



Hydropan Single with Alarm Kit Operation and Maintenance Manual

1. Product Information

Hydropan-Single Control Panel is used to control , display modes and faults of single pump booster systems, has 7 segment display and uniquely designed electronic main board. In addition to the electronic board and 7 segment display, the panel also has No Water / Pressure Switch / Fault warning leds as well as Up / Down buttons used to surf in menus , Approval button to confirm parameter changes and ON / OFF button . System parameters can be set easily by using Up / Down / Approval buttons located on the front casing.

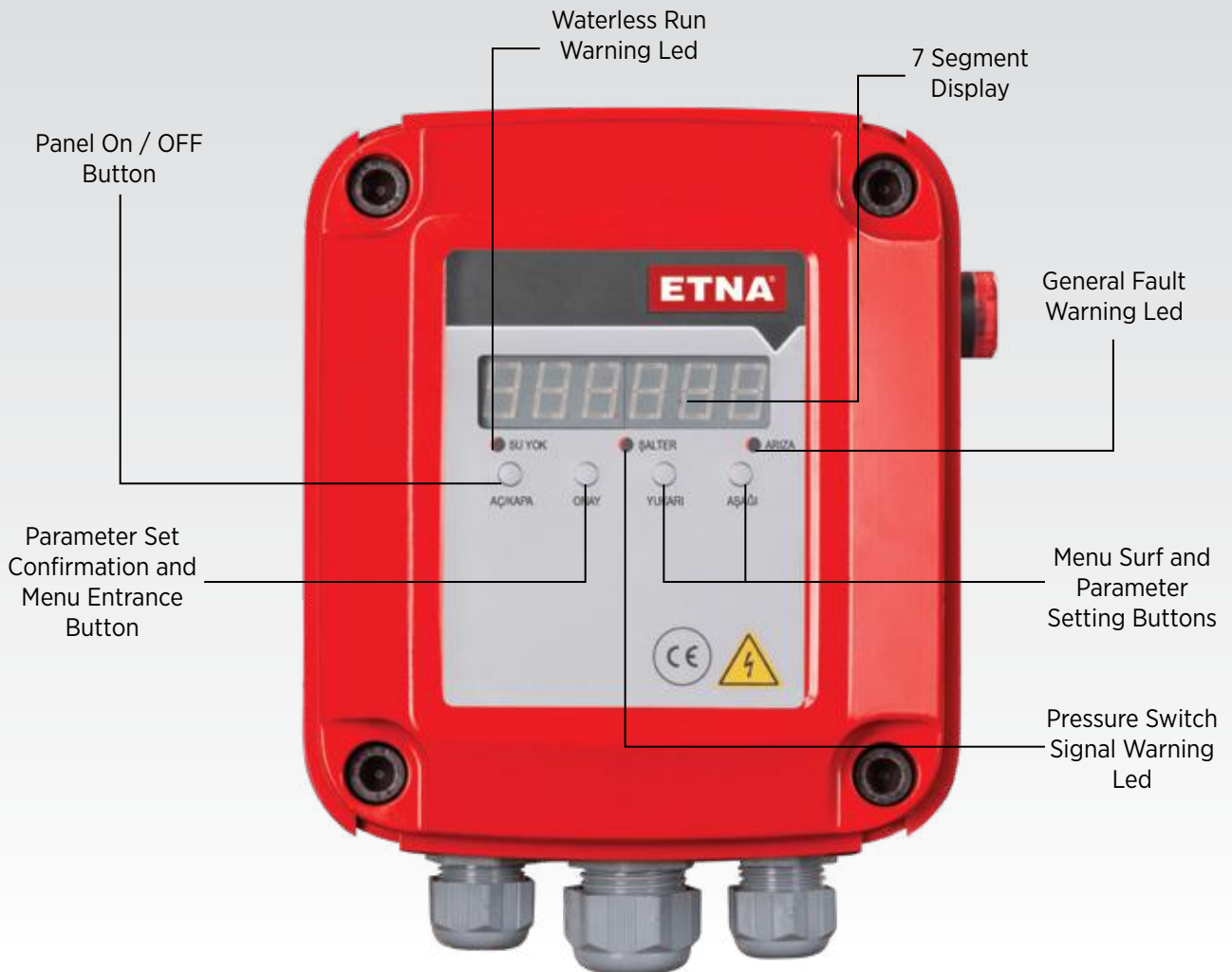


Figure 1. Hydropan- Single External View

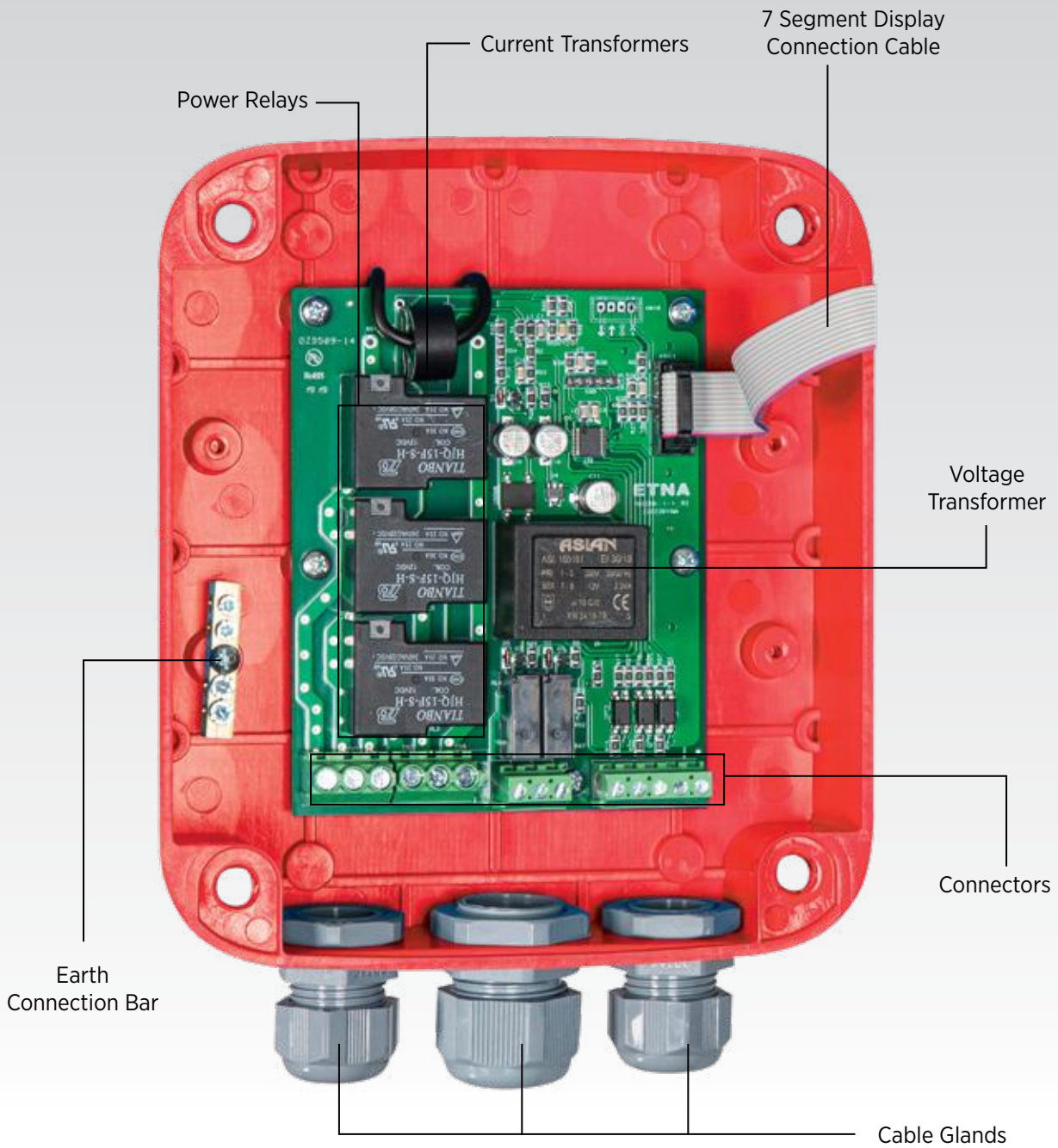


Figure 2. Hydropan Single Internal View

2. Technical Specifications

- Compatible with booster, deep well and waste water applications
- User friendly interface
- 8 bit microcontroller based design tabanlı tasarım
- 7 Segment display
- 3 phase voltage measurement and display on screen
- High Voltage Protection Setting
- Low Voltage Protection Setting
- High Current Protection Setting
- High Current Protection Setting
- Current and Voltage fault delay time setting
- General Fault/ Dry Running and Pressure Switch signal warning leds
- Pump running currents display on screen during operation
- Ability to Reset faults
- Dry running protection with floater
- Additional dry running protection using minimum current protection algorithm
- Display all faults on screen
- Audible fault warning with buzzer

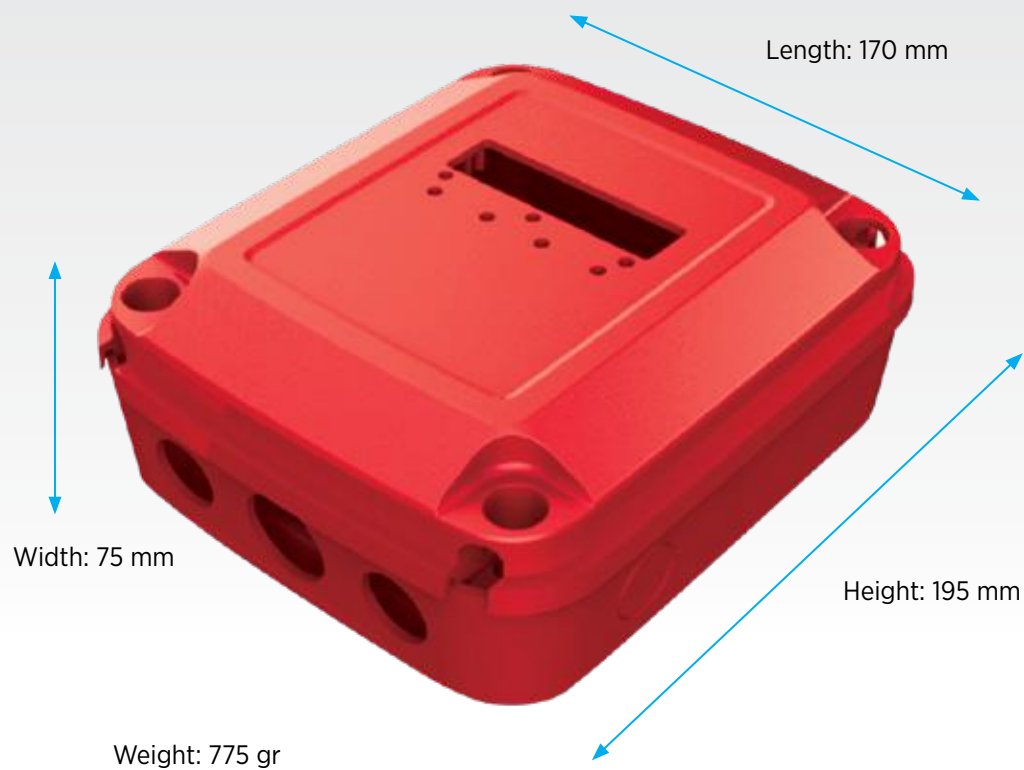


Figure 3. Panel Dimensions

3. Leds and Buttons on Front Panel

- **General Fault Led:** This led is ON together with written fault code on 7 segment display when low current, high current, low voltage and high voltage protections are active.
- **Up / Down Buttons:** These buttons enable to surf within menus on 7 segment display and they are used to set values of numerical parameters. In addition to this, the fault occurred on the system can be reset while pressing these buttons together for 5 seconds.
- **Approval Button:** This button enables to enter submenus and save the parameter already set values.
- **Switch Led:** This led is ON when the pressure switch on the system is active.
- **ON/OFF Button:** This button is used to start-up and switch-off the panel OFF is written on 7 segment display when the panel is switched-off and there is power supply on the system.

4. Menus



Voltage value between L1-L2-L3 and neutral is displayed in sequence as seen on the right hand side when there is no signal from pressure switch. In case there is signal from pressure switch and system starts operating, pump current is displayed.



Figure 4. Panel Main Operating Screen



Figure 5. High Voltage Setting Menu

a. High Voltage Protection Setting Menu

When display is on main screen and “Approval” button is pressed, High Voltage Protection Setting Menu is displayed. It is possible to enter the submenu by re-pressing the “Approval” button and high voltage protection value can be set by using “Up/Down” buttons



Figure 6. Low Voltage Setting Menu

b. Low Voltage Protection Setting Menu

Low Voltage Protection Setting Menu can be reached by pressing “Approval” button first and then “Down” button for once when display is on main screen. It is possible to enter the submenu by re-pressing the “Approval” button and low voltage protection value can be set by using “Up/Down” buttons.



Figure 7. High Current Settings Menu Menu

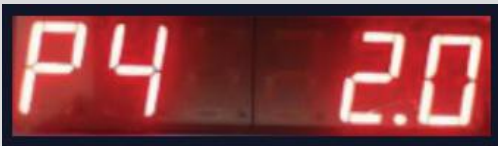


Figure 8. Low Current Settings Menu

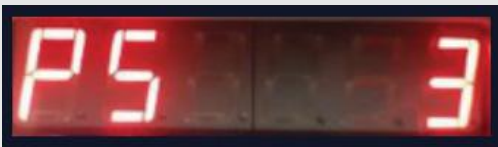


Figure 9. Fault Display Delay Duration Menu

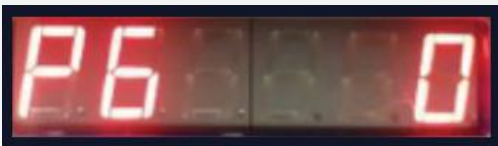


Figure 10. Pump Operation Mode Menu

c. High Current Protection Setting Menu

High Current Protection Setting Menu can be reached by pressing “Approval” button first and then “Down” button for two times when display is on main screen. It is possible to enter the submenu by re-pressing the “Approval” button and high current protection value can be set by using “Up/Down” buttons

d. Low Current Protection Setting Menu

Low Current Protection Setting Menu can be reached by pressing “Approval” button first and then “Down” button for three times when display is on main screen. It is possible to enter the submenu by re-pressing the “Approval” button and low current protection value can be set by using “Up/Down” buttons

e. Fault Display Delay Duration Menu

Fault display delay duration means when a fault detected on the system , warning will be delayed for this parameter long. Fault Display Delay Duration Menu can be reached by pressing “Approval” button first and then “Down” button for four times when display is on main screen. It is possible to enter the submenu by re-pressing the “Approval” button and fault display delay duration value can be set by using “Up/Down” buttons

f. Pump Operation Mode Selection Menu

Pump Operation Mode Selection Menu as P6 seen on the Figure 10 can be reached by pressing “Approval” button first and then “Down” button for five times when display is on main screen. It is possible to enter the submenu by re-pressing the “Approval” button and pump operation mode can be set by using “Up/Down” buttons. By setting the parameter to “0” the panel can be used in booster, waste water and deep well applications. When parameter is set to “1” panel can be used in well discharging applications. When parameter is set to “2” panel can be used in well and water storage tank filling applications.



Figure 11. Well Filling / Discharging Duration Menu

g. Well Filling / Discharging Duration Setting Menu

Well Filling / Discharging Duration Setting Menu can be reached by pressing “Approval” button first and then “Down” button for six times when display is on main screen. It is possible to enter the submenu by re-pressing the “Approval” button and well filling / discharging duration value can be set by using “Up/Down” buttons. This parameter becomes active when Pump Operation Mode parameter set to “1” or “2”, requested time duration for well filling or discharging can be set in minutes. If this parameter is set to “0” it becomes out-of-use.

5. Maintenance



Please cut the power supply before performing any intervention.

- Check and make sure that there is no loose connections on power supply and earth connection
- Check and make sure that there is no damage , hole or color change caused by overheating on cables.

6. Troubleshooting

ERROR CODE	FAULT	ACTION
ERROR 1	HIGH VOLTAGE FAULT	<ul style="list-style-type: none"> • Check power supply input value • Check high voltage protection value as parameter P1
ERROR 2	LOW VOLTAGE FAULT	<ul style="list-style-type: none"> • Check power supply input value • Check low voltage protection value as parameter P2 • Check power supply cable and connector connections
ERROR 3	PHASE SEQUENCE FAULT	<ul style="list-style-type: none"> • Error 3 is occurred on 7 segment display in case phase sequence fault and system does not work. Change the sequence of phases on power supply input.
ERROR 4	HIGH CURRENT FAULT	<ul style="list-style-type: none"> • Before performing any measurement, make sure there is no mechanical congestion in pump • Measure the current and compare with motor nominal current value printed on motor label. • Check high current value set in the parameter P3 and compare with motor nominal current value printed on motor label • Check motor cable and connector connections.
ERROR 5	LOW CURRENT FAULT	<ul style="list-style-type: none"> • Before performing any measurement, make sure there is no mechanical congestion in pump • Make sure that pump suction valve is not closed. • Make sure the pump is deaerate before operation. • Check low current protection value parameter P4 • Measure the current value when suction valve is closed and motor in operation. Be careful the input voltage is between 380-400 V during this measurement. • The set parameter of low current protection must be %10 higher than measured value
ERROR 6	NO WATER	<ul style="list-style-type: none"> • Make sure there is enough water in storage tank. • Make sure floater level is adjusted properly • Check floater cable and contactor connections
ERROR 7	BLOCKAGE FAULT	<ul style="list-style-type: none"> • System is blocked when low current protection algorithm completed and there is still low current alarm. • Make sure that pump suction valve is not closed • Make sure the pump is deaerate before operation • Check floater in water storage tank

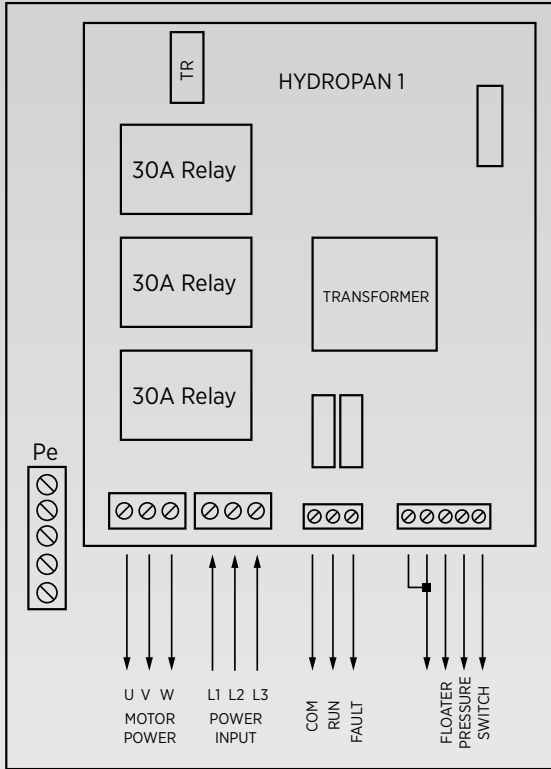


Figure 12. THREE PHASE
Booster Mode Connection

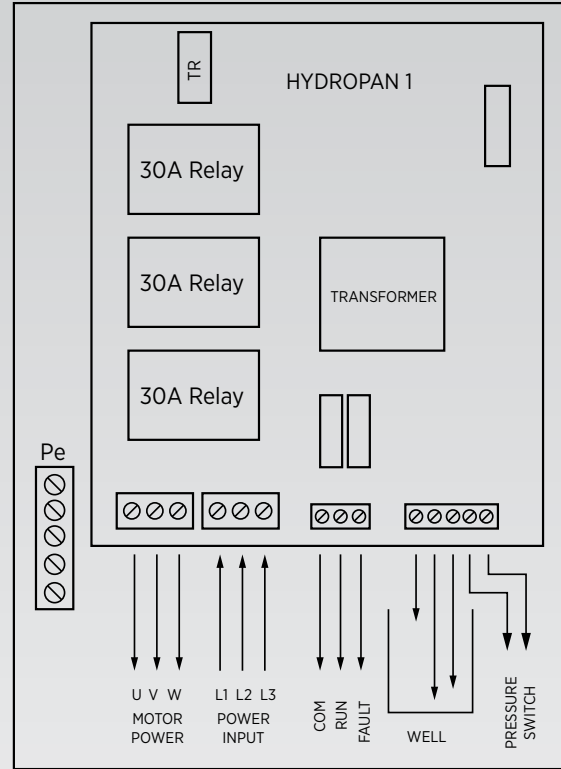


Figure 13. THREE PHASE
Deep Well Mode Connection

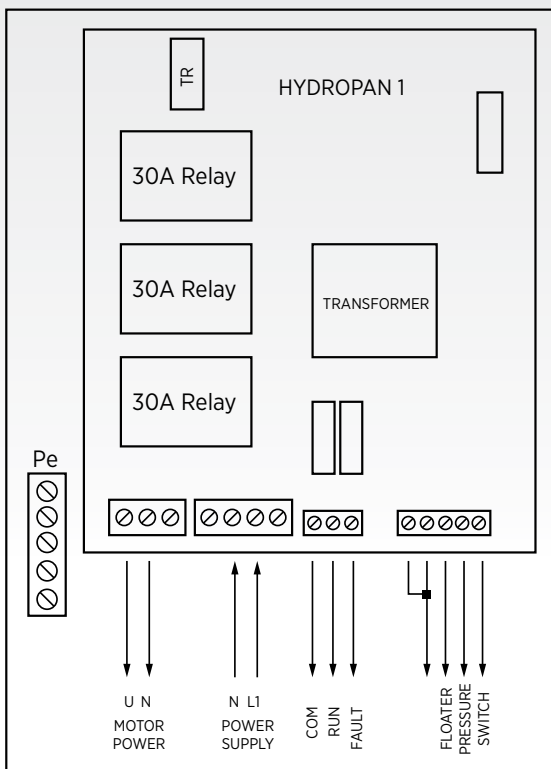


Figure 14. SINGLE PHASE
Booster Mode Connection

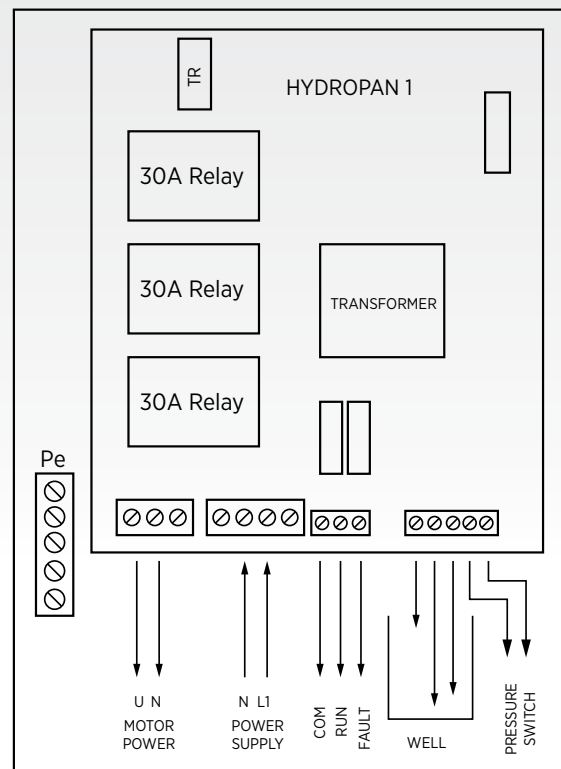


Figure 15. SINGLE PHASE
Deep Well Mode Connection



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