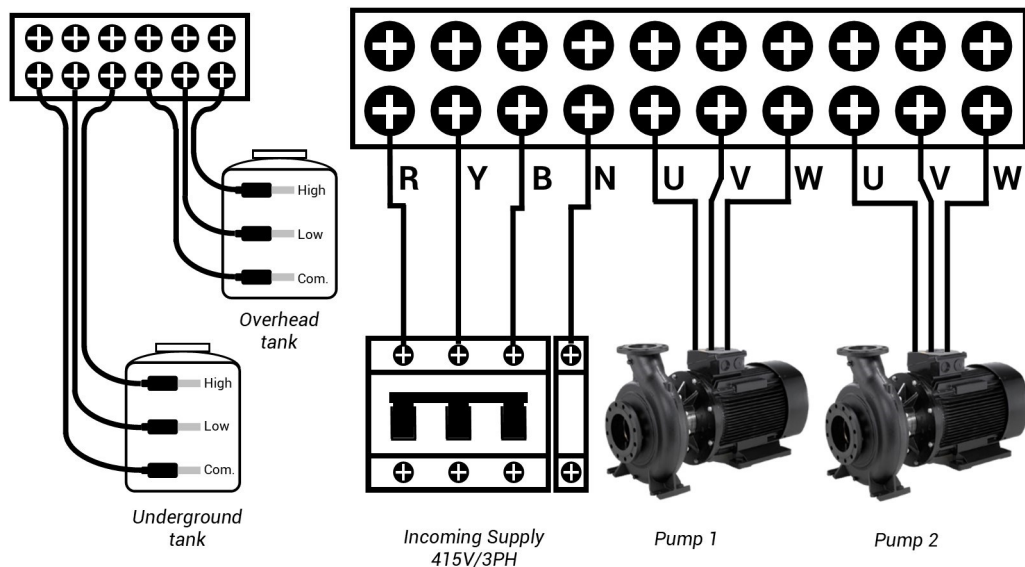


ALARMS & SOLUTIONS

Fault	Description	Solution
Overload	Motor is consuming more current than overload setting value	- Check motor winding - Check obstruction in pump impeller chamber
Dry Run	Pump is running without water	- Check water level in underground tank - Check Dry run current setting
	Amber LED Blinking	1st attempt of dry run restart
	Red LED Blinking	2nd attempt of dry run restart
	Red LED	Final attempt of dry run restart
Over Voltage	Incoming Voltage value is above 460V	Check incoming power supply
Under Voltage	Incoming Voltage value is below 360V	Check incoming power supply
Phase Reverse (Amber LED)	Phases are reversed	Swap any 2 power supply wires
Phase Unbalance (Red LED Blinking)	Large difference in voltage between any 2 phases	Check incoming power supply
Phase Loss (Red LED)	Loss of power in any one phase	Check incoming power supply

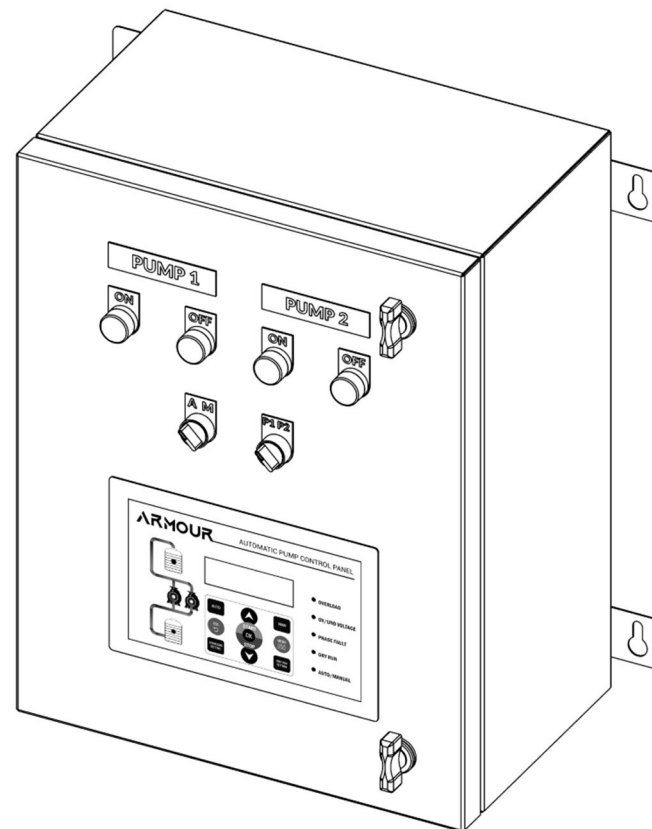
WIRING



ARMOUR

MODEL C - PREMIUM

(1 Working + 1 Standby Pumps)



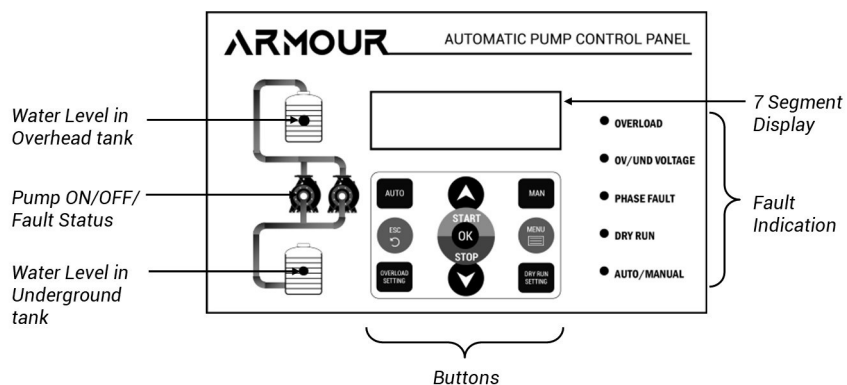
AUTOMATIC PUMP CONTROL PANEL

(Direct Online—DOL)

415V—Three Phase—50 Hz

USER MANUAL

DISPLAY LAYOUT & BUTTON FUNCTIONS



AUTO AUTO button is used to put the panel in AUTO mode to operate pump based on level or pressure sensor feedback

MAN MAN button is used to put the panel in MANUAL mode. In this mode pump has to be started and stopped by operator
Optional: Pump may stop automatically if the Overhead tank is full or Underground tank is empty before operator stops the pump

OVERLOAD SETTING OVERLOAD SETTING button is used to set the overload current for the pump. Overload current should be set to approximately 10% higher than the pump full load current
Example:
 Full Load Current = 10 Amps,
 Overload current = 11 Amps

DRY RUN SETTING DRY RUN SETTING button is used to set the Dry run current for the pump. Dry run current should be set at approximately 70% of the pump full load current
Example:
 Full Load Current = 10 Amps
 Dry run current = 7 Amps

MENU MENU button allows selection of various features and adjust their values as follows:

- 1. T-ON:** Select the amount of time that the pump will be ON (in minutes)
- 2. T-OFF:** Select the amount of time that the pump will be OFF after T-ON (in minutes)
Note: T-ON & T-OFF features only work in AUTO mode and when both have non-zero values T-OFF feature works in MANUAL mode when it has non-zero values
- 3. PUMP SELECTION:** Select either Pump 1 or Pump 2 or both Pump 1 & 2 for cyclic operation
- 4. RUN TIME:** Shows the total pump run time until now in hours (up to 99999 hrs)
- 5. RST:** To reset the pump after Overload / Dry Run fault

ESC ESC button is used to exit any of the above MENU or SETTINGS options without making changes

START / OK / STOP START / OK / STOP is a 3 function button which is used to perform the following functions:

START: To Start the pump in Manual Mode
STOP: To Stop the pump in Auto or Manual Mode (In Auto mode panel will start again if OHT is not full)
OK: To save the value of various settings

UP / DOWN UP and DOWN buttons are used to increase or decrease the value of various settings

SET AUTO / MANUAL MODE

To set the Control panel in Auto Mode, Press the AUTO button on the panel display:
"AUTO" will be seen on the display along with a single **BEEP** sound

To set the Control panel in Manual Mode, Press the MANUAL button on the panel display:
"MAN" will be seen on the display along with a single **BEEP** sound

SET OVERLOAD CURRENT

To set the Overload current for the pump:

- Press the OVERLOAD SETTING button on the panel display
- Enter the Password (if prompted for it) and Press OK
- Use the UP and DOWN arrow keys to select Pump 1 (P-1) or Pump 2 (P-2) and Press OK
- Use the UP and DOWN arrow keys to set the Overload current value
- Press the OK button to save the value

SET DRY RUN CURRENT

To set the Dry run current for the pump:

- Press the DRY RUN SETTING button on the panel display
- Enter the Password (if prompted for it) and Press OK
- Use the UP and DOWN arrow keys to select Pump 1 (P-1) or Pump 2 (P-2) and Press OK
- Use the UP and DOWN arrow keys to set the Dry run current value
- Press the OK button to save the value

SET ON TIME (T-ON) & OFF TIME (T-OFF)

The ON Time and OFF Time setting allows the pump to be ON and OFF for the specified amount of time. To set the ON Time and OFF Time for the pump:

- Press the MENU button on the panel display
- Enter the Password (if prompted for it) and Press OK
- When (1)T-ON is seen on the display, Press OK and use the UP or DOWN arrow keys to set the T-ON time in minutes, then Press OK
- Press the DOWN ARROW key to scroll down to (2)T-OFF is seen on the display, Press OK and use the UP or DOWN arrow keys to set the T-OFF time in minutes, then Press OK

Note: In Auto Mode—To use the T-ON & T-OFF feature the user must set both times. If one of the time is not set, then the feature shall be disabled.

In Manual Mode—If T-OFF is set to certain value, after the pump is manually started—it will turn off after the T-OFF time period is over.

PUMP SELECTION

If one of the pumps is not installed or removed for maintenance, it can be removed from cyclic operation:

- Press the MENU button on the panel display
- Enter the Password (if prompted for it) and Press OK
- Press the DOWN ARROW key to scroll down until (3)PUMP SELECTION is seen on the display,
- Use the UP and DOWN arrow keys to set 001 for Pump 1 (P-1) or 002 for Pump 2 (P-2) or 012 for both Pump 1 & Pump 2 in cyclic operation and Press OK

CHECK TOTAL PUMP RUN TIME

To check the Total Pump Run Time:

- Press the MENU button on the panel display
- Enter the Password (if prompted for it) and Press OK
- Press the DOWN ARROW key to scroll down until (4)RUN TIME is seen on the display,
- Use the UP and DOWN arrow keys to select Pump 1 (P-1) or Pump 2 (P-2) and Press OK
- The number of hours that the pump has run for shall be displayed on the screen

RESET PUMP (AFTER OVERLOAD FAULT)

To Reset the pumps after an Overload Fault:

- Press the MENU button on the panel display
- Enter the Password (if prompted for it) and Press OK
- Press the DOWN ARROW key to scroll down until (5)RESET is seen on the display, Press OK to Reset the pumps (both pumps are RESET simultaneously)