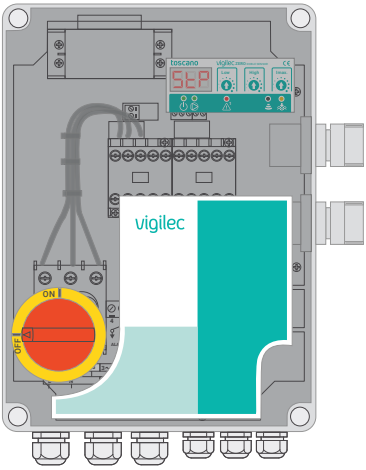
vigilec | ZERO

toscano

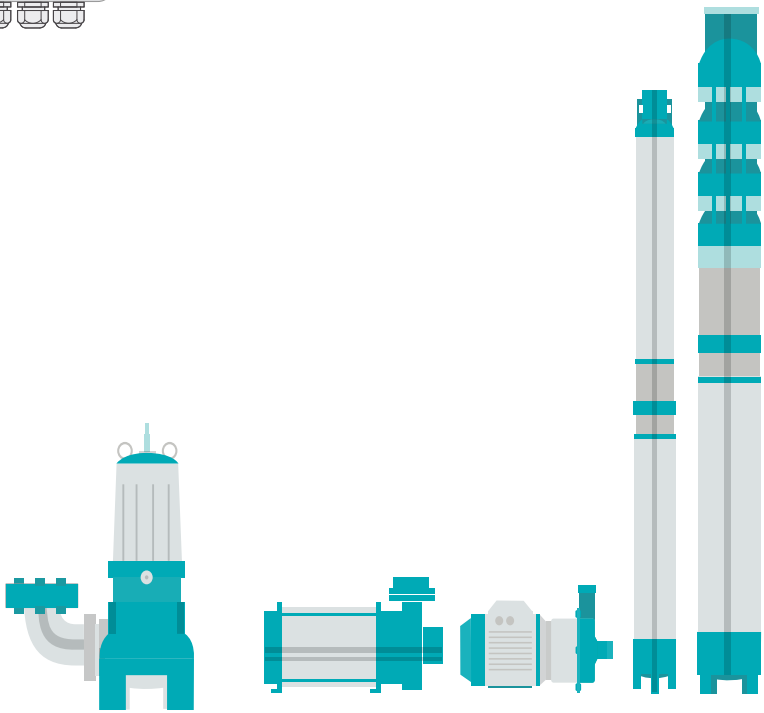
V2ZBS

Ed. 9.26



ENGLISH (EN) User manual

Duplex control and protection panel up to 12 A, 230 or 400 VAC.



CONTENT

ENGLISH (EN)

1. INTERNAL CONFIGURATION 4
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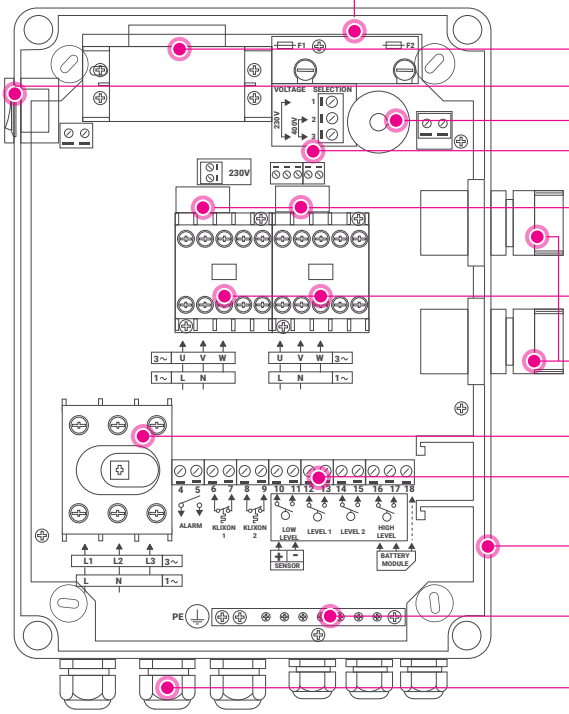


The installation has to be done by an electrician

WARNING

CAUTION! We recomend to follow all procedure and safety instructions approved in your area operating with equipment connected to the electrical power supply. Important safety information is detailed hereafter. For safe installation and operation of this equipment, be sure to read and understand all cautions and warnings. ⚠ **WARNING:** Before installing, operating, servicing, or testing this equipment, read and understand the contents of this manual. Improper operation, handling, or maintenance could result in death, serious personal injury, and equipment damage. ⚠ **WARNING:** This equipment is not designed to safeguard human lives. Follow all locally approved safety procedures and practices installing or operating this equipment. Failure doing so could result in death, serious personal injury, and equipment damage. ⚠ **WARNING:** Dangerous voltages. Contact with electrical current will cause serious personal injury or death. Follow all locally approved safety procedures when working near high voltage lines and equipment ⚠ **WARNING:** This equipment requires periodic inspection and maintenance to ensure proper operation. If not properly maintained, it may fail to operate properly. Incorrect operation could cause damage to the equipment and possibly result in personal injury. ⚠ **WARNING:** All connections must be made by a qualified person in charge. There is a risk of electric shock if this warning is not heeded. ⚠ **WARNING:** Additional protection of the pump motor may be added when necessary in the installation. ⚠ **WARNING:** If the equipment is used or modified outside the manufacturer's specifications, Toscano disclaims all liability due to improper use. The interior of the equipment should only be handled by personnel of our technical service.

1. INTERNAL CONFIGURATION



Control fuses

Isolation transformer

Buzzer + on/off switch

Control module socket

Voltage selection

Current transformers
(one per pump)

Power contactors
(one per pump)

MAN selector - 0 (reset) - AUTO (one per pump)

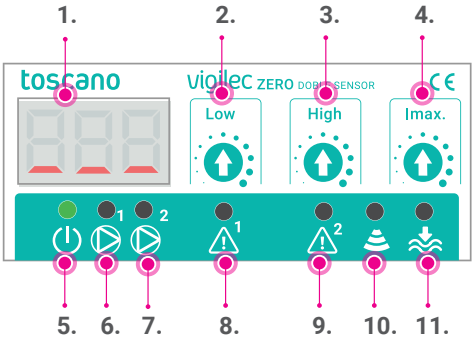
Main switch

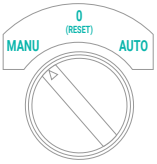
Control terminal blocks

IP65 protection

Ground terminal blocks

Cable glands





Forced run
(manual mode)

Pump not protected

Parts of the control module

1. Display
2. Low level setting
3. High level setting
4. Overload setting
5. Power ON
6. Pump 1 ON
7. Pump 2 ON
8. Pump 1 overload / Phase loss
9. Pump 2 overload / Phase loss
10. Infrared comunication
11. High level

The LOW / HIGH level settings are reserved exclusively for the use of a piezo sensor.

Display messages

P.12 OFF	Pump switches in OFF (0) position.
_ _ _ / 000	System in standby mode (pumps stopped).
9.3	Current drawn by the pump (amperage) only during forced operation (switches in MANUAL position).
OvL 10.3	Motor overload + trip current or phase loss.
und 0.5	Motor underload + trip current or phase loss.
SEn Sc.	Piezo sensor short-circuited.
SEn Oc.	Current loop open (wire cut, etc.).

3. STARTUP MESSAGES

The following messages will be shown on the digital display when the equipment is turned on.



Overload adjustment



Pump 1



Pump 2



Software version

With the sensor turned on:



Sensor range



Low level



Level pump 1



Level pump 2

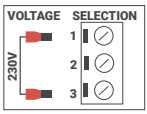


Level high

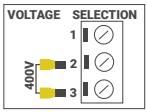
4. VOLTAGES SELECTION

In order to access to the selection of the voltages, it is necessary to remove the control module as shown in the photo and then make the connections according to the voltage model that we have chosen.





230 V

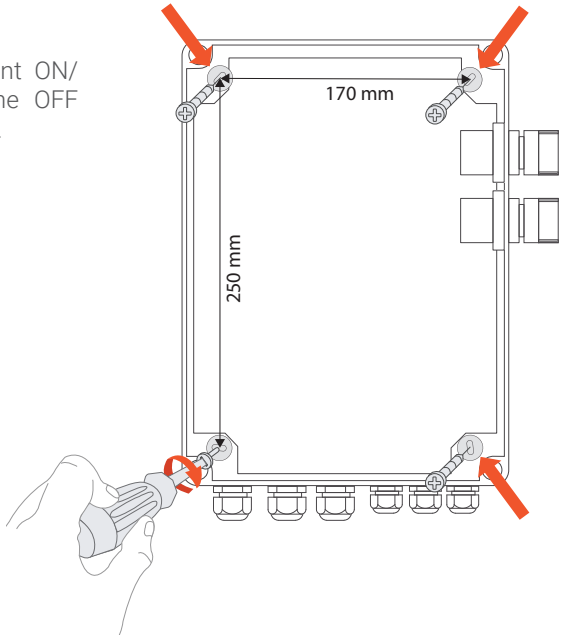


400 V

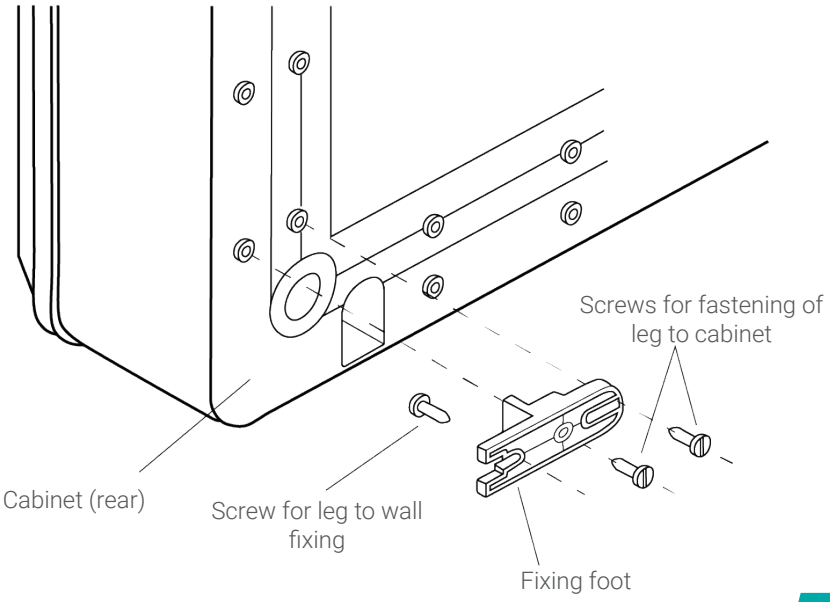
5. MOUNTING

Wall mounting

For safety reasons, the front ON/OFF switch must be in the OFF position to remove the cover.

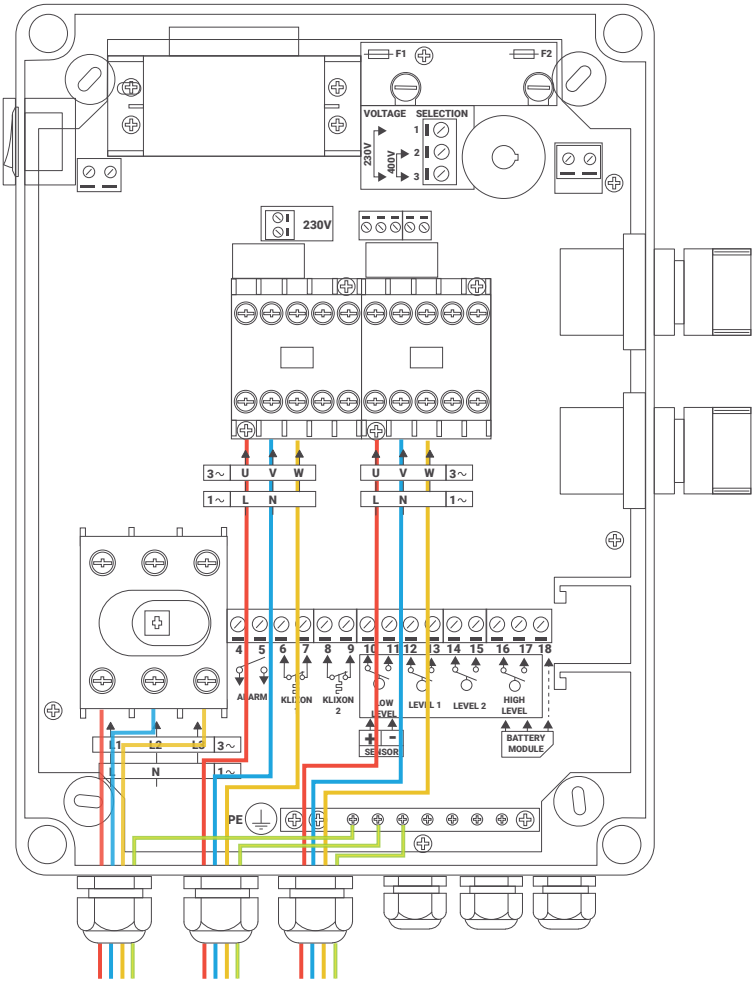


Leg mounting



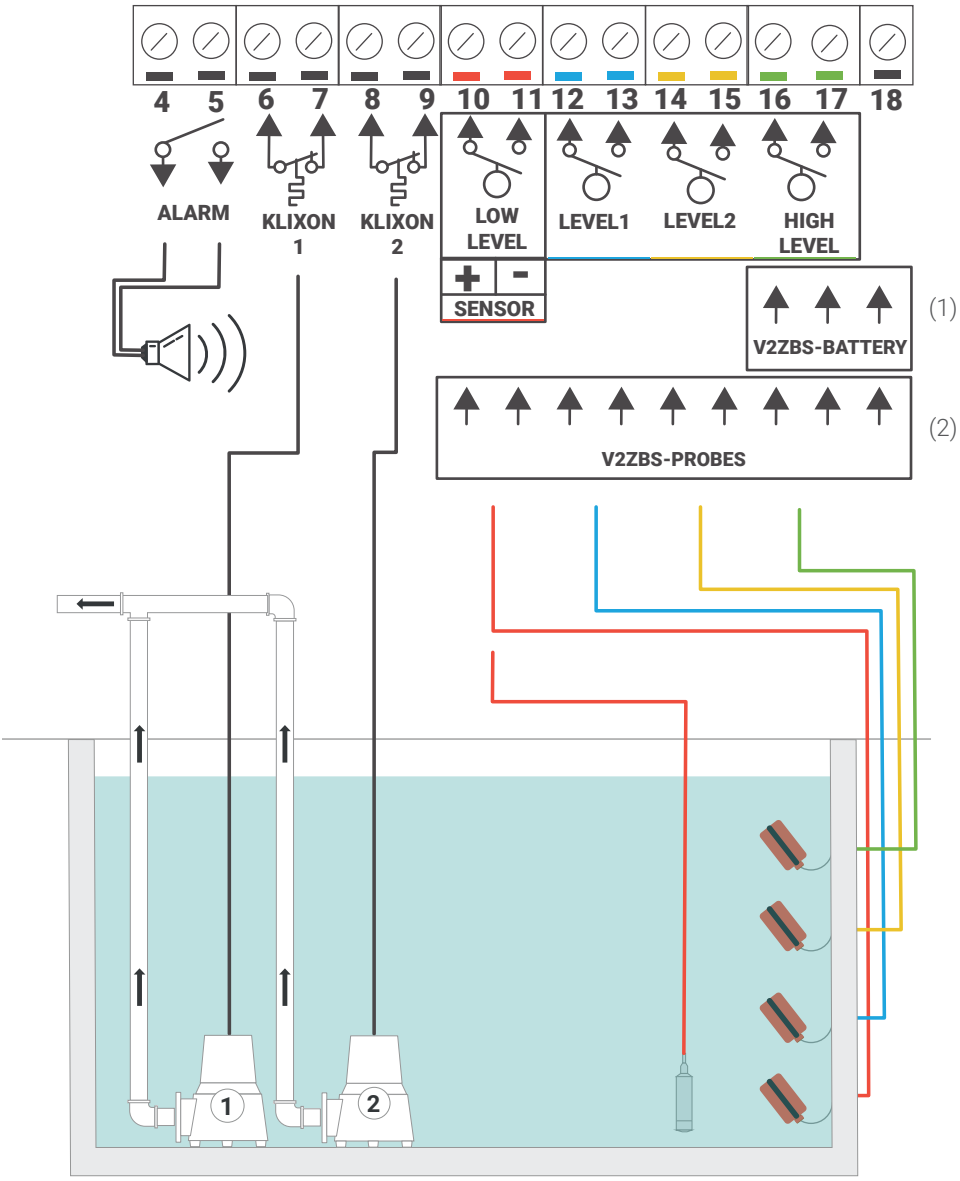
6. CONNECTIONS

Power connections



L N PE	U V W PE
230VAC (L-N)	230VAC (L-N)
L1 L2 L3 PE	L N PE
400VAC (L1-L2-L3)	400VAC (L1-L2-L3)

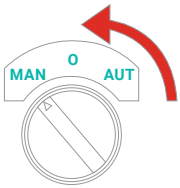
Control connections



(1) Optional module for backup battery (buzzer).

(2) Optional module for conductive probes (electrodes).

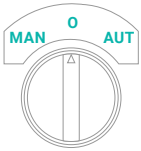
Selectors



Manual mode

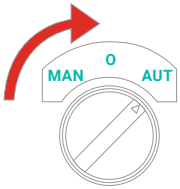
Pump started but not protected.

The display shows motor current and flashing LED overload.



OFF mode

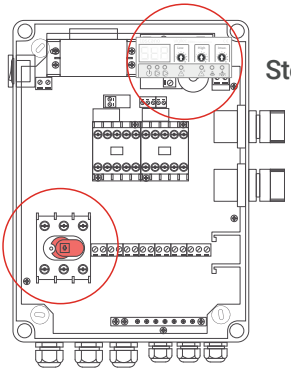
Pump off, cannot perform any action.



Automatic mode

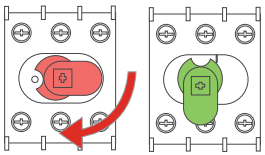
The pump operates according to the programmed configuration with the chosen option.

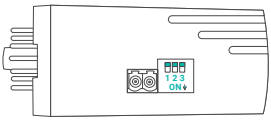
Set-up

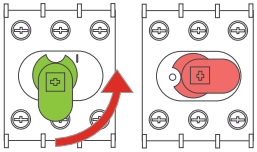


Step 2

Step 1 and 3.







Step 1

Inside the unit, turn the main switch “ON” so that the control module can be configured at a later time.

Step 2

In the side of the module, we choose the control option that we are going to use and we configure the levels of pressure and intensity of the pump according to application.

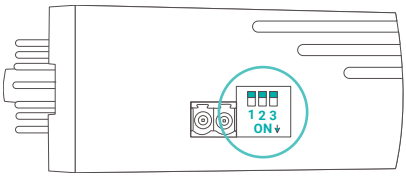
Step 3

We return to the “OFF” position to close the main switch.

Selecting the control mode

Three switches on the left side of the module must be used to select the control mode.





Option 1:

3 or 4 BUOYS





Sensor OFF

Option 2.

SENSOR + ALARM BUOY (optional)





1,0 = One meter



1,5 = One and a half meters



2,0 = Two meters



2,5 = Two and a half meters



3,0 = Three meters



4,0 = Four meters

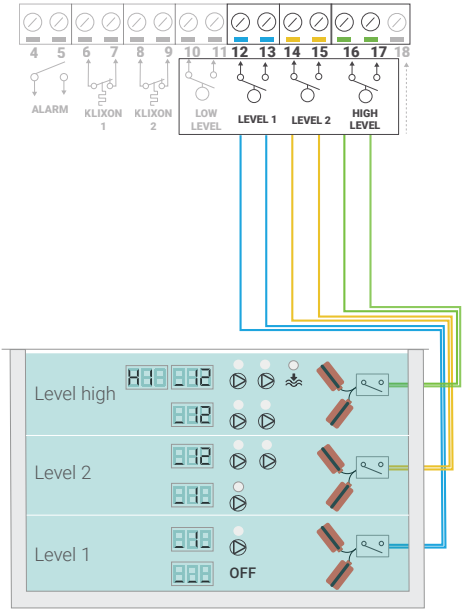


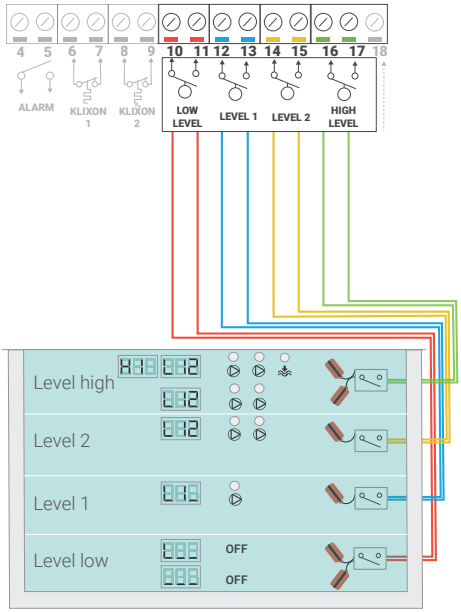
5,0 = Five meters

Example of operation with buoys



Sensor OFF







High water level. The alarm is activated L1+L2+HIGH



Pump 1 y 2 activated.



Pump 1 activated



OFF = Correct water level, pumps off



High water level. The alarm is activated LOW+L1+L2+HIGH



Pump 1 y 2 activated



Pump 1 activated



Low level activated



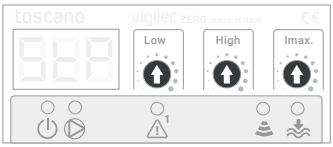
OFF = Correct water level, pumps off

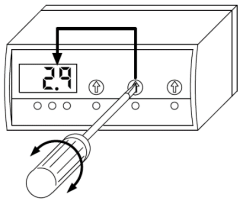
Example of operation with analogue pressure sensor 4-20 mA

Step 1: Select well depth. To do this, use three switches on the left side of the module.

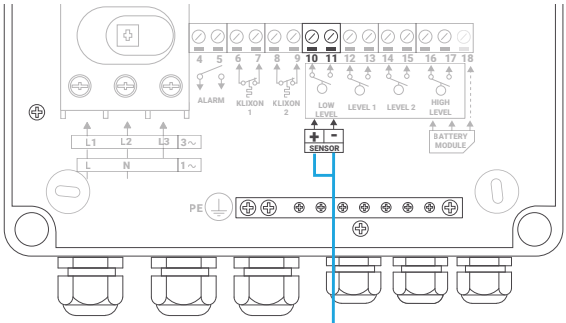


Step 2: Adjust low level (minimum 10 cm).
Step 3: Adjust high level (minimum 20 cm).

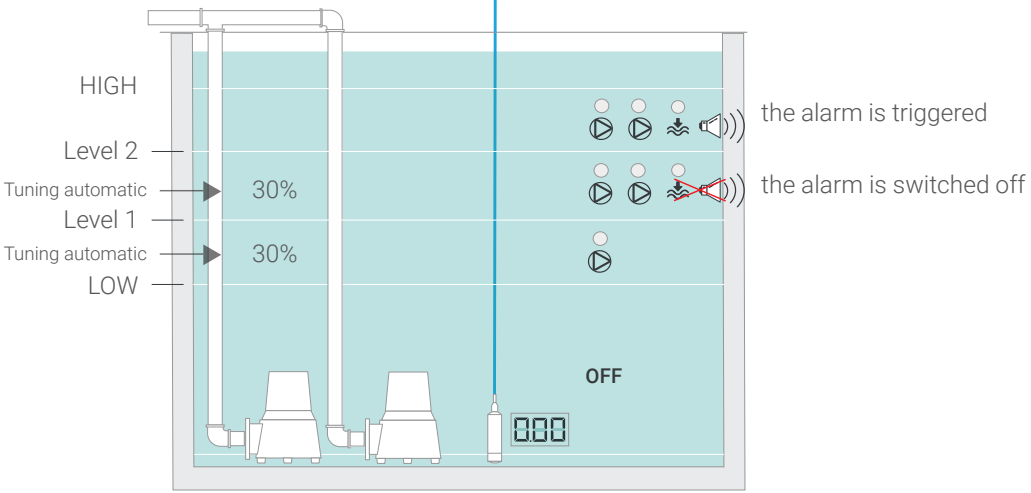




Step 4: The intermediate levels (high and low) are automatically adjusted.

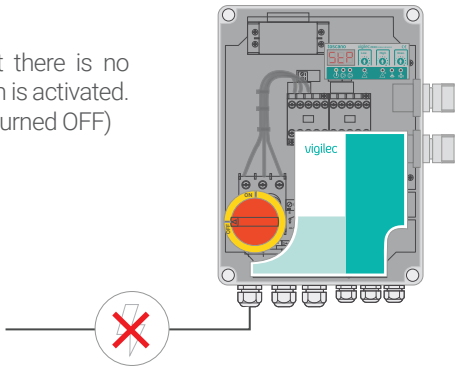


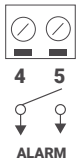
Sensor measures well depth



Power failure

If it detects that there is no current, the alarm is activated. (General switch turned OFF)







Pump Fault

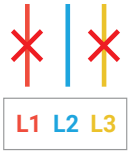
If a fault is detected in the pump or in the connection of the power supply cables, the system will automatically shut down and display warning messages indicating two potential causes:

Overload Fault (OuL)

This type of fault occurs when an overconsumption is detected or when phase L1 or L3 is missing. As a protection measure, the overload alarm is activated.



I motor > Imax



Missing Phase L1 or L3



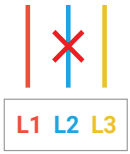
Pump Overload

Undervoltage Fault (und)

This fault occurs when an underload is detected or when phase L2 is missing. As a protection measure, the underload alarm is activated.



I motor < 0,5A



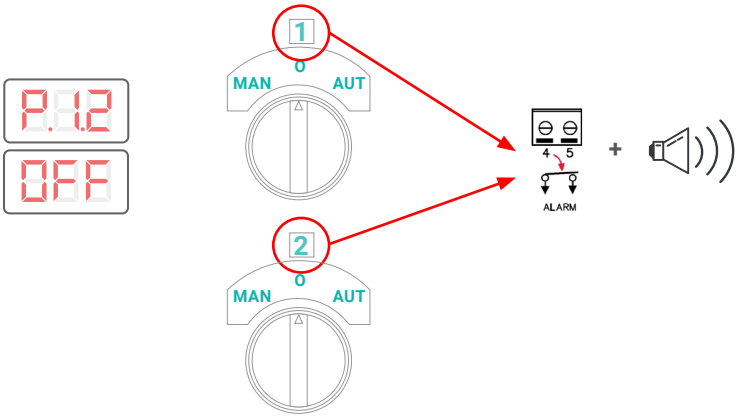
Missing Phase L2



Pump Underload

Pump alarm off

If the pump is deactivated (0) leaving no possibility of starting the drain, the alarm output will be activated, indicating the impossibility of flooding.



Sensor failure (4-20mA level sensor)

If the sensor is above 20 mA or below 4 mA with the pump running, the sensor error is detected, the pump is turned off and the equipment activates the alarm signal.



Sensor short-circuited



Current loop open (wire cut, etc.)

Other built-in functions / protections:

Automatic pump unclogging

To prevent seizing and damage to the pumps, the control panel features an automatic mechanical seal unclogging system for the pumps, activated by a simple pulse of about 1 second every 23 hours of continuous downtime (AUTO mode only). This function is particularly useful in installations with very long periods of inactivity (hotels, campsites, schools, etc.).

Operating safeguards

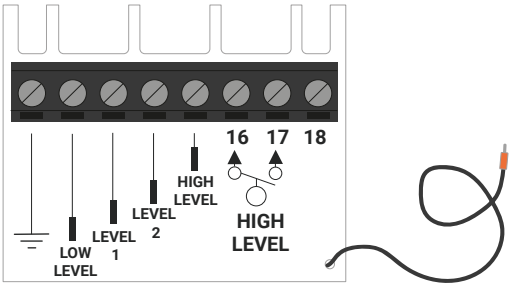
- *Cascade start and stop of pumps.*
- *Pump rotations:*

Automatic start of the backup pump in case of a fault in the operating pump or if its switch is set to OFF (0).

- *Automatic relay between floats:*

The alarm float (HIGH level) ensures the motors start in case of a fault with the other floats Additionally, for operational safety, automatic relaying is performed by the float located directly above the damaged float.

V2ZBS-PROBES. Ref 10002447

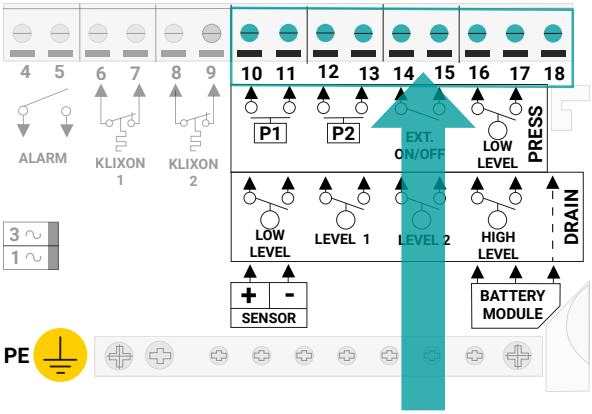


Easy installation.

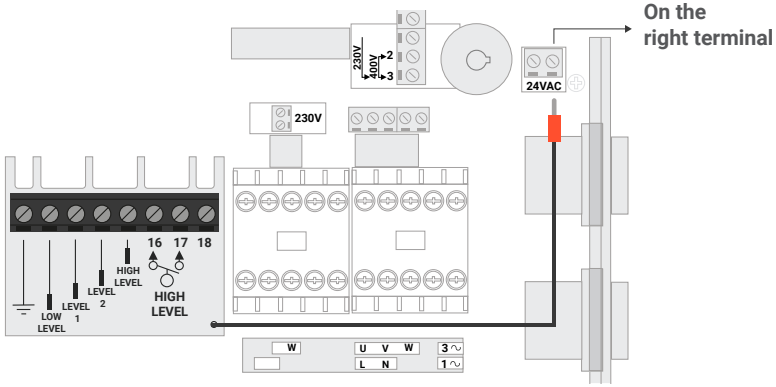
Replace the buoys with four conductive probes in the tank.

1. Selects the OFF position in the main switch of the equipment.
2. Open the transparent cover of the equipment.
3. Unplug the control module and insert the probe module terminals into the control terminal block (10 to 18).
4. Insert the probe module terminals into the control terminal block (10 to 18)





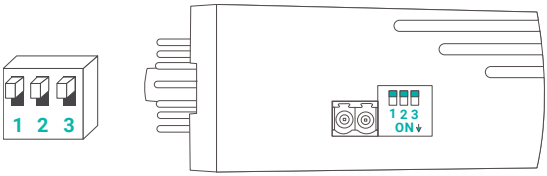
5 Connect the module cable to the 24 VAC terminal in the upper right corner of the control panel.



6 Connect the probes to the module and place it in the tank.

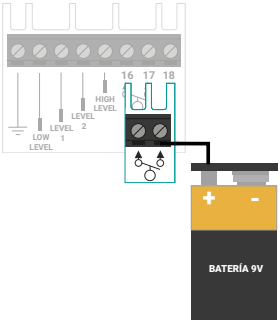
7 If the tank is made of insulating material (such as fiberglass, etc.), an additional probe must be placed at the bottom of the tank and connected to the ground terminal.

8 Plug in the control module. The operating mode of the module for conductive probes must be set to the left side of the module by selecting switches 1, 2 and 3 in the OFF position.



9 You can install the battery module on terminals 16, 17 and 18 of the probe module

V2ZBS-BATTERY. Ref 10002426



10 Replace the transparent cover.

The battery module can be installed independently of the sensor module.

10. TECHNICAL CHARACTERISTICS

Supply voltage	230 VAC I/III or 400 VAC III (selectable) -20%...+30% - 50/60Hz
Control Transformer	230-400 VAC / 24 VAC, primary fuse: 0,2 A (F1), secondary fuse: 0,8 A (F2)
Pump intensity range	1...12 A (V2ZBS) / 5...16 A (V2ZBS-E) / 5...22 A (V2ZBS-F) - AC3
Overload Adjustment (Imax)	1,1...13 A (V2ZBS) / 5,1...30 A (V2ZBS-E/F) / alarm triggered in 7 seconds
Control mode	Buoys and/or level sensor 4-20 mA or conductive probe (+optional module)
Control input voltage	24 VDC (buoys)
Sensor Power Voltage 4-20mA	24 VDC
Sensor range	1 m, 1,5 m, 2 m, 2,5 m, 3 m, 4 m o 5 m (selectable)
Sensor fault detection	Open circuit and short circuit
Low Level Adjustment	10 cm...sensor range
High Level Adjustment	Low level + 10 cm...sensor range
Level 2 Adjustment	2/3 automatic start (high level - low level)
Level 1 Adjustment	1/3 automatic start (high level - low level)
Terminal wiring cross-section	10 mm² (alimentation) 4 mm² (control)
Protections	Pump overload, phase failure and overheating (Klixon contacts)
Alarm contact	5 A / 250 VAC
Activation of the alarm contact	Overload, phase failure, sensor failure, high level, no pumps in AUTO, power failure.
Acoustic alarm	12 VDC - 90 dB
Recorded Information (PUMPCHECK)	See details in chapter 3
Size / Weight / IP / Temperature	300 (h) x 220 (w) x 120 (d) mm / 3550g / IP65 / -10 º...+55 ºC
Cable gland configuration	1xM25 (alimentation) / 2xM20 (motors) / 6xM16 (control)

Cod. 50023349 Ed. 9.26

toscano

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