PROGRÉS
SISTEMES ELECTRÒNICS

Manual

Temperature sensor 4-20mA

Pt100 temperature sensor that includes a transmitter 4-20 mA for the output reading.

Sensor is in a sheath of 3 cm protruding from the box and it is connected to the transmitter, where there are linked the power and reading cables.

Both devices are located in a plastic box PC (IP65), which is accessed through a grommet.

The box is not suitable for direct exposure to the sun for long periods.

Technical characteristics

Power supply	From +7,5 to +30 Vdc	
Output signal / Reading range	4 – 20 mA / -30 °C to +60 °C	
Working temperature	-40 °C to +85 °C	
Connections	Terminal + (1) of transmitter	Positive, system power supply
	Terminal – (2) of transmitter	Output reading 4-20 mA

Distance	
Maximum distance controller - sensor [m]	Minimum wire section [mm²]
100	0,25
250	0,60
500	1,20
750	1,70
1000	2,25

Installation and maintenance

Sensor is delivered without cable. The cable used can be two wires, without screened. It is recommended in hose, with a maximum outside diameter of 7 mm.
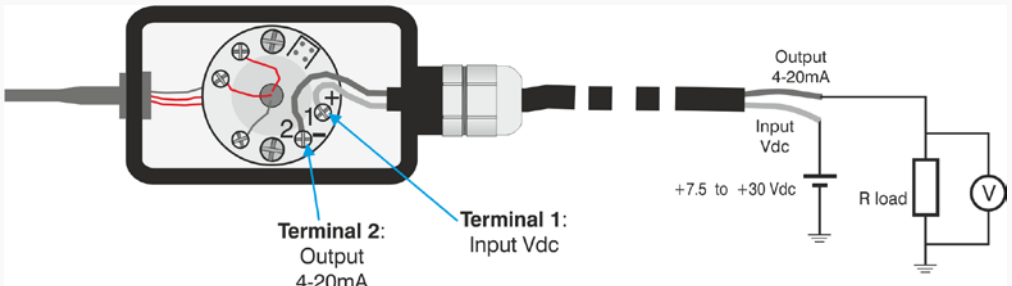
The grommet allows a hermetic closing.

The voltage reading value depends on the "R load" for a determined output current.

The sensor is adjusted on factory and it does not need any re-adjustment.

IMPORTANT

It can not be installed directly in the sun, it must be put under a sunscreen.

Connections and installation

Terminal 2: Output 4-20mA

Terminal 1: Input Vdc

Output 4-20mA

Input Vdc

+7.5 to +30 Vdc

R load

Recommended sensor calibration

1 Fill a container of about 5l with one or two bags of ice and add water until cover the ice.
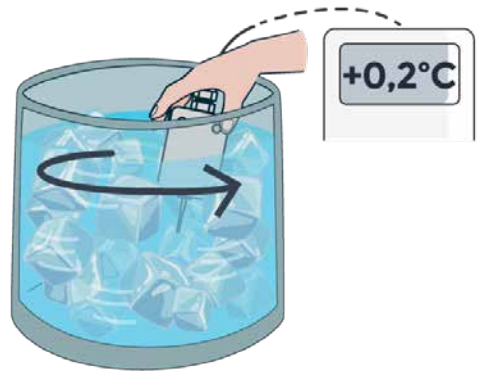
2 Stir the ice and water mixture for two minutes so that water temperature reaches the melting point of 0ºC.

3 Insert the sensor halfway and stir the ice and water mixture steadily for some minutes.

4 Stir until temperature is stable around 0ºC.

5 Variation concerning these 0ºC must be applied as tare of the controller.

Example: if the reading is +0'2ºC, in sensor parameters a tare of 1 must be applied.