toscano

THR

Radio Remote Water Level Control



Description

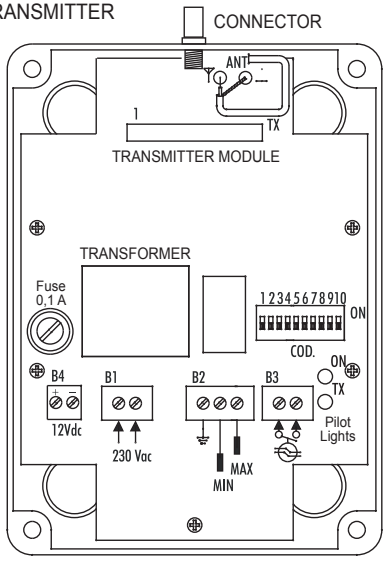
Level controller comprising a battery or 220V AC powered transmitter and a 220V AC powered receiver, with output to relay.

A float switch is connected to the transmitter installed in the tank, which transmits the full or empty signal to the receiver and activates the relay.

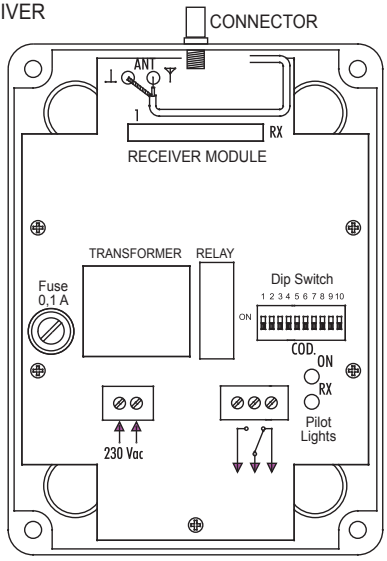
This device can also be used with pressure switches and other sensors with output contact.

Frontal Description

TRANSMITTER



RECEIVER



Connection

It is recommended to make connections using terminal blocks (up to 4 mm2).

A. Remove front cover.

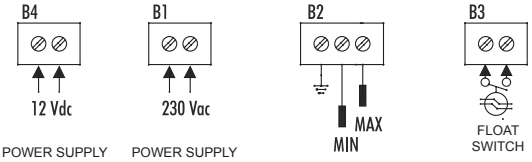
B. Connect receiver POWER SUPPLY to the corresponding terminal blocks.

C. Connect transmitter POWER SUPPLY to the external supply input terminal blocks, according to the required supply (230 Vac / 12 Vdc)

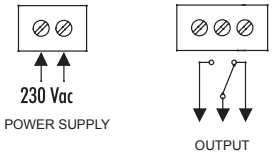
WARNING

The scope of the device can be affected by disturbances such as lack of "eye contact" between sender and receiver, power lines, cranes, often inhibitors, mountains, buildings, and weather.

TRANSMITTER



RECEPTOR



Operation

Codification between transmitter and receiver is VERY IMPORTANT for the proper unit operation; the ten micro-switches in each unit (both transmitter and receiver) must have the same layout.

Code is programmed locating each of the ten micro-switches in "ON" or "OFF" positions, setting in this way the desired combination (from 1024 possible codes).

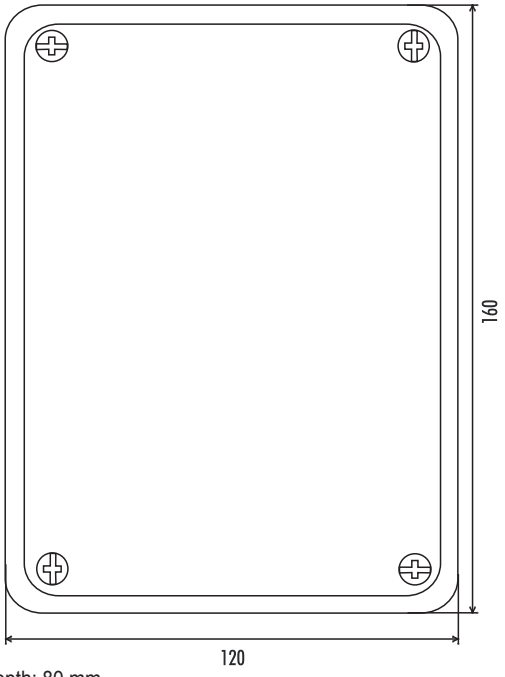
To avoid interferences with other nearby units, it is essential to set a specific code, different from factory default.

Once codification and connection are checked, unit will be powered. The available operation modes are:

1. Water level control: with this operation mode, unit will function as a level control with two probes, maximum and minimum (only operative in case of 230 Vac supply).

Size

GENERAL



Depth: 80 mm.

Operation

a) When tank level is at minimum (max. and min. probes uncovered), transmitter will order the receiver starting.

b) If tank level arises its maximum (max. and min. proves covered), stop will be ordered.

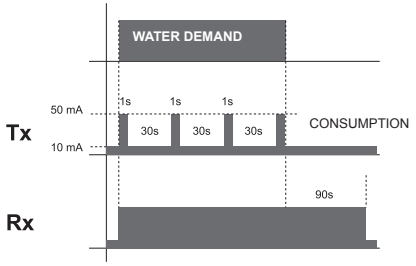
2. Float, unit will communicate the contact introduced into the float input, with no need of main supply (12 Vdc supply), although 230 Vac supply is also operative.

a) When contact is open, there will be a starting order.

b) With a closed contact in this input, stop will be ordered.

Operation mode in both cases is carried out in a time sequence:

1. When the transmitter orders running, and as long as it persists, it continuously transmits the order, in a cadence of 1-second transmission (TX red pilot light on), followed by 30-second pause.
2. As long as receiver gets transmitter orders (RX red pilot on) the relay contact will remain closed (refreshing every 30 seconds).
3. As soon as transmitter orders stop, this will remain in standby (as a power saving measure).
4. If receiver detects a lack of transmission during 90 seconds (three transmissions approx.), it will change relay contact to standby mode.



Technical features

TRANSMITTER	
Power supply	230 Vac ó 12 Vdc
Antenna power	400 mW.
Consumption	See Operation diagram
Transmission frequency	433,92 MHz
Transmission distance	up to 300 m. (up to 1 km. with directive antenne optional)
Signal input	1) Water level control (only with 230 Vac supply): 2 probes, maximum and minimum. Sensitivity 9 Kohm. 2) Float (230 Vac / 12 Vdc supply): free-voltage contact.
BNC	connector for antenna
Approximate average weight	580 g. (antenna included)

Technical features

RECEIVER	
Power supply	230 Vac
Tunning frequency	433,92 MHz.
Signal output	contacto conmutado
	AC1: 10 A - 250 Vac
	AC11: 2,5 A - 230 Vac
	DC1: 1 A - 250 Vdc
	DC11: 5 A - 24 Vdc
BNC	connector for antenna
Approximate average weight	570 g. (antenna included)

Troubleshooting

Problem	Cause	Solution
• Unit doesn't work, even after powered on.	• Blown fuse	• Replace fuse (glass 5x20 / 0.1 A)
• Unit transmits the order, but receiver doesn't get it.	• Wrong codification	• Check codification in both transmitter and receiver
• Level control doesn't work correctly.	• Inverted max. and min. probes. • Wrong earth wire connection. • Probe or float wires cut.	• Place probes in their correct location. • Check earth wiring. • Check wiring integrity