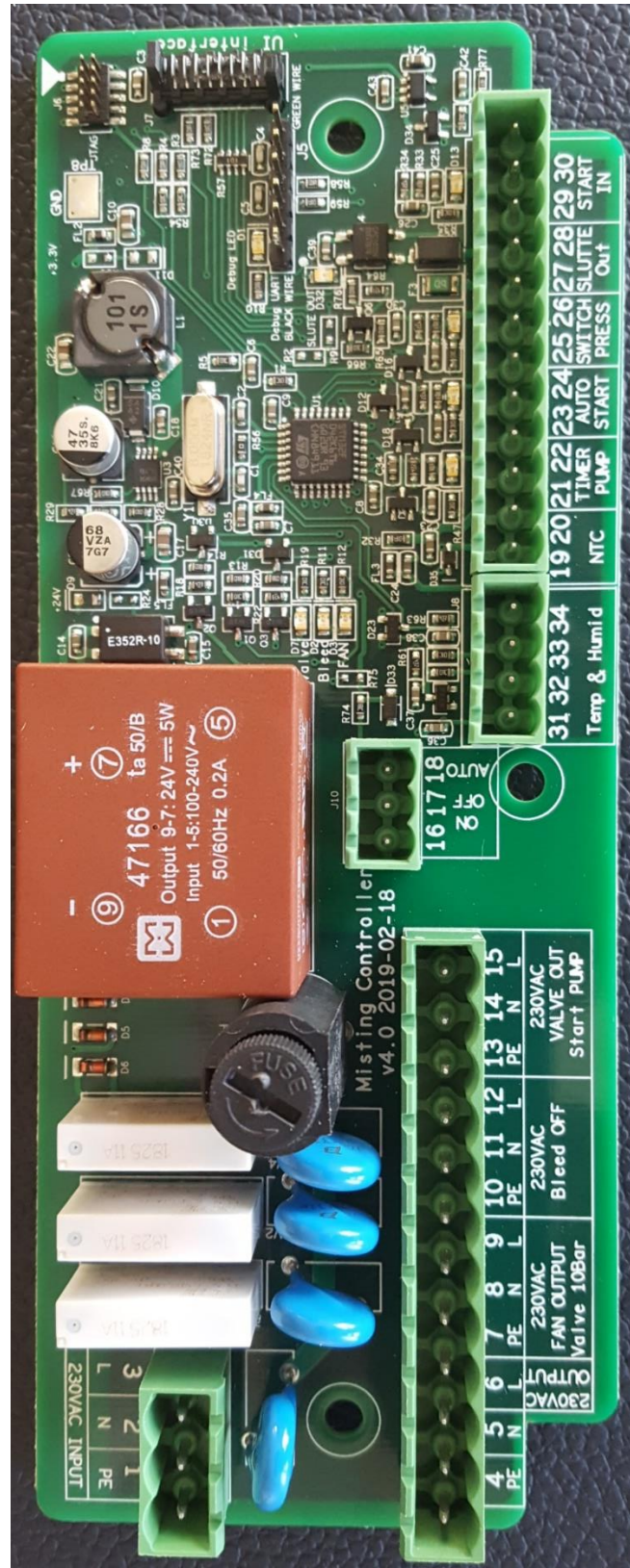


Controller – info about terminals



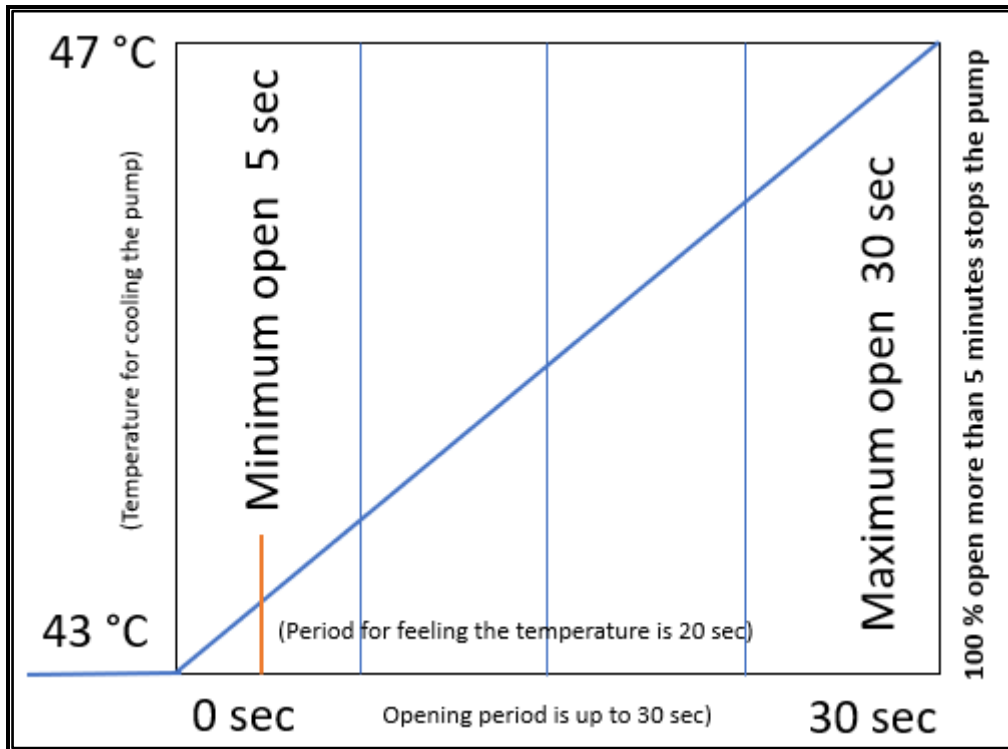
AMP Pump controller PCB board 01.01.2021	
Start	Stop
General functions for the controller	
<p>Condition 1 Selector switch set to Auto</p> <p>Terminal 29,30: External input for start-up.</p>	
<p>Condition 2 Main contactor start</p> <p>Terminal 13,14,15: activates relay for starting main contactor to the motor - 1 sec. after start signal 29,30.</p>	
<p>Condition 3 Ensuring water pressure</p> <p>Terminal 25,26: Input signal from external pressure sensor must be activated before 20 s. If no input signal received, the selector switch on box front must be set to OFF to create a reset.</p> <p>Note 1: More small cycles without pressure - and total 20 sec. Stops the pump too. Note 2: The first 2 sec. is outside the calculation because of pressure "chocks".</p>	
Single section - pump	
<p>Condition 4 Valve 10 bar)</p> <p>Terminal 7,8,9: activate low pressure solenoid valve - when terminal 29,30 is activated</p>	<p>Valve stops 1 s after pump stops (main contactor, terminal 15)</p>
<p>Condition 5 Bleed-off pressure from pipes</p> <p>Terminal 10,11,12: solenoid valve for high pressure bleed-off opens for 10 s first time.</p>	<p>After first 10 s, the solenoid valve opens for 2 s every 2 minutes, 8 times total</p>
Multiple section - pump	
<p>Short in terminal 23,24 - Then the pump - terminal 13,14,15 - start together with start signal 29,30. Temperature control activated.</p> <p>Condition 6</p> <p>Terminal 23,24: A timer keeps the main contactor start-signal active for 5 s</p> <p>Timer for start/stop signal => no short pulse for the pump running</p> <p>Note 3: When manual switch from stop to auto - the pump start immediately Note 4: From the factory the short - terminal 21,22 is in position. The short can be demounted. (just for cycles below of 5 sec. ON and OFF).</p>	<p>A timer keeps the main contactor STOP-signal active for 5 s</p>
<p>Note 5: From factory the short - terminal 29,30 is in position. Demount this for signal from decentral climate computer in terminal 29,30</p>	

Temperature security system for pumps – AMP 23

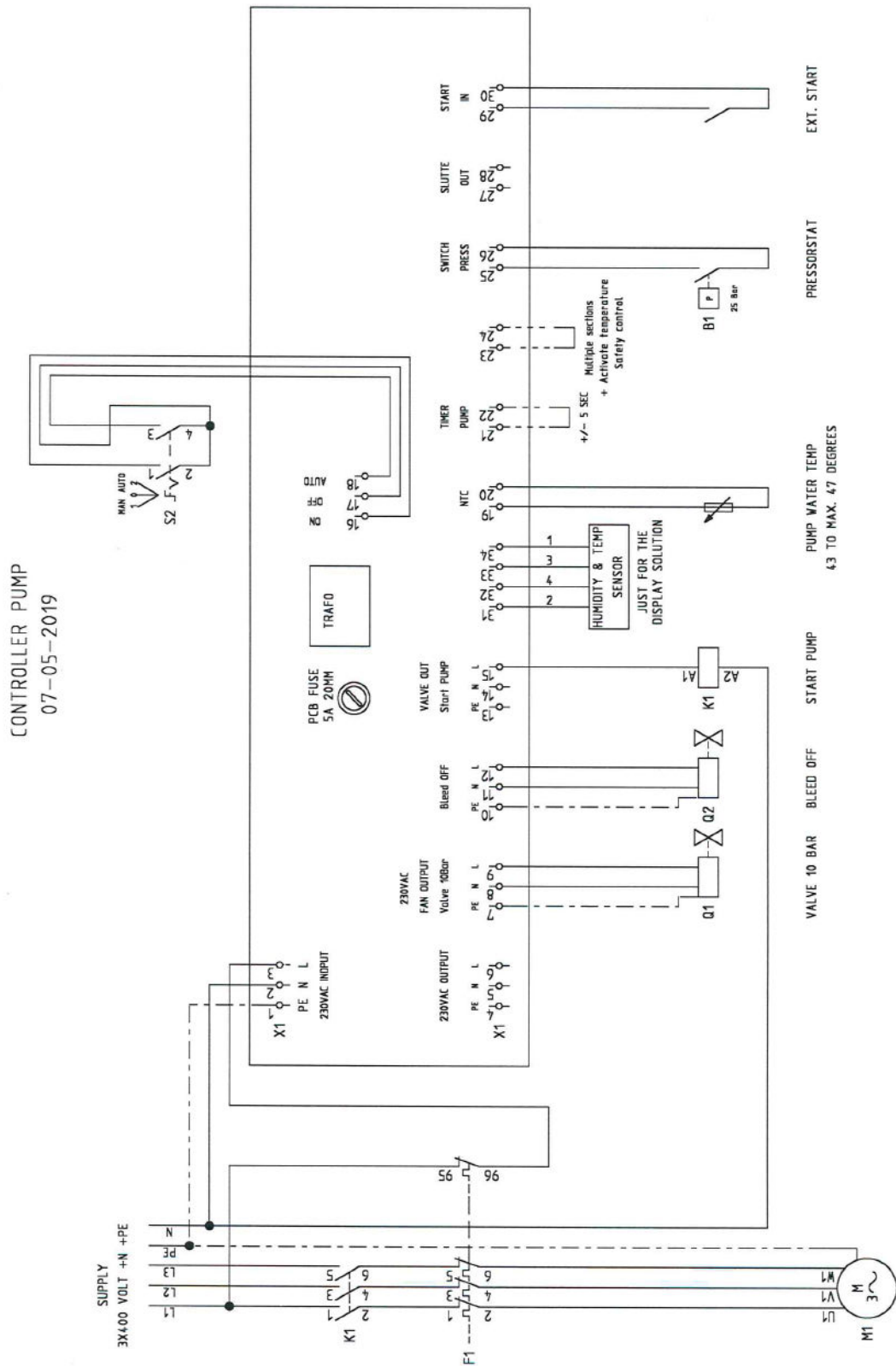
If one section is below of 20% of the maximum pump capacity, this temperature security system is needed.

With this temperature security system, the pump can handle performance down to 0 liter/min.

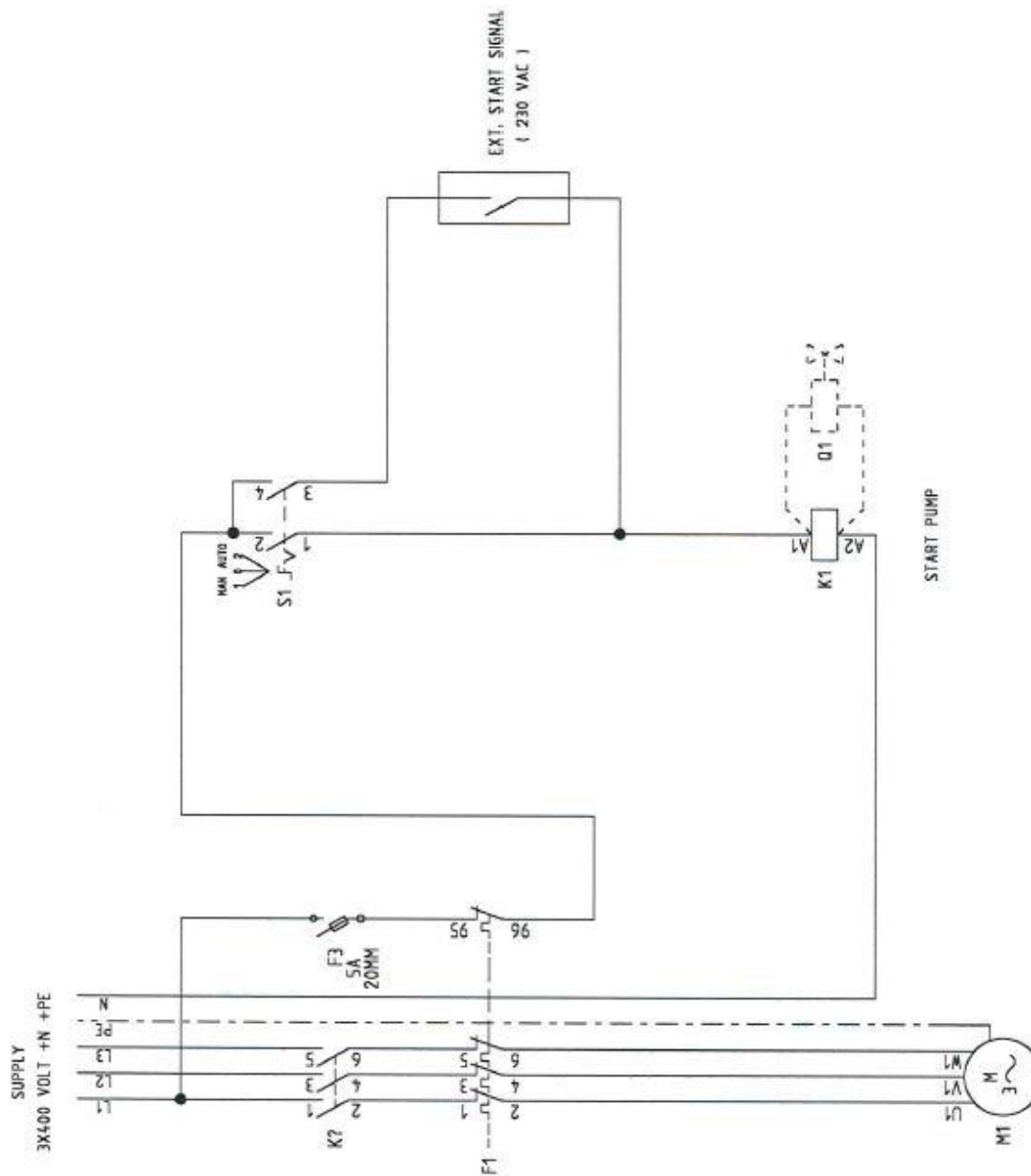
If the water/pump temperature exceeds more than 50 degrees, the pump, valves, nozzle etc. can be damaged.



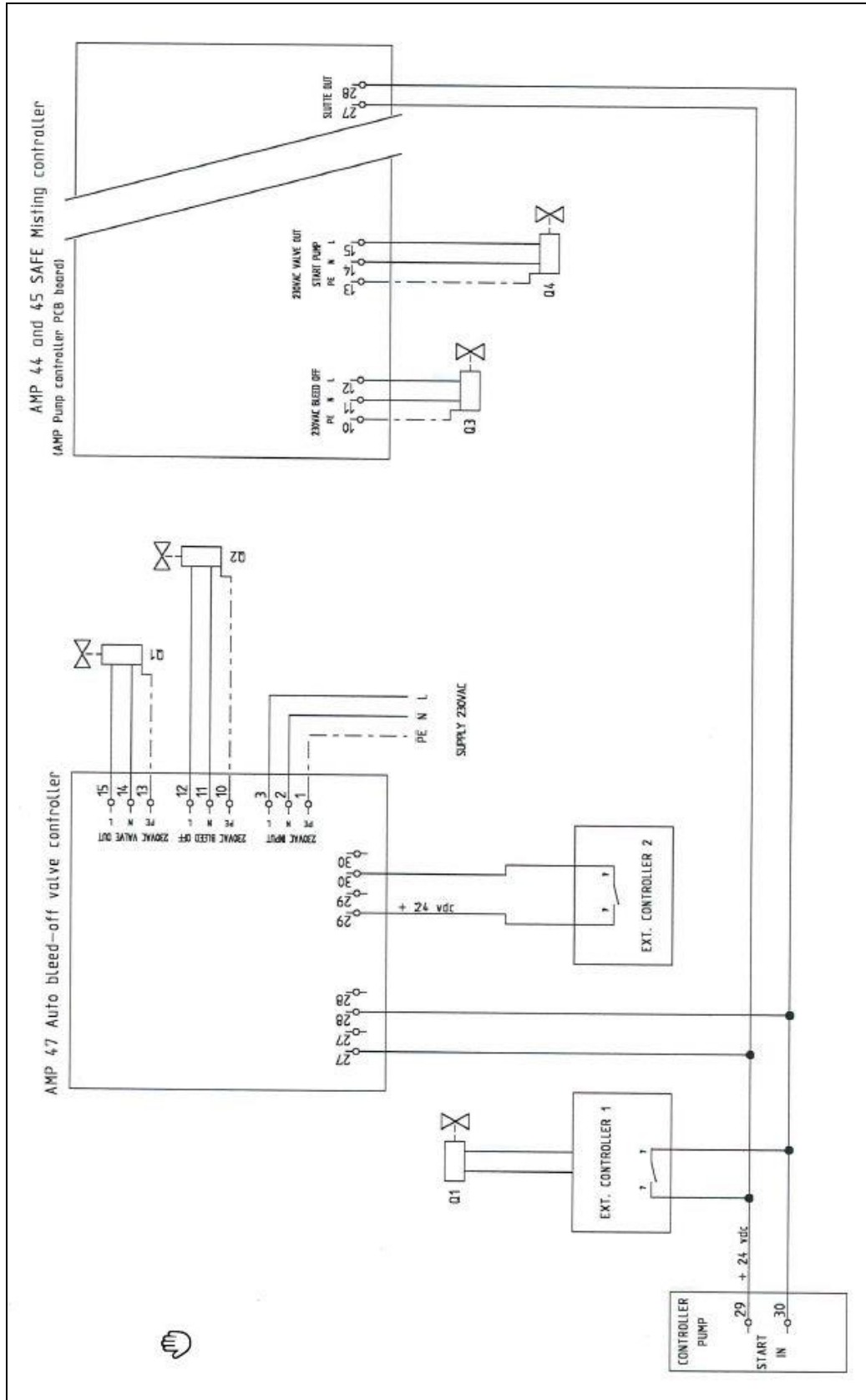
Electric diagram – PCB controller



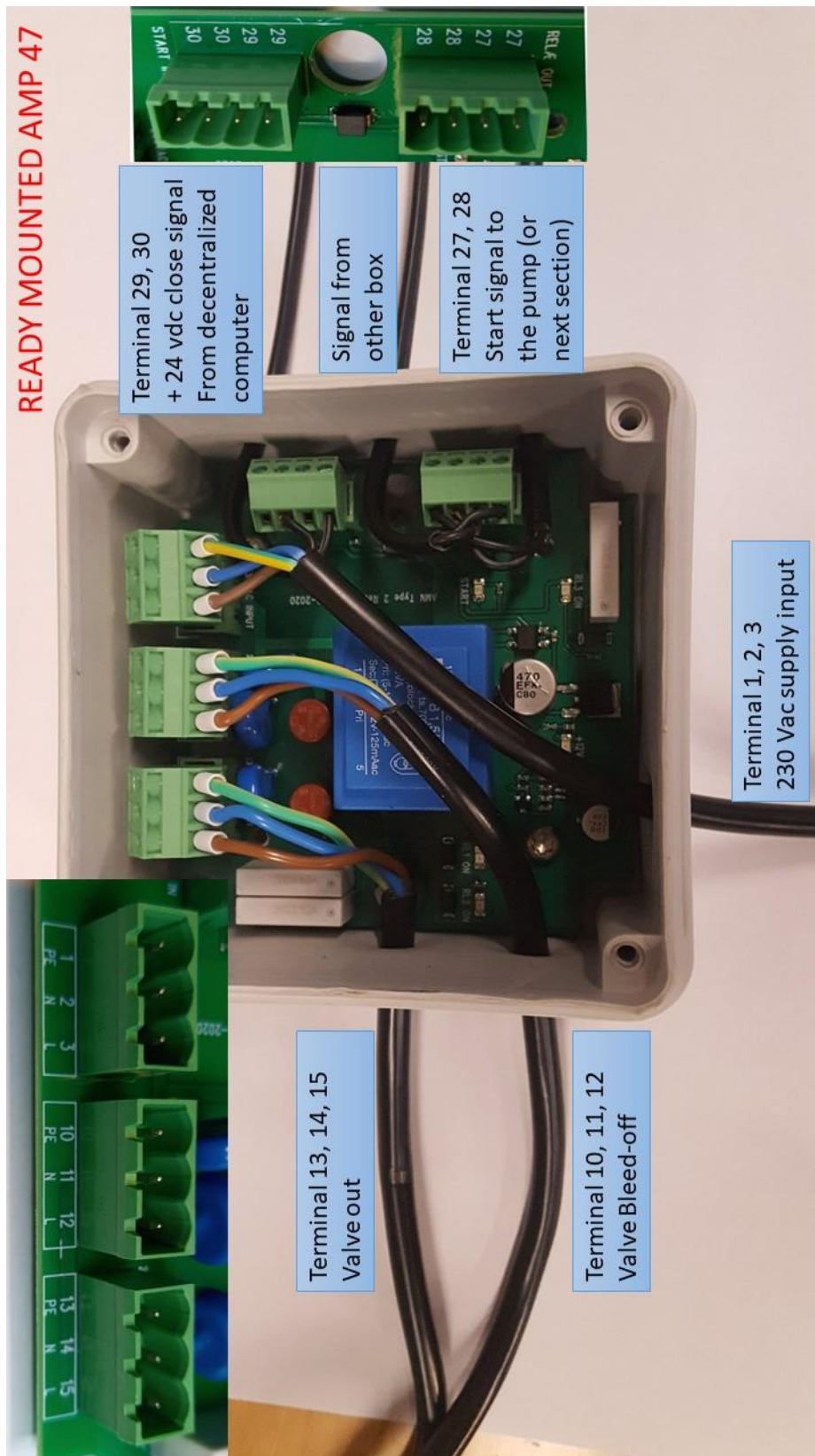
Electric diagram – AMP 40 – with contactor.



Multiple sections – Electric diagram - decentralized



AMP 47 Auto bleed-off valve controller



Hardware mounting of AMP 48 remote Wi-Fi switch

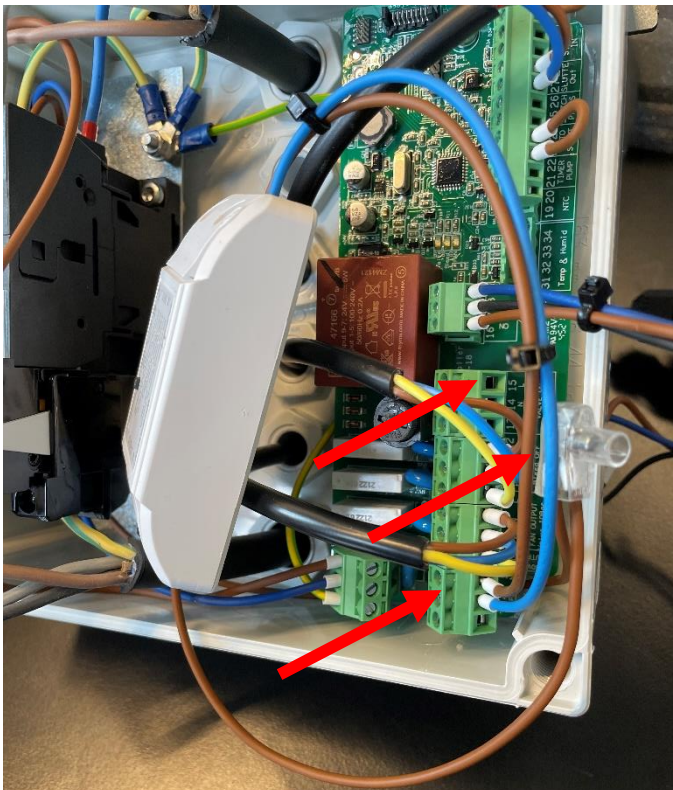
1. Remove power plug for your personal safety.



2. Open the cabinet



3. Remove the pcb terminal block from position 4+5+6 and replace with terminal block from AMP 48. Wires comes from left side of switch (INPUT) – The live wire is brown and goes to terminal 6. The blue wire (null) goes to terminal 5 on the circuit board.
4. Remove live wire (brown) from terminal 15 and insert to the isolated wire connector, which comes from output side (right side) of switch.



5. Re-connect you power plug and set the cam switch to MANUAL. When the AMP 48 connects to the local 2,4 GHz Wi-Fi you will gain remote control of the pump start/stop signal.
6. Remember to remove AMP 48 after service job is done.