

Control box

Single phase 230 VAC

Storage, Installation and maintenance instructions



* Non contractual picture



Warning

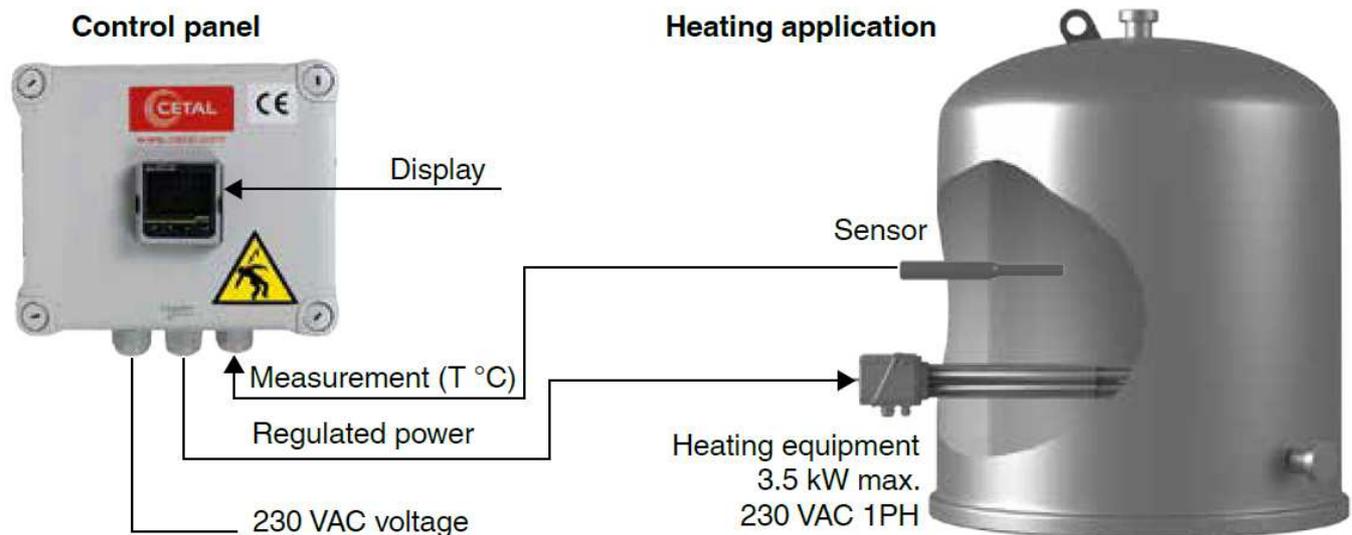
It is imperative to read these instructions carefully before installing or maintaining the equipment.

I. GENERAL INFORMATION

Thank you for choosing a product from our standard range and we hope that it will give you complete satisfaction.

The CETAL control units are designed specifically for heating applications. They are standardized and ready to use.

I.1 PRODUCT OVERVEIW



I.2 TECHNICAL CHARACTERISTICS

Implantation

Technical room
Implantation outside the ATEX zone.

Technical data

Power supply in single phase 230VAC +/- 10% + Earth
Sealed enclosures in ABS with degree of protection IP65, washable
Ambient room temperature class :
Maximum temperature: 50 °C
Average temperature over 24 hours: 35 °C
Minimum temperature : -5 °C

Maximum power 3,5 kW

All our boxes meet the :

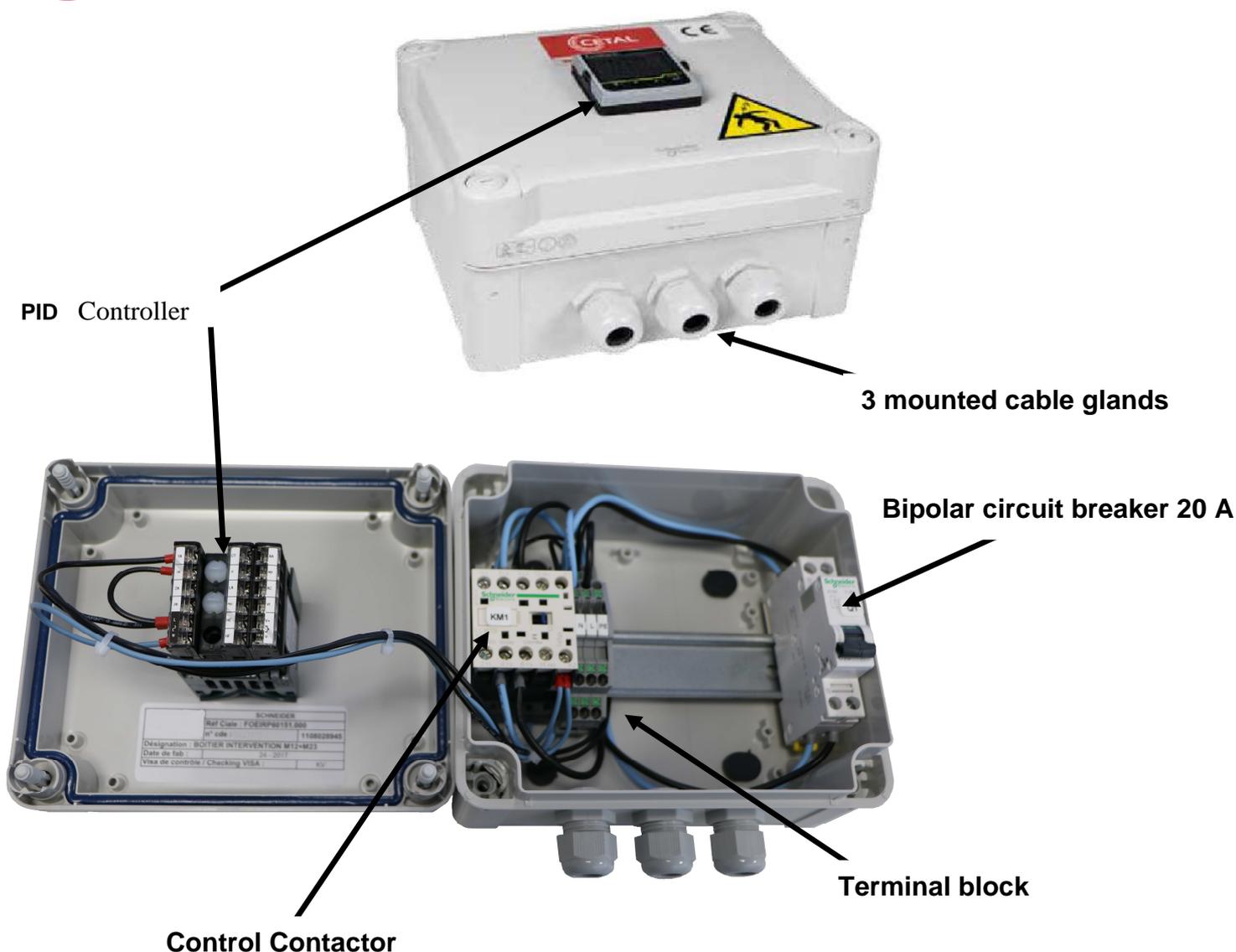
Standards IEC-EN-61639 / IEC-EN-60364 / IEC-EN 60204

Low voltage directive 2014/35/UE, CE

- Front dimensions : 192 x 164 mm Depth 105 mm
- Mounting : wall mounting kit included

Components

The cabinets are equipped with high-quality components **Eurotherm / Schneider Electric.**



II. GENERAL

The symbol indicates  the important information that must be taken into account in order to avoid any risk of damage to persons or to the device.

II.1 PRECAUTIONS BEFORE INSTALLATION AND COMMISSIONING



READ THESE INSTRUCTIONS CAREFULLY BEFORE INSTALLATION. THEY INDICATE HOW TO INSTALL AND CORRECTLY CONFIGURE THE BOX. KEEP THIS MANUAL NEARBY FOR FURTHER USE FOR MAINTENANCE AND TROUBLESHOOTING.

CAUTION: These instructions must be accompanied by a wiring diagram corresponding to the type of enclosure.



The installation and operation of these boxes comply with precise rules that all users must follow or forward in order to ensure that safety can be guaranteed.



The installation and maintenance of the electrical box must be carried out by a qualified professional qualified for electrical work in accordance with local and national regulations.



Before carrying out any work on the enclosure, make sure that the enclosure is de-energized and logged.



The elimination of one of the safety devices automatically eliminates the warranty, as does the replacement of parts by parts not from our stores.

A careful reading of all the steps described below will allow you to start up quickly, efficiently and securely.

II.2 GENERAL CONDITION OF DELIVERY

Any material, with port and packing included, travels at the risks and perils of the recipient. We assume no responsibility for any deficiencies or damage caused by the carrier. If necessary, make written reservations on the delivery note of the CARRIER.

If damage is found during transport (confirmation within 48 hours by registered letter to the CARRIER).



The appliance must be transported in its original packaging. If the packaging is damaged, issue written reservations to the carrier.

For the control of the packages, number and quality, please refer to the delivery note.

Verify that the electrical characteristics shown on the marking correspond to definitions on the order form in case of non-conformity, recall, on the complaint, the reference of the dispatch note.

Handling

The loading, unloading and various handling of the box must be done from below.

Unpack the equipment at the installation site. Avoid shocks and deformations.

II.3 STORAGE

Store box in a dry, well-ventilated area, away from rain, splash water, chemical agents and dust.

Storage temperature: -10 ° C to +60 ° C

II.4 WARRANTY

The assembly is pre-wired and checked at the factory. Any modification will affect the warranty.

III. PLACING THE BOX

III.1 CONDITIONS OF INSTALLATION



Incorrect installation may result in serious property damage, or serious bodily injury (which may result in death),

Install the level cabinet on a solid (stable) wall or chassis.

Easy access to the cabinet for maintenance and connections,

The cabinet should not be installed near a source of heat or flammable gas.

The cabinet out of reach of unauthorized persons

III.2 AMBIENT AIR TEMPERATURE

The ambient air temperature around the electrical box must comply with the following limits:

Maximum temperature: 50 ° C

Average temperature over 24 hours: 35 ° C

Average temperature over 1 year: 25 ° C

Minimum temperature: -5 ° C.

III.3 RULES OF VENTILATION

Place the cabinet in a well-ventilated room

Check that the maximum temperatures are observed when the equipment is in service (see "Ambient air temperature" above).

III.4 FIXING THE BOX

The box are equipped with mounting brackets:

The equipment must be mounted on a clean wall. Select the location of the cabinet according to the existing cable tray or, if not, check the possibility of future installation of a cable tray before the equipment is attached.

Mounting brackets can be mounted vertically or horizontally.

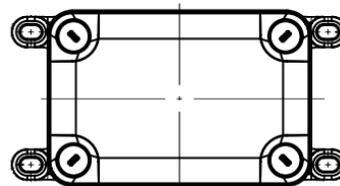
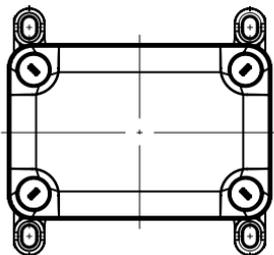


Table 1 below gives the fixing distances (see Fig. 1). These centers are a function of the position of the fixing tabs (y)

(Height x Width x Depth).

The mounting brackets and the associated screws are supplied, not mounted on the enclosure.

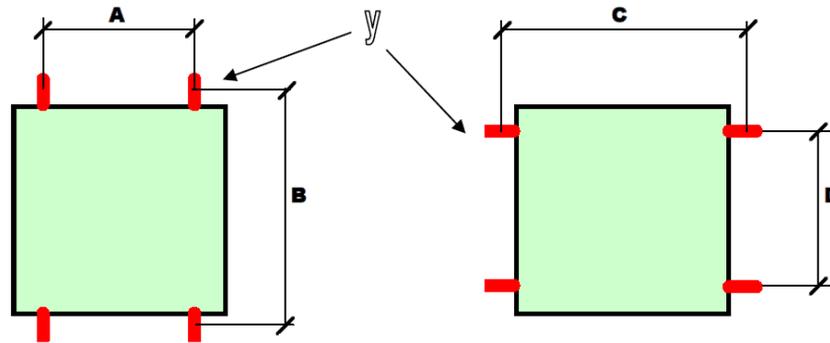


figure 1 : coffret avec 4 pattes de fixation

Mounting brackets:

Ribs A, B, C and D in Table 1 are given with respect to the point at the center of the fixing bracket.

Dimension (mm)			A (mm)	B (mm)	C (mm)	D (mm)	Weight Maxi Kg
Height	Width	Depth					
164	192	105	169.5	181.5	209.5	140.5	3

IV. ELECTRICAL CONNECTION

IV.1 PRECAUTIONS CONCERNING ELECTRIC WITRNG WORK

WARNING: Electrical installation

In all cases, the installer must comply with the applicable legislation and the manufacturer 's recommendations (see electrical diagrams in the file).



Before any operation, check that the voltage plated on the device corresponds to that of the network.



NOTE: Recommendations for electrical wiring work.

For persons in charge of electrical wiring work:

Do not operate the cabinet until the heating element installation work is complete.

If you operate the cabinet before the installation is ready, you may damage the heating elements.

IV.2 POWER CONNECTION (SEE ELECTRICAL DIAGRAM)



The cabinet must be connected to an earthed socket. An incomplete grounding may cause electric shocks and / or electric shocks inside the unit. Only a qualified and experienced technician must be wiring the device. If the power cable (s) is / are damaged, it must / must be replaced.

Be sure to install an earth leakage protection system that meets the applicable legislation, otherwise electrical shock or fire may occur.

Be sure to use a dedicated circuit, never use a common power source to another device.

The connection of the power cables (Phase / Neutral + Ground) will be made with cables appropriate to the maximum amperage provided and calculated according to the type of cable routing (ambience and length).

Be sure to install the required fuses or circuit breakers to protect the power line.



Poorly tightened terminals may cause the electrical terminal block to overheat and the warranty will be voided.

Connection of the general power supply

Pass the power cable through the cable gland provided in the lower part of the enclosure.

The connection is made on the terminal block.

N = Neutral / L=Phase / PE=Earth

Connection of heating element

Pass the power cable through the cable gland provided in the lower part of the enclosure. The connection is made on the terminal block.

4 = Neutral / 5=Phase / 6=Earth

IV.3 CONNECTION OF THE TEMPERATURE SENSOR

Connection is made directly to the terminal block of the temperature regulator

3 Types sensors possibles :

The connection is made to the measuring terminals for:

The temperature sensor type PT100 3 wires

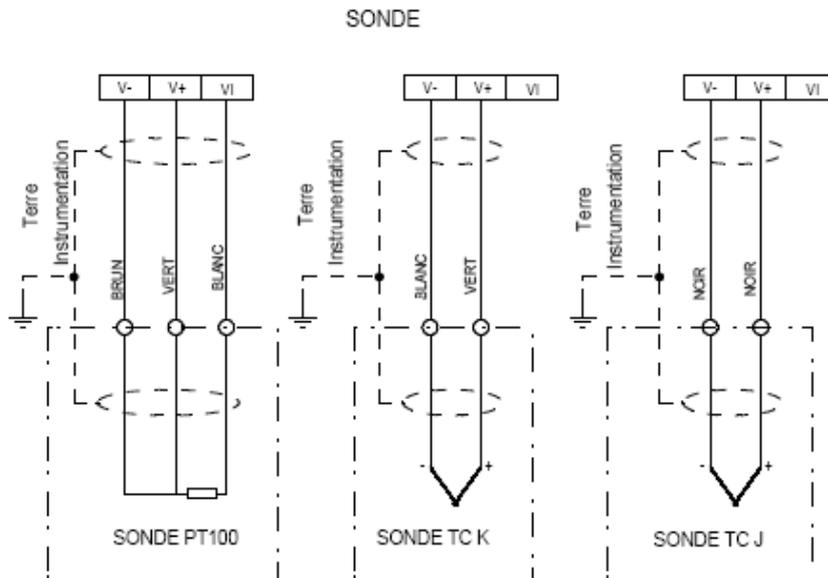
The temperature sensor type Thermocouple K

The temperature sensor type Thermocouple J

→ terminals V+ /V- /VI.

→ terminals V+ /V-.

→ terminals V+ /V-.



Note: The safety threshold on the controller must be set before commissioning.

V. PID REGULATOR AJUSTEMENT

V.1 CONFIGURATION OF THE PID REGULATOR

The controller is not configured at the factory depending on the type of measuring input and control output.

To reconfigure with Quick Codes:

Press and hold  until **Goto** is shown

Press  to choose **Conf** (Configuration Level).

Press  to accept.

Press  or  to enter the pass code
Default '4'.

Press  The display will show **Conf**
The controller now works in Level Conf

Press  To scroll through a list of code to get to **rEc.L**

Press  or  to select the function **COld**

Press  to accept, the controller returns to the 'Quick Setup' mode

Quick Codes

The code setup screen appears



Quick codes configure the input type, range, outputs, alarms, and events.

Press  when **seT1** shows " _ _ _ _ "

The first character '-' flashes

Press  or  To enter the required code shown in Table A

Press  to accept and move to the next code.

Press  to go back.

Once all four characters are configured, **seT2** are set up.

Once all four characters are set to **seT2**



Table A

Type temperature sensor	seT1	seT2
Thermocouple K	HCHn	-n--
Thermocouple J	JCHn	-n--
PT100 sensor	PCHn	-n--

For more information visit:

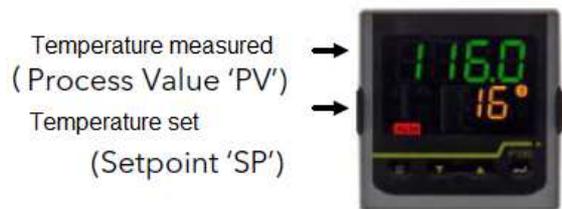
<http://www.eurotherm.co.uk/> And refer to the engineering manual **HA031260**

Or Quick Start Guide see manual **HA031173**

V.2 PARAMÉTER OF THE PID RÉGULATOR

The controller must be configured according to the installation.
(Factory setting in Option Warning does not include the PID setting).

P116 Temperature controller



Viewing	
	Active alarme (red)
	Output 1 = ON (Heating output)
	Selected manual mode

Buttons	
	Scroll button. Press to scroll forward through a list of parameters. Hold down to scroll continuously.
	Page button. Press to scroll back through a list of parameters. Hold down to select a different operating level.
	Press to decrease a value.
	Press to increase a value.
Press  and  together to return to the operating display.	

To enter level 1

No security code required.

To enter level 2

Press and hold  until Goto show.

Release 

Press  to select Lev 2.

Press 

Enter the security code using  or  by default = 2

Press  to accept this value

To set the setpoint temperature (Setpoint 'SP')

From the standard screen (level 1):

Press  to increase the setpoint.

Press  to decrease the setpoint.

The new setpoint is entered when the button is released and is indicated by a brief flash of the screen.

CAUTION: Adjust the PID parameters of the controller. The "factory" parameters of the controller allow "medium" control, the parameters must be adapted according to the response of the system related to the ground, the circuit and external hazards.

To set the PID

Operator Level 2 Entry

Press  to scroll through the parameter value.

For the proportional band Pb de 1 à 9999

For the integral time Ti 'OFF' 1 à 9999

For the time to drift Td 'OFF' 1 à 9999

For each parameter

Enter the value using  or 

Press  to accept this value

To change other parameters refer to the HA031260 or Quick Start Guide manual HA031173 on the website <http://www.eurotherm.co.uk/>

VI. MAINTENANCE

- Check the correct operation of the control (threshold + parameters of the PID loops),



Do not use high-pressure water jet.

VII. MATRIX OF DEFECTS

PROBLEMS	PROBABLE CAUSES	REPAIRS
Contacteur fault	Walking is requested but not working	-Check that the output of the regulator is closed. -Check the contactor coil.
Circuit Breaker Failure	Tripping of the circuit-breaker	- Check all resistors in ohmic and insulation / earth - Check the contactor coil.

VIII. CHANGING THE BOX



All modification work on the cabinet.

Wiring, cutting, heating, grinding, welding or modification of equipment without analysis and manufacturer's written agreement is PROHIBITED.

All parts on the cabinet must be replaced identically and with the manufacturer's approval.



OBSERVE THE VOLTAGE INDICATED ON THE ELECTRICAL DIAGRAM. IT CAN NOT BE MODIFIED WITHOUT PRIOR AGREEMENT.

ALIMENTATION MONO 230 VAC

