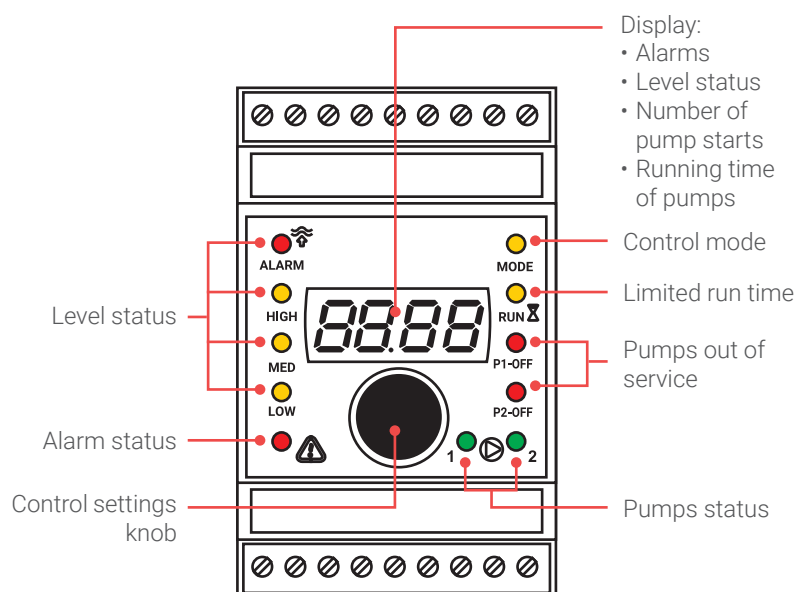
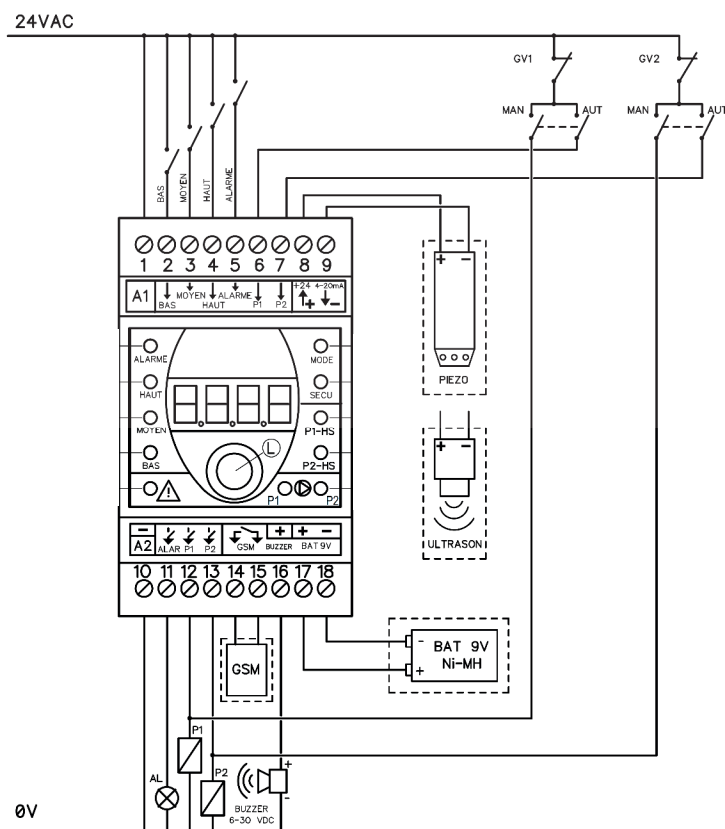


Control module overview



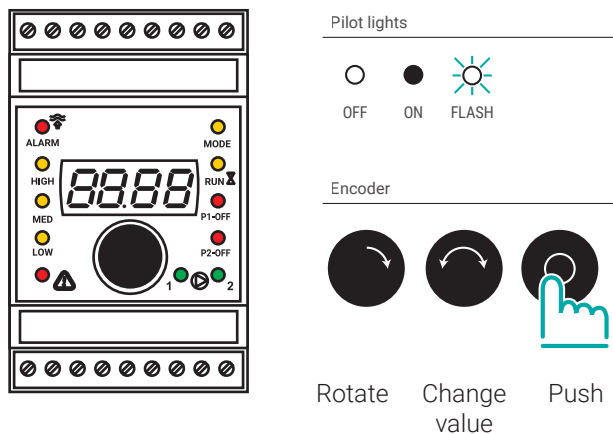
General wiring module



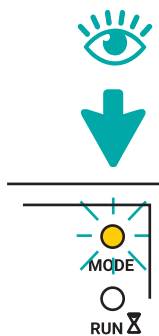
Terminals

- Power supply 24VAC (A1).
- Float switch/conductive probe input LOW.
- Float switch/conductive probe input MEDIUM.
- Float switch/conductive probe input HIGH.
- Float switch/conductive probe input ALARM.
- Pump 1 signal input in automatic.
- Pump 2 signal input in automatic.
- Power supply (+24VDC) for 4-20mA sensor.
- 4-20mA sensor signal input.
- Power supply 0 VAC (A2) (buzzer negative).
- 24VAC output for general alarm.
- 24VAC output for Pump 1 contactor.
- 24VAC output for Pump 2 contactor.
- Voltage-free relay for GSM or remote warning.
- Voltage-free relay for GSM or remote warning.
- External buzzer power supply (6-30VDC).
- 9V Ni-MH battery terminal (+ positive).
- 9V Ni-MH battery terminal (- negative).

Parameters selection and settings



Mode selection



[Auto]

Both pumps in service awaiting for float activation.

[Prot] / [FrEE]

Lock/Unlock of settings.

[dAtA]

Hours and starts count data recorded.

[2.FLo]

2 Floats (LOW and MEDIUM).

[3.FLo]

3 Floats (LOW, MEDIUM and HIGH).

[4.FLo]

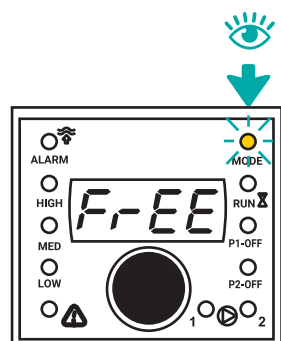
4 Floats (LOW, MEDIUM, HIGH and ALARM).

[SEn] [50..1000]

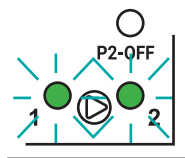
4-20mA sensor, range 50...1000cm.

Lock/unlock of settings

This TPM module has a data write protection in order to avoid undesired settings changes. [Prot] is displayed during 2 seconds. The unit starts always in protected mode.



How to unlock: access to menu MODE and select [Prot]. Push to modify to [FrEE]. Unit is unlocked and you can modify parameters.



If a pump is OFF, we can start it in MANUAL mode and its pilot P1-OFF or P2-OFF will flash.

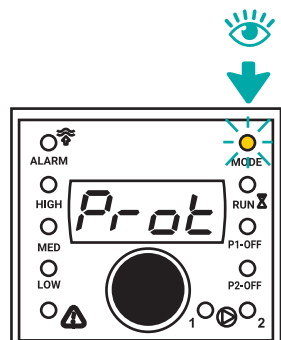
[P1.] Flashing indicates Pump 1 in manual operation.

[.P2] Flashing indicates Pump 2 in manual operation.

[P1.P2] Flashing indicates Pump 1 and 2 in manual operation.

[P1.0] Pump 1 stopped.

[P2.0] Pump 2 stopped.



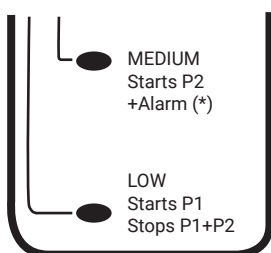
How to protect: Access to menu MODE and select [FrEE]. Push to modify to [Prot]. Unit is locked. Nevertheless if no action is made after 5 minutes, the unit will be automatically locked.

Floats or probes installation

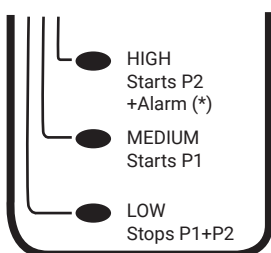
It is possible to use also probes instead of floats in the control inputs LOW, MEDIUM, HIGH and ALARM. When used, "A1" terminal must be connected to protective earth. In case of isolated tank, "A1" terminal must be connected to a common probe at the bottom of the tank.

Operation modes

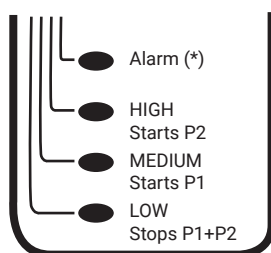
2 Floats



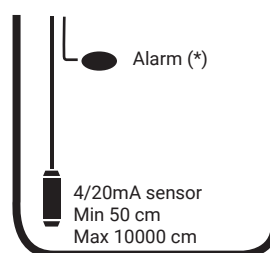
3 Floats



4 Floats



Sensor

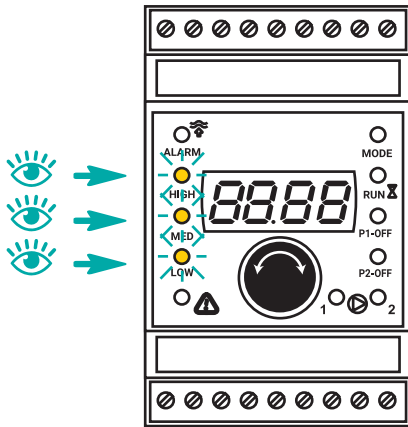


In all operation modes the water level is shown by the leds LOW, MED, HIGH, ALARM.

When the panel selector switch is in AUTO position, the pumps will work alternatively. Leds P1/P2 lights on.

In case of failure of one of the 2 pumps the unit will display [P1-0] (pump 1 stopped or failed) or [P2-0] (pump 2 stopped or failed).

4-20mA sensor



In case of 4-20mA sensor installation, you can select from 50cm to 1000cm according to the range of the sensor.

The selection can be made in steps of 50cm: 50, 100, 150, 200, 300...900, 950, 1000.

The level in cm is displayed every 5 sec.

It is possible to adjust each of the 3 levels: LOW, MEDIUM and HIGH, selecting their pilots with the knob.

A float must be installed to detect ALARM level, and activate both pumps and alarm.

Detection of blocked float or 4-20mA sensor failure

This function allows pumps running in case of blocked floats. The unit will keep working without the blocked float, the respective led light will flash and the display will show:

[Err.]-[FL.bL]

After that, and in case of unblocked float, the unit will work again as usual, the error message will be cleared without any further operation.

In case of sensor failure (open or shortcircuit) the unit will activate alarm relay output and red led light.

Run time limit (RUN led light)



This function prevents dry running in case of Low level blocked float or sensor error.

It is possible to adjust the running time if only the Low float is up.

Led light will flash while the countdown time is working.

It is possible to adjust, turning the knob to RUN led light and adjusting OFF or from 1' to 15' in the display.

Error messages

[Err.] Unit has detected a problem. A revision is required.

[Err.] - [FL.bL] Float blocked.

[Err.] - [Sen] Sensor obstructed or damaged.

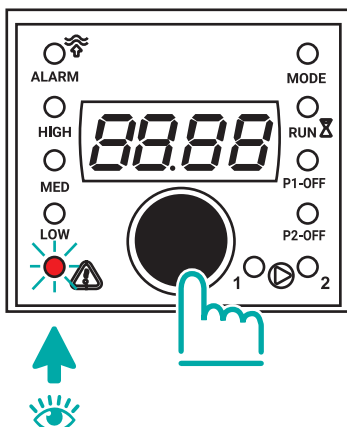
[Err.] - [Sen] - [S.C.] Sensor short-circuit (current over 20,5 mA).

[Err.] - [Sen] - [O.C.] Sensor open circuit (current below 2,5 mA).

Purge function

When low float reaches down position, the pumps will stop after 30 seconds in order to assure the full purge of the tank.

Alarm reset/mute alarm



Alarm relay output (terminals 14 - 15)

N.O.: OK.

N.C.: - No supply voltage.

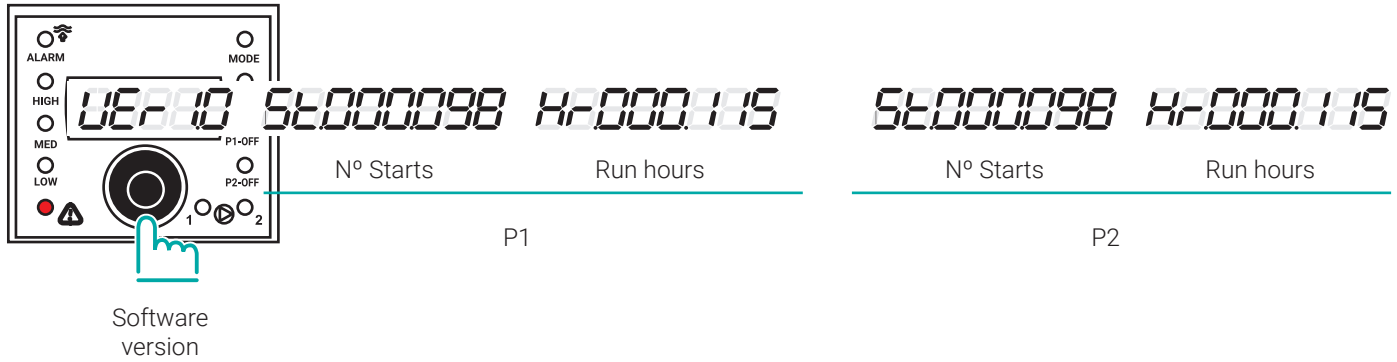
- Alarm level.

- Sensor error.

This output can be used for remote alarm (GSM).

Running hours and counter starts data

Select [dAtA] on the display and push. Then the display will show:

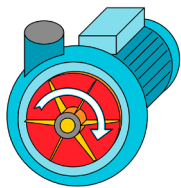


Counter reset

Press and hold (1) and supply power (2). Keep pressed during 60 seconds.



Jammed impeller preventive system



1 sec. / 23h

If a pump is OFF for more than 23 hours, this preventive function will be activated by giving the pump one second of operation.

Specifications

Power supply	24VAC - 50/60Hz
Pilot lights (LED)	Alarm level, Pumps status, Level status, Control mode, Limited run time, Alarm status, Pumps out of service
Displayed information (4-digit LED display)	Alarms, Level status, Run time data, Service
Pump protections	Maximum run time, antiblock system for long stop times
Operation modes	2, 3, 4 float switches / conductive probes or 4-20 mA sensor
Recorded information	Number of starts and running hours of each pump
Alarm output relay	5A max
GSM output relay	5A max
Limited run time setting	OFF - 1...15 minutes
Floats voltage	Isolated 24VAC
Sensor voltage	Isolated 24VDC
Maximum terminal cross-section	2,5mm ²