PROGRÉS
SISTEMES ELECTRÒNICS

Manual

4-20 mA relative moisture and temperature sensor with cable and sun shield

CODE 06750007, 06750008 and 06750009

Relative Moisture and ambient Temperature sensor. It is integrated into a single transmitter housed inside a protector, which protects it from rain and direct sunlight, preventing sensor deterioration or false readings. In this way, good aeration is guaranteed, allowing for the correct reading of the environmental parameters.

There is a ventilated version of the sensor (06750009), which incorporates a fan to be able to apply a direct current of air. In this way, it is possible to measure humidities close to 100% with greater precision without condensations that distort the readings, adding reliability to the measurements obtained and allowing the sensors to adapt to any environment, no matter how humid.

It performs temperature measurements in ranges from -40 to 85ºC with an accuracy of ±0.4ºC and relative moisture of 0-100% with precision of ±3 %.

The power feed and reading is done by a 5m cable.

There is a without sunscreen version of the sensor (06750008).

Technical characteristics

Power supply		
Power supply	12 Vdc to 20 Vdc	
Energy consumption	less than 0.9 W	
Overvoltage fuse:	Input	Thermal (PTC) 0.4 A at 25°C, self-resettable
Reverse Current Protection	Yes	

Outputs		
Output sign	4 – 20 mA	3 outputs

Response time	
Minimum transmitter power supply time to receive reading:	400 ms

Dimensions of the sensor with the solar shield		Transmitter box interior dimensions	
Height	190 mm	Height	99 mm
Width	230 mm	Width	65 mm
Depth	200 mm	Depth	39 mm
Weight (approx.)	1,75 Kg	Weight (approx.)	0,4 Kg

This symbol indicates that electronic devices should not be disposed of along with household waste at the end of its useful life. The product must be taken to the corresponding collection point for recycling and properly treating electronic equipment in accordance with the national legislation.

Connecting

The **model without fan** has a 5-wire power supply and current output connection hose:

Wire colour		ID	Function
	Green	+12V	+ (positive) power supply
	Brown	0 V	- (negative) power supply
	White	S1	Output 1 (HR): 4 – 20 mA
	Yellow	S2	Output 2 (ºC): 4 – 20 mA

The **model with fan** also has another hose with two more wires:

Hose nº1			
Wire colour		ID	Function
	Green	+12V	+ (positive) power supply
	Brown	0 V	- (negative) power supply
	White	S1	Output 1 (HR): 4 – 20 mA
	Yellow	S2	Output 2 (ºC): 4 – 20 mA

Hose nº2			
Wire colour		ID	Function
	Blue	+12V	+ (positive) fan power supply
	Brown	0 V	- (negative) fan power supply

Installation

- Preferably mount it on a post, at a minimum height of 1.5 m above the surface.
- Maximum diameter of the post: 32 mm.

Sensor format

Temperature ºC sensor format	
Parameter	Default value
N. of integers	2
N. of decimals	1
Sign	Yes
Unit	ºC
Calibration Point 1	
True value	4 mA (800 mV)
Logical value	-40 ºC
Calibration Point 2	
True value	20 mA (4000 mV)
Logical value	+85 ºC

Relative Moisture sensor format %HR	
Parameter	Default value
N. of integers	3
N. of decimals	0
Sign	No
Unit	% HR
Calibration Point 1	
True value	4 mA (800 mV)
Logical value	0 % HR
Calibration Point 2	
True value	20 mA (4000 mV)
Logical value	+100 % HR

The ºC and %HR values that are obtained are converted, by the transmitter itself, to the standard 4-20 mA current (800-4000 mV in the Agrónic format). So, in the controller in question, you have to select the ideal data format according to the tables before each sensor. It is the responsibility of the user to change the data that characterizes said format.

NOTE
If the temperature sensor is used for a precision application (such as antifreeze), you must calibrate it by applying the appropriate tare.
By default, it is always recommended to apply a corrective tare on the controller (to correct the possible 4-20 mA output error plus the possible error that the controller's analogue input may apply).

IMPORTANTE In closed environments (such as greenhouses) or poorly ventilated, it is recommended to use the ventilated sensor version (06750009). Otherwise the accuracy of the sensor may be reduced by approximately + - 1ºC.