SISTEMES ELECTRÒNICS PROGRÉS

Manual

Flow detection

06140423 (adjustment to 1 bar) | 06140420 (adjustment to 1'5 bar) | 06140419 (adjustment to 2'5 bar)

Threaded pressure gauge with membrane that opens and closes an electrical circuit depending on the adjusted pressure to 1, 1'5 or 2'5 bar. Very useful for knowing if the sectors have opened or closed.

It can be connected to any controller equipped with digital inputs:

- Agrónic 4500, Agrónic 4000, Agrónic 2500, Agrónic 5500, Agrónic Bit, Agrónic 7000 and Agrónic Smart controllers.
- Agrónic Monocable, Agrónic Radio, AgroBee, and AgroBee-L external modules.

Technical characteristics

Feed	Not needed
Output sign	Voltage-free switch contact
Precision	± 0,2 (1 bar) | ± 0,2 (1'5 bar) | ± 0,4 (2'5 bar)
Grade of protection	IP66 DIN EN 60529
Electrical connection	With waterproof terminals
Mechanical connection	Cylindrical nut "G1/4"
Maximum distance	100 metres
Environment	-30ºC to +140ºC
Dimensions	85 mm (length) - 33 mm (diameter)
Hysteresis value	0'4 bar
Threaded connector (reducer)	From ½ to ¼
Cable distance	2 meters

Installation

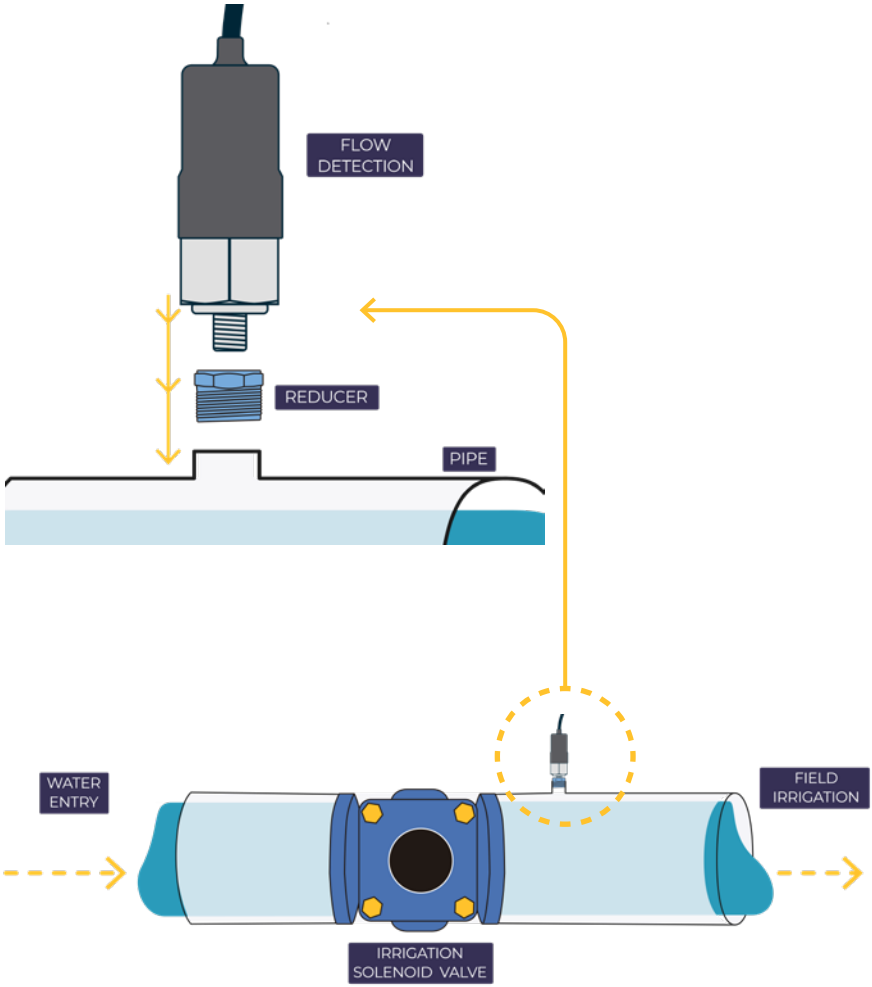
The pressure gauge must be installed after (downstream) the irrigation solenoid valve, to be able to detect when it opens and closes according to the order received from the Agrónic.

Next, two different ways of how to do its assembly and installation are shown.

- Option A (recommended)

  - The flow detection is screwed directly to the pipe through the adapter.

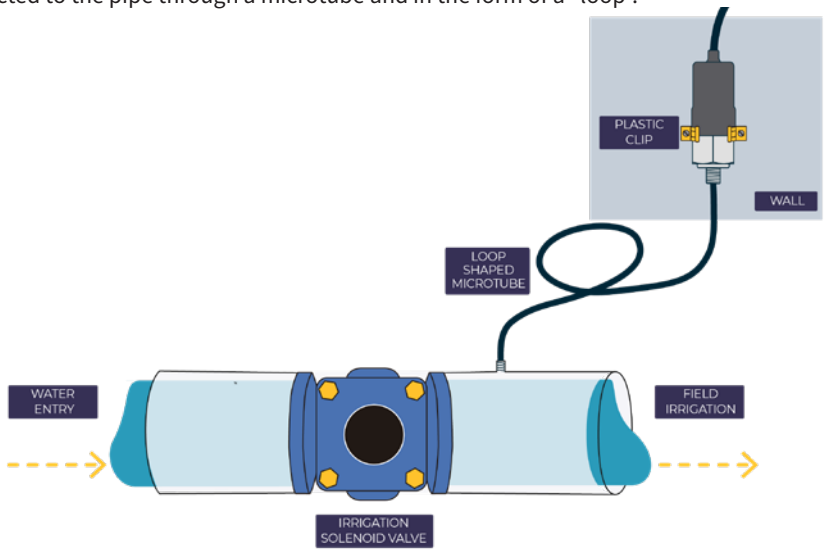
  - Along with the flow detection, **a ½ to ¼ inch "reducer" adapter** is supplied that allows the sensor and the pipe to be isolated from possible differences in potencial. The adapter must be installed as shown in the image.



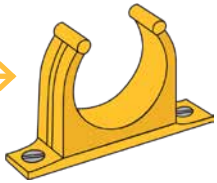
- Option B

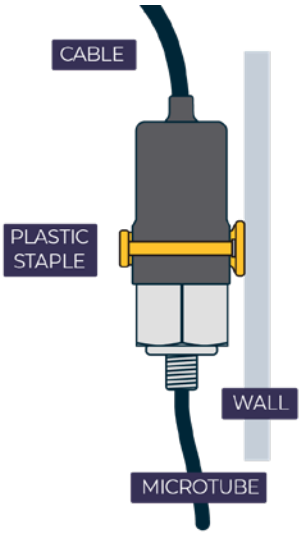
  - The flow detection is isolated from the pipe by means of the microtube.

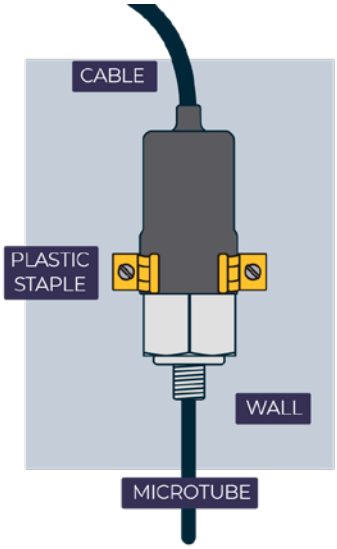
  - Below is a complete diagram of its assembly and installation where the flow detection is connected to the pipe through a microtube and in the form of a “loop”.



The sensor shoud be isolated from groud ⏚ through a plastic clip, or similar, as shown in the following image.







OPERATIVE

Operational work for a flow detector that is activated when the pressure reaches 1.5 bars (for example) and deactivates when it drops below 1.1 bars (0.4 bars of hysteresis):

- Irrigation sector:

✅ – If the pressure in the microtube is **higher than 1.5 bars**, the sensor contact closes indicating the water circulation. (**cables Blue (2) - Black (3)**)

⚠️ – If the pressure in the microtube is **less than 1.5 bars**, it indicates that there is no water circulation and an anomaly is registered.

- Sector at rest:

⚠️ – If the pressure in the microtube is **higher than 1.5 bars**, the contact closes indicating that there is a leak or the valve has not closed and an anomaly is recoreded. (**cables Blue (2) - Black (3)**)

✅ – If the pressure is **less than 1.5 bars**, it indicates that there is no water circulation.

		Status of all combinations		
Cables		Without pressure	With pressure	Contact
Brown (1)	Black (3)	closed	open	NC
Blue (2)	Black (3)	open	closed	NO

Connecting

INTERNAL CONNECTION OF THE PRESSURE GAUGE

- The pressure gauge is supplied adjusted to 2 different closing pressures, 1, 1.5 or 2.5 bar.
- For use as a flow detector, the **normally open contact**, cables **Blue (2)** and **Black (3)** must be used.
- This contact will close when the pressure exceeds the set value (1, 1.5, 2.5) and will reopen when the pressure drops 0.4 bar (hysteresis) from the set value.

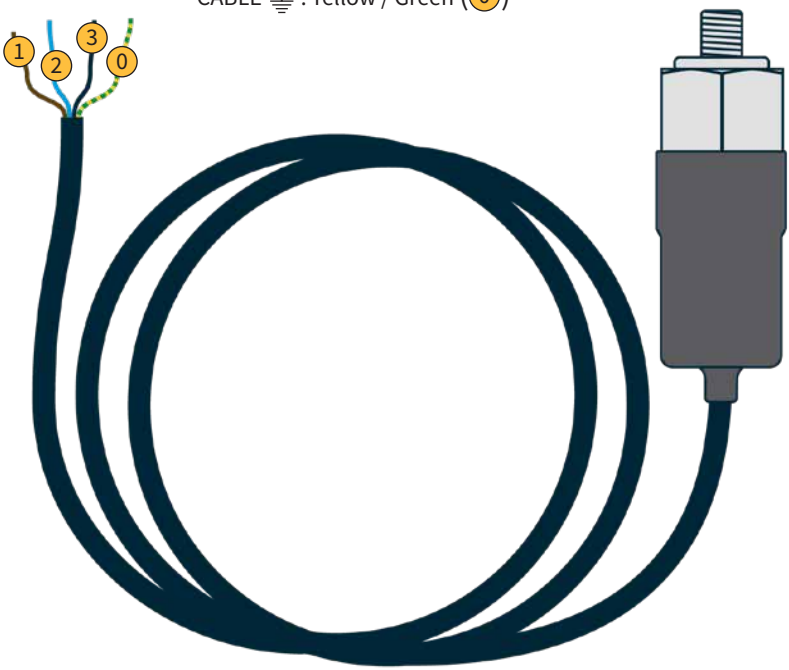
Setting value	Contact close Blue (2) - Black (3)	Contact open Blue (2) - Black (3)
1 bar	> 1 bar	≤ 0.6 bar
1.5 bar	> 1.5 bar	≤ 1.1 bar
2.5 bar	> 2.5 bar	≤ 2.1 bar

CONTACT NC: Brown (1) - Black (3)

*CONTACT NO: Blue (2) - Black (3)

*Option to use for FLOW DETECTOR

CABLE ⏚ : Yellow / Green (0)



Compatibility table

Controllers compatibility	
Agrónic 2500	✓
Agrónic 4500	✓
Agrónic 4000	✓
Agrónic 5500	✓
Agrónic 7000	✓
Agrónic Bit	✓
AgroBee	✓
AgroBee-L	✓
Agrónic Radio	✓
Agrónic Monocable	✓
Agrónic Smart	✓

Maintenance

In installations where the pressure gauge must be located at a certain distance from the reading point, it is recommended that you install a “Digital input protection” (06140413 or 06140414, depending on the supply voltage), thus protecting the controllers from electric storm surges. If the distance is short, or because the sensor is located at the same point of the reading, protection will not be necessary, but it is recommended.

The protector must be located next to the controller or reader, and you must place a grounding peg next to the protector to be able to divert the over-voltages. Connect the controller’s grounding wire to the same grounding peg.

Install the protector inside a water-tight box near the grounding peg.

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