elentek®
One Step Forward

DRAIN - User Manual

ELECTRIC PANEL FOR DRAINAGE

Exclusive Italian Production

CONTENTS

1. INTRODUCTION

This manual must always accompany the relevant equipment and be conserved in 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, contact our service center 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 center is available for any requirement or clarification.

On receipt of the goods, inspect immediately to ensure that the equipment has not been damaged during transport. If defects are found, the client should promptly notify our retailer within 5 days of receiving the goods, or in the event of direct purchases, the producer service center.

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 to be considered guideline only. Note that failure to observe the instructions provided in this manual may cause physical injury or damage to objects.

In any event all local and/or current legislation must be observed at all times.

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 the use of water jets and use the appropriate extinguishing equipment and means (powder, foam, carbon dioxide).

Install the equipment far from heat sources and in a dry and sheltered location in observance of the stated protection rating (IP).

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

The electrical panel must be connected by a qualified electrician in observance of the relevant electrical standards.

No parts of the panel must be disassembled without the official authorization of the producer: any tampering with or modifications to the unit will render all terms of the warranty null and void.

All installation and/or maintenance operations must be performed by a specialized technician who is fully aware of the relevant current safety standards.

Ensure the installation is connected to an efficient earthing system.

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

The producer 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 specific to the model;
- Unauthorized modifications or interventions;
- Partial or total failure to observe instructions.

3. GENERAL DESCRIPTION

- Single phase power supply 100-240Vac 50/60Hz (DRAIN …-Mono);
- Three phase power supply 100-240Vac or 310-450Vac 50/60Hz (DRAIN …-Tri);
- Normally open input for start-up command;
- Normally open input for minimum level;
- Normally open input for motor clicson;
- Normally open input for alarm activation;
- AUTOMATIC-0-MANUAL buttons (spring return);
- Red LED generic alarm;
- Activation of auxiliary utilities in case of operating fault in operation (2-user version);
- Management of separate users or alternating and contemporaneity (version with 2 users);
- Electronic motor overcurrent control;
- Minimum voltage control: 180-> 415 (depending on single-phase or three-phase models);
- Maximum voltage control: 220-> 460 (depending on single-phase or three-phase models);
- Management of engine alarms: dry running, motor in protection, motor overtemperature, board communication, voltage too low or too high, sequence or phase failure, maximum level, minimum level;
- Alarm history management;
- Protections of aux. circuits and motor with fuses;
- Cumulative alarm output with voltage-free contacts (COM-NO-NC resistive load - 5A / 250V);
- Door lock general disconnect switch;
- Provision for start-up capacitors, single phase version (not included);
- Box in ABS, IP55;
- Ambient temperature: -5/+40 °C;
- Relative humidity 50% at 40 °C (condensate free).

4. INSTALLATION

Ensure that the mains power supply specifications correspond to the voltage specified on the data plate of the electrical panel and motor connected, then make the earthing connection before all other connections.

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

Tighten the electrical cables on the relative terminals using a suitable tool correctly sized to avoid the risk of damage to the fixing screws. Take care 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 by means of brackets when present.

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 sensors 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 cabling must be suitably sized to withstand the load to be powered.

5. CONTROL PANEL

Display of values and programming

Red led: general alarm

SETUP (or multifunction) button

UP arrow button

DOWN arrow button

OK button

5.1 Main display items

On activation of the panel, the display shows the following:

At the end of the start-up sequence, the main menu is displayed, as described below.

MAIN SCREEN: This screen enables the display of active motors, voltage on input and total absorption of the panel:

- 230 V = Power supply voltage reading;
- 7.0 Atot = Total current absorbed by the panel;
- P1 (0) = Motor 1 deactivated; P1 (1) = Motor 1 active;
- P2 (0) = Motor 2 deactivated; P2 (1) = Motor 2 active;

MOTOR SCREEN: By pressing **SETUP** the user can view the screen of each motor (P1 and P2), where the following is displayed:

- 230 V = Power supply voltage reading;
- 0.0 A = Current absorbed by connected load;
- 1.0 φ = Power factor of connected load;
- MAN (∗) = Panel set to manual mode;
- AUT (∗) = Panel set to automatic mode;
- MAN ( ) AUT ( ) = Panel on standby;
- P1 0 = Motor 1 deactivated;
- P1 1 = Motor 1 active;

5.2 Activation of load in manual mode

On start-up, the panel starts in automatic mode, as confirmed by the asterisk (✱) displayed alongside the text *AUT* on the display of each motor, or according to the previous status set before shutdown.

The operating mode can be changed by pressing the **UP** arrow to change to Manual mode, or the **DOWN** arrow to change to Automatic mode.

Therefore, to enable operation in Manual mode, press the **UP** arrow (the asterisk (✱) is displayed alongside the text *MAN*) and then press and hold **OK**.

The display then displays current absorption of the motor and the cos-phi power factor values in real time.

On release of the **OK** button, the motor is shut down.

N.B. in manual mode, the load is activated and bypasses all alarms, but in the event of a faulty the display flashes.

6. INPUTS AND OUTPUTS

DIG.IN **C - I1**	Input normally open for alarm activation.
DIG.IN **I2 - C**	Normally open input for clicson engine (overheating thermal pad).
AN.IN **A - B**	Normally open input for motor activation from pressure switch or march float. Jumper if only SH - C - C - SL input is used.
G/P **SH - C - C - SL**	Normally open input for minimum level float motor activation. Jumper if only A - B input is used.
OUT ALARM **(NC - C - NA)**	Cumulative alarm output with clean contacts (resistive load 5A - 250V) for: - Minimum level alarm from input SH - C - C - SL (programmable). - Maximum level alarm from input C - I1. - Motor overcurrent alarm. - Motor overtemperature alarm from input I2 - C. - Voltage alarm too low. - Voltage alarm too high. - Sequence alarm or phase failure. - Card communication alarm.
OUT MOTOR	SINGLE-PHASE: • L/S - Motor phase • N/R - Motor neutral • AVV - start with capacitor on the control panel TRI-PHASE: • T1 (contactor) - Motor's phase U • T2 (contactor) - Motor's phase V • T3 (contactor) - Motor's phase W
⏚	Earth

7. PROGRAMMING

7.1 Programming menu

To select the panel operating logic, access the programming menu by pressing the buttons **SETUP**, **UP** and **DOWN** at the same time on the main screen of the panel.

DESCRIPTION OF PARAMETER	VALUE	DEFAULT
LANGUAGE 0=ITA / 1=ENG / 2=FRA / 3=ESP / 4=TED	0	0
OPERATING LOGIC	1	-
NUMBER OF PUMPS This parameter enables selection of the number of pumps in the system (when 1 single pump is selected, the parameters PUMP ROTATION ENABLED and FLOAT START/STOP FUNCTION are disabled. For the START / STOP to 1 single pump attach the float start between C-SH and the float stop between C-SL).	1 - 2	*AS PER ORDER*
PUMP ROTATION ENABLED This parameter enables activation of pump exchange on each demand from floats or pressure switches. Also, if the main pump thermal cutout (current overload) trips, the second pump is enabled (if set to N, parameter 5 is disabled).	Y or N	Y
FLOAT START/STOP FUNCTION (self-holding). This parameter enables deactivation of active pumps only on opening of the contact MIN.F. (min./stop float).	Y or N	N
MINIMUM LEVEL ALARM OUTPUT This parameter enables removal of the minimum level alarm from the cumulative alarm output.	Y or N	N

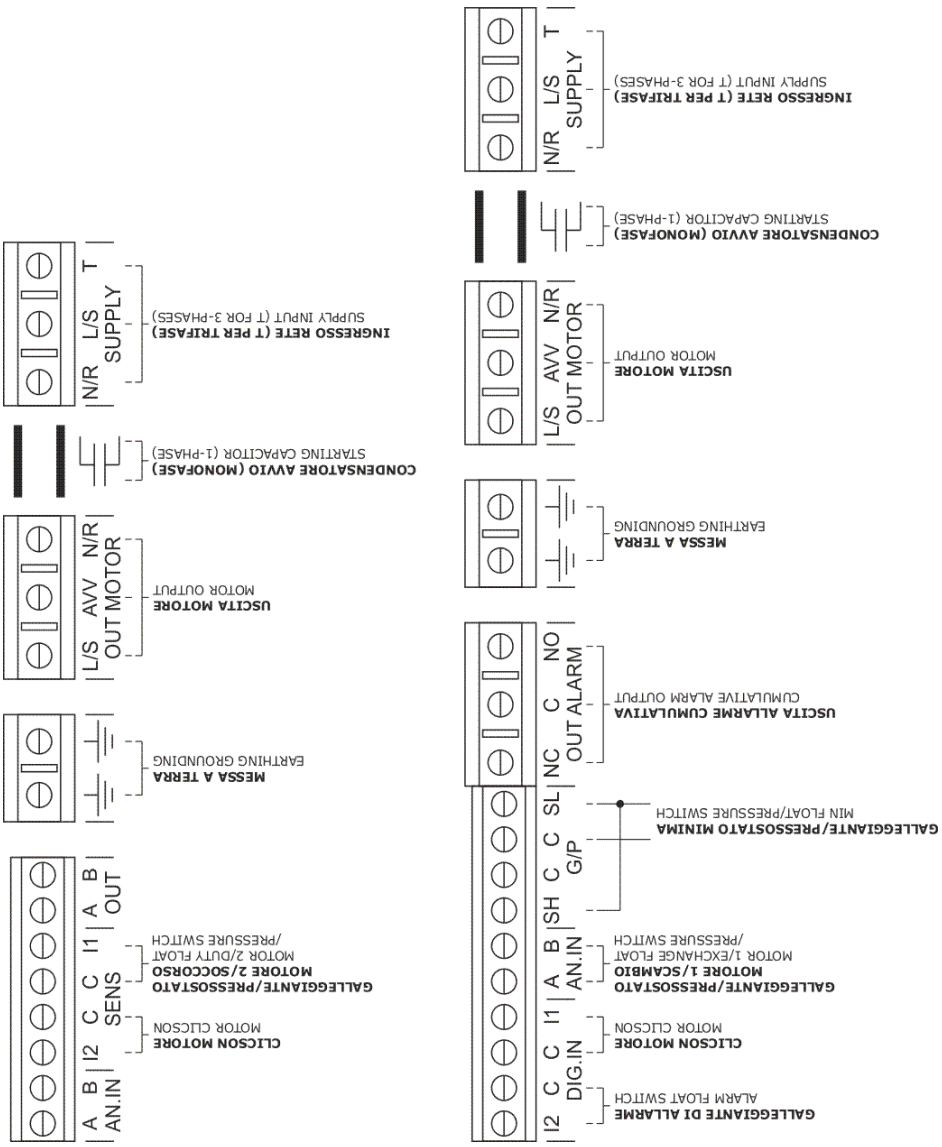
7.2 User menu

On completion of panel operation programming, enter the setup menu to configure the various data for motor start-up.

To access the user menu, press the button **SETUP** for 4 seconds in the main screen of the panel.

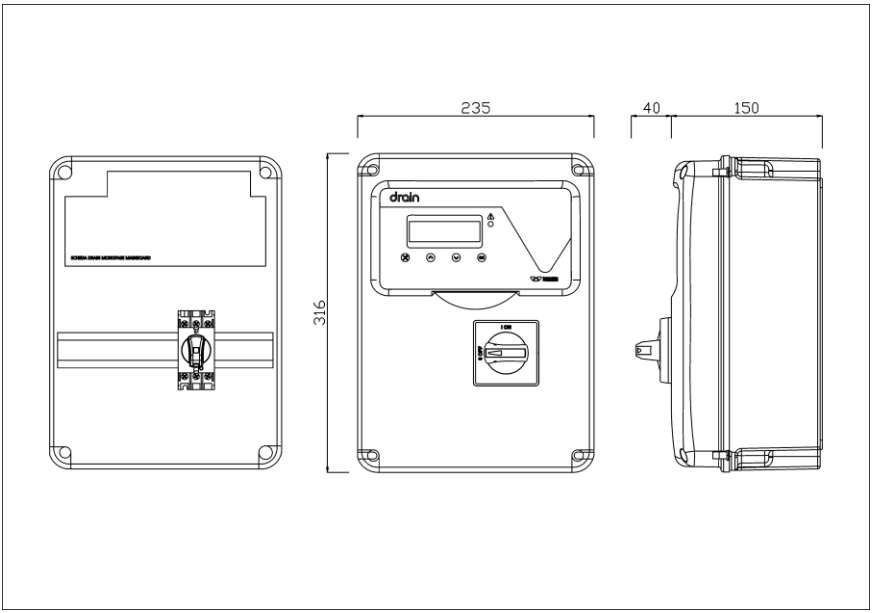
DESCRIPTION OF PARAMETER	VALUE	DEFAULT
MINIMUM VOLTAGE Set by default at -10% . *Modifications to operating limits beyond the default parameters will immediately render the warranty null and void.*	207 (230) 360 (400)	-
MAXIMUM VOLTAGE Set by default at +10% . *Modifications to operating limits beyond the default parameters will immediately render the warranty null and void.*	253 (230) 440 (400)	-
MAXIMUM CURRENT P1 / P2 This parameter enables entry of the maximum current for each motor. Enter the maximum current value, increasing it by 10-15% with respect to the rated motor value. *Modifications to operating limits beyond the parameters stated on the model data plate will immediately render the warranty null and void.*	1 - **...** A	*AS PER ORDER*
DISPLAY BRIGHTNESS ON STANDBY This parameter enables entry of the brightness setting applied when the display sets to standby (wait 9 seconds for a preview).	0 - 9	4
TIME FOR ENTRY TO SET-UP This parameter enables entry of the time to keep the SETUP button pressed for access to the set-up menu.	2 - 30 Sec	3 Sec

8. GENERAL WIRING DIAGRAMS

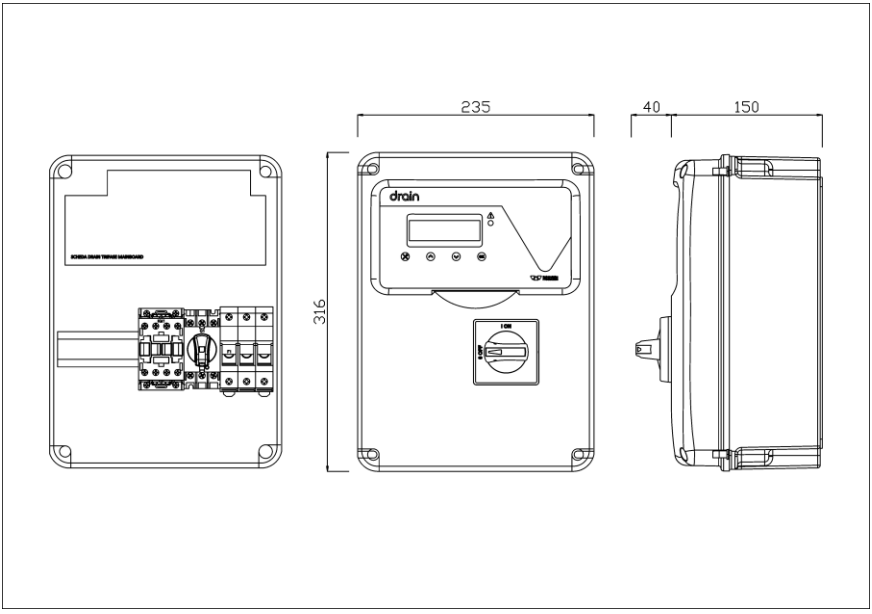


9. STANDARD DIMENSIONAL DIAGRAM

9.1 DRAIN Single phase dimensional



9.2 DRAIN Three phase dimensional



10. ALARMS

The load current absorption is higher than the set value and the panel shuts down the relative pump. The display and red led blink and the cumulative alarm output is activated (voltage-free contacts NC-C-NO).

To reset the alarm manually press the **UP** or **DOWN** arrow button and then the **OK** button.

The thermal cutout of the motor (clicson) has tripped on temperature overload. The display and red led blink and the cumulative alarm output is activated (voltage-free contacts NC-C-NO).

If not used, close the motor clicson input.

The system is reset automatically when the Motor Clicson closes. To reset the alarm manually press the **UP** or **DOWN** arrow button and then the **OK** button.

In the event of motor overtemperature alarm the pumps do not stop.

The measured mains voltage is too low (the pumps are shut down).

The display and red led blink and the cumulative alarm output is activated (voltage-free contacts NC-C-NO).

The system is reset automatically when voltage goes back up.

To reset the alarm manually press the **UP** or **DOWN** arrow button and then the **OK** button.

The measured mains voltage is too high (the pumps are shut down).

The display and red led blink and the cumulative alarm output is activated (voltage-free contacts NC-C-NO).

The system is reset automatically when voltage goes back down.

To reset the alarm manually press the **UP** or **DOWN** arrow button and then the **OK** button.

The phase sequence is incorrect or one or more phases is missing (the pumps are shut down). The display and red led blink and the cumulative alarm output is activated (voltage-free contacts NC-C-NO).

The system is reset manually turning off and on the electrical panel after reconnecting the phases correctly.

The alarm float detects maximum level reached (the pumps are not shut down). The display and red led blink and the cumulative alarm output is activated (voltage-free contacts NC-C-NO).

The system is reset automatically when the alarm float switch contact opens.

To reset the alarm manually press the **UP** or **DOWN** arrow button and then the **OK** button.

The alarm is repeated if the level does not fall.

Connection problems between motherboard and expansion modules.

The display and red led blink and the cumulative alarm output is activated (voltage-free contacts NC-C-NO).

To reset the alarm manually press the **UP** or **DOWN** arrow button and then the **OK** button.

Check the connection of the flat cable between the boards *Mainbord* and *EXP.*

The minimum level float or minimum level sensors detect minimum level reached (the pumps are shut down). The display and red led blink and the cumulative alarm output is activated (volt-free contacts NC-C-NO).

The system is reset automatically when the min level float switch contact closes.

To reset the alarm manually press the **UP** or **DOWN** arrow button and then the **OK** button.

This alarm can be disabled in the ASSISTANCE menu.

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