

# EC 60-4a20mA, EC 100-4a20mA

Universal Electronic Control

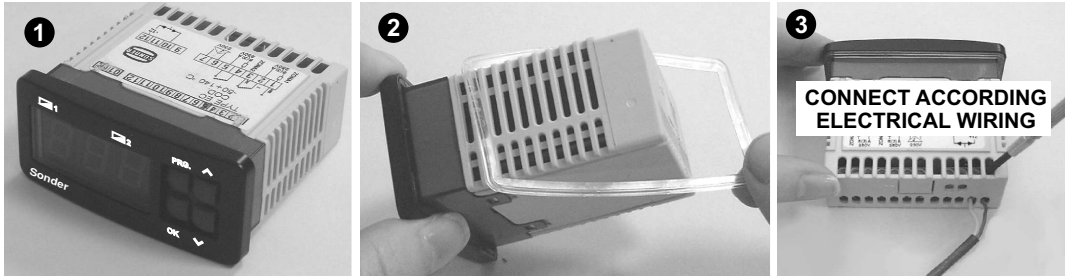
## INSTALLATION AND USE INSTRUCTIONS



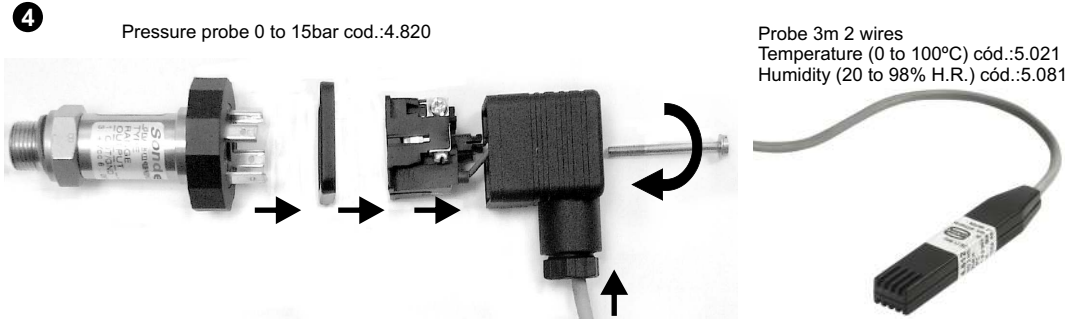
# EC 60-4a20mA, EC 100-4a20mA

Universal Electronic Control

## INSTALLATION AND USE INSTRUCTIONS

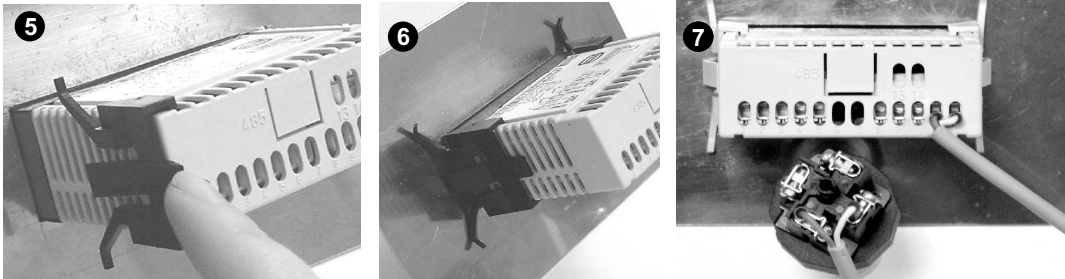


**CONNECT ACCORDING ELECTRICAL WIRING**



Pressure probe 0 to 15bar cod.:4.820

Probe 3m 2 wires  
Temperature (0 to 100°C) cód.:5.021  
Humidity (20 to 98% H.R.) cód.:5.081



### Guarantee conditions

### EC 60-4a20mA, EC 100-4a20mA

This appliance has a two-years guarantee limited to replacement of defective parts.

We will not accept any responsibility for damage caused to the appliance by poor handling.

The guarantee does not include:

- Appliances with a damaged, effaced or altered series number.

- Appliances which have not been connected or used following the instructions that accompany it.

- Appliances which have been altered without the prior consent of the manufacturer.

- Appliances damaged by blows or liquid spills or gaseous emissions.

#### VERY IMPORTANT !:

The probe cable has to be kept as far away as possible from other electrical conductors.

The maximum length recommended under actual standard must be less than 3 m.

It is the installer's responsibility to fit electrical protection suitable for the installation (**STANDARDIZED**).

Reserved the right of modify without prior notice.

### Sonder Regulación, S.A.

Avda. La Llana, 93  
08191 RUBÍ

(Barcelona) Spain

www.sonder-regulacion.com



Cod: 5412V1 ING-03/06

### DESCRIPTION

It is an universal control of action all / nothing with entrance 4a20mA, from now on it will be spoken of humidity but it is expandable to any magnitude (humidity, pressure,...) using a probe 4a20mA.

### OPERATION

1.- When the appliance is switched on, the display will show " - - - ", "420 " , " - - - " and the humidity detected by the sensor. Press **▲**, or **▼**, and the setpoint humidity value appears blinking.  
2.- To change the setpoint press **▲** **▼** while blinking, to increase or decrease the desired temperature. The humidity is memorized after 3 seconds of not playing the keys.

### FACTORY SETTINGS

Nº	FUNCTION	VALUE
-	.....Humidity setpoint.....	50
diF	.....Humidity differential.....	5
HSE	.....High setpoint.....	100
LSE	.....Low setpoint.....	0
doF	.....Minimum off time.....	3 min.
C-H	.....Control type.....	rE
CAL	.....Sensor calibration.....	0
Hin	.....Superior Limit of visualization.....	100
Lin	.....Inferior Limit of visualization.....	0
tPP	.....Prog. Parameters time.....	5 sec.
PAS	.....Param. access code.....	0 Deactivated.

### SCALE

0 to 999
1 to 20
10 to 999
0 to 990
0 to 15 min
rE / cA
-99 to 100
10 to 999
0 to 990
3 to 40 Sec.
0 to 99

The factory settings are those considered to be the most common for normal use of installations. If they are right for your purposes, your thermostat is ready to control and regulate your installation.

If you should need any other settings due to the requirements of your installation, please read this manual carefully.

### DESCRIPTION OF PARAMETERS

- **Differential (diF)**: Humidity values between energizing and releasing.

- **Low setpoint (LSE) and High setpoint (HSE)**: The humidity limits within which the setpoint can be adjusted and set.

- **Minimum off time (doF)**: Delay time applied when the compressor stops and which prevents the compressor restarting even if conditions for this are met. This delay is also applied after switching on the thermostat to protect the compressor in the event of a power outage.

- **Control type (C-H)**:

"rE" type: The relay disconnects when the humidity falls to the setpoint and will connect when it rises to the setpoint plus differential.

"cA" type: it disconnects when the setpoint is reached and will connect when the humidity falls to setpoint minus differential.

- **Sensor calibration (CAL)**: This function enables you to change the displayed humidity.

- **High limit (Hin) and low Limit (Lin) of visualization**: They are the values superior and inferior that can show us the display.

Examples of "Hin" and "Lin":

If we want to visualize the humidity between 0 and 100% we should put Hin=100 and Lin=0.

If we want to visualize the humidity between 0 and 99'9% we should put Hin=999 and Lin=0. The decimal point won't appear in the display.

If we want to visualize the pressure between 0 and 15 bar, we should put Hin=150 and Lin=0. The decimal point won't appear in the display.

- **Time of acces to programming of parameters (tPP)**: it is the time that should be pressing the key **PRG**. to enter in the programming of parameters, either to modify them or to visualize their values. (Time expressed in seconds)

- **Parameters access code**: Factory setting zero (disabled). Enter parameter programming by pressing and holding down **PRG** for "tPP". If the code is other than zero, enter parameters as follows:

A.- "PAS" is briefly displayed and then the message " - 0 - "; Use the up or down arrows to select the previously programmed access code.

B.- Press **OK**: If the selected number is the correct one, "diF" appears. If the selected number is incorrect the thermostat will not allow access to programming and " - - - " appears.

### PARAMETERS PROGRAMMING

- Press **PRG** during the time settled down in the parameter tPP (of factory 5 s.) and " diF " will appear in the screen. Release the key.
- pressing **OK** their current value will appear blinking.
- While value is blinking, press **▲** or **▼** to change the desired value. Press **OK** to store it in memory. The designation of the parameter being programmed reappears.
- Press **▲** to scroll forward to the next parameter. Repeat point 2.
- Press **PRG** to exit the parameters " - - - " appears and then the current humidity detected by the sensor. After 1 minute without pressing any key, the universal control leaves programming of parameters.

### RELAYS DISPLAY

LOAD: A fixed light below the symbol indicates "connected"  $\Rightarrow \Leftarrow$  (during the doF parameter time it flashes).

### ERROR INDICATORS

"ES" Probe Error: Probe is disconnected or its wires are cut. That also appears if the ambient humidity is outside of the limits marked by Hin and Lin.

"888" Parameter table memorization error.

"ALP" required humidity beyond limits (HSE and LSE limits)

While the "ALP," "ES" and "888" alarms are activated a continuous emergency cycle occurs consisting of:

rE mode: 10 min ON - 5 min OFF

cA mode: 5 min ON - 5 min OFF

"AL" the room humidity is beyond the limits marked by the HSE and LSE parameters. AL and the humidity detected by the probe flash on and off.

### TECHNICAL SPECIFICATIONS

Display:.....3 Digits (Red).  
Sensor EC 60 / EC 100:.....4-20mA not included.  
Resolution:..... 0 to 100 or 0 to 999.  
Power supply EC 60:.....230 V~ +10%, -15%, 50/60Hz.  
Power supply EC 100:..... 12...24V  $\pm$ .  
Connections probe:.....with polarity.  
Breaking power (contacts):.....12(5)A 250V~.  
Connected wire section:.....1,5mm<sup>2</sup>.  
Frontal box protection grade:.....IP55.  
Working temperature:.....-5°C to 45°C.  
Storage temperature:.....de -20 to 60°C.  
Software classe A:.....Action Type 1B.

### ELECTRICAL CONNECTION

