

SMART PRO - User Manual

ELECTRICAL PANEL FOR 1 OR 2 MOTORS

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1. INTRODUCTION

This manual must always accompany the relevant equipment and be kept at an accessible location for consultation by qualified technicians assigned for operation and maintenance of the system.

The installer/user is strongly recommended to carefully read all instructions and information in this manual before using the product, in order to avoid damage or improper use of the unit, which would also render the warranty null and void.

Before operating the equipment, carefully read the manual and follow all instructions provided.

The information and instructions in this manual refer to the standard use of this product; in the event of special circumstances, functions or applications not described in this document, please contact our service centre for assistance.

If technical assistance or spare parts are required, when contacting the manufacturer always specify the identification code of the model and construction number as stated on the data plate.

Our service centre is available for any requirement or clarification.

On receiving the goods, carry out an inspection immediately to ensure that the equipment has not been damaged during transport. If defects are found, the client should promptly notify, within 5 days of receiving the goods, our retailer or in the event of direct purchases, the manufacturer's service centre.



N.B. the information provided in this manual is subject to modifications without notice. The manufacturer shall not be held liable for any damage caused in relation to the use of these instructions, as they are provided for guidance only. Note that failure to observe the instructions provided in this manual may cause physical injury or damage to property.

It is understood that compliance with local provisions and/or statutory regulations in force is compulsory.

2. WARNINGS



The electrical panel must be used exclusively for the purpose and function as specified in design. Any other application or use is to be considered improper and therefore hazardous.

In the event of a fire in the place of installation or the surrounding area, avoid using water jets and use appropriate extinguishing equipment and means (powder, foam, carbon dioxide).

Install the equipment far from heat sources and in a dry and sheltered location according to the specified protection rating (IP).

The installation of a safety device is recommended to protect the panel power line in compliance with current electrical safety standards.

Before performing any work on the electrical panel or system, disconnect the electrical power supply.

No parts of the panel should be removed without an official authorisation from the manufacturer: any tampering with or changes to the unit will render all terms of the warranty null and void.

All installation and/or maintenance operations must be performed by a specialised technician who is fully aware of the currently applicable safety standards.

Ensure that the installation is connected to an efficient earthing system.

After completing the electrical wiring, check that all electrical panel settings are correct to avoid automatic start-up of the electric pump.

The manufacturer declines all liability in the event of the following:

- Incorrect installation;
- Use by personnel not adequately trained in the correct use of the panel;
- Serious failure to perform scheduled maintenance;
- Use of non-original spare parts or parts not model-specific;
- Unauthorised modifications or interventions;
- Partial or total failure to observe instructions.

3. OVERVIEW

- Single-phase board power supply 100-240Vac 50/60Hz;
- Three-phase board power supply 310-450Vac 50/60Hz;
- Electronic board own consumption 3W;
- G/P1 and G/P2 normally open inputs for motor start-up;
- C-MIN-MAX inputs for single-pole level probes;
- T1 and T2 normally closed inputs for motor thermal switch (Klixon);
- G.A. normally open input for alarm activation;
- Digital outputs for motor overcurrent alarms, from G.A. input and probe input;
- Cumulative alarm output with voltage-free contacts (NC-C-NO resistive load - 5A / 250V);
- Cumulative alarm output, live (12Vcc / 100mA);
- DIP-SWITCH 1 - Level alarm signalling from probe input;
- DIP-SWITCH 2 - Ammeter activation delay of 5/10 seconds;
- DIP-SWITCH 3 - Alarm output setting;
- DIP-SWITCH 4 - Alarm reset enable from motor Klixon;
- DIP-SWITCH 5 - Filling/emptying or pressurization mode;
- DIP-SWITCH 6 - Self-holding enable (start/stop floats);
- DIP-SWITCH 7 - Delayed board activation enable on mains power return;
- DIP-SWITCH 8 - Motor switching enable;
- DIP-SWITCH 1 display - Inputs reversal NO/NC (G/P1 - G/P2 - G.A.);
- DIP-SWITCH 2 display - Phase sequence control exclusion;
- DIP-SWITCH 3 display - Self test enable;
- DIP-SWITCH 4 display - Fixed/pulse manual;
- AUTOMATICO key;
- 0 'standby' key;
- MANUAL key;
- Green led: power ON / failure or incorrect phase sequence
- Green led: automatic mode activated;
- Green led: motors activated;
- Red led: min/max level or GA input alarm;
- Red led: motor overload alarm/minimum current alarm;
- Red led: motor Klixon activation alarm;
- Missing or incorrect phase sequence check on power supply input;
- Protections of auxiliary circuits and motor with fuses;
- Door lock general disconnect switch (if any);

- Provision for start-up capacitors, single phase version (not included);
- Box in ABS, IP55;
- Ambient temperature: -5/+40 °C;
- Altitude a.s.l. 2000 m;
- Relative humidity 50% at 40 °C (condensate free).



CAUTION!

For further technical data, please refer to the nameplate on the control panel.

General characteristics may vary if accessories are added to the standard product. The addition of accessories may result in changes to the above description.

4. INSTALLATION

Ensure that the mains power supply specifications match the voltage specified on the data plate of the electrical panel and connected motor, then provide an earthing connection before all other wiring.

The power line must be protected by a residual current circuit breaker.

Tighten the electrical cables on the corresponding terminals using a suitable tool correctly sized to avoid the risk of damaging the fixing screws. Be extra careful if using an electric screwdriver.

The electrical panel is designed for wall-mounting using screws and plugs in the pre-drilled holes at the corners of the enclosure, or brackets where available.

Install the equipment in areas compliant with the protection rating and ensure that the box is kept intact when drilling the holes for fitting the cable clamps.

Avoid the use of multicore cables where there are wires connected to inductive loads and power cables and signal cables such as probes and digital inputs.

Keep connection cables as short as possible, preventing any twisting of cables which may be harmful due to inductive effects on the electronic equipment.

All wires used in the wiring must be suitably sized to withstand the power load.

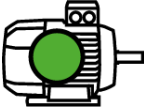
5. LIGHT INDICATORS AND COMMANDS



STEADY green led: mains power ON

FLASHING green led: failure or incorrect phase sequence

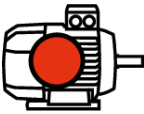
Green led OFF: device not powered;



STEADY green led: electric pump operating

QUICK FLASHING green led (1 second): minimum current control enabled

Green led OFF: electric pump on standby



STEADY red led: motor thermal switch trip

SLOW FLASHING red led: minimum current alarm

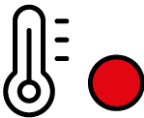
QUICK FLASHING red led: water seepage in oil chamber

QUICK FLASHING red led (1 second) minimum current control disabled



STEADY red led: level alarm from sensor input

FLASHING red led: alarm from GA input



STEADY red led: motor overtemperature alarm with manual reset

FLASHING red led: motor overtemperature alarm with automatic reset

AUT key: automatic mode



AUT key for alarm reset (when pressed for 2 seconds)

STEADY green led: automatic mode active

SLOW FLASHING green led: motor current calibration mode (Min/Max)

Green led OFF: automatic mode disabled



0 key: motor operation stop or standby



MAN key: manual mode

6. MAIN BOARD INPUTS AND OUTPUTS

| | |
|-----------|---|
| T1 | Normally open input for motor 1 Klixon (thermal switch). Jumper if not using this input. |
|-----------|---|

| | |
|-----------|---|
| T2 | Normally open input for motor 2 Klixon (thermal switch). Jumper if not using this input. |
|-----------|---|

| | |
|----------------------|---|
| C - MIN - MAX | Inputs for single-pole level probes Input for minimum level float (connection between C and MAX). Input for general enabling (connection between C and MAX). Jumper C and MAX if not using this input. |
|----------------------|---|

| | |
|-------------|--|
| G/P1 | Input for motor 1 activation. When rotation operation is active, the first alternating motor will start each time the input is opened and closed. |
|-------------|--|

| | |
|-------------|--|
| G/P2 | Input for motor 2 activation. When rotation operation is active, each time the input is opened and closed it will start both motors regardless of the status of G/P1 input. |
|-------------|--|

| | |
|-------------|-----------------------------|
| G.A. | Input for alarm activation. |
|-------------|-----------------------------|

| | |
|------------------------------------|--|
| OUT ALARM (NC - C - NO) | Cumulative alarm output with voltage-free contacts (resistive load - 5A / 250V) for: <ul style="list-style-type: none">- Probe level alarm (DIP SWITCH 1 settable).- G.A. Input alarm.- Minimum motor current alarm.- Motor overcurrent alarm.- Motor overtemperature alarm.- Sequence or missing phase alarm.- Max level alarm. |
|------------------------------------|--|

| | |
|-----------------|-------------------------------------|
| BUZZ +/- | Alarm output, live (12Vcc / 100mA); |
|-----------------|-------------------------------------|

SINGLE PHASE:

- L/S - Motor phase
- N/R - Motor idle
- AVV - Start with on board capacitor

OUT MOTOR

THREE PHASE:

- T1 (contactor) - Motor phase U
 - T2 (contactor) - Motor phase V
 - T3 (contactor) - Motor phase W
-



Earthing.

7. EXPANSION INPUTS

7.1 RS485 expansion

A(-) – B(+) Module for RS485 communication standard with MODBUS protocol

7.2 Voltage-free contact output expansion

O1 – O6 Module for 6 digital outputs 300mA 35V max for the signalling of:

- O1: Motor 1 run
- O2: Motor 2 run
- O3: Overcurrent protection for motor 1
- O4: Overcurrent protection for motor 2
- O5: GA active alarm
- O6: Probe/G.MIN active alarm

7.3 Probe input expansion for motor start

C – S1 ÷ S4 PRO-SL input module:

- C – MIN – MAX (on main board): motor 1 start
- C (expansion): common
- S1 – S2 (expansion): probe for motor 2 start control
- S3 – S4 (expansion): probe for max. level signalling

7.4 Probe input expansion for water seepage into oil chamber

C – S4 ÷ S5 RL-H2O input module:

- C: common (to be connected to earthing potential)
- S4 (expansion): probe for motor 1 control
- S5 (expansion): probe for motor 2 control

7.5 Buffer battery device expansion

PRODBT module for connection of 6V 1,2Ah buffer battery for maintaining control of alarm float and for signalling mains power supply failure

7.6 Bluetooth-WIFI expansion

Allows the panel to be connected to any device via Wi-Fi or Bluetooth to use the APP

8. MOTHERBOARD DIP-SWITCH SETTINGS

Set DIP-SWITCHES with the panel switched off.



8.1 DIP-SWITCH 1 - level alarm signalling from probes input

| | |
|--------------|--|
| OFF ↓ | Level alarm signalling from probe input disabled |
| ON ↑ | Level alarm signalling from probe input enabled |

DIP-SWITCH 1 enables level alarm signalling from probe input or minimum level float (C-MIN-MAX input).

In the OFF position, an input status change does not cause any alarm signal.

In the ON position, an input state change - depending on the emptying or filling function - leads to the signalling of an alarm on the panel and the activation of the voltage-free contact alarm output and voltage alarm output.

8.2 DIP-SWITCH 2 - Ammeter trip delay

| | |
|--------------|---|
| OFF ↓ | Delay of motor ammeter activation by 5 seconds |
| ON ↑ | Delay of motor ammeter activation by 10 seconds |

DIP-SWITCH 2 is used to select the thermal switch activation delay time of 5 or 10 seconds.

The setting of this parameter prevents activation of the motor thermal switch during motor start-up, thereby avoiding a start-up current.

In the OFF position, the ammeter trip delay at motor start is 5 seconds.

In the ON position, the ammeter trip delay at motor start is 10 seconds.

8.3 DIP-SWITCH 3 - Klixon input deactivation

| | |
|-------|--------------------------------|
| OFF ↓ | Klixon thermal switch enabled |
| ON ↑ | Klixon thermal switch disabled |

DIP-SWITCH 3 enables the Klixon input for motor overtemperature control.

In the OFF position, Klixon inputs are enabled.

In the ON position, Klixon inputs are disabled.

If inputs are disabled and motors do not have a thermal switch, there is no need to jumper them.

8.4 DIP-SWITCH 4 - Alarm reset enable from motor Klixon

| | |
|-------|--|
| OFF ↓ | Motor overtemperature alarm with manual reset |
| ON ↑ | Motor overtemperature alarm with automatic reset |

DIP-SWITCH 4 enables selection of whether the motor overtemperature alarm activated by the T1 and T2 Klixon inputs must be reset manually, by keeping the AUT key pressed, or in automatic mode.

In the OFF position, reset is manual on motor overtemperature.

In the ON position, reset is automatic on motor overtemperature.

8.5 DIP-SWITCH 5 - Filling/Emptying mode probe input

| | |
|-------|---|
| OFF ↓ | Level probe operation in filling mode only |
| ON ↑ | Level probe operation in emptying or pressurization mode only |

DIP-SWITCH 5 enables selection of whether to use the probe input C-MIN-MAX in emptying or filling mode.

In the OFF position, the input is used to enable the system when water is not present. The **C-MIN-MAX** input must be open to enable the system. If a float-type on/off control is used, use **C-MAX** input.

In the ON position (emptying or pressurization), the input is used to enable the system when water is present. The **C-MIN-MAX** input must be closed to enable the system. If a float-type on/off control is used, use **C-MAX** input.

NB: If no minimum level control is used, jumper the C-MAX input.

8.6 DIP-SWITCH 6 - Self-holding enable (start/stop floats)

| | |
|-------|---|
| OFF ↓ | Self-holding disabled (start/stop floats) |
| ON ↑ | Self-holding enabled (start/stop floats) |

DIP-SWITCH 6 is used to activate the self-holding function for start/stop floats for wastewater emptying.

For this setting, the stop float must be connected to the C-MAX input and the start float to G/P1 and G/P2.

In the OFF position, the operation with float self-holding is disabled.

In the ON position, the operation with float self-holding is enabled.

NB: Do not activate on pressurization plants. Activate on emptying mode only if C-MIN-MAX input is used with floats or level probes.

8.7 DIP-SWITCH 7 - Delayed board activation enable on mains power return

| | |
|-------|---|
| OFF ↓ | Deactivation of board delay on mains power return |
| ON ↑ | Activation of board delay on mains power return |

DIP-SWITCH 7 is used for delayed board activation on mains power return.

In the OFF position, the board will be activated immediately on power return.

In the ON position, the board will be activated 30 seconds after power return.

N.B. after a power supply failure, the board is reactivated maintaining the previous AUT -0 MAN status.

8.8 DIP-SWITCH 8 - Motor switching module enable

| | |
|--------------|-------------------------------|
| OFF ↓ | Switching module deactivation |
| ON ↑ | Switching module activation |

DIP-SWITCH 8 enables automatic switching of the motors.

In OFF position, G/P1 input directly and independently controls motor output 1 and G/P2 directly and independently controls motor output 2.

In the ON position, this function means that on each call from G/P1 the motor outputs are activated alternately and, in the event of a simultaneous call from G/P2 input, both motors will be operated. When enabled, the switching module alternates the motor on each call from G/P1 input and also switches motors in the event of:

- **Current overload of a motor**
 - **Motor set to standby**
 - **Lack of water on subsequent automatic reset**
-

9. DIP-SWITCH SETTINGS DISPLAY

Set DIP-SWITCHES with the panel switched off.



9.1 DIP-SWITCH 1 - NO/NC (G/P1 - G/P2 - G.A.) Input reversal

OFF ↓ Normally open inputs.

ON ↑ Normally closed inputs.

DIP-SWITCH 1 allows to invert the enabling of digital inputs G/P1 - G/P2 - G.A.

In the OFF position, normally open inputs enable the system to close the contact.

In the ON position, normally closed inputs enable the system to open the contact.

9.2 DIP-SWITCH 2 - Phase sequence control exclusion

OFF ↓ Missing or incorrect phase sequence check enabled.

ON ↑ Missing or incorrect phase sequence check disabled.

DIP-SWITCH 2 disables the missing or incorrect phase sequence check at the panel input.

In the OFF position, power phase fault monitoring is enabled.

In the ON position, power phase fault monitoring is disabled.

NB: this check is only available in three-phase version.

9.3 DIP-SWITCH 3 - Self-test enable

OFF ↓ Motor self-test disabled

ON ↑ Motor self-test enabled

DIP-SWITCH 3 enables motor self-test.

In the OFF position, self-test is disabled.

In the ON position, self-test is enabled.

Self-test has a fixed, non-adjustable time and will enable the pump, or pumps depending on the panel model, for 2 seconds every 48 hours.

A pump self-test can only be activated if the Automatic function of the panel is enabled.

9.4 DIP-SWITCH 4 - Manual push or impulse key

| | |
|--------------|---------------------|
| OFF ↓ | Manual push key. |
| ON ↑ | Manual impulse key. |

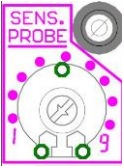
DIP-SWITCH 4 sets operation of the manual key.

In the OFF position, the manual key enables the motor by holding the key down; when it is released, the motor stops.

In the ON position, the manual key enables the motor at the first impulse and stops the motor at the next impulse.

10. TRIMMER SETTINGS

10.1 TRIMMER SENS. PROBE - Probe sensitivity



The trimmer "SENS. PROBE" can be used to adjust sensitivity of the sensors to adapt them to liquid conductivity. This value should therefore be increased in the case of liquids with low conductivity.

10.2 TRIMMER MIN - Activation on minimum current



The "MIN" trimmer is used to adjust the minimum motor current for protection against the risk of dry run, for added protection or when minimum level floats or probes are not required.

10.2.1 Nominal motor current.

If the nominal motor current is known, set a value lower by approx. 15%, according to the board screen printing.

10.2.2 Assisted calibration

To access assisted calibration mode, press and hold the key "0" of motor 1 during power-up of the panel, and the green led on the "AUT" key will start to flash.

Start up the motor using the "MAN" key and rotate the trimmer clockwise (starting from minimum value), until the green led indicating pump operation turns on.

However, the control can be disabled by turning the trimmer to minimum, if the C-MIN-MAX input is used with level probes or floats.

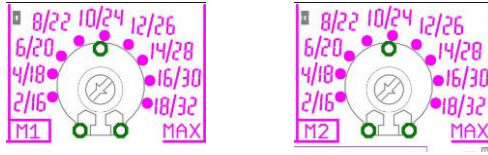
On deactivation, the red led indicating motor thermal switch starts flashing quickly for 1 second.



N.B.: To calibrate the minimum current, the motor must be started up with water present.

The current scale is proportional to the power of the control panel:
1 to 18 Ampere or 15 to 32 Ampere.

10.3 MAX TRIMMER - Activation on current overload



The "MAX" trimmer enables adjustment of the maximum motor current, over which the system protection trips due to current overload.

The maximum current can be adjusted in two ways:

- Nominal motor current.
- Assisted calibration.

10.3.1 Nominal motor current.

If the nominal motor current is known, set a value higher by approx. 15%, according to the screen printing of the board.

10.3.2 Assisted calibration

Press and hold the key "0" of motor 1 during power-up of the panel, and the green led on the "AUT" key will start to flash.

Start up the motor using the "MAN" key and rotate the trimmer clockwise (starting from min. value), until the red led for thermal switch turns on.

When lit, the red led indicates that the set current is 15% higher than the current absorbed by the motor.



N.B.: To calibrate the maximum current, the motor must be started up with water present.

The current scale is proportional to the power of the control panel:
1 to 18 Ampere or 15 to 32 Ampere.

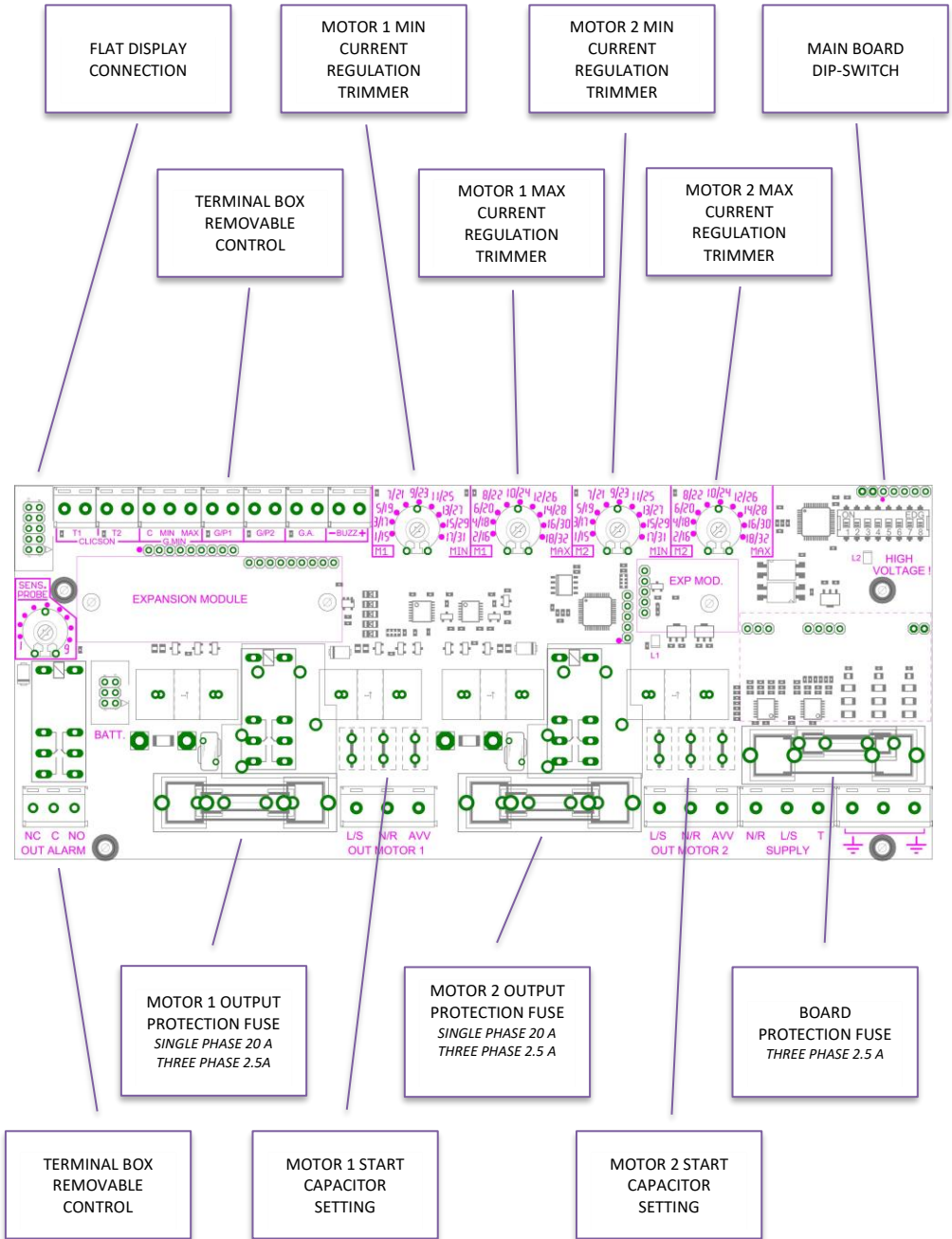
CAUTIONS!



Always calibrate the trimmer in observance of the maximum current specified on the electrical panel.

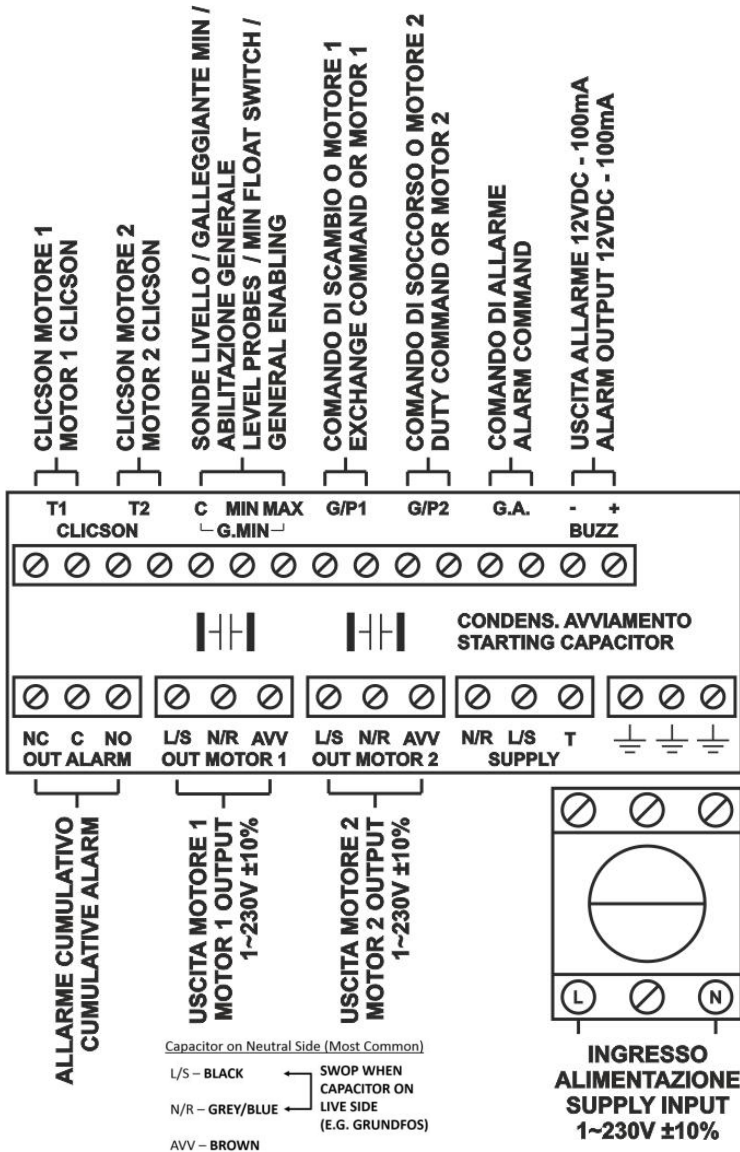
Exceeding the maximum specified threshold will automatically render the warranty null and void.

11. BOARD SPECIFICATIONS

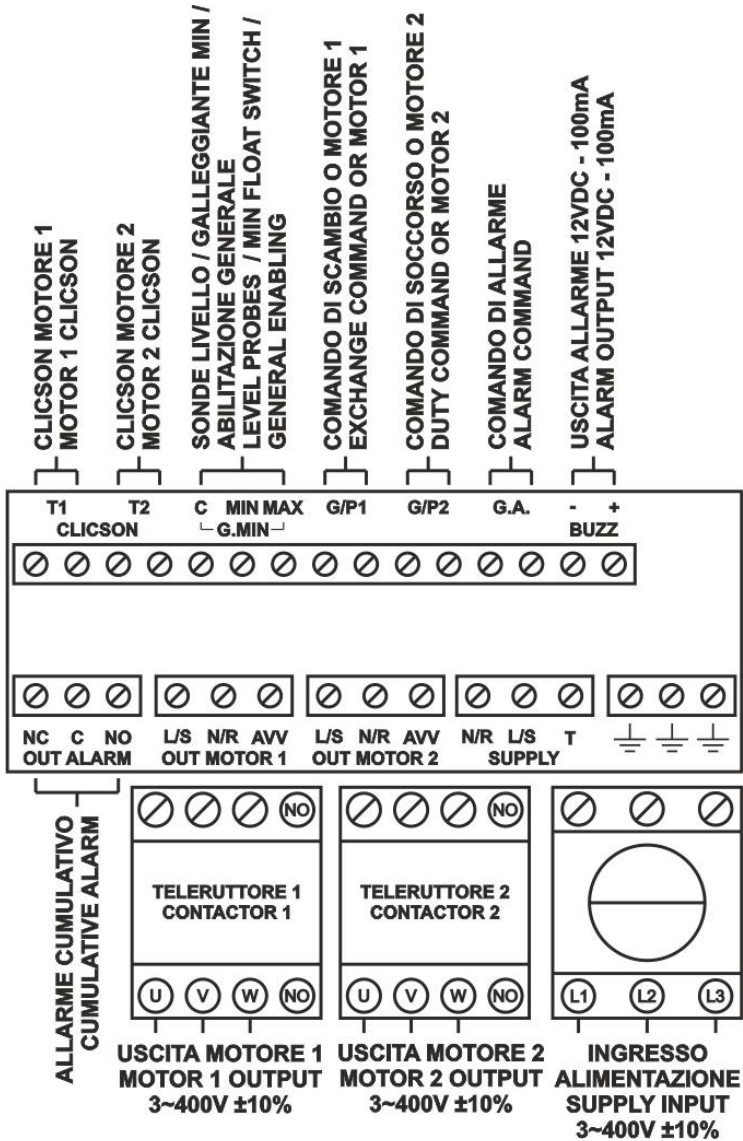


12. STANDARD WIRING DIAGRAMS

12.1 SMART PRO Single phase (230V) wiring diagram



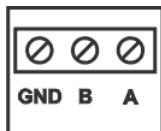
12.2 SMART PRO Three phase (400V) wiring diagram



N.B.: On the three phase 230V version, the power supply and motors must be 3~230V.

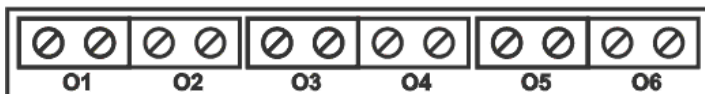
13. EXPANSION WIRING DIAGRAMS

13.1 PRO-RS485 expansion



**CONNESSIONE RS485
RS485 CONNECTION**

13.2 Voltage-free contact expansion PRO-6DO



**POMPA 1 IN MOTO
PUMP 1 RUNNING**

**POMPA 1 IN MOTO
PUMP 1 RUNNING**

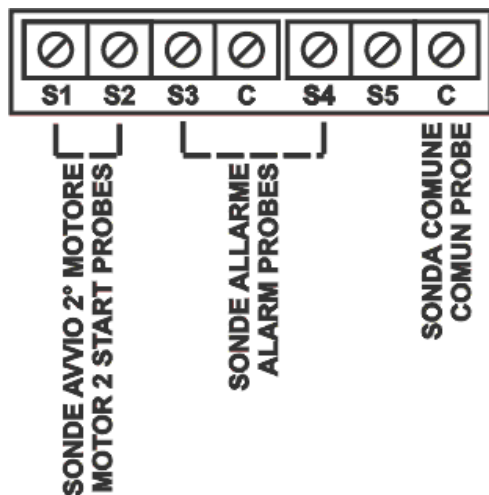
**SOVRACORRENTE POMPA 1
OVERCURRENT PUMP 1**

**SOVRACORRENTE POMPA 2
OVERCURRENT PUMP 2**

**ALLARME ATTIVO DA GA
ACTIVE ALARM FROM GA**

**ALLARME ATTIVO DA SONDE/G.MIN
ACTIVE ALARM FROM PROBES/G.MIN**

13.3 PRO-SL probe input expansion

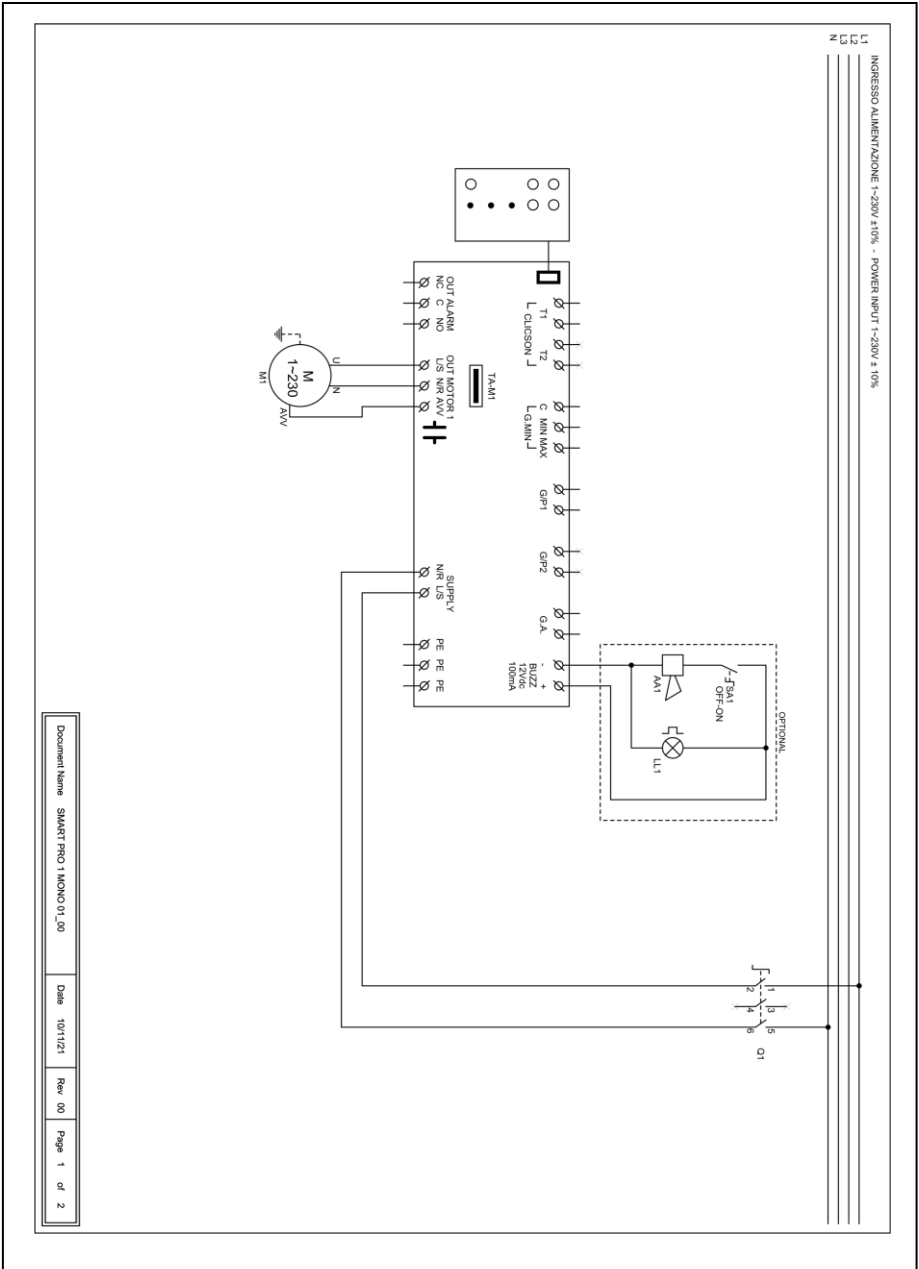


13.4 PRO-SL H20 probe input expansion



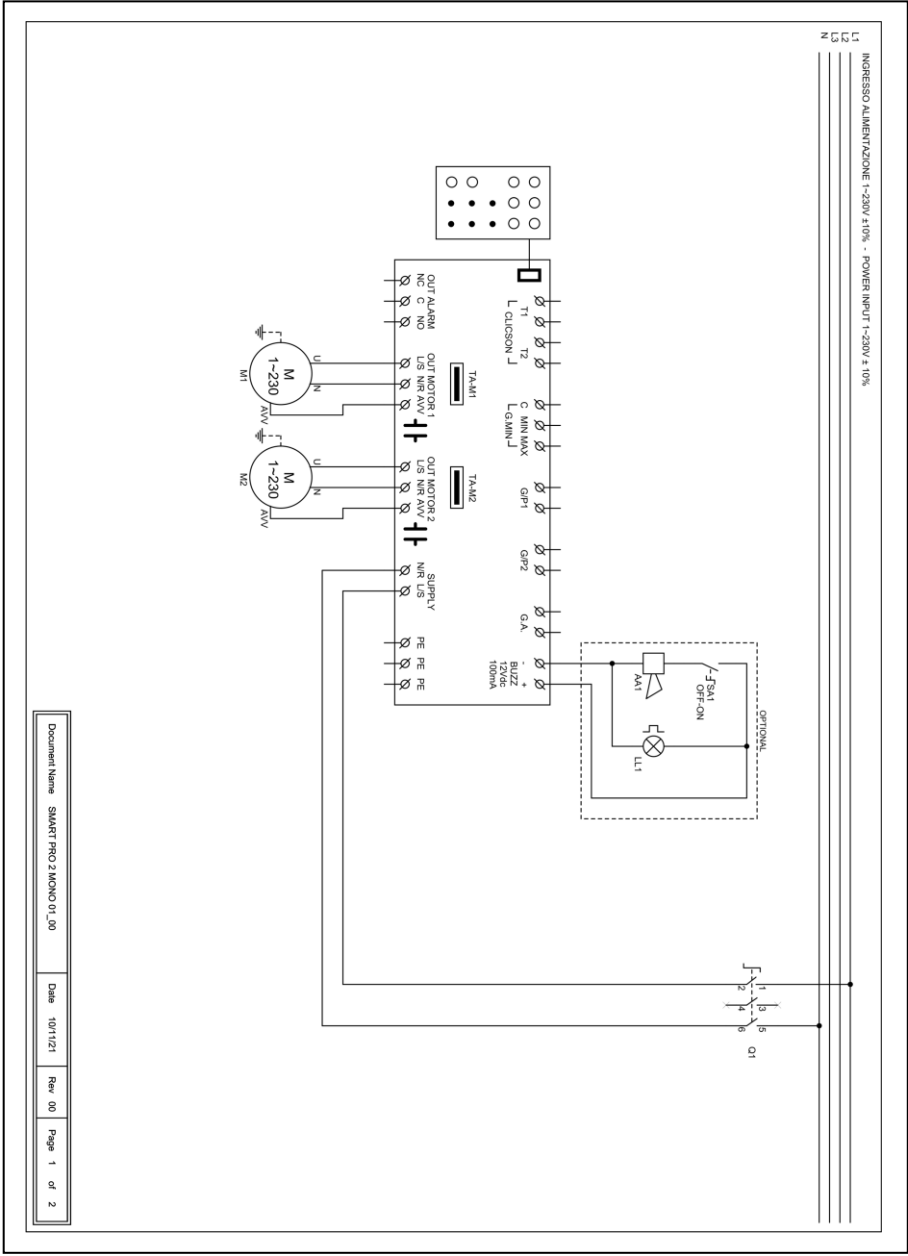
14. WIRING DIAGRAMS

14.1 SMART PRO LED 1 MONO



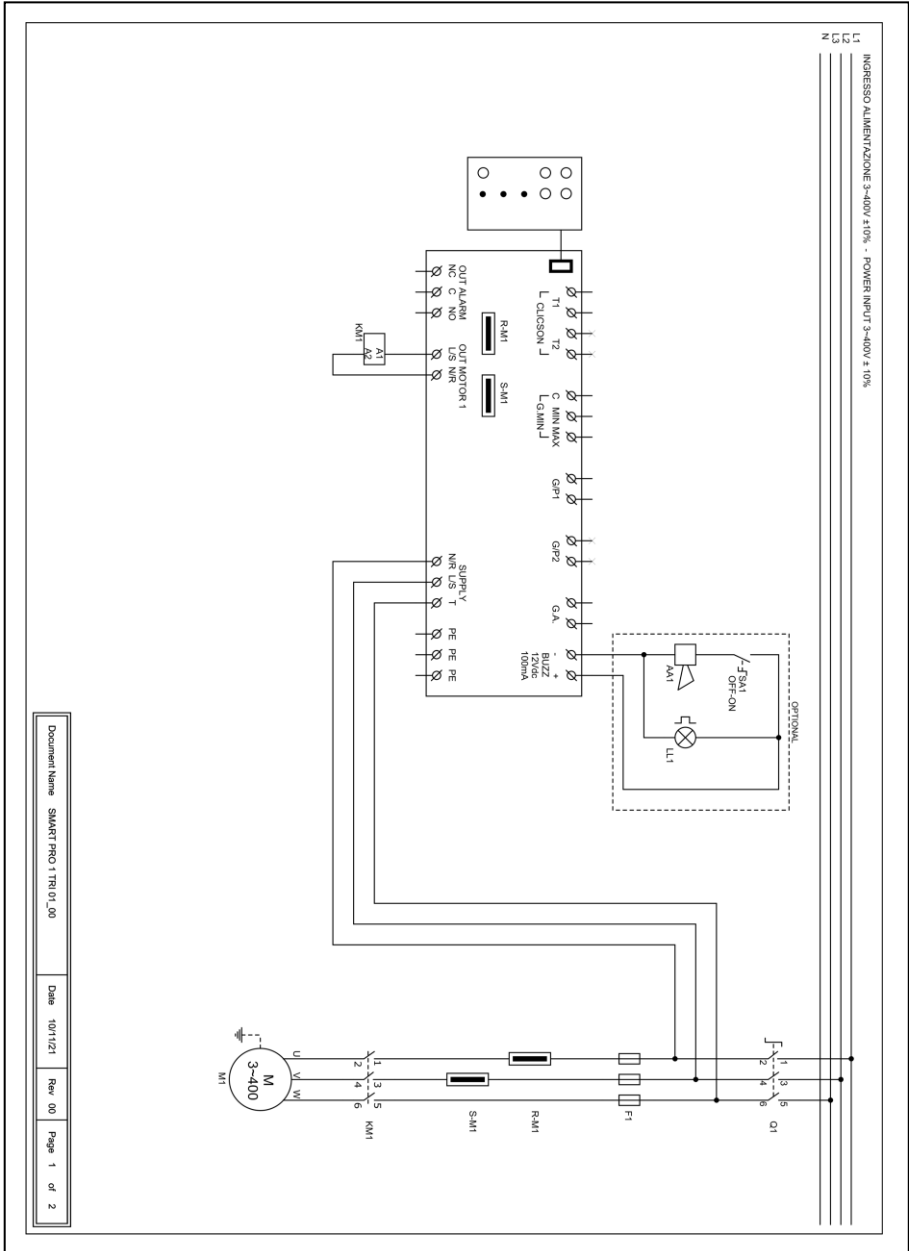
Document Name SMART PRO 1 MONO 01_00 Date 10/11/21 Rev 00 Page 1 of 2

14.2 SMART PRO LED 2 MONO

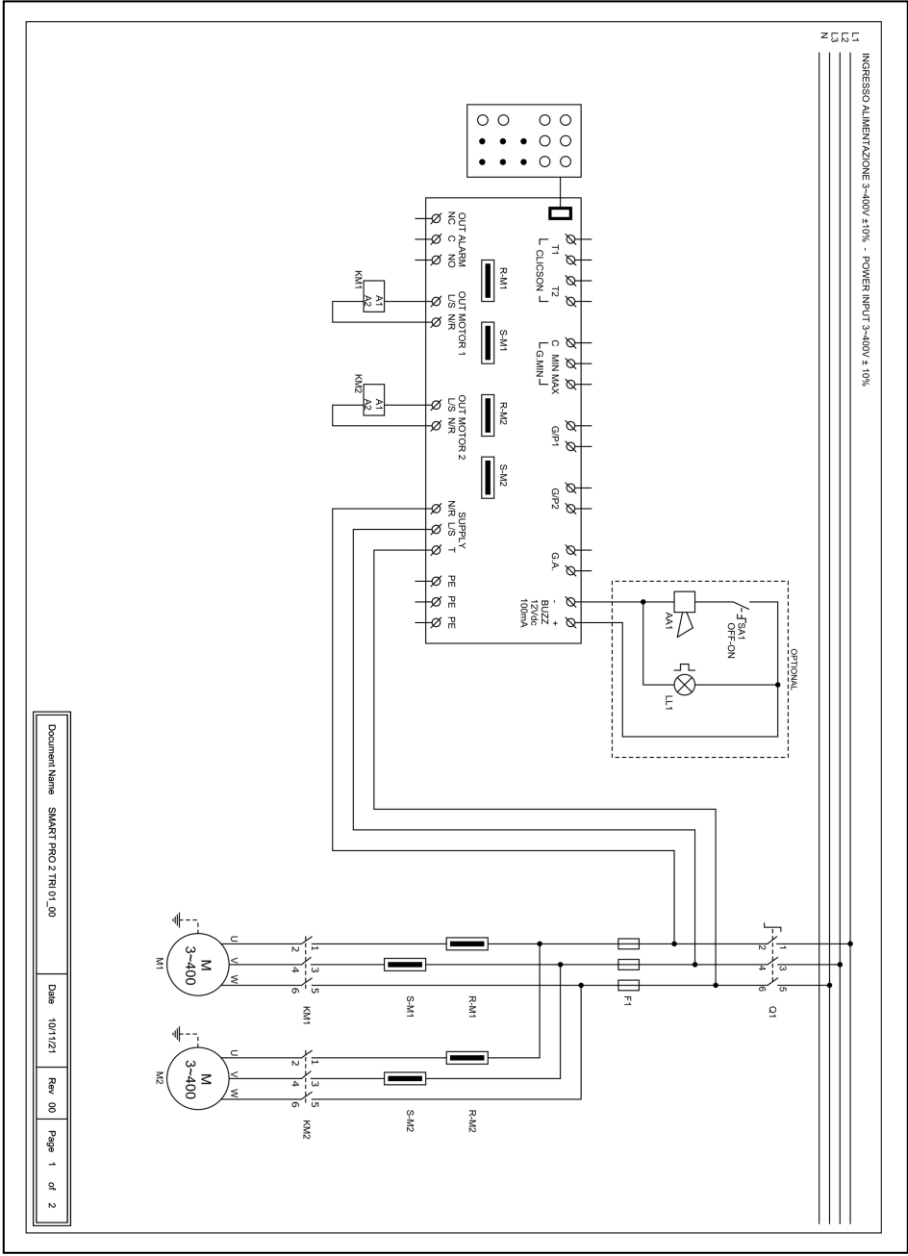


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14.3 SMART PRO LED 1 TRI



14.4 SMART PRO LED 2 TRI



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15. RS485 MODBUS ADDRESSES

| | |
|-------|--|
| 0x100 | Board data |
| 0x101 | Board serial number |
| 0x102 | Voltage of board 1 in V |
| 0x103 | Voltage of board 2 in V |
| 0x104 | Current of pump 1 in A/10 |
| 0x105 | Current of pump 2 in A/10 |
| 0x106 | Current of pump 3 in A/10 |
| 0x107 | Current of pump 4 in A/10 |
| 0x108 | Cos-fi of pump 1 in/100 |
| 0x109 | Cos-fi of pump 2 in/100 |
| 0x10A | Cos-fi of pump 3 in/100 |
| 0x10B | Cos-fi of pump 4 in/100 |
| 0x10C | Dip-Switch status |
| 0x10D | Input status |
| 0x10E | Output status |
| 0x10F | Alarm 2 status |
| 0x110 | Alarm 1 status |
| 0x111 | Free |
| 0x112 | Free |
| 0x113 | Free |
| 0x114 | Free |
| 0x115 | Free |
| 0x116 | Alarm 2 reset |
| 0x117 | Alarm 1 reset |
| 0x118 | MANUAL control logical status |
| 0x119 | AUTOMATIC control logical status |
| 0x11A | P1 hours of operation |
| 0x11B | P2 hours of operation |
| 0x11C | P3 hours of operation |
| 0x11D | P4 hours of operation |
| 0x11E | Program to be followed |
| 0x11F | Type of Alarm Timer |
| 0x120 | Language |
| 0x121 | Display brightness on standby |
| 0x122 | Brand name displayed on panel |
| 0x123 | Panel name enable |
| 0x124 | Klixon self-reset |
| 0x125 | Max. settable current in A/10 |
| 0x126 | Alarm inhibition time at start in s/10 |

| | |
|-------|---|
| 0x127 | Pump start delay time in s/10 |
| 0x128 | Pump off delay time in s/10 |
| 0x129 | Simultaneous pump trigger delay time in s/10 |
| 0x12A | Minimum current alarm delay time in s/10 |
| 0x12B | Maximum current alarm delay time in s/10 |
| 0x12C | High/low voltage alarm delay time in s/10 |
| 0x12D | Pump 1 current calibration |
| 0x12E | Pump 2 current calibration |
| 0x12F | Pump 3 current calibration |
| 0x130 | Pump 4 current calibration |
| 0x131 | Board 1 voltage |
| 0x132 | Board 2 voltage |
| 0x133 | Pump rotation enable |
| 0x134 | Alarm output enable |
| 0x135 | Self-holding enable |
| 0x136 | Board 1 probe sensitivity |
| 0x137 | Board 2 probe sensitivity |
| 0x138 | Panel operation |
| 0x139 | Min level alarm enable |
| 0x13A | Min voltage alarm threshold |
| 0x13B | Max voltage alarm threshold |
| 0x13C | Max current alarm threshold of pump 1 in A/10 |
| 0x13D | Max current alarm threshold of pump 2 in A/10 |
| 0x13E | Max current alarm threshold of pump 3 in A/10 |
| 0x13F | Max current alarm threshold of pump 4 in A/10 |
| 0x140 | Cos-fi/current alarm selection |
| 0x141 | Min cos-fi alarm threshold of pump 1 in /100 |
| 0x142 | Min cos-fi alarm threshold of pump 2 in /100 |
| 0x143 | Min cos-fi alarm threshold of pump 3 in /100 |
| 0x144 | Min cos-fi alarm threshold of pump 4 in /100 |
| 0x145 | Min current alarm threshold of pump 1 in A/10 |
| 0x146 | Min current alarm threshold of pump 2 in A/10 |
| 0x147 | Min current alarm threshold of pump 3 in A/10 |
| 0x148 | Min current alarm threshold of pump 4 in A/10 |
| 0x149 | Min current automatic restart |
| 0x14A | Automatic reset of time 1 in min |
| 0x14B | Automatic reset of time 2 in min |
| 0x14C | Automatic reset of time 3 in min |
| 0x14D | Automatic reset of time 4 in min |
| 0x14E | Cyclic reset enable |
| 0x14F | Analog signal enable |
| 0x150 | Sensor type selection |

| | |
|-------|---|
| 0x151 | Measurement unit selection |
| 0x152 | Analog signal operation |
| 0x153 | Analog sensor full scale in /10 |
| 0x154 | Setpoint in /10 |
| 0x155 | Start/stop threshold 1 in /10 |
| 0x156 | Start/stop threshold 2 in /10 |
| 0x157 | Start/stop threshold 3 in /10 |
| 0x158 | Start/stop threshold 4 in /10 |
| 0x159 | Service mode |
| 0x15A | Scheduled maintenance due days |
| 0x15B | Days since latest maintenance |
| 0x15C | Scheduled maintenance alarm postponement days |
| 0x15D | Installed expansion type |
| 0x15E | MODBUS address |
| 0x15F | Analogue sensor emergency system enable |

16. SIZE TABLE

| CODE | MODEL | MEASURES | TYPE |
|---------|-------------------------|-------------|---------|
| 11015NB | SMART PRO LED 1-Mono | 195X245X120 | PLASTIC |
| 12015NB | SMART PRO LED 2-Mono | | |
| 11015 | SMART PRO LED 1-Mono | 310X240X185 | PLASTIC |
| 12015 | SMART PRO LED 2-Mono | | |
| 11016 | SMART PRO LED 1-Tri/7,5 | 310X240X185 | PLASTIC |
| 11017 | SMART PRO LED 1-Tri/11 | | |
| 11018 | SMART PRO LED 1-Tri/15 | | |
| 12016 | SMART PRO LED 2-Tri/7,5 | 310X240X185 | PLASTIC |
| 12017 | SMART PRO LED 2-Tri/11 | 390X310X230 | PLASTIC |
| | SMART PRO LED 2-Tri/15 | | |
| | | | |
| | | | |
| | | | |

17. TROUBLESHOOTING

| PROBLEM | CHECKS/SOLUTIONS |
|--|---|
| THE POWER ON LED FLASHES | <ul style="list-style-type: none">• Check that all phases are available at the panel input.• Check and modify the phase sequence at the input of the door lock disconnect switch. |
| THE PANEL IS POWERED UP BUT THE MOTOR DOES NOT START | <ul style="list-style-type: none">• Check that the green led on the automatic mode key is lit; otherwise press the key.• Check input status and settings. |
| THE PANEL IS SET TO AUTOMATIC MODE BUT THE MOTOR DOES NOT START. | <ul style="list-style-type: none">• Check input status and settings.• On the single phase model, check that the 230V~ voltage is present on the motor output terminals “L/S” and “N/R”; on the three-phase model check that the 400V~ voltage is present on terminals “L/S” and “N/R” and that the contactor winding is powered. |
| ON PUMP START-UP, THE THERMAL SWITCH TRIPS. | <ul style="list-style-type: none">• Check the maximum current setting in the settings.• Check the motor current with a current clamp.• Check the motor status |
| THE THERMAL SWITCH DOES NOT TRIP. | <ul style="list-style-type: none">• Check the maximum current setting in the settings. |
| THE PANEL IS IN MOTOR OVERTEMPERATURE ALARM STATUS | <ul style="list-style-type: none">• Check that the over-temperature control is disabled if the motor/s is/are not fitted with a thermal switch.• Check the motor status |
| NO LED LIGHTS UP ON THE CONTROL PANEL. | <ul style="list-style-type: none">• Check that the FLAT connector is inserted correctly.• Ensure that the door lock is set to ON.• On the panel input, check that the voltages 230V~ or 400V~ are present between the SUPPLY mains input terminals.• Check that the fuses are efficient. |

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