MADE IN ITALY

ENGLISH



BOOST

RANGE 0,37÷15 kW
0,50÷20 Hp

Installation ad use manual

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BOOST

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1.1 PRESENTATION

This manual provides the essential information for the proper installation, use and maintenance of the BOOST electrical control panel.
It is important that the user reads this manual before installing the device. Improper use may cause machine failure and lead to the forfeiture of the warranty coverage.
Always specify the exact model identification code and construction number if technical information or spare parts have to be requested from the sales department.

The instructions and warnings given below refer to the standard execution; for instructions, situations and events not covered by this manual or by the sales documentation, please contact the customer service.

BOOST control panel must be installed in sheltered, well-ventilated, non-hazardous environments and used with maximum of +40°C and minimum temperatures of -5°C (relative humidity 50% at 40°C non-condensing).

1.2 DESCRIPTION

BOOST is an electronic control panel for direct start-up of 2 single or three phase pumps with over current and dry running protections.
In case of any main pump failure the stand-by pump starts automatically.

Atlantic Power Control S.r.l. shall not be liable for damage caused or suffered by the panel, resulting from its improper use.

TECHNICAL FEATURES

Parameter setting on display:
maximum motors current absorption (A); programs for clean water; waste water and minimum level management with CLC probes.

Parameter setting:
self-holding; pumps alternation; start delay (4 sec. fixed) and dry running protection with min cosφ.

OUTPUT ALARMS AND PROTECTIONS

Acoustic alarm mode; light alarm mode; alarm output 12Vdc; min-max water level; max motors current; min motors cosφ.

1.3 HANDLING

The control panel must be handled with care, falls and shocks can damage it internally, even without any visible external signs.

PRELIMINARY INSPECTION

After removing the external packaging, visually inspect that the control panel has not been damaged during shipping.
If the control panel is damaged, inform dealer as soon as possible, but no later than 5 days after delivery.

STORED

In the event that the control panel arrives at its destination, but for any reason is not installed and starter immediately, provide for its storage. Therefore, keep the outer packaging and that of the various loose accessories intact, and protect it from the weather and from any knocks or falls.

2.1 SAFETY INFORMATION



RISK OF ELECTRIC SHOCK
Failure to follow the instructions in this manual, carries a risk of electric shock.



RISK FOR PEOPLE AND PROPERTY
Failure to follow the prescriptions in this manual, carries a risk of damage to persons and/or property.



WARNING
Failure to observe the prescriptions in this manual, cause damage to the pump, the unit or the system.

2.2 CAUTION



ATTENTION: PUMPS
- Make sure the pumps are fully primed before you start it.
- Make sure the pumps are running with the correct rotation.
- The electric pumps or the motors can start up automatically.



ATTENTION: ELECTRICAL CONNECTION
- The control panel must be connected by a qualified electrician in compliance with the electrical regulations in force.
- The electric pump or the motor and the panel must be connected to an efficient grounding system in compliance with the electrical regulations locally in force.
- Ground the unit before carrying out any other operation.



ATTENTION: SERVICE
As a general rule, always disconnect the power supply before proceeding to carry out any operation on the electrical or mechanical components of the unit or system.

LINE OF SUPPLY CURRENT

Connect the unit at ground before carrying out any other operation.
The voltage input corresponds to the data written on the panel and on the pump:
- (400V ± 10% 50/60Hz for BOOST -400/...)
- (230V ± 10% 50/60Hz for BOOST -230)

Make sure that the power-supply-cable can bear the nominal current and connect it to the terminals of the general switch of the control panel. If the cables are exposed, they must be appropriately protected. The line must be protected with an Earth leackage and magnetic switch measured in accordance with the regulations locally in force.

LINE OF MOTOR POWER SUPPLY

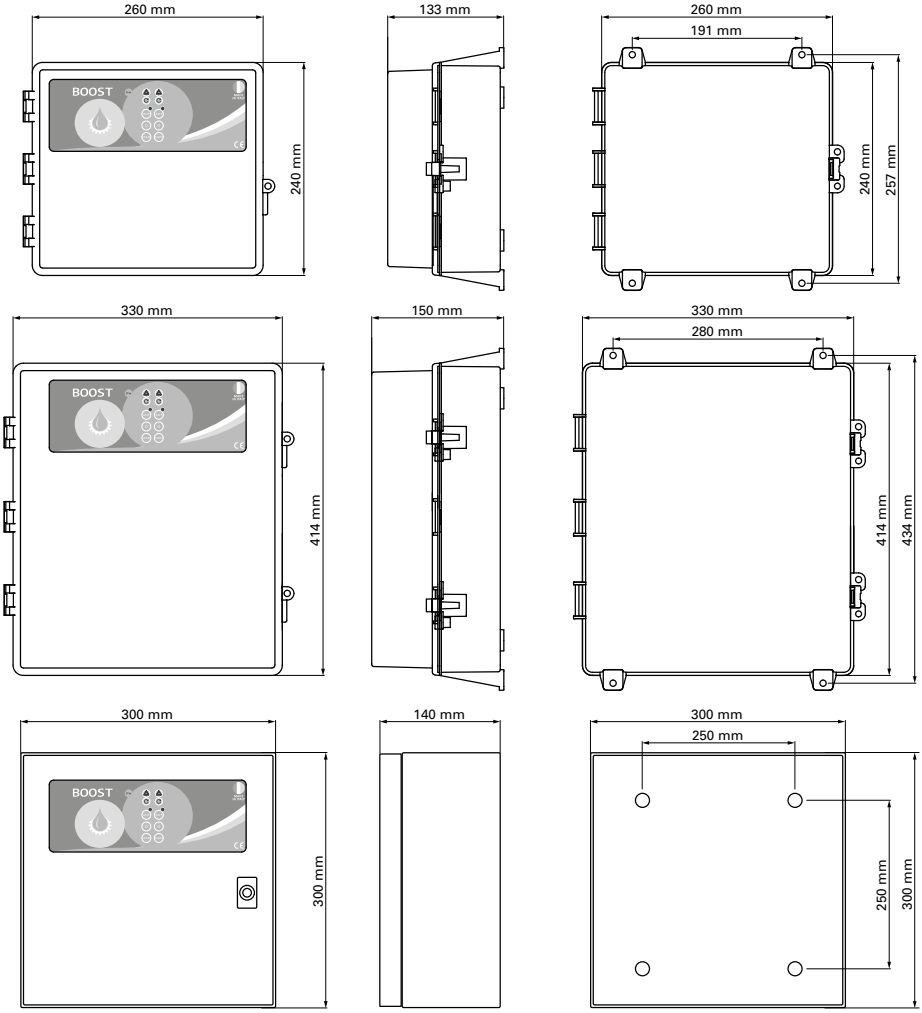
The voltage input corresponds to the data written on the motor:
- (400V±10% 50/60Hz three-phase)
- (230V±10% 50/60Hz single-phase)

Doing some starting make sure that the motor respects the right direction of rotation usually indicated by an arrow printed on the motor.

3.1 ASSEMBLING

Fix the control panel to a stable support with suitable screws or screw anchors using the holes in the four corners of the box.
When tightening the cables in the relevant terminals, use the right size tool to avoid damaging the clamping screws or their seats; if using an electric screwdriver, dose the tightening friction appropriately to avoid damaging the threads or screws.

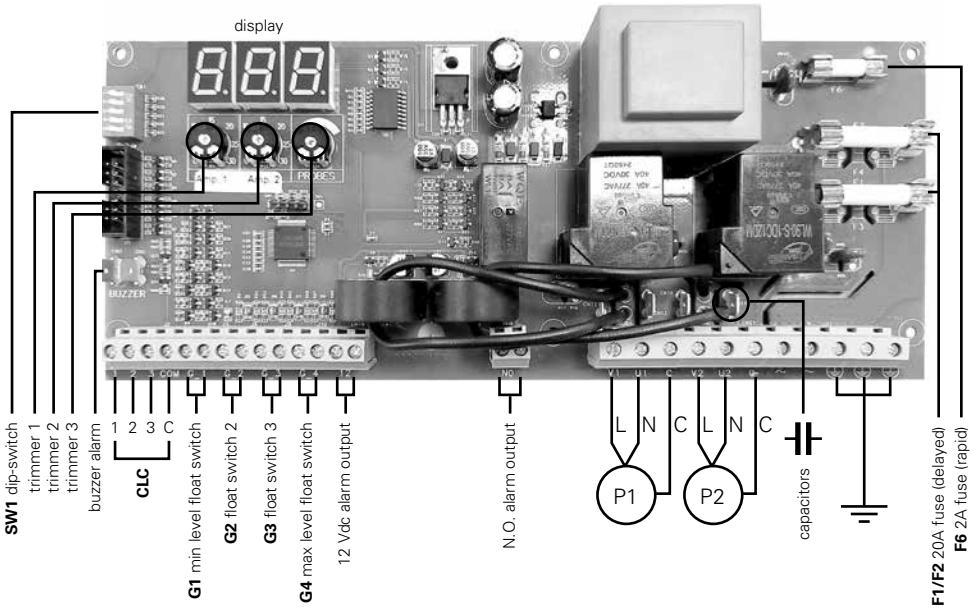
After fixing, remove every plastic or metallic impurities (ex. pieces of copper or plastic shavings) inside the box before suppling power.



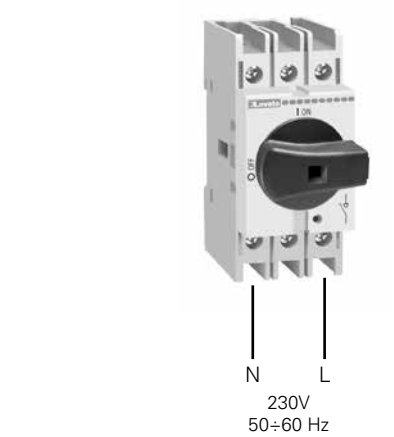
3.2 ELECTRICAL CONNECTIONS

BOOST 230

ELECTRONIC BOARD

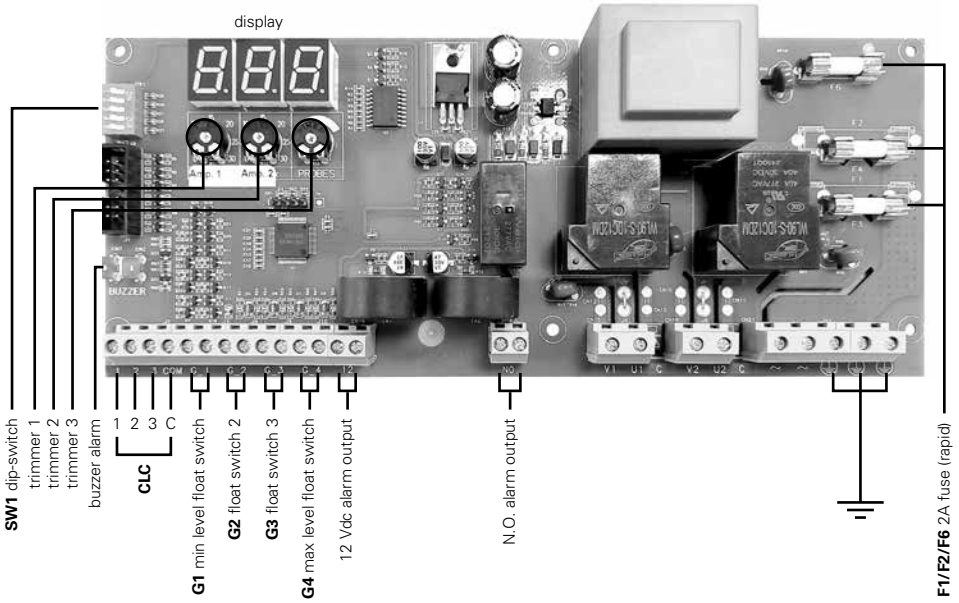


POWER SUPPLY

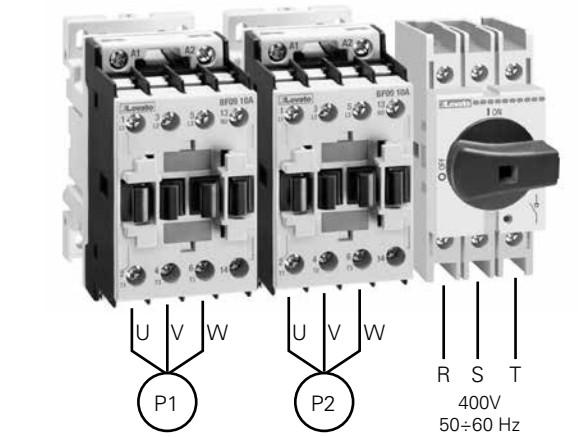


BOOST 400

ELECTRONIC BOARD



POWER SUPPLY



3.3 INITIAL VIEWS

CONTROL PANEL TURN ON



After making all the electrical connections, switch on the control panel.

The displays will show the installed software version for a few seconds (Example: 1.08)

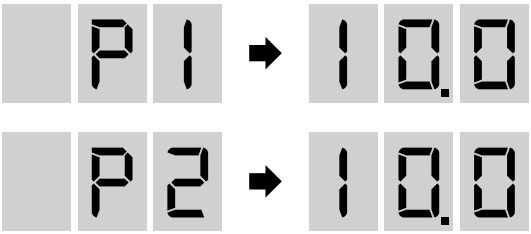
CURRENT ABSORPTION DETECT



A few moments later the control panel proceeds to detect the current absorption, showing the value on the display.

In case the output is disabled the current absorption displayed will be 0A.

ABSORBED CURRENT DETECT WITH PUMPS RUNNING

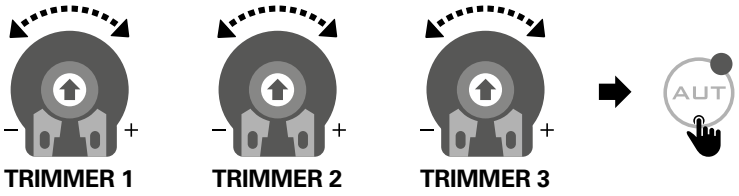


When the pumps are running (automatic or manual), the display alternately shows the current absorption value detected for each pump (P1 and P2).

IMPORTANT!
The BOOST control panel is not intended as a reading instrument, therefore the value of the current absorption detected and shown on the display may differ from the actual value by ±10%. For an accurate verification of the current absorption, use a suitable reading instrument.
The current consumption reading is for protection purposes only.

3.4 ADJUSTMENTS AND SETTINGS

PARAMETERS SETTING AND CONTROL PANEL OPERATIVITY



To set the maximum absorbed current parameters (pump 1 and pump 2) and the CLC input level probes sensitivity, it is possible to act at any time on the relative trimmers even with the panel not powered (see "TRIMMER SETTING").

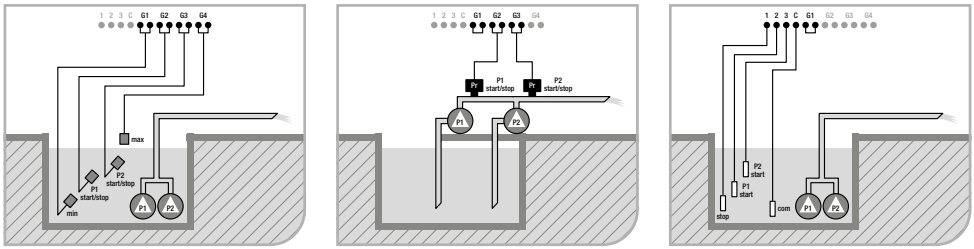
At the end of this phase, by pressing the "AUT" button the control panel becomes operative with pressure switches, floats for clean water or CLC level probes (program 3 by default).

All other parameters remain the default ones (see table below).

PRESET PARAMETERS	
P1 MAXIMUM CURRENT: 10A*	**PUMPS ALTERNATION:** ON
P2 MAXIMUM CURRENT: 10A*	**START DELAY - 4 SEC.:** OFF
PROGRAM: P3 (clean water)	**DRY RUNNING PROTECTION:** OFF
SELF-HOLDING: ON	

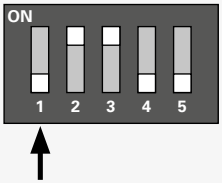
* value set by default, may vary if you have acted on the relative trimmers.

APPLICATION EXAMPLES WITH DEFAULT PARAMETERS



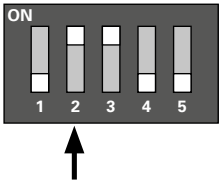
3.5 DIP-SWITCH SETTING

SW1 DIP-SWITCH



DIP-SWITCH 1 - PROGRAM SELECTION
The panel is set as standard with dip-switch 1 in the "OFF" position. To access the menu and select the programs on display, **set dip-switch 1 to the "ON" position** with the panel on (see "PROGRAMS SETTING").

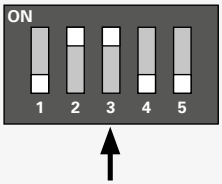
ON: program selection menu on display activated
OFF: program selection menu on display deactivated



DIP-SWITCH 2 - SELF-HOLDING
The panel is set as standard in clean water self-holding mode active (dip-switch 2 in the "ON" position).

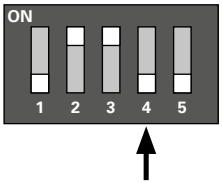
ON: The pumps will both deactivate after the opening of inputs G2 and G3
OFF: The pumps will deactivate in sequence upon opening first of the G3 input and then of the G2 input

***valid for programs P3 and P5**



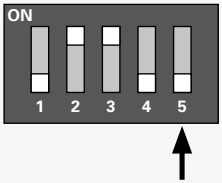
DIP-SWITCH 3 - PUMPS ALTERNATION
The panel is set as standard in pumps alternation operating mode (dip-switch 3 in the "ON" position).

ON: pumps alternation activated
OFF: pumps alternation deactivated



DIP-SWITCH 4 - PUMPS START DELAY - 4 SEC.
The panel is set as standard with the pump start delay excluded (dip-switch 4 in the "OFF" position).

ON: with consent to the start from the inputs, the starting of the pumps will be delayed 4 seconds fixed
OFF: pumps start delay disabled

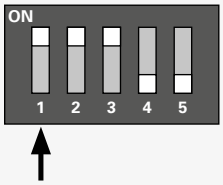


DIP-SWITCH 5 - DRY RUNNING PROTECTION
The panel is set as standard in operation with dry running protection disabled mode (dip-switch 5 in "OFF").
The dry running protection is set to intervene at a cosφ reading 25% lower than the running one.

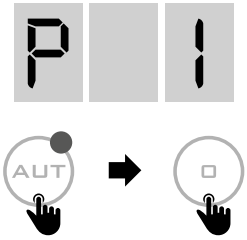
ON: dry running protection activated
OFF: dry running protection deactivated

3.6 PROGRAMS SETTING

ACCESS TO PROGRAMS



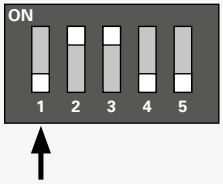
DIP-SWITCH 1
To access the menu and select the programs on display, **set dip-switch 1 to the "ON" position** with panel on.



PROGRAMS SETTING
To select the program to be set, scroll through the sequence with the "AUT" button. To access the program and set the various parameters, press the "CONFIRM" button.

P1 MAXIMUM CURRENT
P2 MAXIMUM CURRENT
CLEAN WATER
WASTE WATER
MIN LEVEL WITH CLC

CONFIRM CHANGES AND EXIT

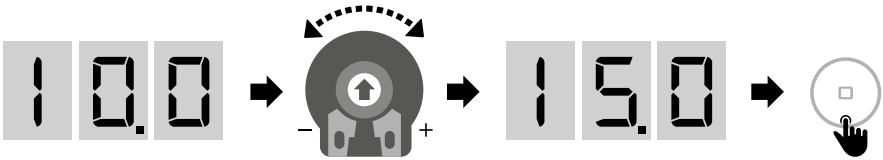


DIP-SWITCH 1
Once the parameter settings have been confirmed and the desired program selected, **return the dip-switch 1 to the "OFF" position** to exit the menu.

The panel will be operational according to the settings and the selected program.

PROGRAM	DESCRIPTION
P 1	**PUMP 1 MAXIMUM CURRENT** (default: 10A) Setting of the threshold value of the maximum absorbed current, below which the panel intervenes stopping the pump 1 and activating the alarms.

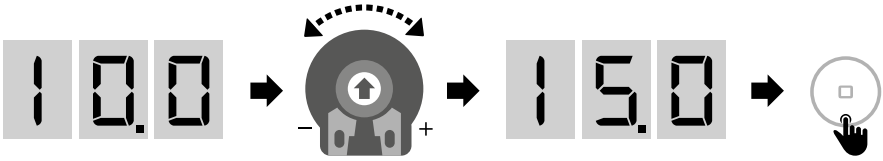
CHANGE PUMP 1 MAXIMUM CURRENT



The parameter can always be modified using trimmer 1. The display of the set value is possible only within the program.

PROGRAM	DESCRIPTION
P 2	**PUMP 2 MAXIMUM CURRENT** (default: 10A) Setting of the threshold value of the maximum absorbed current, below which the panel intervenes stopping the pump 2 and activating the alarms.

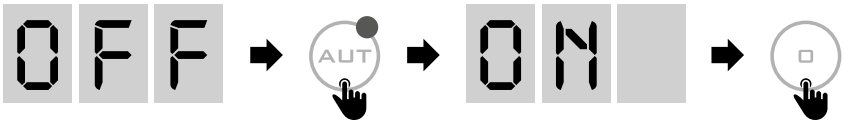
CHANGE PUMP 2 MAXIMUM CURRENT



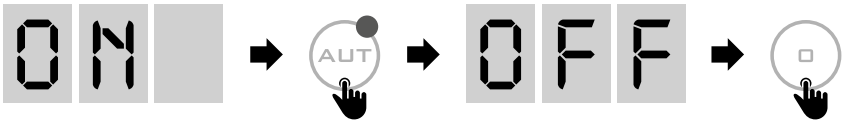
The parameter can always be modified using trimmer 2. The display of the set value is possible only within the program.

PROGRAM	DESCRIPTION
P 3	**CLEAN WATER (DEFAULT)** Preset program for operation with pressure switches, floats for clean water or CLC level probes (see application example 1).
P 4	**WASTE WATER** Preset program for operation with floats for waste water or CLC level probes (see application example 2).
P 5	**MINIMUM LEVEL WITH CLC** Preset program for operation with pressure switches or floats for clean water with minimum level management by CLC probes (see application example 3).

PROGRAM ACTIVATION



PROGRAM DEACTIVATION

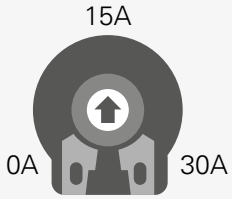
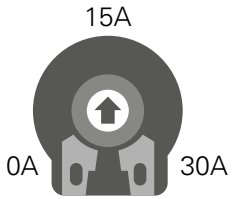
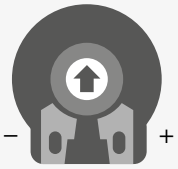


IMPORTANT!
When a program is activated (manual setting in "ON"), the previously active one will be automatically deactivated (automatic setting in "OFF").

3.7 TRIMMER SETTINGS

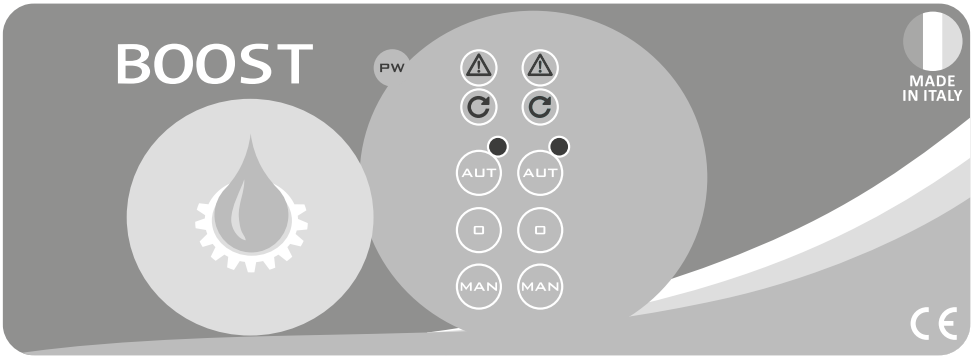
If you want to modify the threshold value of the maximum motors absorbed current (P1 and P2 programs) or the CLC input level probes sensitivity, you must act on the trimmers as shown below:

PROTECTION DELAY
The pumps protections switching delay has been set at **5 sec**.

TRIMMER SETTING	
	**TRIMMER 1: P1 MAXIMUM CURRENT CHANGE** Regulation of the threshold value of the maximum absorbed current by the motor of pump 1 (default 15A). It is possible to modify the threshold of the maximum current absorption, acting on trimmer 3 (clockwise to increase and counterclockwise to decrease the threshold). **It is recommended to set the value at least 25-30% above the nominal absorption value of the motor.** If the detected current is above the set threshold the panel will block the motor activating the alarm outputs.
	**TRIMMER 2: P2 MAXIMUM CURRENT CHANGE** Regulation of the threshold value of the maximum absorbed current by the motor of pump 2 (default 15A). It is possible to modify the threshold of the maximum current absorption, acting on trimmer 3 (clockwise to increase and counterclockwise to decrease the threshold). **It is recommended to set the value at least 25-30% above the nominal absorption value of the motor.** If the detected current is above the set threshold the panel will block the motor activating the alarm outputs.
	**TRIMMER 3: PROBE SENSITIVITY CHANGE** Sensitivity regulation of the CLC probes. It is possible to modify the sensitivity of the probes by **interrupting the power supply to the control panel** and acting on trimmer 1 (clockwise to increase and anticlockwise to decrease sensitivity). **The parameter is not shown on the display.**

Setting the parameters for maximum current consumption (pump 1 and pump 2) and sensitivity of the CLC probes can be done with or without display. However, for more accurate setting, display of the parameters is recommended.

4.1 KEYPAD AND LIGHTS INDICATIONS



CONTROL PANEL	
PW	**PW** blue light indicating power network presence and powered panel.
⚠	**ALARM** red light to indicate a general alarm and pump stop (min and max Amp, min or max level and dry running).
↻	**START** green light to indicate pump start; fixed on to indicate pump running.
AUT	**AUT / ARROW UP** button for activating automatic mode of the panel (the green led on indicates that automatic operation is active); during setup it scrolls the program items and changes the settings of programs P3, P4 e P5.
□	**0 / CONFIRM** button to stop the pump and reset the relative alarms, turn off the audible alarm; in the setup phase the button has the CONFIRM function.
MAN	**MAN** manual mode activation button on the panel; holding it down causes the motor to run in by-pass overriding all protections.

4.2 ALARMS

LED SIGNALING	DEACTIVATION
 All alarms are displayed on the control panel (red led flashing) and activate the following outputs: • Relais output 12Vdc • Buzzer output 12Vdc • N.O. contact output	 **x2 times** If the panel is in alarm and you want to **silence** it, press **the "0" button twice**. If the fault occurs again, the alarm cycle will start again.
	 **x3 times** If the panel is in alarm and you want to **deactivate the function automatically**, press **the "0" button three times**. If the fault occurs again, the alarm cycle will start again.

ALARMS THAT STOP THE MOTOR

ALARM		RESTART MODE
G1	floating alarm minimum level	• Automatic reset when the initial condition reappears
CLC	minimum level probes alarm (program 5)	
A	amperometric alarm max absorption	• After the engine stop, the panel attempts a repeated restart every 30 minutes. • In the event of a negative result, make further attempts at a distance of 30 minutes until the user intervenes. **The restart attempts will be made only if the panel receives the consents for start-ups from the inputs.**
cosφ	dry running alarm	

ALARMS THAT DO NOT STOP THE MOTOR

ALARM		RESTART MODE
G4	floating alarm maximum level	• In this case the available pumps are activated (if not already active) and the panel activates the alarms, which are automatically reset when the initial condition reappears.

DISPLAY ALARMS

To view the type of alarm, turn off the ignition, open the door and turn it on again.

The display will show the alarm code present (see table below).

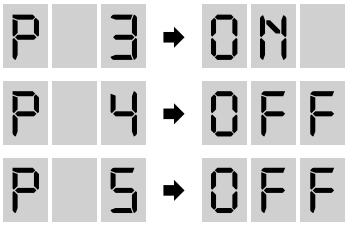
CODE	ALARM
AL 1	MIN LEVEL
AL 2	MAX LEVEL

CODE	ALARM
AL 3	DRY RUNNING
AL 4	MAX CURRENT

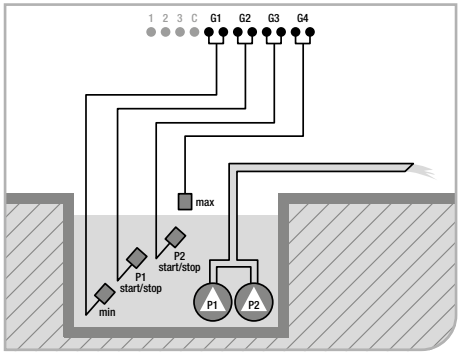
IMPORTANT!
If after having cleared the alarm, the same occurs again, an intervention on the cause is required.

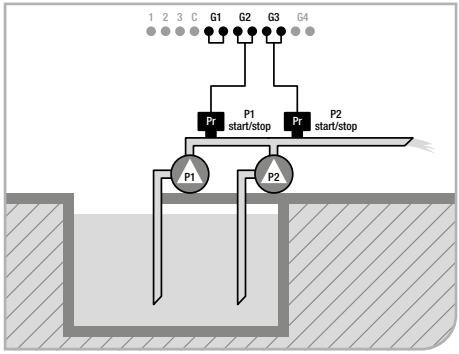
4.3 TYPICAL INSTALLATIONS

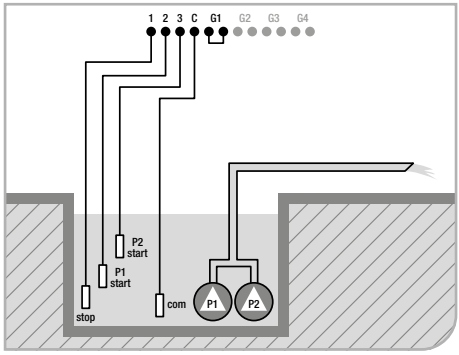
Example 1



G1 optional, if not used it must be jumpered.



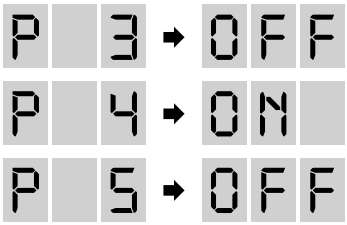


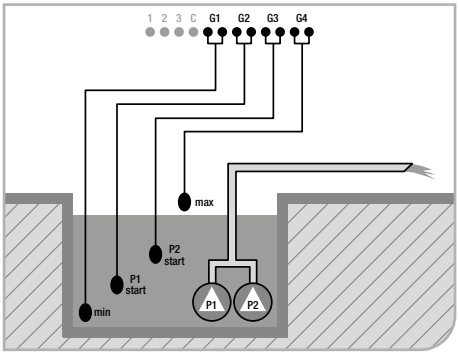


P	pump	**1/2/3/C**	input for level probes		float switch for clear water
Pr	pressure switch		level probes		float switch for waste water

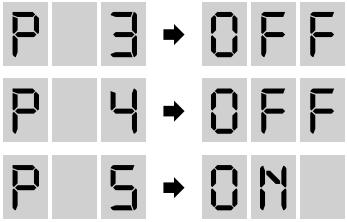
General use

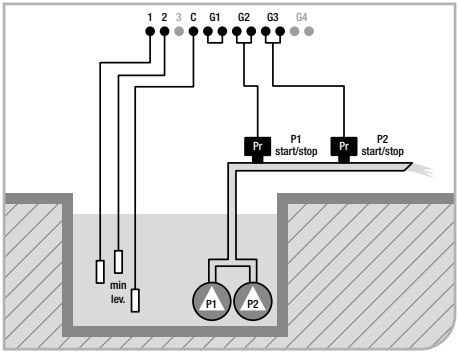
Example 2





Example 3





G1 optional, if not used it must be jumpered.

P	pump	**1/2/3/C**	input for level probes		float switch for clear water
Pr	pressure switch		level probes		float switch for waste water

5.1 PUMPS STOP

MODE	BUTTON	STOP
MANUAL		In "MANUAL" mode operation by releasing the "MAN" button.
AUTOMATIC		In "AUTOMATIC" mode when there is no consent from the control inputs or by pressing the "0" button.
OFF		Turning the main switch interlocking door in "OFF" position.

5.2 SERVICE

The control panel does not require any routine maintenance if their working limits are observed. Any maintenance operations must be performed by qualified and experienced personnel, in compliance with the safety regulations in force.



DANGER!
Make sure the control panel is disconnected from the power supply before any maintenance work.

5.3 SPARE PARTS

Always specify the exact model identification code and construction number if technical information or spare parts have to be requested from the sales and customer service.

Use only original spare parts to replace any defective components.The use of unsuitable spare parts can lead to malfunctions and danger to persons and property.

5.4 WASTE DISPOSAL

After the control panel has been installed and started, the customer must provide for the appropriate elimination/disposal of the waste materials according to the legislation locally in force. If the control panel or parts of it must betaken out of service and dismantled, follow local regulations regarding sorted waste disposal. Refer to the appropriate recycling centres.



CAUTION!
Contamination of the environment with hazardous substances such as battery acid, fuel, oil, plastic, copper, etc., may cause serious damage to the environment and endanger people's health.

6.1 CERTIFICATE OF CONFORMITY

The Manufacturer:

Atlantic Power Control S.r.l.s

Via E. Fermi, 10 - 35020 Polverara (PD) - ITALY

DECLARES UNDER IS OWN RESPONSIBILITY THAT THE FOLLOWINGS CONTROL PANELS:

BOOST -230 e BOOST -400

ARE IN CONFORMITY WITH COMMUNITY DIRECTIVES REGARDING:

- European directive 2014/35/UE
- Electromagnetic compatibility directive 2014/30/UE

AND AS APPLICABLE TO HARMONIZED STANDARDS:

- EN 61439-1
- EN 61439-2
- EN 60204-1
- EN 55014-1
- EN 55014-2
- EN 61000-3-2
- EN 61000-3-3

- BS EN 61439-1
- BS EN 61439-2
- BS EN 60204-1
- BS EN 55014-1
- BS EN 55014-2
- BS EN 61000-3-2
- BS EN 61000-3-3

CERTIFICATIONS

ISO **9001**

Moreover Mr. Giuseppe Franchin, as the legal representative of the company, is the person authorized to compile the technical documentation file.

Polverara - Italy, 10/01/2018

Technical Manager
(Giuseppe Franchin)

Notes

Notes

EN 07/25



CERTIFIED
9001:2015