temperature probe of the EVD module at input S2 of Slavic unit 3 of circuit 1 is broken or disconnected.
Suction_OutR_S4	This alarm shall be present when the temperature probe of the EVD module at input S2 of Slavic unit 4 of circuit 1 is broken or disconnected.
Suction_OutR_S5	This alarm shall be present when the temperature probe of the EVD module at input S2 of Slavic unit 5 of circuit 1 is broken or disconnected.
Suction_OutR_S6	This alarm shall be present when the temperature probe of the EVD module at input S2 of Slavic unit 6 of circuit 1 is broken or disconnected.
Suction_OutR_S7	This alarm shall be present when the temperature probe of the EVD module at input S2 of Slavic unit 7 of circuit 1 is broken or disconnected.
Suction_OutR_S8	This alarm shall be present when the temperature probe of the EVD module at input S2 of Slavic unit 8 of circuit 1 is broken or disconnected.
Suction_OutR_S9	This alarm shall be present when the temperature probe of the EVD module at input S2 of Slavic unit 9 of circuit 1 is broken or disconnected.
Suction_2_OutR_M	This alarm shall be present when the temperature probe of the EVD module at input S4 of the master unit circuit 2 is broken or disconnected.
Suction_2_OutR_S1	This alarm will be present when the temperature probe of the EVD module at input S4 of slave unit 1 circuit 2 is broken or disconnected.
Suction_2_OutR_S2	This alarm will be present when the temperature probe of the EVD module at input S4 of slave unit 2 circuit 2 is broken or disconnected.
Suction_2_OutR_S3	This alarm will be present when the EVD module temperature probe at input S4 of slave unit 3 circuit 2 is broken or disconnected.

Suction_2_OutR_S4	This alarm will be present when the temperature probe of the EVD module at input S4 of slave unit 4 circuit 2 is broken or disconnected.
Suction_2_OutR_S5	This alarm shall be present when the temperature probe of the EVD module at input S4 of slave unit 5 circuit 2 is broken or disconnected.
Suction_2_OutR_S6	This alarm shall be present when the temperature probe of the EVD module at input S4 of slave unit 6 circuit 2 is broken or disconnected.
Suction_2_OutR_S7	This alarm shall be present when the temperature probe of the EVD module at input S4 of slave unit 7 circuit 2 is broken or disconnected.
Suction_2_OutR_S8	This alarm shall be present when the temperature probe of the EVD module at input S4 of slave unit 8 circuit 2 is broken or disconnected.
Suction_2_OutR_S9	This alarm will be present when the temperature probe of the EVD module at input S4 of slave unit 9 circuit 2 is broken or disconnected.
LP_OutR_M	This alarm shall be present when the low pressure transducer of the EVD module at input S1 of the master unit circuit 1 is broken or disconnected.
LP_OutR_S1	This alarm shall be present when the low pressure transducer of the EVD module at input S1 of slave unit 1 of circuit 1 is broken or disconnected.
LP_OutR_S2	This alarm shall be present when the low pressure transducer of the EVD module at input S1 of slave unit 2 of circuit 1 is broken or disconnected.
LP_OutR_S3	This alarm will be present when the low pressure transducer of the EVD module at input S1 of slave unit 3 of circuit 1 is broken or disconnected.
LP_OutR_S4	This alarm will be present when the low pressure transducer of the EVD module at input S1 of slave unit 4 of circuit 1 is broken or disconnected.
LP_OutR_S	This alarm shall be present when the low pressure transducer of the EVD module at input S1 of slave unit 5 of circuit 1 is broken or disconnected.
LP_OutR_S6	This alarm shall be present when the low pressure transducer of the EVD module at input S1 of slave unit 6 of circuit 1 is broken or disconnected.
LP_OutR_S7	This alarm shall be present when the low pressure transducer of the EVD module at input S1 of slave unit 7 of circuit 1 is broken or disconnected.
LP_OutR_S8	This alarm shall be present when the low pressure transducer of the EVD module at input S1 of slave unit 8 of circuit 1 is broken or disconnected.
LP_OutR_S9	This alarm shall be present when the low pressure transducer of the EVD module at input S1 of slave unit 9 of circuit 1 is broken or disconnected.
LP_2_OutR_M	This alarm shall be present when the low pressure transducer of the EVD module at input S3 of the master unit of circuit 2 is broken or disconnected.
LP_2_OutR_S1	This alarm shall be present when the low pressure transducer of the EVD module at input S3 of the slave unit 1 of circuit 2 is broken or disconnected.
LP_2_OutR_S2	This alarm shall be present when the low pressure transducer of the EVD module at input S3 of slave unit 2 of circuit 2 is broken or disconnected.
LP_2_OutR_S3	This alarm shall be present when the low pressure transducer of the EVD module at input S3 of slave unit 3 of circuit 2 is broken or disconnected.
LP_2_OutR_S4	This alarm will be present when the low pressure transducer of the EVD module at input S3 of slave unit 4 of circuit 2 is broken or disconnected.

LP_2_OutR_S5	This alarm will be present when the low pressure transducer of the EVD module at input S3 of slave unit 5 of circuit 2 is broken or disconnected.
LP_2_OutR_S6	This alarm shall be present when the low pressure transducer of the EVD module at input S3 of slave unit 6 of circuit 2 is broken or disconnected.
LP_2_OutR_S7	This alarm shall be present when the low pressure transducer of the EVD module at input S3 of slave unit 7 of circuit 2 is broken or disconnected.
LP_2_OutR_S8	This alarm shall be present when the low pressure transducer of the EVD module at input S3 of slave unit 8 of circuit 2 is broken or disconnected.
LP_2_OutR_S9	This alarm shall be present when the low pressure transducer of the EVD module at input S3 of slave unit 9 of circuit 2 is broken or disconnected.
HP_OutR_M	This alarm shall be present when the high pressure transducer of the analog input of the master unit of circuit 1 is broken or disconnected.
HP_OutR_S1	This alarm shall be present when the high pressure transducer of the analog input of the slave unit 1 of circuit 1 is broken or disconnected.
HP_OutR_S2	This alarm shall be present when the high pressure transducer of the analog input of slave unit 2 of circuit 1 is broken or disconnected.
HP_OutR_S3	This alarm shall be present when the high pressure transducer of the analog input of slave unit 3 of circuit 1 is broken or disconnected.
HP_OutR_S4	This alarm will be present when the high pressure transducer of the analog input of the slave unit 4 of circuit 1 is broken or disconnected.
HP_OutR_S5	This alarm will be present when the high pressure transducer of the analog input of the slave unit 5 of circuit 1 is broken or disconnected.
HP_OutR_S6	This alarm shall be present when the high pressure transducer of the analog input of the slave unit 6 of circuit 1 is broken or disconnected.
HP_OutR_S7	This alarm shall be present when the high pressure transducer of the analog input of slave unit 7 of circuit 1 is broken or disconnected.
HP_OutR_S8	This alarm shall be present when the high pressure transducer of the analog input of the slave unit 8 of circuit 1 is broken or disconnected.
HP_OutR_S9	This alarm shall be present when the high pressure transducer of the analog input of the slave unit 9 of circuit 1 is broken or disconnected.
HP_2_Out_R_M	This alarm shall be present when the high pressure transducer of the analog input of the master unit of circuit 2 is broken or disconnected.
HP_2_Out_R_S1	This alarm shall be present when the high pressure transducer of the analog input of the slave unit 1 of circuit 2 is broken or disconnected.
HP_2_Out_R_S2	This alarm will be present when the high pressure transducer of the analog input of slave unit 2 of circuit 2 is broken or disconnected.
HP_2_Out_R_S3	This alarm shall be present when the high pressure transducer of the analog input of slave unit 3 of circuit 2 is broken or disconnected.
HP_2_Out_R_S4	This alarm shall be present when the high pressure transducer of the analog input of the slave unit 4 of circuit 2 is broken or disconnected.
HP_2_Out_R_S5	This alarm will be present when the high pressure transducer of the analog input of the slave unit 5 of circuit 2 is broken or disconnected.

HP_2_Out_R_S6	This alarm will be present when the high pressure transducer of the analog input of the slave unit 6 of circuit 2 is broken or disconnected.
HP_2_Out_R_S7	This alarm shall be present when the high pressure transducer of the analog input of the slave unit 7 of circuit 2 is broken or disconnected.
HP_2_Out_R_S8	This alarm shall be present when the high pressure transducer of the analog input of the slave unit 8 of circuit 2 is broken or disconnected.
HP_2_Out_R_S9	This alarm shall be present when the high pressure transducer of the analog input of the slave unit 9 of circuit 2 is broken or disconnected.
MS_M	This alarm will be present when the phase detector signal (Motor saver) is activated on the master unit.
MS_S1	This alarm will be present when the phase detector signal (motor saver) is activated on slave unit 1.
MS_S2	This alarm will be present when the phase detector signal (motor saver) is activated on slave unit 2.
MS_S3	This alarm will be present when the phase detector signal (motor saver) is activated on slave unit 3.
MS_S4	This alarm will be present when the phase detector signal (motor saver) is activated on slave unit 4.
MS_S5	This alarm will be present when the phase detector signal (motor saver) is activated on slave unit 5.
MS_S6	This alarm will be present when the Phase detector signal (Motor saver) is activated on the slave unit 6
MS_S7	This alarm will be present when the Phase detector signal (Motor saver) is activated on the slave unit 7
MS_S8	This alarm will be present when the Phase detector signal (Motor saver) is activated on the slave unit 8
MS_S9	This alarm will be present when the Phase detector signal (Motor saver) is activated on the slave unit 9
HP_M	This alarm will be present when the high pressure switch digital signal is activated on the master unit of circuit 1.
HP_S1	This alarm will be present when the digital signal of the high pressure switch is activated on the slave unit 1 of circuit 1.
HP_S2	This alarm will be present when the digital signal of the high pressure switch is activated on slave unit 2 of circuit 1.
HP_S3	This alarm will be present when the digital signal of the high pressure switch is activated on slave unit 3 of circuit 1.
HP_S4	This alarm will be present when the digital signal of the high pressure switch is activated on slave unit 4 of circuit 1.
HP_S5	This alarm will be present when the digital signal of the high pressure switch is activated on slave unit 5 of circuit 1.
HP_S6	This alarm will be present when the digital signal of the high pressure switch is activated on slave unit 6 of circuit 1.
HP_S7	This alarm will be present when the digital signal of the high pressure switch is activated on slave unit 7 of circuit 1.
HP_S8	This alarm will be present when the digital signal of the high pressure switch is activated on slave unit 8 of circuit 1.
HP_S9	This alarm will be present when the digital signal of the high pressure switch is activated on the slave unit 9 of circuit 1.

HP_2_M	This alarm will be present when the digital signal of the high pressure switch is activated on the master unit of circuit 2.
HP_2_S1	This alarm will be present when the digital signal of the high pressure switch is activated on the slave unit 1 of circuit 2.
HP_2_S2	This alarm will be present when the digital signal of the high pressure switch is activated on the slave unit 2 of circuit 2.
HP_2_S3	This alarm will be present when the digital signal of the high pressure switch is activated on slave unit 3 of circuit 2.
HP_2_S4	This alarm will be present when the digital signal of the high pressure switch is activated on slave unit 4 of circuit 2.
HP_2_S5	This alarm will be present when the digital signal of the high pressure switch is activated on slave unit 5 of circuit 2.
HP_2_S6	This alarm will be present when the digital signal of the high pressure switch is activated on slave unit 6 of circuit 2.
HP_2_S7	This alarm will be present when the digital signal of the high pressure switch is activated on the slave unit 7 of circuit 2.
HP_2_S8	This alarm will be present when the digital signal of the high pressure switch is activated on the slave unit 8 of circuit 2.
HP_2_S9	This alarm will be present when the digital signal of the high pressure switch is activated on slave unit 9 of circuit 2.
LP_M	This alarm will be present when the digital signal of the low pressure switch is activated on the master unit of circuit 1.
LP_S1	This alarm will be present when the digital signal of the low pressure switch is activated on the slave unit 1 of circuit 1.
LP_S2	This alarm will be present when the digital signal of the low pressure switch is activated on slave unit 2 of circuit 1.
LP_S3	This alarm will be present when the digital signal of the low pressure switch is activated on slave unit 3 of circuit 1.
LP_S4	This alarm will be present when the digital signal of the low pressure switch is activated on slave unit 4 of circuit 1.
LP_S5	This alarm will be present when the digital signal of the low pressure switch is activated on slave unit 5 of circuit 1.
LP_S6	This alarm will be present when the digital signal of the low pressure switch is activated on slave unit 6 of circuit 1.
LP_S7	This alarm will be present when the digital signal of the low pressure switch is activated on slave unit 7 of circuit 1.
LP_S8	This alarm will be present when the digital signal of the low pressure switch is activated on slave unit 8 of circuit 1.
LP_S9	This alarm will be present when the digital signal of the low pressure switch is activated on slave unit 9 of circuit 1.
LP_2_M	This alarm will be present when the digital signal of the low pressure switch is activated on the master unit of circuit 2.

LP_2_S1	This alarm will be present when the digital signal of the low pressure switch is activated on slave unit 1 of circuit 2.
LP_2_S2	This alarm will be present when the digital signal of the low pressure switch is activated on slave unit 2 of circuit 2.
LP_2_S3	This alarm will be present when the digital signal of the low pressure switch is activated on slave unit 3 of circuit 2.
LP_2_S4	This alarm will be present when the digital signal of the low pressure switch is activated on slave unit 4 of circuit 2.
LP_2_S5	This alarm will be present when the digital signal of the low pressure switch is activated on slave unit 5 of circuit 2.
LP_2_S6	This alarm will be present when the digital signal of the low pressure switch is activated on slave unit 6 of circuit 2.
LP_2_S7	This alarm will be present when the digital signal of the low pressure switch is activated on slave unit 7 of circuit 2.
LP_2_S8	This alarm will be present when the digital signal of the low pressure switch is activated on the slave unit 8 of circuit 2.
LP_2_S9	This alarm will be present when the digital signal of the low pressure switch is activated on the slave unit 9 of circuit 2.
Suction_M	This alarm is present when the refrigerant temperature of the suction line of the master unit of circuit 1 is below the levels set in the configuration parameters.
Suction_S1	This alarm is present when the coolant temperature of the suction line of the slave unit 1 of circuit 1 is below the levels configured in the configuration parameters.
Suction_S2	This alarm is present when the temperature of the coolant in the suction line of the slave unit 2 of circuit 1 is below the levels configured in the configuration parameters.
Suction_S3	This alarm is present when the refrigerant temperature of the suction line of the slave unit 3 of circuit 1 is below the levels configured in the configuration parameters.
Suction_S4	This alarm is present when the coolant temperature of the suction line of the slave unit 4 of circuit 1 is below the levels configured in the configuration parameters.
Suction_S5	This alarm is present when the temperature of the coolant in the suction line of the slave unit 5 of circuit 1 is below the levels configured in the configuration parameters.
Suction_S6	This alarm is present when the temperature of the coolant in the suction line of the slave unit 6 of circuit 1 is below the levels configured in the configuration parameters.
Suction_S7	This alarm is present when the temperature of the coolant in the suction line of the slave unit 7 of circuit 1 is below the levels configured in the configuration parameters.
Suction_S8	This alarm is present when the coolant temperature of the suction line of the slave unit 8 of circuit 1 is below the levels configured in the configuration parameters.
Suction_S9	This alarm is present when the coolant temperature of the suction line of the slave unit 9 of circuit 1 is below the levels configured in the configuration parameters.
Suction_2_M	This alarm is present when the coolant temperature of the suction line of the master unit of circuit 2 is below the levels configured in the configuration parameters.
Suction_2_S2	This alarm is present when the temperature of the coolant in the suction line of the slave unit 2 of circuit 2 is below the levels configured in the configuration parameters.

Suction_2_S3	This alarm is present when the temperature of the coolant in the suction line of the slave unit 3 of circuit 2 is below the levels configured in the configuration parameters.
Suction_2_S4	This alarm is present when the coolant temperature of the suction line of the slave unit 4 of circuit 2 is below the levels configured in the configuration parameters.
Suction_2_S5	This alarm is present when the temperature of the coolant in the suction line of the slave unit 5 of circuit 2 is below the levels configured in the configuration parameters.
Suction_2_S6	This alarm is present when the temperature of the coolant in the suction line of the slave unit 6 of circuit 2 is below the levels configured in the configuration parameters.
Suction_2_S7	This alarm is present when the temperature of the coolant in the suction line of the slave unit 7 of circuit 2 is below the levels configured in the configuration parameters.
Suction_2_S8	This alarm is present when the coolant temperature of the suction line of the slave unit 8 of circuit 2 is below the levels configured in the configuration parameters.
Suction_2_S9	This alarm is present when the temperature of the coolant in the suction line of the slave unit 9 of circuit 2 is below the levels configured in the configuration parameters.
Outlet_M	This alarm will be present when the evaporator water temperature is below the level set in the parameters of the master unit.
Outlet_S1	This alarm will be present when the evaporator water temperature is below the level configured in the parameters in the slave unit 1.
Outlet_S2	This alarm will be present when the evaporator water temperature is below the level set in the parameters in slave unit 2.
Outlet_S3	This alarm will be present when the evaporator water temperature is below the level set in the parameters in slave unit 3.
Outlet_S4	This alarm will be present when the evaporator water temperature is below the level set in the parameters in the slave unit 4.
Outlet_S5	This alarm will be present when the evaporator water temperature is below the level set in the parameters in the slave unit 5.
Outlet_S6	This alarm will be present when the evaporator water temperature is below the level set in the parameters in the slave unit 6.
Outlet_S7	This alarm will be present when the evaporator water temperature is below the level set in the parameters in the slave unit 7.
Outlet_S8	This alarm will be present when the evaporator water temperature is below the level set in the parameters in the slave unit 8.
Outlet_S9	This alarm will be present when the evaporator water temperature is below the level set in the parameters in the slave unit 9.
Cont_Frez_M	This alarm will be present when the master unit has automatically reset 3 times for chilled water alarm.
Cont_Frez_S1	This alarm will be present when slave unit 1 has been automatically reset 3 times by chilled water alarm.
Cont_Frez_S2	This alarm will be present when slave unit 2 has been automatically reset 3 times by ice water alarm.
Cont_Frez_S3	This alarm will be present when slave unit 3 has been automatically reset 3 times by ice water alarm.
Cont_Frez_S4	This alarm will be present when slave unit 4 has been automatically reset 3 times by ice water alarm.
Cont_Frez_S5	This alarm will be present when slave unit 5 has been automatically reset 3 times by ice water alarm.
Cont_Frez_S6	This alarm will be present when slave unit 6 has been automatically reset 3 times by ice water alarm.

Cont_Frez_S7	This alarm will be present when slave unit 7 has been automatically reset 3 times by ice water alarm.
Cont_Frez_S8	This alarm will be present when slave unit 8 has been automatically reset 3 times by ice water alarm.
Cont_Frez_S9	This alarm will be present when slave unit 9 has been automatically reset 3 times by ice water alarm.
Flood_Alarm_G	This alarm will be present when any of the sensors and flooding present a signal activation by detection of water liquid at the base of the unit.
Flow_M	This alarm will be present when the water flow detection is not as indicated by the flow indicator on the evaporator water line in the master unit.
Flow_S1	This alarm shall be present when the water flow detection is not as indicated by the flow indicator in the evaporator water line on slave unit 1.
Flow_S2	This alarm shall be present when the water flow detection is not as indicated by the flow indicator in the evaporator water line of slave unit 2.
Flow_S3	This alarm shall be present when the water flow detection is not as indicated by the flow indicator in the evaporator water line of the slave unit 3.
Flow_S4	This alarm shall be present when the water flow detection is not as indicated by the flow indicator in the evaporator water line of the slave unit 4.
Flow_S5	This alarm shall be present when the water flow detection is not as indicated by the flow indicator in the evaporator water line of the slave unit 5.
Flow_S6	This alarm shall be present when the water flow detection is not as indicated by the flow indicator in the evaporator water line of the slave unit 6.
Flow_S7	This alarm shall be present when the water flow detection is not as indicated by the flow indicator in the evaporator water line of the slave unit 7.
Flow_S8	This alarm shall be present when the water flow detection is not as indicated by the flow indicator in the evaporator water line of the slave unit 8.
Flow_S9	This alarm shall be present when the water flow detection is not as indicated by the flow indicator in the evaporator water line of the slave unit 9.
Flow_Cond_M	This alarm shall be present when the water flow detection is not as indicated by the flow indicator in the condenser water line in the master unit.
Flow_Cond_S1	This alarm shall be present when the water flow detection is not as indicated by the flow indicator in the condenser water line on slave unit 1.
Flow_Cond_S2	This alarm shall be present when the water flow detection is not the one indicated by the flow indicator in the condenser water line of slave unit 2.
Flow_Cond_S3	This alarm will be present when the water flow detection is not the one indicated by the flow indicator in the condenser water line in slave unit 3.
Flow_Cond_S4	This alarm will be present when the water flow detection is not as indicated by the flow indicator in the condenser water line of the slave unit 4.
Flow_Cond_S5	This alarm will be present when the water flow detection is not as indicated by the flow indicator in the condenser water line of the slave unit 5.
Flow_Cond_S6	This alarm shall be present when the water flow detection is not as indicated by the flow indicator in the condenser water line of the slave unit 6.
Flow_Cond_S7	This alarm shall be present when the water flow detection is not as indicated by the flow indicator in the condenser water line of the slave unit 7.

Flow_Cond_S8	This alarm shall be present when the water flow detection is not as indicated by the flow indicator in the condenser water line of the slave unit 8.
Flow_Cond_S9	This alarm shall be present when the water flow detection is not as indicated by the flow indicator in the condenser water line of the slave unit 9.
Inlet_OutR_M	This alarm shall be present when there is a problem in the evaporator water inlet temperature probe of the master unit.
Inlet_OutR_S1	This alarm will be present when there is a problem in the evaporator water inlet temperature probe of slave unit 1.
Inlet_OutR_S2	This alarm will be present when there is a problem in the evaporator water inlet water temperature probe of slave unit 2.
Inlet_OutR_S3	This alarm will be present when there is a problem in the evaporator water inlet temperature probe of the slave unit 3.
Inlet_OutR_S4	This alarm will be present when there is a problem in the evaporator water inlet temperature probe of the slave unit 4.
Inlet_OutR_S5	This alarm will be present when there is a problem in the evaporator water inlet temperature probe of the slave unit 5.
Inlet_OutR_S6	This alarm will be present when there is a problem in the evaporator water inlet temperature probe of the slave unit 6.
Inlet_OutR_S7	This alarm will be present when there is a problem in the evaporator water inlet temperature probe of the slave unit 7.
Inlet_OutR_S8	This alarm will be present when there is a problem in the evaporator water inlet temperature probe of the slave unit 8.
Inlet_OutR_S9	This alarm will be present when there is a problem in the evaporator water inlet temperature probe of the slave unit 9.
Outlet_OutR_M	This alarm will be present when there is a problem in the evaporator water outlet temperature probe of the master unit.
Outlet_OutR_S1	This alarm will be present when there is a problem in the evaporator water outlet temperature probe of slave unit 1.
Outlet_OutR_S2	This alarm will be present when there is a problem in the evaporator water outlet temperature probe of slave unit 2.
Outlet_OutR_S3	This alarm will be present when there is a problem in the evaporator water outlet temperature probe of slave unit 3.
Outlet_OutR_S4	This alarm will be present when there is a problem in the evaporator water outlet temperature probe of the slave unit 4.
Outlet_OutR_S5	This alarm will be present when there is a problem in the evaporator water outlet temperature probe of slave unit 5.
Outlet_OutR_S6	This alarm will be present when there is a problem in the evaporator water outlet temperature probe of slave unit 6.
Outlet_OutR_S7	This alarm will be present when there is a problem in the evaporator water outlet temperature probe of the slave unit 7.
Outlet_OutR_S8	This alarm will be present when there is a problem in the evaporator water outlet temperature probe of the slave unit 8.

Outlet_OutR_S9	This alarm will be present when there is a problem in the evaporator water outlet temperature probe of the slave unit 9.
Ambient_OutR_M	This alarm will be present when there is a problem in the condenser water inlet temperature probe of the master unit.
Ambient_OutR_S1	This alarm will be present when there is a problem in the condenser water inlet water temperature probe of slave unit 1.
Ambient_OutR_S2	This alarm will be present when there is a problem in the condenser water inlet water temperature probe of slave unit 2.
Ambient_OutR_S3	This alarm will be present when there is a problem in the slave unit condenser water inlet temperature probe 3.
Ambient_OutR_S4	This alarm will be present when there is a problem in the condenser water inlet temperature probe of the slave unit 4.
Ambient_OutR_S5	This alarm will be present when there is a problem in the condenser water inlet temperature probe of the slave unit 5.
Ambient_OutR_S6	This alarm will be present when there is a problem in the condenser water inlet temperature probe of the slave unit 6.
Ambient_OutR_S7	This alarm will be present when there is a problem in the slave unit condenser water inlet temperature probe 7.
Ambient_OutR_S8	This alarm will be present when there is a problem in the slave unit condenser water inlet temperature probe 8.
Ambient_OutR_S9	This alarm will be present when there is a problem in the condenser water inlet temperature probe of the slave unit 9.
Ambient_Out_OutR_M	This alarm will be present when there is a problem in the condenser water outlet temperature probe of the master unit.
Ambient_Out_OutR_S1	This alarm will be present when there is a problem in the condenser water outlet temperature probe of the slave unit 1.
Ambient_Out_OutR_S2	This alarm will be present when there is a problem in the condenser water outlet temperature probe of slave unit 2.
Ambient_Out_OutR_S3	This alarm will be present when there is a problem in the condenser water outlet temperature probe of the slave unit 3.
Ambient_Out_OutR_S4	This alarm will be present when there is a problem in the condenser water outlet temperature probe of the slave unit 4.
Ambient_Out_OutR_S5	This alarm will be present when there is a problem in the condenser water outlet temperature probe of the slave unit 5.
Ambient_Out_OutR_S6	This alarm will be present when there is a problem in the slave unit condenser water outlet temperature sensor 6.
Ambient_Out_OutR_S7	This alarm will be present when there is a problem in the condenser water outlet temperature probe of the slave unit 7.
Ambient_Out_OutR_S8	This alarm will be present when there is a problem in the condenser water outlet temperature probe of the slave unit 8.
Ambient_Out_OutR_S9	This alarm will be present when there is a problem in the condenser water outlet temperature probe of the slave unit 9.

Table 1. Thermostatic CLII Mapping

Types	Variable Name	Direction
Coil	Output_M.Compressor	ReadWrite
Coil	Output_M. Compressor_2	ReadWrite
Coil	Output_E1.Compressor	ReadWrite
Coil	Output_ E1.Compressor_2	ReadWrite
Coil	Output_E2.Compressor	ReadWrite
Coil	Output_ E2.Compressor_2	ReadWrite
Coil	Output_E3.Compressor	ReadWrite
Coil	Output_ E3.Compressor_2	ReadWrite
Coil	Output_E4.Compressor	ReadWrite
Coil	Output_ E4.Compressor_2	ReadWrite
Coil	Output_E5.Compressor	ReadWrite
Coil	Output_ E5.Compressor_2	ReadWrite
Coil	BmsOnOff	ReadWrite
Coil	Global_Alarm	ReadWrite
Coil	E1_In_Alarm	ReadWrite
Coil	E2_In_Alarm	ReadWrite
Coil	E3_In_Alarm	ReadWrite
Coil	E4_In_Alarm	ReadWrite
Coil	E5_In_Alarm	ReadWrite
Coil	IN_M.FL.Value	ReadWrite
Coil	IN_M.FL_Cond.Value	ReadWrite
Coil	IN_M.HP.Value	ReadWrite
Coil	IN_M.HP_2.Value	ReadWrite
Coil	IN_M.LP.Value	ReadWrite
Coil	IN_M.LP_2.Value	ReadWrite
Coil	IN_M.MS.Value	ReadWrite
Coil	IN_E1.FL.Value	ReadWrite
Coil	IN_E1.FL_Cond.Value	ReadWrite
Coil	IN_E1.Flood.Value	ReadWrite
Coil	IN_E1.HP.Value	ReadWrite
Coil	IN_E1.HP_2.Value	ReadWrite
Coil	IN_E1.LP.Value	ReadWrite
Coil	IN_E1.LP_2.Value	ReadWrite
Coil	IN_E1.MS.Value	ReadWrite
Coil	IN_E2.FL.Value	ReadWrite
Coil	IN_E2.FL_Cond.Value	ReadWrite
Coil	IN_E2.Flood.Value	ReadWrite
Coil	IN_E2.HP.Value	ReadWrite
Coil	IN_E2.HP_2.Value	ReadWrite
Coil	IN_E2.LP.Value	ReadWrite
Coil	IN_E2.LP_2.Value	ReadWrite
Coil	IN_E2.MS.Value	ReadWrite
Coil	IN_E3.FL.Value	ReadWrite
Coil	IN_E3.FL_Cond.Value	ReadWrite
Coil	IN_E3.Flood.Value	ReadWrite
Coil	IN_E3.HP.Value	ReadWrite
Coil	IN_E3.HP_2.Value	ReadWrite
Coil	IN_E3.LP.Value	ReadWrite
Coil	IN_E3.LP_2.Value	ReadWrite
Coil	IN_E3.MS.Value	ReadWrite
Coil	IN_E4.FL.Value	ReadWrite
Coil	IN_E4.FL_Cond.Value	ReadWrite
Coil	IN_E4.Flood.Value	ReadWrite
Coil	IN_E4.HP.Value	ReadWrite
Coil	IN_E4.HP_2.Value	ReadWrite
Coil	IN_E4.LP.Value	ReadWrite
Coil	IN_E4.LP_2.Value	ReadWrite
Coil	IN_E4.MS.Value	ReadWrite
Coil	IN_E5.FL.Value	ReadWrite

Coil	IN_E5.FL_Cond.Value	ReadWrite
Coil	IN_E5.Flood.Value	ReadWrite
Coil	IN_E5.HP.Value	ReadWrite
Coil	IN_E5.HP_2.Value	ReadWrite
Coil	IN_E5.LP.Value	ReadWrite
Coil	IN_E5.LP_2.Value	ReadWrite
Coil	IN_E5.MS.Value	ReadWrite
Coil	Output_E6.Compressor	ReadWrite
Coil	Output_ E6.Compressor_2	ReadWrite
Coil	Output_E7.Compressor	ReadWrite
Coil	Output_ E7.Compressor_2	ReadWrite
Coil	Output_E8.Compressor	ReadWrite
Coil	Output_ E8.Compressor_2	ReadWrite
Coil	Output_E9.Compressor	ReadWrite
Coil	Output_ E9.Compressor_2	ReadWrite
Coil	E6_In_Alarm	ReadWrite
Coil	E7_In_Alarm	ReadWrite
Coil	E8_In_Alarm	ReadWrite
Coil	E9_In_Alarm	ReadWrite
Coil	IN_E6.FL.Value	ReadWrite
Coil	IN_E6.FL_Cond.Value	ReadWrite
Coil	IN_E6.Flood.Value	ReadWrite
Coil	IN_E6.HP.Value	ReadWrite
Coil	IN_E6.HP_2.Value	ReadWrite
Coil	IN_E6.LP.Value	ReadWrite
Coil	IN_E6.LP_2.Value	ReadWrite
Coil	IN_E6.MS.Value	ReadWrite
Coil	IN_E7.FL.Value	ReadWrite
Coil	IN_E7.HP.Value	ReadWrite
Coil	IN_E7.HP_2.Value	ReadWrite

Coil	IN_E7.LP.Value	ReadWrite
Coil	IN_E7.LP_2.Value	ReadWrite
Coil	IN_E7.MS.Value	ReadWrite
Coil	IN_E8.FL.Value	ReadWrite
Coil	IN_E8.FL_Cond.Value	ReadWrite
Coil	IN_E8.Flood.Value	ReadWrite
Coil	IN_E8.HP.Value	ReadWrite
Coil	IN_E8.HP_2.Value	ReadWrite
Coil	IN_E8.LP.Value	ReadWrite
Coil	IN_E8.LP_2.Value	ReadWrite
Coil	IN_E8.MS.Value	ReadWrite
Coil	IN_E9.FL.Value	ReadWrite
Coil	IN_E9.FL_Cond.Value	ReadWrite
Coil	IN_E9.Flood.Value	ReadWrite
Coil	IN_E9.HP.Value	ReadWrite
Coil	IN_E9.HP_2.Value	ReadWrite
Coil	IN_E9.LP.Value	ReadWrite
Coil	IN_E9.LP_2.Value	ReadWrite
Coil	IN_E9.MS.Value	ReadWrite
HoldingRegister	SetPoint_Cool	ReadWrite
HoldingRegister	SetPoint_Heat	ReadWrite
HoldingRegister	IN_M.Inlet.Value	ReadWrite
HoldingRegister	IN_M.Outlet.Value	ReadWrite
HoldingRegister	IN_M.Ambient.Value	ReadWrite
HoldingRegister	IN_M.Ambient_out. Value	ReadWrite
HoldingRegister	IN_M.Suction_Press. Value	ReadWrite
HoldingRegister	IN_M.Suction_Press_2. Value	ReadWrite
HoldingRegister	IN_E1.Ambient.Value	ReadWrite
HoldingRegister	IN_E1.Ambient_out. Value	ReadWrite
HoldingRegister	IN_E1.HP_T.Value	ReadWrite

HoldingRegister	IN_E1.HP_T_2.Value	ReadWrite
HoldingRegister	IN_E1.Inlet.Value	ReadWrite
HoldingRegister	IN_E1.LP_T.Value	ReadWrite
HoldingRegister	IN_E1.LP_T_2.Value	ReadWrite
HoldingRegister	IN_E1.Outlet.Value	ReadWrite
HoldingRegister	IN_E1.Suction_Press. Value	ReadWrite
HoldingRegister	IN_E1.Suction_ Press_2.Value	ReadWrite
HoldingRegister	IN_E2.Ambient.Value	ReadWrite
HoldingRegister	IN_E2.Ambient_out. Value	ReadWrite
HoldingRegister	IN_E2.HP_T.Value	ReadWrite
HoldingRegister	IN_E2.HP_T_2.Value	ReadWrite
HoldingRegister	IN_E2.Inlet.Value	ReadWrite
HoldingRegister	IN_E2.LP_T.Value	ReadWrite
HoldingRegister	IN_E2.LP_T_2.Value	ReadWrite
HoldingRegister	IN_E2.Outlet.Value	ReadWrite
HoldingRegister	IN_E2.Suction_Press. Value	ReadWrite
HoldingRegister	IN_E2.Suction_ Press_2.Value	ReadWrite
HoldingRegister	IN_E3.Ambient.Value	ReadWrite
HoldingRegister	IN_E3.Ambient_out. Value	ReadWrite
HoldingRegister	IN_E3.HP_T.Value	ReadWrite
HoldingRegister	IN_E3.HP_T_2.Value	ReadWrite
HoldingRegister	IN_E3.Inlet.Value	ReadWrite
HoldingRegister	IN_E3.LP_T.Value	ReadWrite
HoldingRegister	IN_E3.LP_T_2.Value	ReadWrite
HoldingRegister	IN_E3.Outlet.Value	ReadWrite
HoldingRegister	IN_E3.Suction_Press. Value	ReadWrite
HoldingRegister	IN_E3.Suction_ Press_2.Value	ReadWrite
HoldingRegister	IN_E4.Ambient.Value	ReadWrite

HoldingRegister	IN_E4.Ambient_out. Value	ReadWrite
HoldingRegister	IN_E4.HP_T.Value	ReadWrite
HoldingRegister	IN_E4.HP_T_2.Value	ReadWrite
HoldingRegister	IN_E4.Inlet.Value	ReadWrite
HoldingRegister	IN_E4.LP_T.Value	ReadWrite
HoldingRegister	IN_E4.LP_T_2.Value	ReadWrite
HoldingRegister	IN_E4.Outlet.Value	ReadWrite
HoldingRegister	IN_E4.Suction_Press. Value	ReadWrite
HoldingRegister	IN_E4.Suction_ Press_2.Value	ReadWrite
HoldingRegister	IN_E5.Ambient.Value	ReadWrite
HoldingRegister	IN_E5.Ambient_out. Value	ReadWrite
HoldingRegister	IN_E5.HP_T.Value	ReadWrite
HoldingRegister	IN_E5.HP_T_2.Value	ReadWrite
HoldingRegister	IN_E5.Inlet.Value	ReadWrite
HoldingRegister	IN_E5.LP_T.Value	ReadWrite
HoldingRegister	IN_E5.LP_T_2.Value	ReadWrite
HoldingRegister	IN_E5.Outlet.Value	ReadWrite
HoldingRegister	IN_E5.Suction_Press. Value	ReadWrite
HoldingRegister	IN_E5.Suction_ Press_2.Value	ReadWrite
HoldingRegister	IN_E6.Ambient.Value	ReadWrite
HoldingRegister	IN_E6.HP_T.Value	ReadWrite
HoldingRegister	IN_E6.HP_T_2.Value	ReadWrite
HoldingRegister	IN_E6.Inlet.Value	ReadWrite
HoldingRegister	IN_E6.LP_T.Value	ReadWrite
HoldingRegister	IN_E6.LP_T_2.Value	ReadWrite
HoldingRegister	IN_E6.Outlet.Value	ReadWrite
HoldingRegister	IN_E6.Suction_Press. Value	ReadWrite
HoldingRegister	IN_E6.Suction_ Press_2.Value	ReadWrite

HoldingRegister	IN_E7.Ambient.Value	ReadWrite
HoldingRegister	IN_E7.HP_T.Value	ReadWrite
HoldingRegister	IN_E7.HP_T_2.Value	ReadWrite
HoldingRegister	IN_E7.Inlet.Value	ReadWrite
HoldingRegister	IN_E7.LP_T.Value	ReadWrite
HoldingRegister	IN_E7.LP_T_2.Value	ReadWrite
HoldingRegister	IN_E7.Outlet.Value	ReadWrite
HoldingRegister	IN_E7.Suction_Press. Value	ReadWrite
HoldingRegister	IN_E7.Suction_ Press_2.Value	ReadWrite
HoldingRegister	IN_E8.Ambient.Value	ReadWrite
HoldingRegister	IN_E8.HP_T.Value	ReadWrite
HoldingRegister	IN_E8.HP_T_2.Value	ReadWrite
HoldingRegister	IN_E8.Inlet.Value	ReadWrite
HoldingRegister	IN_E8.LP_T.Value	ReadWrite
HoldingRegister	IN_E8.LP_T_2.Value	ReadWrite
HoldingRegister	IN_E8.Outlet.Value	ReadWrite
HoldingRegister	IN_E8.Suction_Press. Value	ReadWrite
HoldingRegister	IN_E8.Suction_ Press_2.Value	ReadWrite
HoldingRegister	IN_E9.Ambient.Value	ReadWrite
HoldingRegister	IN_E9.HP_T.Value	ReadWrite
HoldingRegister	IN_E9.HP_T_2.Value	ReadWrite
HoldingRegister	IN_E9.Inlet.Value	ReadWrite
HoldingRegister	IN_E9.LP_T.Value	ReadWrite
HoldingRegister	IN_E9.LP_T_2.Value	ReadWrite
HoldingRegister	IN_E9.Outlet.Value	ReadWrite
HoldingRegister	IN_E9.Suction_Press. Value	ReadWrite
HoldingRegister	IN_E9.Suction_ Press_2.Value	ReadWrite
HoldingRegister	SH_Main_C1	ReadWrite
HoldingRegister	SH_Main_C2	ReadWrite
HoldingRegister	SH_E1_C1	ReadWrite
HoldingRegister	SH_E1_C2	ReadWrite
HoldingRegister	SH_E2_C1	ReadWrite
HoldingRegister	SH_E2_C2	ReadWrite
HoldingRegister	SH_E3_C1	ReadWrite
HoldingRegister	SH_E3_C2	ReadWrite
HoldingRegister	SH_E4_C1	ReadWrite
HoldingRegister	SH_E4_C2	ReadWrite
HoldingRegister	SH_E5_C1	ReadWrite
HoldingRegister	SH_E5_C2	ReadWrite
HoldingRegister	SH_E6_C1	ReadWrite
HoldingRegister	SH_E6_C2	ReadWrite
HoldingRegister	SH_E7_C1	ReadWrite
HoldingRegister	SH_E7_C2	ReadWrite
HoldingRegister	SH_E8_C1	ReadWrite
HoldingRegister	SH_E8_C2	ReadWrite
HoldingRegister	SH_E9_C1	ReadWrite
HoldingRegister	SH_E9_C2	ReadWrite

Table 2. ***Electronic CLII Mapping***

Types	Variable Name	Direction
Coil	Output_M.Compressor	ReadWrite
Coil	Output_M.Compressor_2	ReadWrite
Coil	Output_E1.Compressor	ReadWrite
Coil	Output_E1.Compressor_2	ReadWrite
Coil	Output_E2.Compressor	ReadWrite
Coil	Output_E2.Compressor_2	ReadWrite
Coil	Output_E3.Compressor	ReadWrite
Coil	Output_E3.Compressor_2	ReadWrite
Coil	Output_E4.Compressor	ReadWrite
Coil	Output_E4.Compressor_2	ReadWrite
Coil	Output_E5.Compressor	ReadWrite
Coil	Output_E5.Compressor_2	ReadWrite

Coil	BmsOnOff	ReadWrite
Coil	Global_Alarm	ReadWrite
Coil	E1_In_Alarm	ReadWrite
Coil	E2_In_Alarm	ReadWrite
Coil	E3_In_Alarm	ReadWrite
Coil	E4_In_Alarm	ReadWrite
Coil	E5_In_Alarm	ReadWrite
Coil	IN_M.FL.Value	ReadWrite
Coil	IN_M.FL_Cond.Value	ReadWrite
Coil	IN_M.HP.Value	ReadWrite
Coil	IN_M.HP_2.Value	ReadWrite
Coil	IN_M.LP.Value	ReadWrite
Coil	IN_M.LP_2.Value	ReadWrite
Coil	IN_M.MS.Value	ReadWrite
Coil	IN_E1.FL.Value	ReadWrite
Coil	IN_E1.FL_Cond.Value	ReadWrite
Coil	IN_E1.Flood.Value	ReadWrite
Coil	IN_E1.HP.Value	ReadWrite
Coil	IN_E1.HP_2.Value	ReadWrite
Coil	IN_E1.LP.Value	ReadWrite
Coil	IN_E1.LP_2.Value	ReadWrite
Coil	IN_E1.MS.Value	ReadWrite
Coil	IN_E2.FL.Value	ReadWrite
Coil	IN_E2.FL_Cond.Value	ReadWrite
Coil	IN_E2.Flood.Value	ReadWrite
Coil	IN_E2.HP.Value	ReadWrite
Coil	IN_E2.HP_2.Value	ReadWrite
Coil	IN_E2.LP.Value	ReadWrite
Coil	IN_E2.LP_2.Value	ReadWrite
Coil	IN_E2.MS.Value	ReadWrite
Coil	IN_E3.FL.Value	ReadWrite
Coil	IN_E3.FL_Cond.Value	ReadWrite

Coil	IN_E3.Flood.Value	ReadWrite
Coil	IN_E3.HP.Value	ReadWrite
Coil	IN_E3.HP_2.Value	ReadWrite
Coil	IN_E3.LP.Value	ReadWrite
Coil	IN_E3.LP_2.Value	ReadWrite
Coil	IN_E3.MS.Value	ReadWrite
Coil	IN_E4.FL.Value	ReadWrite
Coil	IN_E4.FL_Cond.Value	ReadWrite
Coil	IN_E4.Flood.Value	ReadWrite
Coil	IN_E4.HP.Value	ReadWrite
Coil	IN_E4.HP_2.Value	ReadWrite
Coil	IN_E4.LP.Value	ReadWrite
Coil	IN_E4.LP_2.Value	ReadWrite
Coil	IN_E4.MS.Value	ReadWrite
Coil	IN_E5.FL.Value	ReadWrite
Coil	IN_E5.FL_Cond.Value	ReadWrite
Coil	IN_E5.Flood.Value	ReadWrite
Coil	IN_E5.HP.Value	ReadWrite
Coil	IN_E5.HP_2.Value	ReadWrite
Coil	IN_E5.LP.Value	ReadWrite
Coil	IN_E5.LP_2.Value	ReadWrite
Coil	IN_E5.MS.Value	ReadWrite
HoldingRegister	SetPoint_Cool	ReadWrite
HoldingRegister	SetPoint_Heat	ReadWrite
HoldingRegister	IN_M.Inlet.Value	ReadWrite
HoldingRegister	IN_M.Outlet.Value	ReadWrite
HoldingRegister	IN_M.Ambient.Value	ReadWrite
HoldingRegister	IN_M.Ambient_out.Value	ReadWrite
HoldingRegister	IN_M.Suction.Value	ReadWrite
HoldingRegister	IN_M.Suction_2.Value	ReadWrite
HoldingRegister	IN_E1.Ambient.Value	ReadWrite
HoldingRegister	IN_E1.Ambient_out.Value	ReadWrite

HoldingRegister	IN_E1.HP_T.Value	ReadWrite
HoldingRegister	IN_E1.HP_T_2.Value	ReadWrite
HoldingRegister	IN_E1.Inlet.Value	ReadWrite
HoldingRegister	IN_E1.LP_T.Value	ReadWrite
HoldingRegister	IN_E1.LP_T_2.Value	ReadWrite
HoldingRegister	IN_E1.Outlet.Value	ReadWrite
HoldingRegister	IN_E1.Suction.Value	ReadWrite
HoldingRegister	IN_E1.Suction_2.Value	ReadWrite
HoldingRegister	IN_E2.Ambient.Value	ReadWrite
HoldingRegister	IN_E2.Ambient_out.Value	ReadWrite
HoldingRegister	IN_E2.HP_T.Value	ReadWrite
HoldingRegister	IN_E2.HP_T_2.Value	ReadWrite
HoldingRegister	IN_E2.Inlet.Value	ReadWrite
HoldingRegister	IN_E2.LP_T.Value	ReadWrite
HoldingRegister	IN_E2.LP_T_2.Value	ReadWrite
HoldingRegister	IN_E2.Outlet.Value	ReadWrite
HoldingRegister	IN_E2.Suction.Value	ReadWrite
HoldingRegister	IN_E2.Suction_2.Value	ReadWrite
HoldingRegister	IN_E3.Ambient.Value	ReadWrite
HoldingRegister	IN_E3.Ambient_out.Value	ReadWrite
HoldingRegister	IN_E3.HP_T.Value	ReadWrite
HoldingRegister	IN_E3.HP_T_2.Value	ReadWrite
HoldingRegister	IN_E3.Inlet.Value	ReadWrite
HoldingRegister	IN_E3.LP_T.Value	ReadWrite
HoldingRegister	IN_E3.LP_T_2.Value	ReadWrite
HoldingRegister	IN_E3.Outlet.Value	ReadWrite
HoldingRegister	IN_E3.Suction.Value	ReadWrite
HoldingRegister	IN_E3.Suction_2.Value	ReadWrite
HoldingRegister	IN_E4.Ambient.Value	ReadWrite
HoldingRegister	IN_E4.Ambient_out.Value	ReadWrite
HoldingRegister	IN_E4.HP_T.Value	ReadWrite
HoldingRegister	IN_E4.HP_T_2.Value	ReadWrite
HoldingRegister	IN_E4.Inlet.Value	ReadWrite
HoldingRegister	IN_E4.LP_T.Value	ReadWrite
HoldingRegister	IN_E4.LP_T_2.Value	ReadWrite
HoldingRegister	IN_E4.Outlet.Value	ReadWrite
HoldingRegister	IN_E4.Suction.Value	ReadWrite
HoldingRegister	IN_E4.Suction_2.Value	ReadWrite
HoldingRegister	IN_E5.Ambient.Value	ReadWrite
HoldingRegister	IN_E5.Ambient_out.Value	ReadWrite
HoldingRegister	IN_E5.HP_T.Value	ReadWrite
HoldingRegister	IN_E5.HP_T_2.Value	ReadWrite
HoldingRegister	IN_E5.Inlet.Value	ReadWrite
HoldingRegister	IN_E5.LP_T.Value	ReadWrite
HoldingRegister	IN_E5.LP_T_2.Value	ReadWrite
HoldingRegister	IN_E5.Outlet.Value	ReadWrite
HoldingRegister	IN_E5.Suction.Value	ReadWrite
HoldingRegister	IN_E5.Suction_2.Value	ReadWrite

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