DUAL Pump Station Panel - FAQS

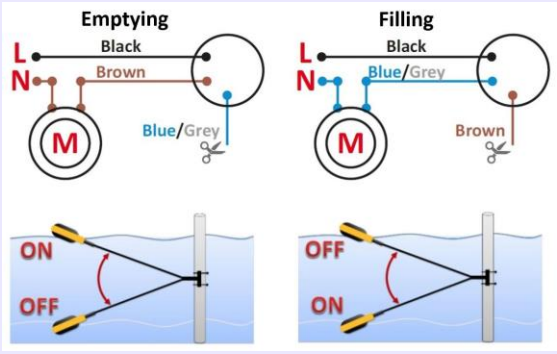
What are the Float Connection Colours?

If a three-wire float is used. Then it can be used for a FILLING & EMPTYING application.

Usually the floats are BROWN & BLACK – NO when down – NC when UP – EMPTYING

Black & Blue for FILLING

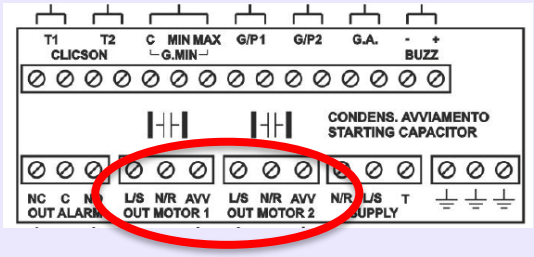
Answer: Brown – Black, all floats



When do I need to use the AVV connection (single phase)

Generally, this will not be required as most small sized drainers have internal capacitors. A two wire with earth motor cable is a good indication of this. A borehole pump will most likely have a capacitor fitted in the panel and hence have a 4 wire (3 core + earth) cable.

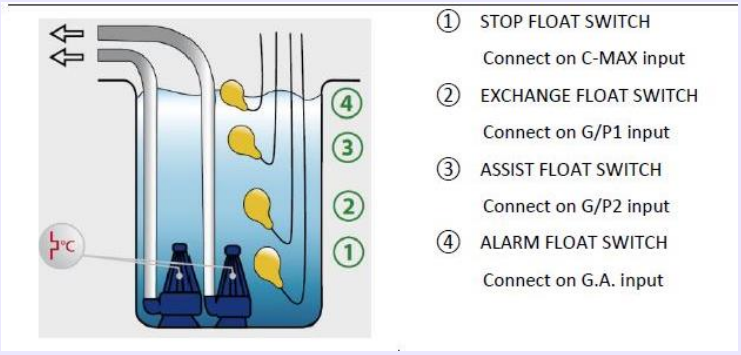
Answer: Single Phase with motors needing EXTERNAL capacitors



How do I connect the floats for a packaged pumping station?

A three (1 pump) or four float (2 pump) system would be wired as follows:

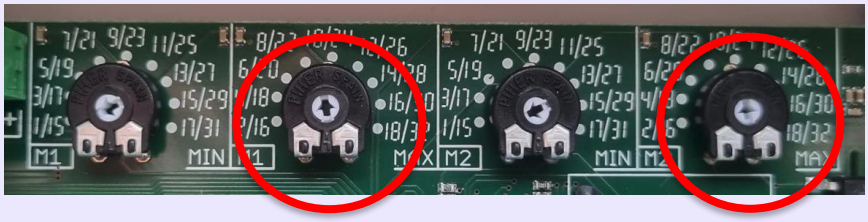
Answer:
1,2 - STOP FLOAT,
3,4 - START FLOAT PUMP 1
5,6 - START FLOAT PUMP 2 (if fitted)
7,8 - ALARM FLOAT



Setting the Thermal Overload

Answer: Check the motor full load current (FLC) and set this value to FLC + 10-15% on the MAX trimmer for each pump.

Do not adjust the MIN from Zero.



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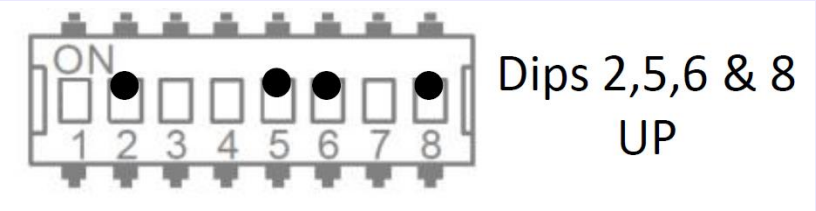
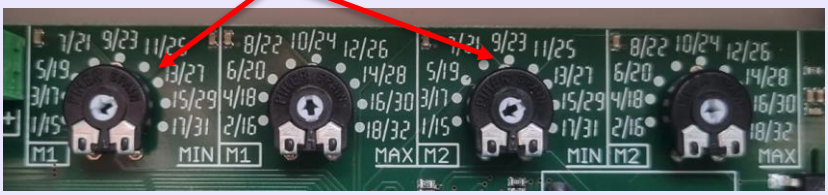
Dip Switch Settings

Answer: Select the DIP Switch settings required to achieve the desired operation.



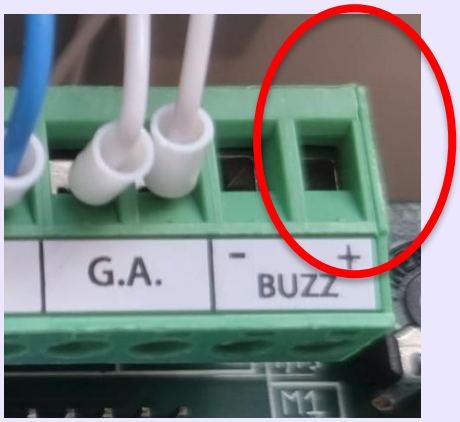
MIN Current setting

These are not used unless a very basic level of dry run protection is required based on low current load. Not required when STOP floats or Probes used. **Do not adjust the MIN from Zero as these are not normally required.**

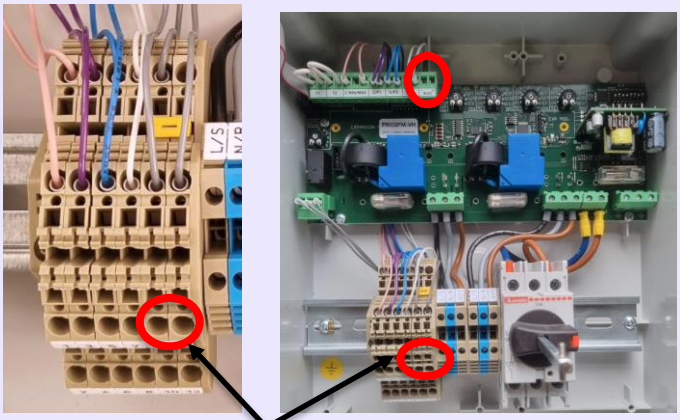


Where are the alarm connections

Answer: Beacon & BMS connections are in buzz (max 100mA) next to the dip switches. Plus a Volt Free connection on OUT ALARM (NC-C-NO). Note +ve & -ve connections – marked.



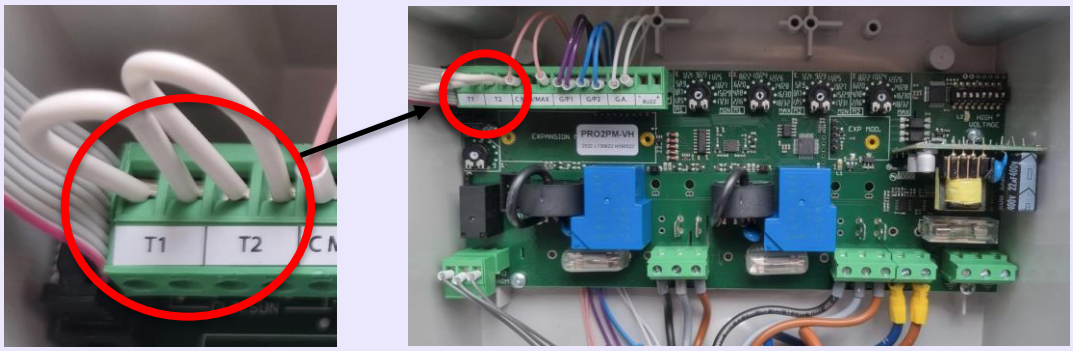
ALARM 12vdc Max 100mA



NOTE! These double up as 'BMS connections' VOLT FREE

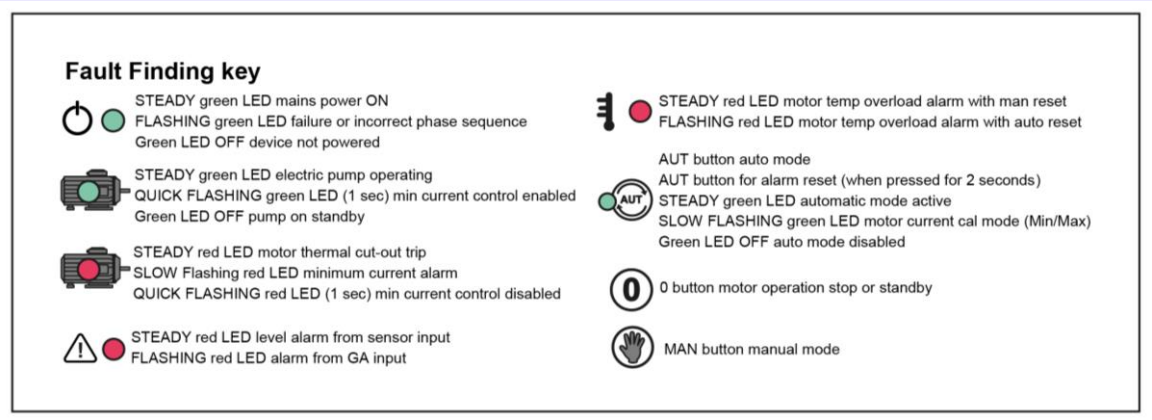
If the pumps have a thermal switch included where are these connected

Answer: These are connected to T1 & T2 connections



Flashing LED – what do they mean

Answer: Check with label on front of each panel

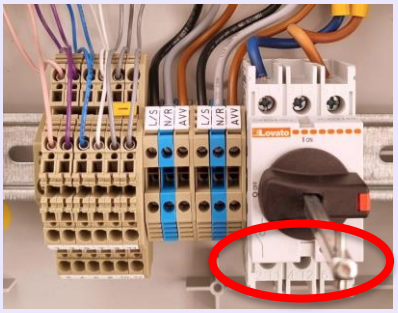


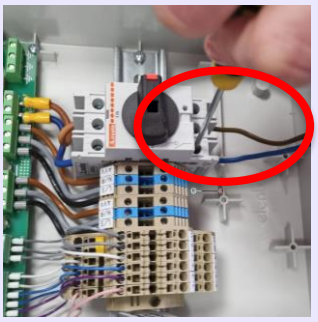
Flashing green LED may also mean the voltage is out of range.

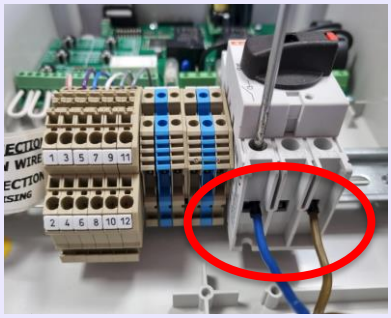
OTHER LEDs - Flashing red LED on PCB does not mean that it is broken – this is normal.

Single Phase Mains Wiring INPUT

Answer: LIVE – Brown, NEUTRAL – Blue



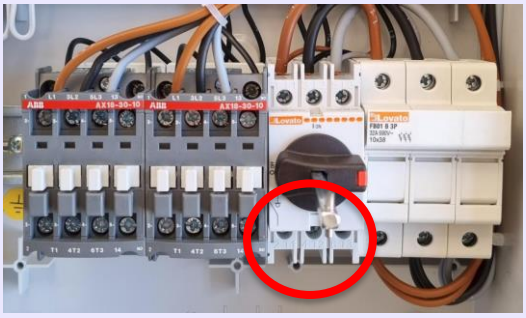


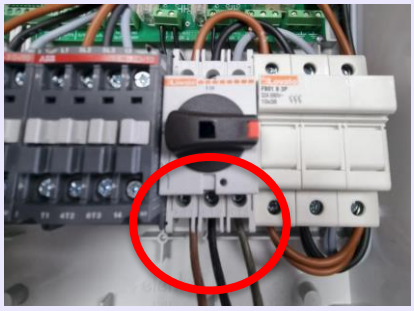


Three Phase Mains Wiring INPUT

The convention is BROWN (L1) BLACK (L2) GREY (L3). But in some circumstances the panel will notify a fault in the phase order and this will be due to a difference somewhere else in the supply. Always start with the convention and then adjust the wiring as follows if required:

Answer: Flashing green LED indicates that the order of the input is wrong. Start with colour for colour, then change grey & black





Where do I do the rotation change for the motor on a three-phase panel

For a single-phase motor, if this is wired incorrectly it will not run backwards but will draw excessively high current. Refer to the pump connections and check these.

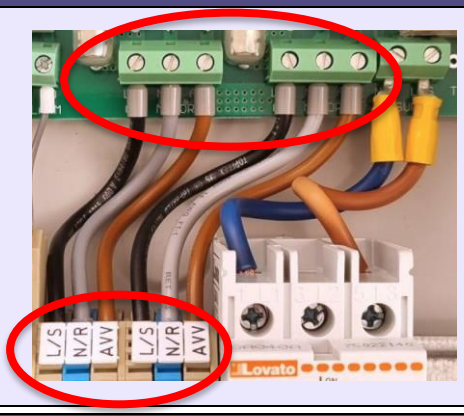
For a three-phase motor, if this is wired incorrectly then it might turn the wrong way. Make the rotation change as follows:

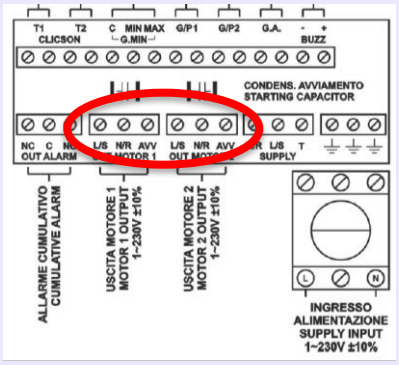
Answer: On the load side of the contactors (where the pump cables are terminated) , not at the isolator inputs.

Pump Connections – 1p

Answer:
Black – L/S
Grey/Blue – N/R
Brown – AVV

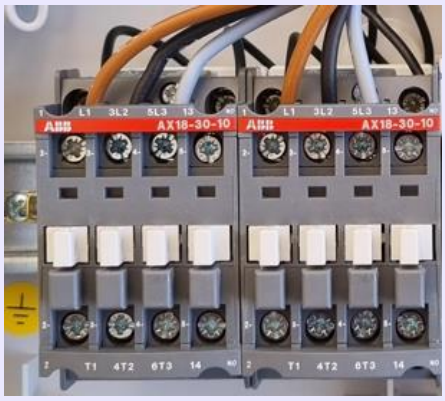
NOTE Same connections
for the RUN/START variant



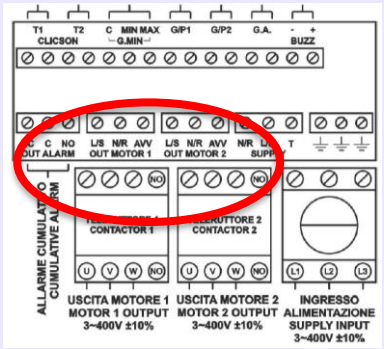


Pump Connections – 3p

Answer:



PUMP 1 PUMP 2



Terminal	Wire
T1	Brown (U)
T2	Black (V)
T3	Grey (W)

What does the current do when the motor runs in reverse

Answer: The current is higher. Rotation must be made on the outward cables (3 phase pumps)

Pumps do not RUN

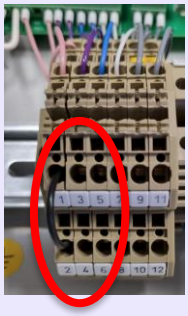
Answer: Have the AUTO switches been set to ON? If ON then check float operation either by lifting floats or using link wires inside panel.

Testing the panel with links

Answer: **WARNING THIS TEST IS DONE LIVE – COMPETENT / TRAINED PEOPLE ONLY. FLOATS ARE < 9V dc**

The purpose of the links is to test the logic of the panel excluding external sensors. The aim is to MIMIC the operation of the floats.

Link 1&2 – Nothing should happen
Link 3&4- Pump 1 should start
Link 5&6 – Pump 2 should start
Link 7&8 – Beacon alarm should flash
Break 7&8 – Beacon alarm should STOP
Break 5&6 – Both pumps remain ON
Break 3&4 – Both pumps remain ON
Break 1&2 – Both pumps should STOP



TERMINAL LIST
1-2: ALL Stop Float
3-4: Pump 1 START Float
5-6: Pump 2 START Float
7-8: Alarm Float

If the above happens then the panel logic is correct – look for faults outside the panel. Floats or float connections.