EN - ORIGINAL INSTRUCTIONS FOR USE

TABLE OF CONTENTS

GENERAL INFORMATION

- This manual must always accompany the equipment to which it refers and be kept in an accessible place to be consulted by those involved in system operation and maintenance.
- Installers/users must read the instructions and information in this manual carefully before using the equipment in order to avoid damaging or misusing it, or voiding the warranty.
- This product must not be used by children or people with reduced physical, sensory or mental capabilities, nor those with inadequate experience and knowledge, except under supervision and instruction. Children should be observed to make sure they do not play with the equipment.
- The manufacturer shall not be held liable in the event of an accident or damage due to negligence or failure to follow the instructions described in this booklet or in conditions other than those specified on the rating plate. The manufacturer shall not be held liable for damage due to improper use of the equipment. Do not stack weights or other boxes on the package.
- Inspect the goods immediately on receipt to make sure that the equipment has not been damaged during transport. If any anomalies are found, promptly inform our dealer or the Pedrollo customer service department if purchased directly, no later than 5 days after receipt.

SAFETY RULES

SYMBOLS

The symbols used in this manual are described below.

RISK OF ELECTRIC SHOCK
This symbols warns that failure to observe the instructions will create a risk of electric shock.

RISK OF PERSONAL HARM OR PROPERTY DAMAGE
This symbols warns that failure to observe the instructions will create a risk of personal harm or property damage.

WARNINGS

- Read all parts of this manual carefully before installing and using the product;
- Check that the rating plate data is as required and matches the facilities.
- Only qualified personnel capable of making electrical connections in accordance with national regulations may carry out installation and maintenance.
- Only use the electrical control panel for the purpose and in the manner for which it was designed. Any other application or use is considered improper and therefore hazardous.
- In the event of a fire at or near the installation site, do not use water jets, but use suitable extinguishers (powder, foam, carbon dioxide).
- Install the equipment away from heat sources in a dry, covered place in accordance with the specified degree of protection (IP).
- Only qualified technicians who are aware of the safety regulations in force may carry out any installation and/or maintenance work.
- Use of non-original spare parts, tampering or improper use will void the product warranty.
- The manufacturer shall not be held liable for damage due to improper use of the product or caused by maintenance or repairs carried out by unqualified personnel and/or using non-original spare parts.

During the first installation and when carrying out maintenance, make sure that:

- there is no power on the mains supply.
- the mains supply is protected, and specifically has a high-sensitivity residual current circuit breaker (30 mA class A), suitable for protecting against alternating, single-pole, continuous, high-frequency fault currents. Also check that the earthing complies with the regulations.
- before removing the cover from the electrical control panel or starting work on it, disconnect the equipment from the mains power and wait at least 5 minutes to allow the capacitors to discharge through the built-in discharge resistors;
- after connecting the equipment, check the electrical control panel settings as the electric pump may start automatically.

CAUTION: **when out of service (display in the OFF state with a white background), the E electrical control panel remains live; disconnect the power from the electrical control panel before carrying out any work.**

EMERGENCY STOP
Press the I/O button while the **E** control panel is operating to perform an emergency stop

DURING THE FIRST INSTALLATION OR MAINTENANCE
Make sure that there is NO POWER on the mains supply.
Make sure that the system is NOT PRESSURISED.

PRODUCT DESCRIPTION

The **E** multifunction electric control panel is designed to protect and control 1 or 2 single-phase or three-phase electric pumps. It allows you to select the type of operation from 6 pre-set modes to suit your system, making it easy to use.

The electrical control panel can monitor the electric pumps through pressure switches, floats, remote contacts, run/stop floats, level sensors, 4–20 mA pressure transducers, 0–10 V pressure transducers, "cosφ" power factor and minimum current to check for dry running (where "φ" is current/voltage phase offset) and control panel power supply voltage.

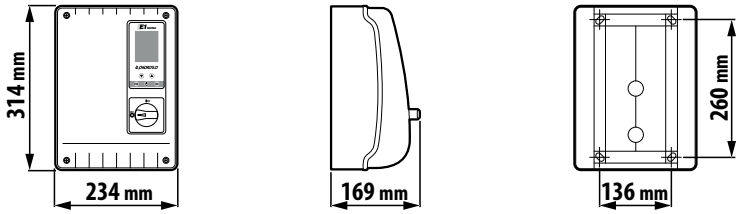
If the system has two pumps, the control panel automatically alternates between them so that they both work. This optimises the operating times and wear of the electric pumps.

If one of the electric pumps malfunctions, the operating logic automatically disables that pump and uses the other working pump in its place.

TECHNICAL DATA

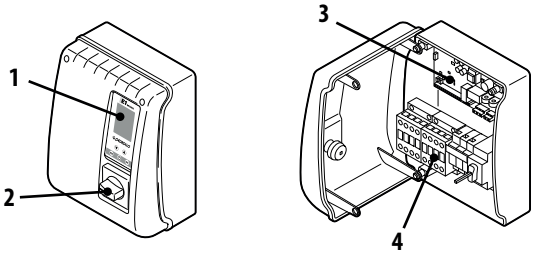
Rated operating voltage	**1~ 230 V** for **E MONO**	**3~ 400 V** for **E TRI**
Rated operating frequency	**50 – 60 Hz**	
Output current	**18 A / 25 A / 16 A**	
IP protection rating	**IP 55**	
Protective fuses	**25 A / 20 A**	
Ambient temperature	**-5/+40 °C**	
Relative humanity	**50% at 40 °C**	

DIMENSIONS, SPACING AND MOUNTING HOLES



PARTS LIST

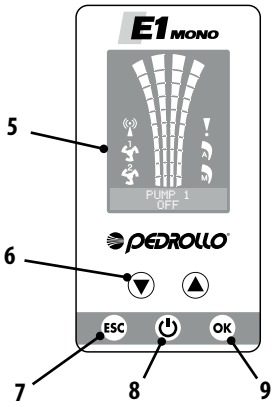
1. Control panel
2. Main two-pole **I/O** switch
3. Electronic board
4. Circuit breaker / relay assembly



THE CONTROLS

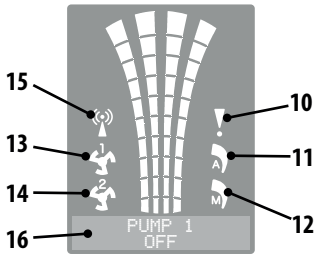
The **E** control panel has a keypad and display that serve as a user interface to control the operating parameters, monitor the alarms and program the system.

5. Display with 4 backlighting modes
   – Green: electric pump running
   – White: electric pump stopped or in standby
   – Yellow: control panel being programmed (setup)
   – Red: control panel in an alarm state
6. Scroll arrow keys (▼) (▲)
7. ESC key to exit from menus and display input states (ESC)
8. ON/OFF key (⏻)
9. OK key (OK)



DISPLAY SYMBOLS

10. ALARM indicator !
11. AUTOMATIC operation A
12. MANUAL operation M
13. Electric pump 1 operating 1
14. Electric pump 2 operating 2 (if any)
15. WI-FI active indicator (if any)
16. Two-line alphanumeric display showing voltage, frequency, current, cosφ, pressure, level, system operating state and system faults.



INSTALLATION

Incorrect installation can cause malfunction and failure of the electrical control panel.

Install the E control panel in accordance with the following conditions.

- In a ventilated room, protected from the weather and not exposed to sunlight.
- In a vertical position.
- Do not install the control panel in explosive atmospheres or where there are powders, acids or corrosive and/or flammable gases.

To fasten the control panel to a wall or suitable mount, referring to the DIMENSIONS, SPACING AND MOUNTING HOLES figure.

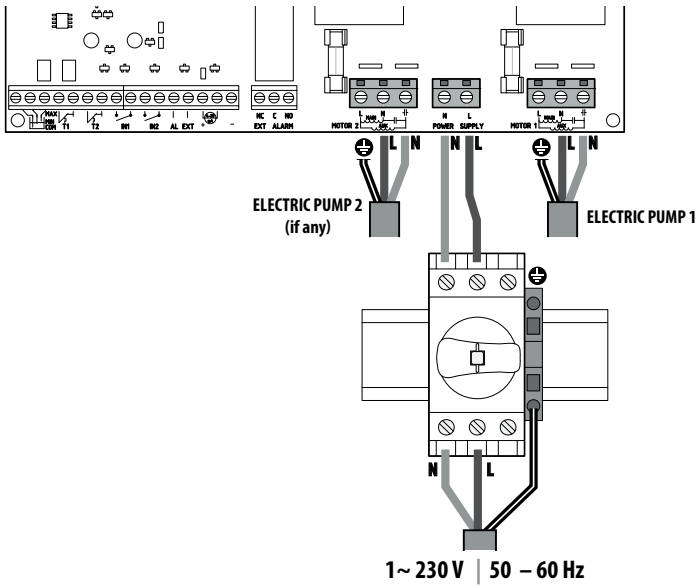
ELECTRICAL CONNECTION

Make sure that there is no voltage at the terminals of the line conductors before making the connections. Also, make sure that the mains supply is protected, and specifically has a high-sensitivity residual current circuit breaker (30 mA class A) and earthing that complies with the standards.

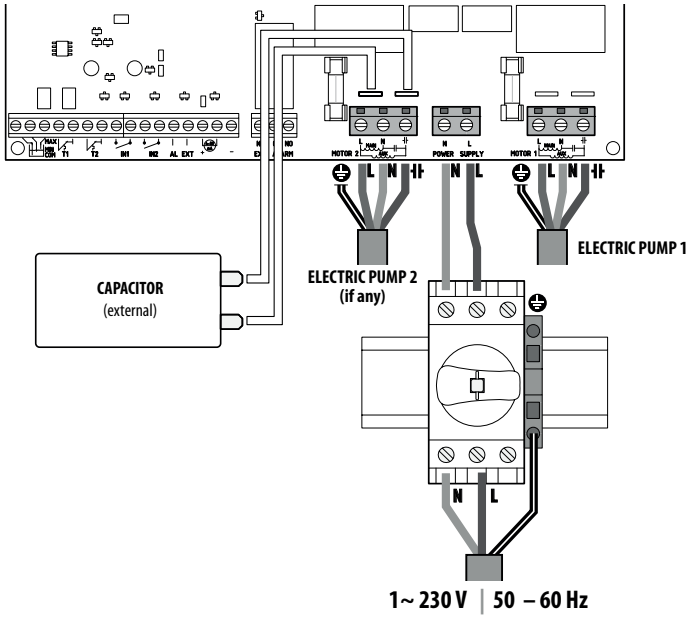
- Check that the mains supply voltage is the same as the voltage specified on the rating plates on the electrical control panel and the motor connected to the control panel, then make the earth connection before any other connection.
- The control panel supply voltage may vary within a range of +/-10% with respect to the rated supply voltage.
- Check the rated current consumption of the electric pump is compatible with the data on the electrical control panel rating plate.
- The power supply line must be protected by a residual current circuit breaker.
- Secure the electrical cables in the corresponding terminals using a tool of suitable size to avoid damaging the clamping screws. Take extra care when using an electric screwdriver.
- Do not use multicore cables containing both conductors connected to inductive power loads and signal conductors such as sensors and digital inputs.
- Make connection cables as short as possible, and avoid forming them into a spiral shape as inductive effects could damage the electronics.
- All wiring conductors must be suitably dimensioned to withstand the loads they supply.

ELECTRICAL CONNECTIONS

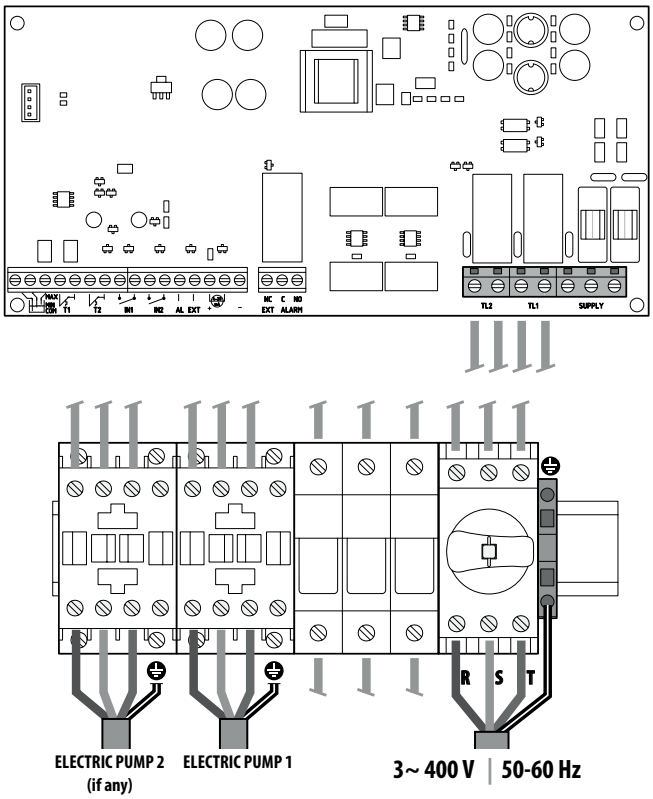
E MONO control panel with capacitor built into the electric pump



E MONO control panel (single phase) with external capacitor (installed in the control panel)

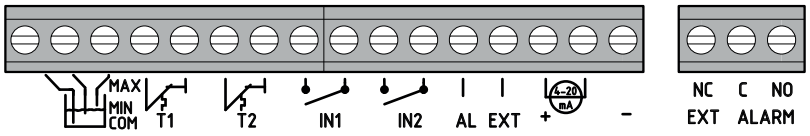


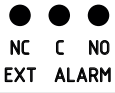
E TRI control panel (three-phase)



SIGNAL CONNECTIONS

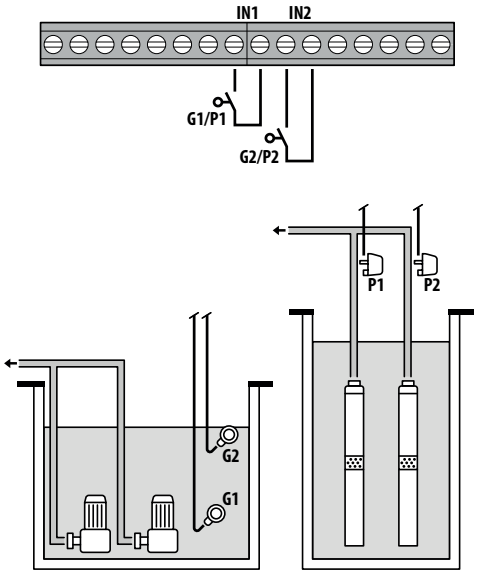
The electronic board in the control panel contains signal connecting terminals



	**COM/MIN/MAX** Capacitive level sensor inputs: COMMON, MINIMUM, MAXIMUM. The LEVEL SENS parameter `INOUT CONFIG` `LEVEL SENS:__` (percentage value) can be used to set the sensitivity according to the water conductivity.
	**T1** Input for the thermal cut-out of electric pump no. 1
	**T2** Input for the thermal cut-out of electric pump no. 2
	**IN1** Specific input for switching on a single electric pump with the alternating logic, using a normally open (NO) voltage-free contact
	**IN2** Specific input for switching on the second electric pump with the alternating logic and/or both pumps simultaneously, using a normally open (NO) voltage-free contact
	**AL EXT** Specific input from an external alarm with acoustic and/or visual function, using a normally open (NO) voltage-free contact
	Specific input for an amperometric or ratiometric pressure transducer
	**EXT ALARM** Specific output to trigger an external alarm, typically used to power a siren and/or flashing light.

Below shows the signal terminal connections for the 6 preset modes available on the control panel, depending on the type of system operation required.

MODE 1 – EMPTYING AND PRESSURISING (default mode)



Factory configuration

Parameter to be configured	**Value**
IN1	**ON**
IN2	**ON**
LOGIC	**ALTERN.**
DRY LOGIC	**COS**
COSFI REC	**ON**
COSFI REC	**2 min**
MAX REC T	**60 min**

	Float
	Pressure switch

Water detection via cosφ (dry running)

If **IN1** is closed with a NO voltage-free contact, either one pump or the other (if there are two) starts running according to the alternating logic. The control panel then checks the cosφ.

If the following control logic has been selected:
– DRY LOGIC=COS (default) and **cosφ** (read)>**cosφ** (set min)
or
– DRY LOGIC=CURR and **CURR** (read current)>**CURR MIN** (set minimum current)
it means that the pump is operating with water in the system, so the control panel lets it run, otherwise it is stopped due to dry running.

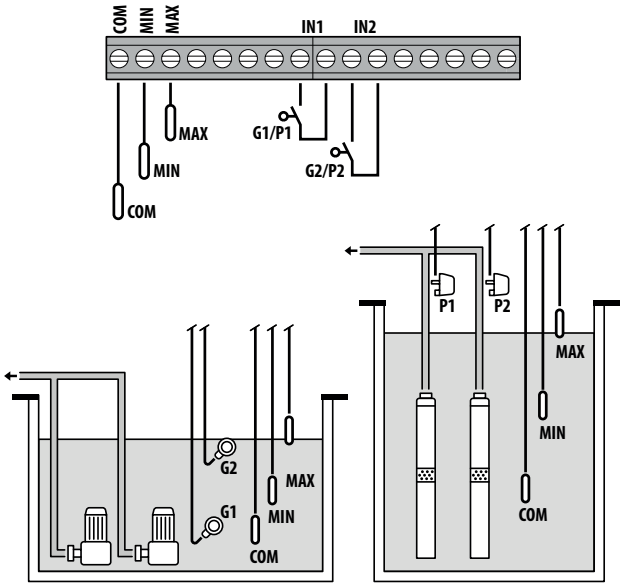
If **IN2** is also closed with a NO voltage-free contact, the other pump starts running (if there are two). The control panel then checks the cosφ for the second pump, using the same logic as for the first one.

If, instead, **IN1** is not used, when **IN2** is closed with a NO voltage-free contact, either one pump or the other (if there are two) starts running according to the alternating logic, and the pump that was off starts running few seconds later. When both pumps are on, the control panel checks the cosφ using the same logic as explained above.

If inputs **IN1** and **IN2** are enabled at any time by opening a NO voltage-free contact, one or both pumps (if there are two) are switched off.

Pressing the **ESC** button shows the input states (**IN1 - IN2**) on the alphanumeric part of the display**.**

MODE 2 – EMPTYING AND PRESSURISING



Factory configuration

Parameter to be configured	**Value**
IN1	**ON**
IN2	**ON**
LOGIC	**ALTERN.**

	Float
	Pressure switch
	Level sensor

Water detection via level sensor

If the water level is high enough to activate both level sensors, i.e. **LOW=1** and **HIGH=1**, and **IN1** is closed with a NO voltage-free contact, either one pump or the other (if there are two) starts running according to the alternating logic.

If **IN2** is also closed with a NO voltage-free contact, the other pump starts running (if there are two).

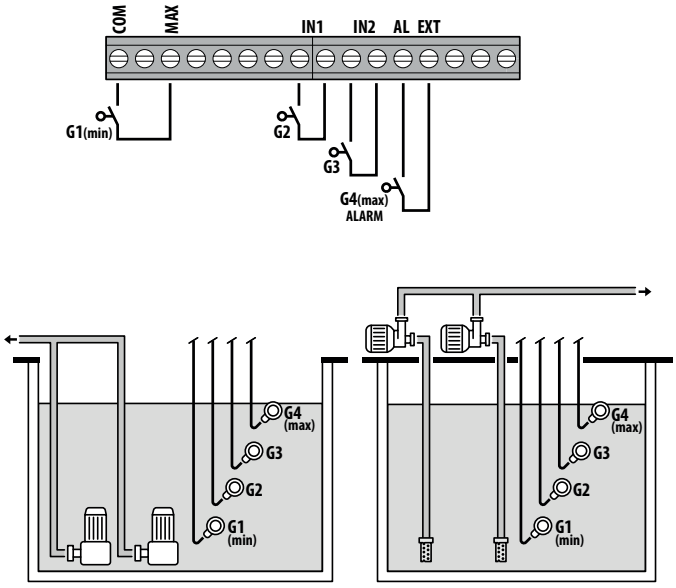
If, instead, **IN1** is not used, when **IN2** is closed with a NO voltage-free contact, either one pump or the other (if there are two) starts running according to the alternating logic, and the pump that was off starts running few seconds later.

If inputs **IN1** and **IN2** are enabled at any time by opening a NO voltage-free contact, one or both pumps (if there are two) are switched off.

In any operating state, if the water level drops enough to deactivate both level sensors (**COM-MIN and COM-MAX**), i.e. **LOW=0 and HIGH=0**, any pumps that are running will be turned off and inputs **IN1** and **IN2** will be disabled.

Pressing the **ESC** button shows the input states (**IN1 - IN2** and **LOW - HIGH**) on the alphanumeric part of the display**.**

MODE 3 – EMPTYING



Factory configuration

Parameter to be configured	Value
IN1	**ON**
IN2	**ON**
HELP SET	**OFF**
LOGIC	**ALTERN.**
HELP TIME	**5 min**

Float

Water detection via safety float

If the water level is high enough to activate the level sensor, i.e. **HIGH=1**, and **IN1** is closed with a NO voltage-free contact, either one pump or the other (if there are two) starts running according to the alternating logic.

If **IN2** is also closed with a NO voltage-free contact, the other pump starts running (if there are two).

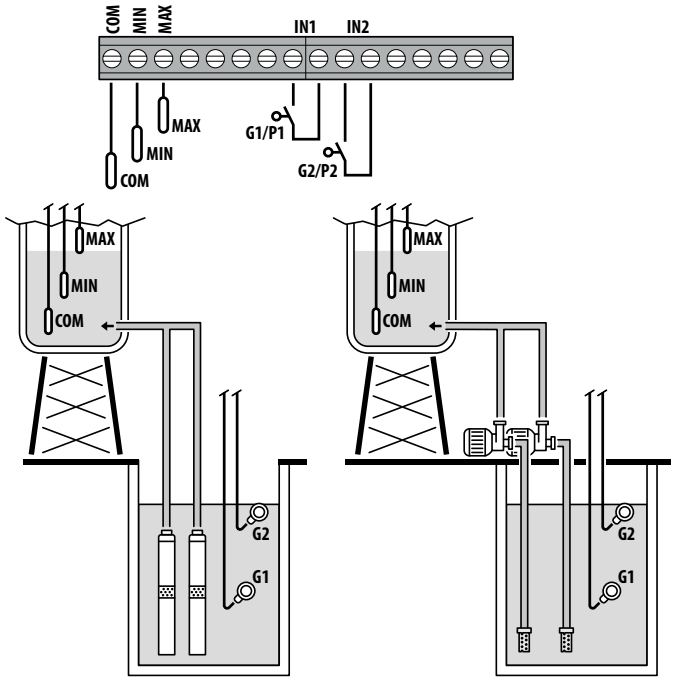
If, instead, **IN1** is not used, when **IN2** is closed with a NO voltage-free contact, either one pump or the other (if there are two) starts running according to the alternating logic, and the pump that was off starts running few seconds later.

In this operating mode, the second pump can be activated with the **HELP SET** function, even when it is not enabled by the safety float (at **IN2**).

Inputs **IN1** and **IN2** have no effect on switching off the pump or both pumps (if there are two). Any pumps that are running will be switched off and inputs **IN1** and **IN2** will be disabled if the water level drops enough to disable the high level sensor (**COM-MAX**), i.e. **HIGH=0**.

Pressing the **ESC** button shows the input states (**IN1 - IN2** and **LOW - HIGH**) on the alphanumeric part of the display**.**

MODE 4 – FILLING



Factory configuration

Parameter to be configured	**Value**
IN1	**ON**
IN2	**ON**
LOGIC	**ALTERN.**
HELP SET	**OFF**
HELP TIME	**5 min**

	Float
	Level sensor

Water detection via level sensor

If the water level in the collection tank is low enough to deactivate both level sensors (tank empty), i.e. **LOW=0** and **HIGH=0**, and **IN1** is closed with a NO voltage-free contact (in the accumulation tank), either one pump or the other (if there are two) starts running according to the alternating logic.

If **IN2** is also closed with a NO voltage-free contact, the other pump starts running (if there are two).

If, instead, **IN1** is not used, when **IN2** is closed with a NO voltage-free contact, either one pump or the other (if there are two) starts running according to the alternating logic, and the pump that was off starts running few seconds later.

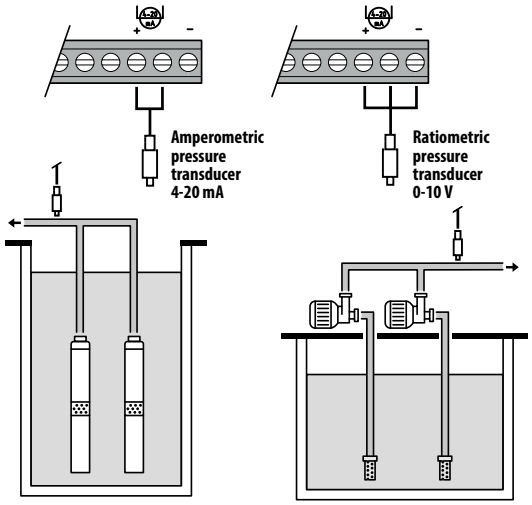
In this operating mode, the second pump can be activated with the **HELP SET** function, even when it is not enabled by the safety float (at **IN2**).

If inputs **IN1** and **IN2** are enabled at any time by opening a NO voltage-free contact, one or both pumps (if there are two) are switched off, and the display indicates that there is no water in the accumulation tank (NO WATER).

Moreover, if the water level in the collection tank rises enough to activate the high level sensor (**COM-MAX**), i.e. **HIGH=1**, any pumps that are running will be turned off and inputs **IN1** and **IN2** will be disabled.

Pressing the **ESC** button shows the input states (**IN1 - IN2** and **LOW - HIGH**) on the alphanumeric part of the display.

MODE 5 – PRESSURISING



Factory configuration

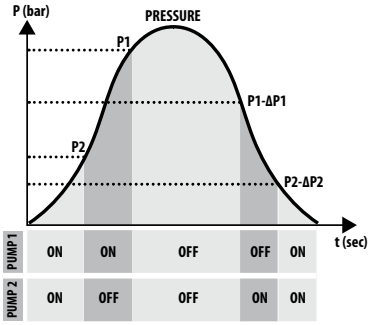
Parameter to be configured	Value
P1	**3.5 bar**
ΔP1	**0.5 bar**
P2	**2.5 bar**
ΔP2	**0.5 bar**
COSFI	**ON**
REC TIME	**2 min**
MAX REC T	**60 min**

Pressure transducer

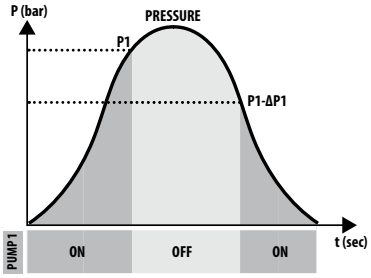
<u>Water detection via cosφ (dry running) and pump management via pressure transducer</u>

The pressure transducer controls operation of the two pumps, turning them on or off according to the value measured in the system. The cosφ of the pumps will also be monitored to generate a dry running alarm when appropriate.

If the pressure drops to **P** (read)<(**P1-ΔP1**), either one pump or the other starts running according to the alternating logic and the control panel then checks the cosφ.



If the following control logic has been selected:
– DRY LOGIC=COS (default) and
cosφ (read)>**cosφ** (set min)
or
– DRY LOGIC=CURR and
CURR (read current)>**CURR MIN** (set min current)
it means that the pump is operating with water in the system, so the control panel lets it run, otherwise it is stopped due to dry running.



If the pressure drops to **P** (read)<(**P2-ΔP2**) again, the other pump starts running (if there are two) and the control panel then checks the cosφ of the second pump, using the same logic as for the first one.

When the pressure rises to **P** (read)>**P2** again, the second pump is switched off, leaving the first one running (if there are two). If the pressure rises to **P** (read)>**P1**, the pump that was left running is also switched off.

MODE 6 – CUSTOMISED

Customised mode (set up according to specific customer needs)

With this mode, more expert customers are free to decide how to set the electrical control panel operation by configuring the parameters as they want.

Factory configuration

Parameter to be configured	Value
RUN	**EMPTYING**
SENS L	**OFF**
IN1	**RUN**
IN2	**RUN**
LOGIC	**ALTERN.**
DRY RUN EN	**OFF**
DRY LOGIC	**COS**
COSFI REC	**ON**
REC TIME	**2 min**
MAX REC T	**60 min**
P1	**3.0 bar**
DP1	**0.5 bar**

START-UP

To avoid malfunctions due to setting up and operating the equipment incorrectly, read this manual carefully and follow the instructions before putting the equipment into service.

Prime the pumps (filling and bleeding the air) before starting up the system.

After making all the electrical and plumbing connections correctly, enter the configuration menu to set the correct parameter values for the kind of operation to be performed by the system.

MENU ACCESS COMMANDS

- Press the ON/OFF key to take the control panel OUT OF SERVICE (OFF) ⏻
- Press the ▼ + ▲ + OK keys simultaneously for 3 seconds
- Press the ▼ or ▲ key to display the various set MENUS

The display will remain in this state for 1 minute, after which it will exit automatically if no other buttons have been pressed. **The backlighting of the programming menus will**

PARAMETER EDITING COMMANDS

After entering the desired menu:

- Press the (OK) key in order to edit the parameter value.
- Press the (▼) or (▲) key to edit the parameter value.
- Press the (OK) key to confirm the choice.
- Press the (▼) key to display the next parameter or the (ESC) key to exit from the menu.

If you press the (ESC) key while editing a value without first pressing the (OK) key, the parameter will not be saved.

STRUTTURA DEL MENÙ

❶	SELECT LANG.CONFIG		Set the control panel language
	↳	LANG.CONFIG LANGUAGE:ENG	Select the desired language
❷	SELECT AUTOMATIC		Automatic operating mode
❸	SELECT MANUAL		Manual operating mode
❹	SELECT PUMP1 CONFIG		Electric pump no. 1 configuration
	↳	PUMP1 CONFIG WIZARD	Self-learn configuration (wizard)
		PUMP1 CONFIG CURRENT:5.0A	Electric pump maximum current
		PUMP1 CONFIG CURR TOUT:7s	Overcurrent trip delay
		PUMP1 CONFIG VOLT MIN	Minimum operating voltage
		PUMP1 CONFIG VOLT MAX	Maximum operating voltage
		PUMP1 CONFIG VOLT TOUT	MAX/MIN voltage trip delay
		PUMP1 CONFIG COSFI MIN:0.50	Electric pump minimum cosφ
		PUMP1 CONFIG COSFI TOUT:5s	Dry running trip delay
		PUMP1 CONFIG CURR MIN	Minimum operating current
		PUMP1 CONFIG CURM TOUT	Undercurrent trip delay
		PUMP1 CONFIG MOT PROT:OFF	Motor thermal cut-out
		PUMP1 CONFIG DISABLE:OFF	Electric pump no. 1 enable/disable

❺	SELECT PUMP2 CONFIG	Electric pump no. 2 configuration **(if any)**
↳	PUMP2 CONFIG WIZARD	Self-learn configuration (wizard)
	PUMP2 CONFIG CURRENT:5.0A	Electric pump maximum current
	PUMP2 CONFIG CURR TOUT:7s	Overcurrent trip delay
	PUMP2 CONFIG VOLT MIN	Minimum operating voltage
	PUMP2 CONFIG VOLT MAX	Maximum operating voltage
	PUMP2 CONFIG VOLT TOUT	MAX/MIN voltage trip delay
	PUMP2 CONFIG COSFI MIN:0.50	Electric pump minimum cosφ
	PUMP2 CONFIG COSFI TOUT:5s	Dry running trip delay
	PUMP2 CONFIG CURR MIN	Minimum operating current
	PUMP2 CONFIG CURM TOUT	Undercurrent trip delay
	PUMP2 CONFIG MOT PROT:OFF	Motor thermal cut-out
	PUMP2 CONFIG DISABLE:OFF	Electric pump no. 2 enable/disable
❻	SELECT INOUT CONFIG	Configure inputs and outputs
↳	INOUT CONFIG IN ALARM:ON	External alarm input
	INOUT CONFIG OUT ALARM:ON	External alarm output (NO/NC)
	INOUT CONFIG LEVEL SENS:50	Level sensor percentage sensitivity
	INOUT CONFIG P.TYPE:4-20mA	Pressure transducer type
	INOUT CONFIG P.RANGE:16bar	Pressure transducer range
❼	SELECT MODE CONFIG	CUSTOMISED PRESET MODE configuration (mode 1 to 6)
↳	MODE CONFIG MODE:1	Mode 1 automatic operation
	MODE CONFIG SETUP	Configure mode 1 customised operation
↳	MODE CONFIG MODE:2	Mode 2 automatic operation
	MODE CONFIG SETUP	Configure mode 2 customised operation
	•••	...
	•••	...

Continued ▸

❽	SELECT ENABLE WIFI	Configure Wi-Fi connection
	↳ ENABLE WIFI ENABLE:NO	
❾	SELECT RESTORE DEF	Reset to factory settings
	↳ RESTORE DEF CONFIRM?	

When the control panel is powered up, it enters an initial STARTING phase, after which it automatically enters OPERATION mode or goes out of service (OFF), depending on its state when it was last switched off.

❶ SETTING THE LANGUAGE

This menu is used to set the control panel interface language

- Open the menu SELECT LANG.CONFIG
- the (OK) key to confirm the choice and enter the submenu SELECT LANGUAGE:ENG
- Press the (OK) key to set the language
- Press the (▼) or (▲) key and select the desired language (ITA-ENG-DEU-ESP-FRA)
- Press the (OK) key to confirm

❷ CONFIGURING AUTOMATIC OPERATION

This configuration allows the control panel to monitor all the system operating parameters and display them together with any alarm messages.

- Open the menu SELECT AUTOMATIC
- Press the (OK) key to confirm the choice
- The A symbol will appear on the control panel display
- Press the ON/OFF (⏻) key to start the system.
- The pump running symbol will appear on the control panel display: 1 and/or 2
- The chosen operating mode (1 to 6) will appear on the lower alphanumeric display.

The control panel will always start in automatic MODE 1 the first time it is powered up

❸ CONFIGURING MANUAL OPERATION

This configuration is only intended for qualified personnel who are familiar with system control issues and the specific characteristics of the control panel.

In manual operating mode, the pumps can only be activated by holding the ON/OFF (⏻) key down. The pump is deactivated as soon as the key is released.

- Open the menu `SELECT MANUAL`
- Press the (OK) key to confirm the choice
- The M symbol will appear on the control panel display
- Press the ON/OFF key (⏻)
- Press the (▼) or (▲) key to display which electric pump to operate:
  `PUMP1 START?` o `PUMP2 START?`
- Press the ON/OFF (⏻) key and hold it down to start the chosen electric pump.

⚠ **If the electric pump does not start, check its operating state and/or connection.**

- The 1 or 2 symbol will appear on the control panel display
- The electric current, cosφ and voltage parameters will appear on the display during operation. The electric pump will stop when the key is released.

❹-❺ CONFIGURING ELECTRIC PUMP No .1 and/or No. 2

This menu is used to configure the electric pump operating parameters.
On entering the menu, you have two options:
–enter the wizard procedure (self-learn the current, cosφ and voltage parameters)
– proceed with manual configuration in the menu using the pump rating plate data.

SELF-LEARN CONFIGURATION (WIZARD)

The configuration wizard is a guided procedure that automatically stores the electric pump current and power factor (cosφ) in a few steps.

Open the menu `SELECT PUMP1 CONFIG` and proceed as follows.

`SELECT PUMP1 CONFIG`	• Press the (OK) key to confirm the choice and enter the submenu
↳ `PUMP1 CONFIG WIZARD`	• Press the (OK) key to confirm the choice and enter the submenu
↳ `WIZARD START PUMP1?`	• Press the (OK) key to start electric pump no. 1. • The 1 symbol will appear on the display followed by the next screen.
`CLOSE VALVE c:0.70`	• Close the electric pump delivery valve until the minimum cosφ value is displayed (c). • Wait about 20 seconds to let the cosφ parameter (c) settle, and then the procedure will go to the next screen.
`PRESS OK SAVE c:0.70`	• Press the (OK) key to save the COSFI MIN parameter and go to the next screen.

Continued ▸

CLOSE VALVE I:6.2	• Close the electric pump delivery valve until the minimum current value is displayed (I). • Wait about 20 seconds to let the minimum current parameter (I) settle, and then the procedure will go to the next screen.
PRESS OK SAVE I:6.2	• Press the (OK) key to save the CURR MIN parameter and go to the next screen.
OPEN VALVE I:9.2A	• Open the electric pump delivery valve until the maximum current value is displayed (I). • Wait about 20 seconds to let the current parameter (I) settle, and then the procedure will go to the next screen.
PRESS OK SAVE I:9.2A	• Press the (OK) key to save the CURRENT parameter and go to the next screen
OPEN VALVE V:220V	• Wait about 20 seconds to let the voltage parameter (V) settle, and then the procedure will go to the next screen.
PRESS OK SAVE V:220V	• Press the (OK) key to save the VOLT MIN and VOLT MAX parameters. • The procedure is complete, and the next screen will appear.
WIZARD OK	• Press the (OK) key again to exit from the procedure

If there is an electric pump no. 2

Use the same procedure to configure electric pump no. 2 PUMP2 CONFIG WIZARD

CONFIGURING THE PUMP PARAMETERS MANUALLY

The manual configuration wizard is a procedure in which the electric pump current and power factor (cosφ) must be entered manually in a few steps.

- Open the menu SELECT PUMP1 CONFIG
- See PARAMETER EDITING COMMANDS for how to edit the values of each individual parameter.

SELECT PUMP1 CONFIG	• Press the (OK) key to confirm the choice and enter the submenu			
↳ PUMP1 CONFIG WIZARD	• Do not consider this submenu. Go to the next one.			
PUMP1 CONFIG CURRENT:5.0A	• Set the maximum permissible current of the electric pump (from the rating plate or measured)	Default **5.0 A**	Range **0–18 A**	Step **0.1**
PUMP1 CONFIG CURR TOUT:7s	• Set the overcurrent trip delay time.	Default **7 sec**	Range **0–20 sec**	Step **1 sec**

PUMP1 CONFIG VOLT MIN	• Set the minimum permissible voltage for correct control panel operation. • If voltage (read) < voltage (set minimum), the control panel enters the MIN VOLTAGE alarm state.		
	Default **0 V**	Range **0–460 V**	Step **1 V**
PUMP1 CONFIG VOLT MAX	• Set the maximum permissible voltage for correct control panel operation. • If voltage (read) < voltage (set maximum), the control panel enters the MAX VOLTAGE alarm state.		
	Default **460 V**	Range **0–460 V**	Step **1 V**
PUMP1 CONFIG VOLT TOUT	• Set the overvoltage or undervoltage trip delay time.		
	Default **5 sec**	Range **0–20 sec**	Step **1 sec**
PUMP1 CONFIG COSFI MIN:0.50	• Set the minimum permissible cosφ to protect the electric pump from dry running (from the rating plate or measured). • If the read cosφ is less than the set minimum cosφ, the control panel enters an alarm state.		
	Default **0.5**	Range **0–1**	Step **0.01**
PUMP1 CONFIG COSFI TOUT:5s	• Set the dry running trip delay time.		
	Default **5 sec**	Range **0–20 sec**	Step **1 sec**
PUMP1 CONFIG CURR MIN	• Set the minimum permissible current to protect the electric pump from dry running (from the rating plate or measured). • If current (read) < current (set minimum), the control panel enters an alarm state due to DRY RUNNING.		
	Default **5.0 A**	Range **0–18 A**	Step **0.1**
PUMP1 CONFIG CURM TOUT	• Set the trip delay time for dry running due to minimum current.		
	Default **5 sec**	Range **0–20 sec**	Step **1 sec**
PUMP1 CONFIG MOT PROT:OFF	• Enable or disable motor protection by the thermal cut-outs connected to inputs T1 and T2 (klicson).		
	Default **OFF**	Range **OFF–ON**	Step **/**
PUMP1 CONFIG DISABLE:OFF	• Enable or disable electric pump operation when it is under maintenance or has failed.		
	Default **OFF**	Range **OFF–ON**	Step **/**

If there is an electric pump no. 2

Use the same procedure to configure electric pump no. 2 SELECT
PUMP2 CONFIG

❻ CONFIGURING THE INPUTS AND OUTPUTS

This menu is used to configure the control panel inputs and outputs. The type and operating range of the pressure transducers, the sensitivity of the capacitive level sensors and the external alarm input and output can be set.

- Open the menu `SELECT INOUT CONFIG`
- See PARAMETER EDITING COMMANDS for how to edit the values of each individual parameter.

`SELECT INOUT CONFIG`

- Press the (OK) key to confirm the choice and enter the submenu

↳ `INOUT CONFIG IN ALARM:ON`

- Enable or disable the external alarm with acoustic and/or visual function.
- This alarm does not block electric pump operation, but signals a fault due to external factors.

Default **ON**	Range **OFF–ON**	Step **/**

`INOUT CONFIG OUT ALARM:ON`

- Enable or disable the relay output (NO/NC), to be used to power a siren and/or flashing light.

Default **ON**	Range **OFF–ON**	Step **/**

`INOUT CONFIG LEVEL SENS:50`

- Set the percentage sensitivity of the level sensor.
- This value should be calibrated for the conductivity of the water in the system.

Default **50%**	Range **1–100%**	Step **1%**

`INOUT CONFIG P.TYPE:4-20mA`

- Select the pressure transducer type:
  – 4–20 mA amperometric
  – 0–10 V ratiometric

Default **4–20 mA**	Range **4–20 mA / 0–10 V**	Step **/**

`INOUT CONFIG P.RANGE:16bar`

- Select the maximum operating pressure of the pressure transducer.

Default **16 bar**	Range **10–40**	Step **10/16/25/40**

❼ CONFIGURING THE CUSTOMISED PRESET MODE

This menu is used to choose the control panel automatic operating mode according to the requirements of the system to be implemented.

You can choose from six different preset configurations

- Open the menu `SELECT MODE CONFIG`
- See PARAMETER EDITING COMMANDS for how to edit the values of each individual parameter.

Configuring MODE 1

SELECT MODE CONFIG	• Press the (OK) key to confirm the choice and enter the submenu.
MODE CONFIG MODE:1	• If MODE:1 appears on the display, press the (▼) key to continue and enter mode 1 configuration, otherwise press the (OK) key to enter the submenu and change the mode.
MODE:1	• Press the (▼) or (▲) key to select mode 1 (from modes 1 to 6) • Press the (OK) key to confirm the choice of MODE:1 • Press the (▼) key to continue with the configuration
MODE CONFIG SETUP	• Press the (OK) key to enter the mode 1 configuration submenu
MODE1 CONFIG IN1:ON	• Enable (**ON**) or disable (**OFF**) input IN1 • This input is used to start a single electric pump according to the alternating logic
MODE1 CONFIG IN2:ON	• Enable (**ON**) or disable (**OFF**) input IN2 • This input is used to start the second electric pump according to the alternating logic, or to start both electric pumps simultaneously
MODE1 CONFIG LOGIC:ALTERN.	• If the system has two electric pumps, enable (**ALTERN.**) or disable (**SINGLE**) the alternating logic.
MODE1 CONFIG DRY LOGIC:COS	• Set whether the dry running stop logic is based on the motor current reading (**CURR**) or cosφ reading (**COS**)
MODE1 CONFIG COSFI REC:ON	• Enable (**ON**) or disable (**OFF**) automatic COSFI recovery when it is below COSFI MIN (dry running) • With COSFI RECOVERY, the control panel attempts to automatically recover an electric pump that is in the dry running alarm state (COSFI read < COSFI minimum)
MODE1 CONFIG REC TIME:2m	• Recovery time for automatic deactivation of the dry running alarm. • The control panel attempts automatic recovery after the set time, and then doubles it on each subsequent cycle (e.g. 2 min, 4 min, 8 min ...), up to the maximum recovery time (see the next parameter). Default **2 min** Range **0-10 min** Step **1 min**
MODE1 CONFIG MAX REC T:60m	• Maximum recovery time for automatic deactivation of the dry running alarm. • The control panel attempts automatic recovery up to the set maximum value (e.g. every 60 min). Default **60 min** Range **0-120 min** Step **1 min**

Continued ▸

Configuring MODE 2

SELECT MODE CONFIG	• Press the (OK) key to confirm the choice and enter the submenu.
MODE CONFIG MODE:1	• Press the (OK) key to enter the submenu and change mode.
MODE:2	• Press the (▼) or (▲) key to select mode 2 (from modes 1 to 6) • Press the (OK) key to confirm the choice of MODE:2 • Press the (▼) key to continue with the configuration
MODE CONFIG SETUP	• Press the (OK) key to enter the mode 2 configuration submenu
MODE2 CONFIG IN1:ON	• Enable (**ON**) or disable (**OFF**) input IN1 • This input is used to start a single electric pump according to the alternating logic
MODE2 CONFIG IN2:ON	• Enable (**ON**) or disable (**OFF**) input IN2 • This input is used to start the second electric pump according to the alternating logic, or to start both electric pumps simultaneously
MODE2 CONFIG LOGIC:ALTERN.	• If the system has two electric pumps, enable (**ALTERN.**) or disable (**SINGLE**) the alternating logic.

Configuring MODE 3

SELECT MODE CONFIG	• Press the (OK) key to confirm the choice and enter the submenu.
MODE CONFIG MODE:1	• Press the (OK) key to enter the submenu and change mode.
MODE:3	• Press the (▼) or (▲) key to select mode 3 (from modes 1 to 6) • Press the (OK) key to confirm the choice of MODE:3 • Press the (▼) key to continue with the configuration
MODE CONFIG SETUP	• Press the (OK) key to enter the mode 3 configuration submenu
MODE3 CONFIG IN1:ON	• Enable (**ON**) or disable (**OFF**) input IN1 • This input is used to start a single electric pump according to the alternating logic
MODE3 CONFIG IN2:ON	• Enable (**ON**) or disable (**OFF**) input IN2 • This input is used to start the second electric pump according to the alternating logic, or to start both electric pumps simultaneously
MODE3 CONFIG LOGIC:ALTERN.	• If the system has two electric pumps, enable (**ALTERN.**) or disable (**SINGLE**) the alternating logic.

MODE3 CONFIG HELP SET:OFF	• Enable (**ON**) or disable (**OFF**) activation of the second electric pump (safety) • This parameter is used to enable the second electric pump with a programmable time (even if there is no second input IN2)
MODE3 CONFIG HELP TIME:5m	• Safety electric pump activation time Default **5 min** | Range **0-60 min** | Step **1 min**

Configuring MODE 4

SELECT MODE CONFIG	• Press the (OK) key to confirm the choice and enter the submenu.
↳ MODE CONFIG MODE:1	• Press the (OK) key to enter the submenu and change mode.
↳ MODE:4	• Press the (▼) or (▲) key to select mode 4 (from modes 1 to 6) • Press the (OK) key to confirm the choice of MODE:4 • Press the (▼) key to continue with the configuration
↳ MODE CONFIG SETUP	• Press the (OK) key to enter the mode 4 configuration submenu
↳ MODE4 CONFIG IN1:ON	• Enable (**ON**) or disable (**OFF**) input IN1 • This input is used to start a single electric pump according to the alternating logic
MODE4 CONFIG IN2:ON	• Enable (**ON**) or disable (**OFF**) input IN2 • This input is used to start the second electric pump according to the alternating logic, or to start both electric pumps simultaneously
MODE4 CONFIG LOGIC:ALTERN.	• If the system has two electric pumps, enable (**ALTERN.**) or disable (**SINGLE**) the alternating logic.
MODE4 CONFIG HELP SET:OFF	• Enable (**ON**) or disable (**OFF**) activation of the second electric pump (safety) • This parameter is used to enable the second electric pump with a programmable time (even if there is no second input IN2)
MODE4 CONFIG HELP TIME:5m	• Safety electric pump activation time Default **5 min** | Range **0-60 min** | Step **1 min**

Continued ▸

Configuring MODE 5

SELECT MODE CONFIG	• Press the (OK) key to confirm the choice and enter the submenu.
MODE CONFIG MODE:1	• Press the (OK) key to enter the submenu and change mode.
MODE:5	• Press the (▼) or (▲) key to select mode 5 (from modes 1 to 6) • Press the (OK) key to confirm the choice of MODE:5 • Press the (▼) key to continue with the configuration
MODE CONFIG SETUP	• Press the (OK) key to enter the mode 5 configuration submenu
MODE5 CONFIG P1:3.0 bar	• Set the first activation threshold to a specific pressure. • This parameter defines the first pressure threshold (P1), above which both electric pumps are deactivated. • If the pressure is below this set value (P1) minus the differential value (DP1), a single pump is activated according to the alternating logic. Default **3 bar** Range **0–40 bar** Step **0.1**
MODE5 CONFIG DP1:0.5 bar	• Set the differential value (DP1) to a specific pressure. • This parameter defines the difference between the activation and deactivation levels with respect to the first activation threshold (P1) Default **0.5 bar** Range **0-P1** Step **0.1**
MODE5 CONFIG P2:2 bar	• Set the second activation threshold to a specific pressure. • This parameter defines the second pressure threshold (P2), above which one of the two electric pumps is deactivated. • If the pressure is below this set value (P2) minus the differential value (DP2), the second pump is activated. Default **2 bar** Range **0–40 bar** Step **0.1**
MODE5 CONFIG DP2:0.5 bar	• Set the differential value (DP2) to a specific pressure. • This parameter defines the difference between the activation and deactivation levels with respect to the second activation threshold (P2) Default **0.5 bar** Range **0-P2** Step **0.1**
MODE5 CONFIG LOGIC:ALTERN.	• If the system has two electric pumps, enable (**ALTERN.**) or disable (**SINGLE**) the alternating logic.
MODE5 CONFIG DRY LOGIC:COS	• Set whether the dry running stop logic is based on the motor current reading (**CURR**) or cosφ reading (**COS**)

MODE5 CONFIG COSFI REC:ON	• Enable (**ON**) or disable (**OFF**) automatic COSFI recovery when it is below COSFI MIN (dry running) • With COSFI RECOVERY, the control panel attempts to automatically recover an electric pump that is in the dry running alarm state (COSFI read < COSFI minimum)
MODE5 CONFIG REC TIME:2m	• Recovery time for automatic deactivation of the dry running alarm. • The control panel attempts automatic recovery after the set time, and then doubles it on each subsequent cycle (e.g. 2 min, 4 min, 8 min ...), up to the maximum recovery time (see the next parameter). Default **2 min** Range **0-10 min** Step **1 min**
MODE5 CONFIG MAX REC T:60m	• Maximum recovery time for automatic deactivation of the dry running alarm. • The control panel attempts automatic recovery up to the set maximum value (e.g. every 60 min). Default **60 min** Range **0-120 min** Step **1 min**

Configuring MODE 6

SELECT MODE CONFIG	• Press the (OK) key to confirm the choice and enter the submenu.
↳ MODE CONFIG MODE:1	• Press the (OK) key to enter the submenu and change mode.
⋮ ↳ MODE:6	• Press the (▼) or (▲) key to select mode 6 (from modes 1 to 6) • Press the (OK) key to confirm the choice of MODE:6 • Press the (▼) key to continue with the configuration
↳ MODE CONFIG SETUP	• Press the (OK) key to enter the mode 6 configuration submenu
↳ MODE6 CONFIG RUN:EMPTYING	• Set the operating mode: – EMPTYING (empty the collection tank) – FILLING (fill the tank) – PRESSUR. (pressurise the domestic/industrial system)
MODE6 CONFIG SENS L:OFF	• Enable (**ON**) or disable (**OFF**) the capacitive level sensors
MODE6 CONFIG IN1:RUN	• Set the first input (IN1): – STOP (input enabled to stop the first pump) – RUN (input enabled to start the first pump) – OFF (input disabled)

Continued ▸

MODE6 CONFIG IN2:RUN	• Set the second input (IN2): – STOP (input enabled to stop the second pump) – RUN (input enabled to start the second pump) – 2RUN (input enabled to start the second pump alone) – OFF (input disabled)
MODE6 CONFIG LOGIC:ALTERN.	• If the system has two electric pumps, enable (**ALTERN.**) or disable (**SINGLE**) the alternating logic.
MODE6 CONFIG DRY RUN EN:OFF	• Enable (**ON**) or disable (**OFF**) dry running protection
MODE6 CONFIG DRY LOGIC:COS	• Set whether the dry running stop logic is based on the motor current reading (**CURR**) or cosφ reading (**COS**)
MODE6 CONFIG COSFI REC:ON	• Enable (**ON**) or disable (**OFF**) automatic COSFI recovery when it is below COSFI MIN (dry running) • With COSFI RECOVERY, the control panel attempts to automatically recover an electric pump that is in the dry running alarm state (COSFI read < COSFI minimum)
MODE6 CONFIG REC TIME:2m	• Recovery time for automatic deactivation of the dry running alarm. • The control panel attempts automatic recovery after the set time, and then doubles it on each subsequent cycle (e.g. 2 min, 4 min, 8 min ...), up to the maximum recovery time (see the next parameter). Default **2 min** Range **0-10 min** Step **1 min**
MODE6 CONFIG MAX REC T:60m	• Maximum recovery time for automatic deactivation of the dry running alarm. • The control panel attempts automatic recovery up to the set maximum value (e.g. every 60 min). Default **60 min** Range **0-120 min** Step **1 min**
MODE6 CONFIG P1:3.0 bar	• Set the first activation threshold to a specific pressure. • This parameter defines the first pressure threshold (P1), above which both electric pumps are deactivated. • If the pressure is below this set value (P1) minus the differential value (DP1), a single pump is activated according to the alternating logic. Default **3 bar** Range **0–40 bar** Step **0.1**
MODE6 CONFIG DP1:0.5 bar	• Set the differential value (DP1) to a specific pressure. • This parameter defines the difference between the activation and deactivation levels with respect to the first activation threshold (P1) Default **0.5 bar** Range **0-P1** Step **0.1**

⑧ CONFIGURING THE WI-FI CONNECTION

This menu can be used to activate the Wi-Fi reception device so that you can communicate with the outside (e.g. via laptop PC or smartphone).

Open the menu `SELECT ENABLE WIFI` and proceed as follows.

`SELECT ENABLE WIFI`	• Press the (OK) key to confirm the choice and enter the submenu
↳ `ENABLE WIFI ENABLE:NO`	• Press the (▼) or (▲) key to display the following: – OFF to deactivate Wi-Fi – ON to enable Wi-Fi. • Press the (OK) key to confirm the choice. • Press the (ESC) key to exit from the menu.

⑨ RESETTING TO DEFAULT SETTINGS

This menu can be used to reset the control panel parameters when you want to return to the initial factory settings.

Open the menu `SELECT RESTORE DEF` and proceed as follows.

`SELECT RESTORE DEF`	• Press the (OK) key to confirm the choice and enter the submenu
↳ `RESTORE DEF CONFIRM?`	• Press the (OK) key to confirm that you want to reset the parameters and return the control panel to the initial factory configuration. • Press the (ESC) key to exit from the menu.

ALARMS

The control panel reports a range of alarms that may occur during system operation. All alarms appear on the display (ALLARME !) with the alarm code on the lower alphanumeric display.

`XXX EXT ALARM`	If the control panel is in the ON state, i.e the pumps are enabled, and AL EXT is closed with a NO voltage-free contact, the control panel enters the "EXT ALARM" (external alarm) state. In this state, the pumps are not stopped, but are left running, and at the same time the EXT ALARM relay is activated to generate an external acoustic and visual alarm. This is typically used with an alarm float to warn that the water to be emptied has reached a critical level.

Continued ▸

SENSOR PRES SHORTCIRCUIT	If the control panel is in the ON state, i.e the pumps are enabled in MODE 5 PRESSURISATION only, and there is a short circuit or the pressure transducer absorbs too much current, the control panel enters the "SHORTCIRCUIT" alarm state. In this state, the pumps are stopped and at the same time the EXT ALARM relay is activated to generate an external acoustic and visual alarm.
SENSOR PRES OPENCIRCUIT	If the control panel is in the ON state, i.e the pumps are enabled in MODE 5 PRESSURISATION only, and the connection to the pressure transducer is lost, the control panel enters the "OPENCIRCUIT" alarm state. In this state, the pumps are stopped and at the same time the EXT ALARM relay is activated to generate an external acoustic and visual alarm.
PUMP X DRY RUN	If the control panel is in the ON state, i.e the pumps are enabled in any operating mode, and one of the following control logic modes has been selected: – DRY LOGIC=COS (default) and cosφ (read)<cosφ (set min) or – DRY LOGIC=CURR and CURR (read current)>CURR MIN (set minimum current) The control panel enters the "DRY RUN" alarm state, the pumps are stopped and at the same time the EXT ALARM relay is activated to generate an external acoustic and visual alarm.
PUMP X MAX CURRENT	If the control panel is in the ON state, i.e the pumps are enabled in any operating mode, and Current (read) > Current max (set), the control panel enters the "MAX CURRENT" alarm state. In this state, the pumps are stopped and at the same time the EXT ALARM relay is activated to generate an external acoustic and visual alarm.
PUMP X CURRENT ERROR	If the control panel is in the ON state, i.e the pumps are enabled in any operating mode, and the current read is less than 0.1 A for longer than 60 seconds, the control panel enters the "CURRENT ERROR" alarm state. In this state, the pumps are stopped and at the same time the EXT ALARM relay is activated to generate an external acoustic and visual alarm.
PUMP X MAX VOLTAGE	If the control panel is in the ON state, i.e the pumps are enabled in any operating mode, and Voltage (read) > Voltage max (set maximum), the control panel enters the "MAX VOLTAGE" alarm state. In this state, the pumps are stopped and at the same time the EXT ALARM relay is activated to generate an external acoustic and visual alarm.
PUMP X MIN VOLTAGE	If the control panel is in the ON state, i.e the pumps are enabled in any operating mode, and Voltage (read) < Voltage max (set minimum), the control panel enters the "MIN VOLTAGE" alarm state. In this state, the pumps are stopped and at the same time the EXT ALARM relay is activated to generate an external acoustic and visual alarm.
PUMP X MOT.PR.WAIT	If the control panel is in the ON state, i.e the pumps are enabled in any operating mode, and the thermal cut-out built into the motor opens the NO voltage-free contact up to five times, the control panel enters the self-resetting "MOT. PR. WAIT" alarm state. In this state, the pumps are stopped and at the same time the EXT ALARM relay is activated to generate an external acoustic and visual alarm.

PUMP X MOT.PR.ERROR	If the control panel is in the ON state, i.e the pumps are enabled in any operating mode, and the thermal cut-out built into the motor opens the NO voltage-free contact more than five times, the control panel enters the latching "MOT. PR. ERR" alarm state. This alarm must be reset manually. In this state, the pumps are stopped and at the same time the EXT ALARM relay is activated to generate an external acoustic and visual alarm.
XXX NO WATER	If the control panel is in the ON state, i.e the pumps are enabled in FILLING MODE 4 only, and the float on IN1 and IN2 open the NO voltage-free contact to indicate that there is no water in the accumulation tank, the control panel enters the "NO WATER" alarm state. In this state, the pumps are stopped and at the same time the EXT ALARM relay is activated to generate an external acoustic and visual alarm.
PHASE MISS	At power-up, the three-phase control panel checks for all three phases. If one of the three phases is missing, the control panel enters the "PHASE MISS" alarm state and disables all of its functions.
PHASE ERROR	At power-up, the three-phase control panel checks that the phases cycle in the correct sequence. If the connection was made in the wrong sequence, the control panel enters the "PHASE ERROR" alarm state and disables all of its functions.

TROUBLESHOOTING

To supplement the troubleshooting guide in the alarm list, below there is also a guide to identify other possible problems.

We assume that the control panel has been connected correctly to the power supply line, that the electric pumps have been connected correctly to the control panel as described in the manual, and that all connection cables are in working condition.

PROBLEM	SOLUTION
If a latching alarm occurs, carry out the following procedure to reset it	• Press the key (OK) • The alphanumeric part of the display will ask for which of the two electric pumps in an error state you want to reset the alarm (if there are two electric pumps and both are in an error state). Displayed message: PUMP1 CLEAR ERROR? • Press the (OK) key to permanently reset the alarm. • If the second electric pump is also in an error state, the following message will appear on the display: PUMP2 CLEAR ERROR? • Press the (OK) key to permanently reset the alarm.

Continued ▸

The control panel is in automatic mode but the pump is not activated.	• Check that inputs IN1, IN2, MAX, MIN, COM and PRESSURE TRANSDUCER are configured correctly in the configuration menu for the chosen mode. • Check that the float or pressure switch connected to inputs IN1, IN2, MAX, MIN, COM and PRESSURE TRANSDUCER is working correctly.
When the pump is started, the control panel enters the "MAX CURRENT" alarm state.	• Check the maximum current setting in the PUMP X CONFIG menu. • Check that the motor used is working correctly. • Latching alarm.
When the pump is started, the control panel enters the "CURRENT ERROR" alarm state.	• Check that the motor used is working correctly • Check that the "TA" in the electronic board is working correctly • Check that the "TA" is connected correctly on the board • Latching alarm
When the pump is started, the control panel enters the "DRY RUN" (dry running) alarm state.	• Check the COSFI MIN or CURR MIN setting in the PUMP X CONFIG menu, depending on the selected stop logic. • In the 230V~ single-phase model, check that the starting capacitor has been dimensioned correctly. • In the 400V~ three-phase model, check that the pump rotates correctly. • Self-resetting alarm (repeated attempts for REC TIME).
The control panel enters the "EXT ALARM" state due to an external fault signal.	• Check the maximum water level reached in the tank to be emptied. • Check that the pumps are working correctly. • Check any other alarm conditions from outside the control panel. • Self-resetting alarm.
When the pump is started, the control panel enters the pressure transducer "OPENCIRCUIT" alarm state.	• Check that the transducer is connected correctly and that the cables are not damaged. • Check the transducer state. • Self-resetting alarm.
When the pump is started, the control panel enters the pressure transducer "SHORTCIRCUIT" alarm state.	• Check that the transducer is not shorted and that the cables are not damaged. • Check the transducer state. • Latching alarm.
When the pump is started, the control panel enters the thermal cut-out "MOT. PR. WAIT" alarm state.	• Check that the thermal cut-out is working correctly. • Check that the motor used is working correctly. • Check the motor operating temperature. • Self-resetting alarm with up to 5 attempts.
When the pump is started, the control panel enters the thermal cut-out "MOT. PR. ERR" alarm state.	• Check that the thermal cut-out is working correctly. • Check that the motor used is working correctly. • Check the motor operating temperature. • Latching alarm that can only be reset manually after the 5th attempt.
When the pump is started, the control panel enters the "NO WATER" alarm state.	• Check the water level in the accumulation tank. • Check the state of the floats at inputs IN1, IN2, MAX, MIN and COM. • Self-resetting alarm.

At power-up, the control panel enters the PHASE MISS alarm state	• **For the E TRI (three-phase) control panel only** Check that the phases are connected correctly and that the power cables are not damaged.
At power-up, the control panel enters the PHASE ERROR alarm state	• **For the E TRI (three-phase) control panel only** Check that the phases are connected correctly and that the power cables are not damaged.
The display does not turn on.	• Check that the FLAT cable is connected correctly. • Check that the FLAT cable is not damaged.

MAINTENANCE

The E control panel does not require any routine maintenance when used within its operating limits and in accordance with the instructions in this manual.

Only authorised service centres may carry out reactive maintenance or repairs.

Use only original spare parts for repairs. The manufacturer shall not be held liable for harm to people or animals or damage to property due to maintenance carried out by unauthorised personnel or using non-original materials.

DISPOSAL

Follow the regulations and laws in force in the country where the unit is used when disposing of the parts that make up the E control panel. Do not dispose of polluting parts in the environment.

Proper disposal of WEEE (DIRECTIVE 2012/19/UE)

DECLARATION OF CONFORMITY

We hereby declare, under our sole responsibility, that the product concerned conforms to the provisions of the following Community Directives, as amended, and with the transposing national legislation.

European Directive 2014/35 EU
Electromagnetic Compatibility Directive 2014/30 EU as amended, and with the following technical standards:
EN 61439-1, EN 55014-1, EN 61000-3-2, EN 61000-3-3

San Bonifacio, 01/03/2021

Pedrollo S.p.A.
The President
Silvano Pedrollo

DE - ORIGINAL-BETRIEBSANLEITUNG

INHALT