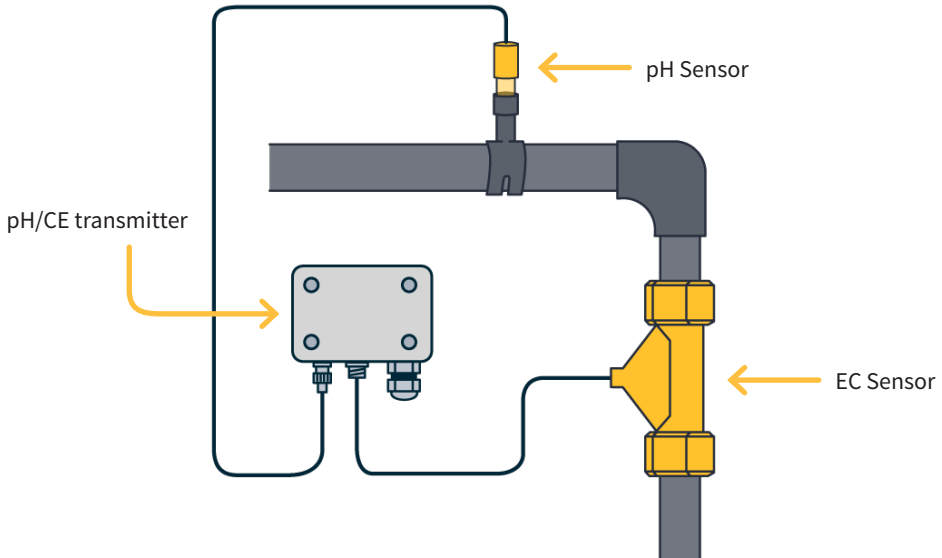


Manual

pH/CE transmitter

Double transmitter for reading pH sensors and other electrical conductivity (EC) in irrigation water. It adapts the signals coming from the sensors and generates an outlet in standard 4-20 mA values to be read by the controller.



It permits reading of pH sensors of a single or double jointed saline bridge, with BNC (coaxial) connection.

The EC sensors that can be read are those of 4 electrodes with temperature compensation by NTC and rapid connection through a 7 contact connector models HI 3001, HI 7635.

They are manufactured in individual models for a pH or an EC sensor.

The circuit is located inside a metal box that protects it from interference. The cover closes with a rubber gasket to avoid humidity inside.

Technical characteristics

Power supply

Power supply:	+12 Vcc (+10% / -1%)	
Consumption:	pH/EC Transmitter:	110 mA
	pH Transmitter:	70 mA
	EC Transmitter:	60 mA

Outputs

pH output range	4 – 20 mA
EC output range	4 – 20 mA

Reading

pH reading range	0 – 14,0 pH
EC reading range	0 – 20,0 mS

Protection

Inverse current	Yes
Surge protection	Yes

Insulation

Input / output	Yes
Between sensors	Yes

Environment

Temperature	0 °C a +45 °C
Humidity	< 85 %
Altitude	2000 m
Pollution	Grade II

Box dimensions

Height	80 mm
Width	123 mm
Depth	112 mm
Weight (approx.)	0,5 Kg

Declaration of conformity

This item complies with the Directive 89/336/CEE for electromagnetic compatibility and the Low Voltage Directive 73/23/CEE for Compliance of product safety. Compliance with the following specifications was demonstrated as indicated in the European Community Official Report.



This symbol indicates that the electrical and electronic equipment should not be disposed of as general household waste at its end-of-life. Instead, the product should be handed over to the applicable collection point for the recycling of electrical and electronic equipment for proper treatment, recovery and recycling in accordance with your national legislation.

Connections and installation

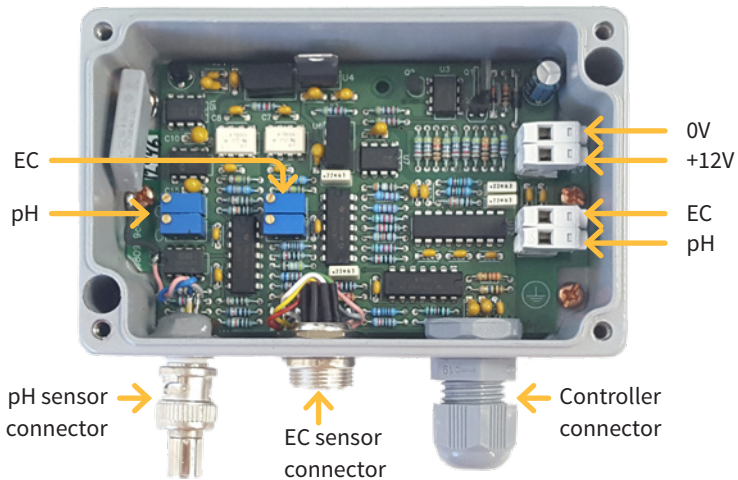
The transmitter must be powered at +12 Vdc coming from the controller through the “+12” and “0V” terminals. The reading outputs of EC and pH from the transmitter are connected to the corresponding inputs of the controller.

The sensor signals are low level, therefore, sensitive to electromagnetic disturbances, for which the transmitter must be located next to the sensors.

Between the transmitter and the controller there may be the distance that is necessary, but take care that the cable does not pass next to other power cables as they may cause inductions and false readings. This cable must be shielded. The power cable and output reading cable must be hose type (i.e.: 4 x 0'25 shielded) as it must enter through the gland of the transmitter box, thus obtaining proper closure and preserving the desired sealing.

The shielding of the cable shall be connected to a ground in the point of the controller, and in the transmitter the screen will be connected to the ground screw as specified in the drawing.

It is important that sensors are not connected or disconnected when the transmitter is on.



Calibración | Calibration

- ↙ ↘ +

pH pH		CE EC	
Slope	4.0 pH	Slope	5.0 mS
Offset	7.0 pH	Offset	0.0 mS

Ajustar | Adjust :
 Primero | First → 7.0 pH | 0.0 mS
 Segundo | Second → 4.0 pH | 5.0 mS

Con aislamiento galvánico
 With galvanic isolation

Alimentación | Power supply

12 Vdc +10%/-1% 0V

máx. 100 mA +12V

Salidas | Outputs

CE: 4-20 mA CE
 (0-20.0 mS)

pH: 4-20 mA pH
 (0-14.0 pH)

Conectar la malla del cable al tornillo y a toma de tierra
 Connect the screen to the screw and to the earth terminal

Calibration

Connect the pH and EC sensors to the transmitter and this to a controller, through which you will be able to observe the sensor reading.

PH SENSORS

There must be two solution tampons of known pH value, for example pH4 and pH7. Remove the sensor from the hoses and dry it, then submerge the electrode in a pH7 solution, once the reading is stabilized, adjust the potentiometer marked “offset” on the pH transmitter box, so that 07.0 pH is displayed onscreen; dry the electrode again and insert in the pH4 solution, adjust the potentiometer marked “slope” to obtain a reading of 04.0 pH; replace the sensor in the process. Always respect the calibration order, first pH7 and then pH4. It is recommended that the sensor be calibrated periodically to obtain measurements without errors.

EC SENSORS

Remove the sensor from the hoses and leave it out, without contact with water; open the transmitter box and open the potentiometer marked “offset” so that on the screen it shows between 0.0 and 0.1 mS. Then submerge or fill the inside of the tube with a known solution tampon, for example 5 mS, and adjust the potentiometer marked “slope”, until 5.0 is displayed onscreen. Always respect the calibration order, first 0 mS and then 5 mS.



Check the calibration video tutorial on our website www.progres.es Customer support / See video tutorials section or through the link https://youtu.be/0ww_44z02cU

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