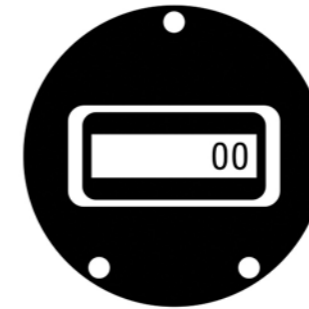
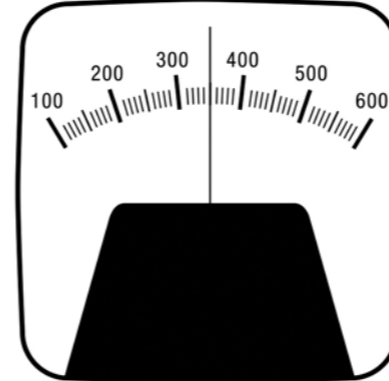
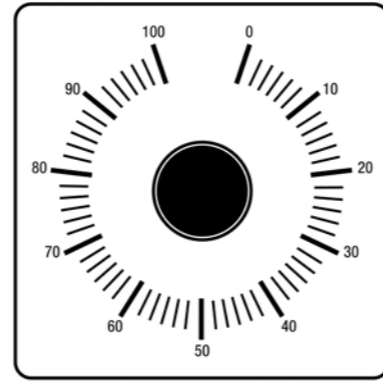
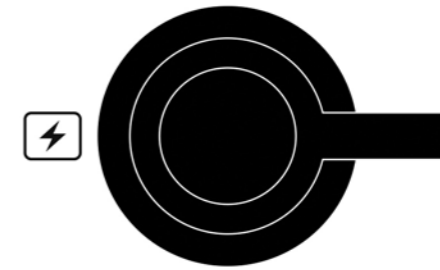
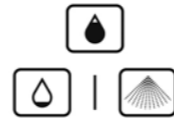


iControl Standard

iControl Standard



iControl
Remote



off | on | start



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Thank you for purchasing the **iControlStandard** panel from the **iControl** panel range.

The **iControlStandard** is a complete control panel that enables control over the classic functionality of a pivot using the switches on the dashboard.

The **iControlStandard** panels are manufactured to the rigorous quality standards of ISO 9001, to offer you the best possible control panel and also ensure that your pivot is safe and easy to use.

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10	03 Functions of the iControlStandard
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01 Safety

01.1 General Instructions














- Only authorized persons who have received proper training may install, maintain or repair the control panel.
- Operatives should always wear appropriate, approved personal protection equipment.
- Respect the signs and keep the workplace clean.
- Observe local regulations during any work you may carry out.
- To guarantee proper operation of the equipment and appropriate safety, use only original spare parts and accessories.
- The packaging of the equipment and any other discarded material should be recycled. To do so, they must be separated for deposit in the correct containers.

01.2 Low-Voltage Electrical Safety






- Always engage the ground connection.
- Do not disconnect equipment by pulling the cables.
- Do not connect cables without approved plugs.
- Do not let people or equipment pass over cables or extension leads.
- Do not use electrical tools with damp feet or hands, or tools which are themselves damp.
- Do not use water on fires where a voltage could be present.
- Under no circumstances bypass the electrical protections.
- Do not conduct work outdoors during adverse weather.
- Perform proper maintenance on the installations.
- Take care with electricity.
- If a person receives a shock, turn off the power supply.
- Disconnect and isolate the part of the installation on which you are going to work.
- Block all the circuit-breaker devices.
- Verify there is no voltage in any of the active elements of the working area.
- Ground and short-circuit all the possible sources of voltage.
- Delimit the working area with signs or isolating barricades.
- Workers should use insulating stools and matting, an absence-of-voltage tester, face visors and signage material, all of approved type.

02 Key to the iControl Standard panel

02.1 Switches

	Main switch				Dry, Wet, Aux	
		Auto-Start or Manual Mode		Start Switch		
			Direction and Auto-Reverse Switch			Safety Override
		iControlRemote				

02.2 Indicator lights

	Machine activated		Last tower moving
		Counterclockwise or clockwise	
	Safety		

02.3 Measuring Devices

The iControlStandard panel incorporates the following measuring devices:

- A timer to record the total number of hours of use of the pivot. This is very helpful for scheduling maintenance for the pivot and all its components.
- An analog 600 V voltmeter to monitor the supply voltage to the panel.

WARNING: Do not start the machine if the voltage is below 360V or above 415V, for 50Hz supplies, or below 450V or above 505V if using 60Hz. That could cause damage to the electrical components.

03 Functions of the iControl Standard

The iControlStandard is an easy-to-use control panel that enables the basic functionality of a pivot to be controlled using switches:

03.1 Main Switch

This disconnects the entire control panel from the electrical supply, both the power connection (460/380 VAC) and the control voltage connection (120/110 VAC)

Note: The control panel cannot be opened unless this switch is turned to OFF.

DANGER: Recall that even if this switch is OFF, some components of the panel might still be energized.

03.2 Manual Start Operation

Selecting Manual mode, the machine will begin moving once the Start Switch has been turned to the start position.

The pivot will move in the same direction as before its last stoppage.

03.3 Automatic Start Operation

The Automatic Start feature of the iControlStandard is designed to start the machine automatically as soon as the power supply is connected.



For it to work, the Start Switch must be set to on. As soon as power is restored, the pivot will move in the same direction as before its last stoppage, and as the other controls on the panel may be set.

DANGER: Do not set Automatic Start Operation without checking that the Start Switch is set to off. The machine might begin moving unexpectedly.

03.4 Auto-Reverse

Pivot direction switch controls whether the system will auto-reverse or auto-stop.



To cancel the Auto-Reverse function, set the switch to the position Left (forward or reverse)

 or Right (clockwise) 

DANGER: Always install the field-end barriers whenever the auto-reverse feature is to be used.

03.5 Auto-Stop

The Auto-Stop function is an inherent feature of Auto-Reverse.

In those positions (, ) the pivot will stop at its barrier.

03.6 Percentage timer

This timer is used to regulate the speed of advance of the pivot, determining in turn the depth of water to be applied per cycle.

For a given amount of water, the depth applied will be inversely proportional to the speed. The faster the pivot cycle, the lighter the application.

To regulate the overall speed of the machine, the operating time of the last tower motor is controlled over a period of 60 seconds.

For instance, with the timer set to 100%, the last tower will move continuously. On the other hand, if set to 50%, the last tower motor will come on for 30 seconds (50% of one minute) and go off for 30 more. Thus, the machine will take twice as long to accomplish one cycle in the field, compared with a timer setting of 100%.

It should be remembered that the water application capacity of the unit is not determined by the motor speed but by the instantaneous flow rating of the system.

03.7 Irrigation Control

The iControlStandard panel has a switch to control the irrigation of the pivot. The switch position options available are:



The pivot will move without watering.




Irrigation position. The machine will water when it is started, and will stop if the pressure falls too low.



Fertigation position. When the pivot is started, it will operate with water and fertilizer. It will stop if the pressure is insufficient.

WARNING: Take great care in handling chemical products when using fertilizers or pesticides with the machine.

WARNING: Do not use the fertigation system if the machine is not working with its full water flow.

NOTE: If controlling irrigation using iControlRemote, leave the panel switch set to  so the machine can be moved empty.

03.8 Pivot direction

Sets the direction and enables the Auto-Reverse feature.



Clockwise (forward). Auto-Stop at barrier.



Counterclockwise (reverse). Auto-Stop at barrier.

WARNING: For change of direction to work properly with the iControlRemote, this should be set to Auto-Reverse.

03.9 Safety Override

The iControlStandard is fitted with a manual override for the safety system of the machine.

When the Safety Override button is pressed, the safety circuit running through the pivot is momentarily engaged. This allows the machine to be moved when the safety circuit has stopped it.

When the safety micro-switch of a tower opens, whether due to misalignment, fault in auto-reverse, excess time in the anti-skid system, or for any other reason, the whole machine will stop, and may only be started again by pressing the Safety Override and the Start Switch.

DANGER: Do not use the Safety Override unless the entire machine is within sight.

WARNING: Extreme caution should be taken when using the Safety Override as this could lead to major misalignment and cause structural damage to the machine.

03.10 iControlRemote

This supplies the iControlRemote device.

The basic functionality of the machine continues to be controlled by the main panel, especially the safety circuit and direction. It is necessary for the pivot direction option to be set to Auto-Reverse.

NOTE: Activation of the iControlRemote is not essential for the machine to work correctly.

NOTE: Please see the "iControlRemote" manual for further information about this device and its features.









04 First Application

04.1 Starting the pivot

It must be kept in mind that the pivot can be started in either Manual or Automatic mode.

The following starting sequence should be used:

- Turn the Main Switch to “ON”.
- The panel voltmeter should indicate the supply voltage at that moment.
- Select the desired speed in the Percentage Timer.
- Set the Irrigation Switch to the desired position.
- Move the Direction Switch to the desired position, left, right or Auto-Reverse.
- Choose either Manual or Automatic start.
- Set the Start Switch to the on position to activate the safety and closing circuits and, as determined by the mode chosen:
 - Manual: Once the switch is turned to Start, the machine should get under way.
 - Automatic: If the panel is energized, the pivot will start automatically.
- Check the indicator lights on the control panel to verify that all is working properly. The following indicators should be lit up, depending on the direction:

Left		Right
	Machine activated	
	Reverse (right)	
	Forward (left)	
	Last tower moving	
	Safety closed	

DANGER: Before programming or starting the system, ensure that no person, animal or vehicle that could suffer damage is within the range of the machine.

DANGER: Pay close attention to high-voltage pylons and cables. Do not water close to them or on roads.

WARNING: Make sure there are no irregularities or obstacles (buildings, trees...) on the ground which could cause structural damage to the machine.

04.2 Procedure for stopping and disconnecting the pivot

The following stopping sequence should be used:

- Set the Start Switch to "OFF"
- Turn the Main Switch to "OFF".
- Disconnect the automatic differential inside the panel or at the pumping station when the machine is not going to be used for some time.

DANGER: *Even if the Main Switch on the control panel has been disconnected, there still might be 480/380 VAC in the panel if the main power supply has not been turned off.*

WARNING: *To avoid damage to the machine, always disconnect the Start Switch first, and then the Main Switch.*

WARNING: *The internal door of the panel will not open until the Main Switch is set to "OFF".*

04.3 Machine emergency stop

All our pivots are fitted with a disconnect switch on every tower, This ON / OFF switch is in the lower part of the tower box. Turning this to "OFF" will stop the whole machine by interrupting the safety circuit.

WARNING: *This switch is only to disconnect the machine and should ONLY be used in an emergency.*

05 Specifications

The following information is facilitated to prevent damage to the control panel. Working outside these parameters could damage the panel. Please follow these recommendations:

Material: Stainless Steel.

Dimensions: 610 x 535 x 295 mm

Weight: 43 kg

Voltage: 380 to 400 VAC / 50 Hz
460 to 505 VAC / 60 Hz

Protection rating: IP56 rated

Impact resistance rating: IK10

Lock: No lock or key now, unless customer adds a padlock to the latches.

06 Circuit diagram

06.1 Before installation

Read the Instruction Manual, especially the section relating to Safety.

Always engage the following protection elements on the iControlStandard:

- Differential switch “if present”: Personal protection against possible electrical ground or equipment leakage. (ID4/40/300mA)
- Three-pole thermal-magnetic circuit-breaker “if present”: This protects the installation against excessive consumption or overheating at 16 or 25A, depending on the pivot size. (ICP3x16 or ICP3x25)
- Two-pole thermal-magnetic circuit-breaker “if present”: Protection for the control circuit. (ICP 1x6A)

WARNING: *Electrical work should only be performed by qualified personnel.*

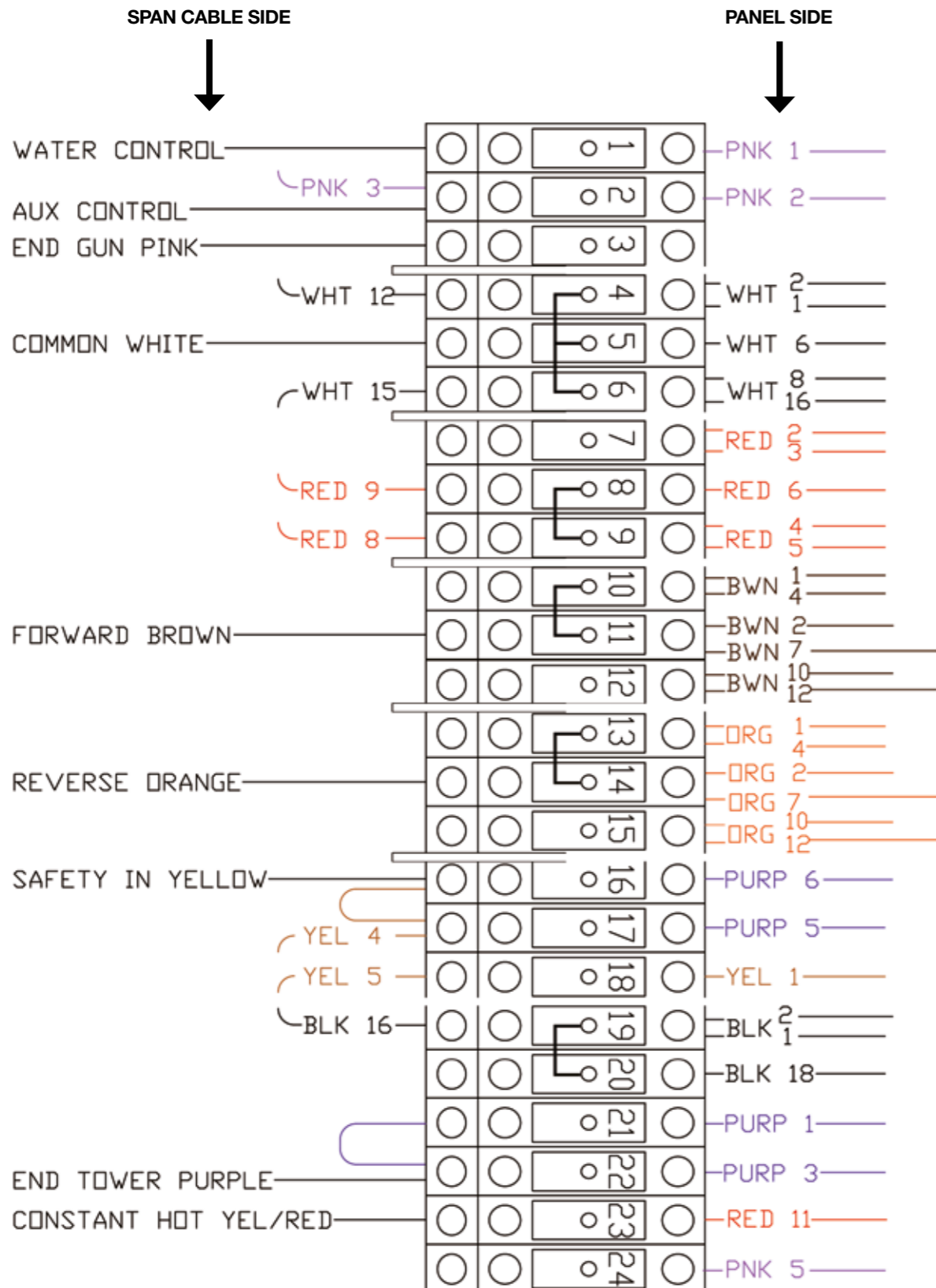
WARNING: *The electrical installation to supply the system must always comply with the local regulations of each country, and each installer is responsible for ensuring this.*

DANGER: *ALWAYS ensure the system is correctly grounded BEFORE supplying current to the pivot.*

DANGER: *The leakage current must not exceed 30mA when the machines are connected using plugs.*

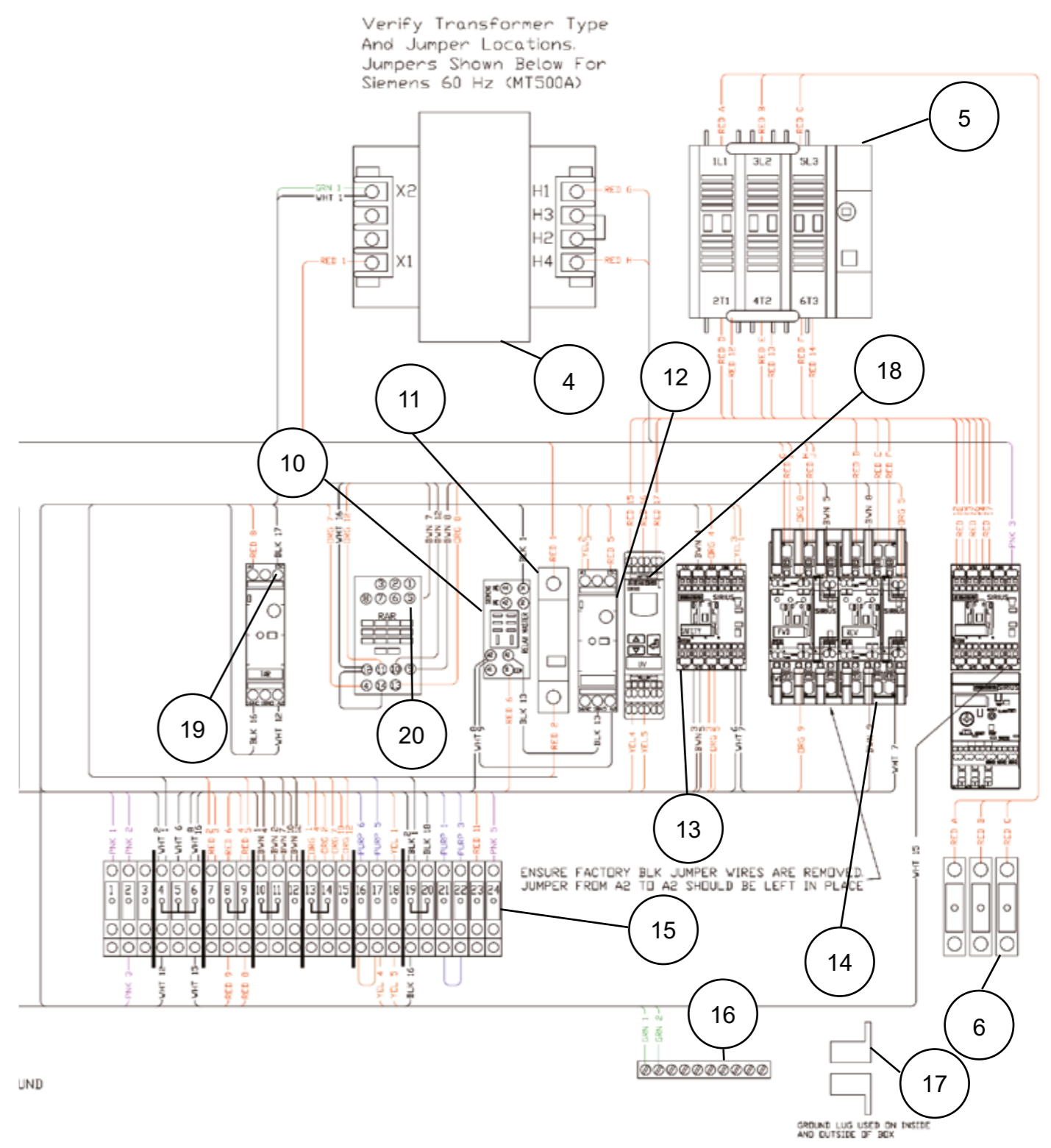
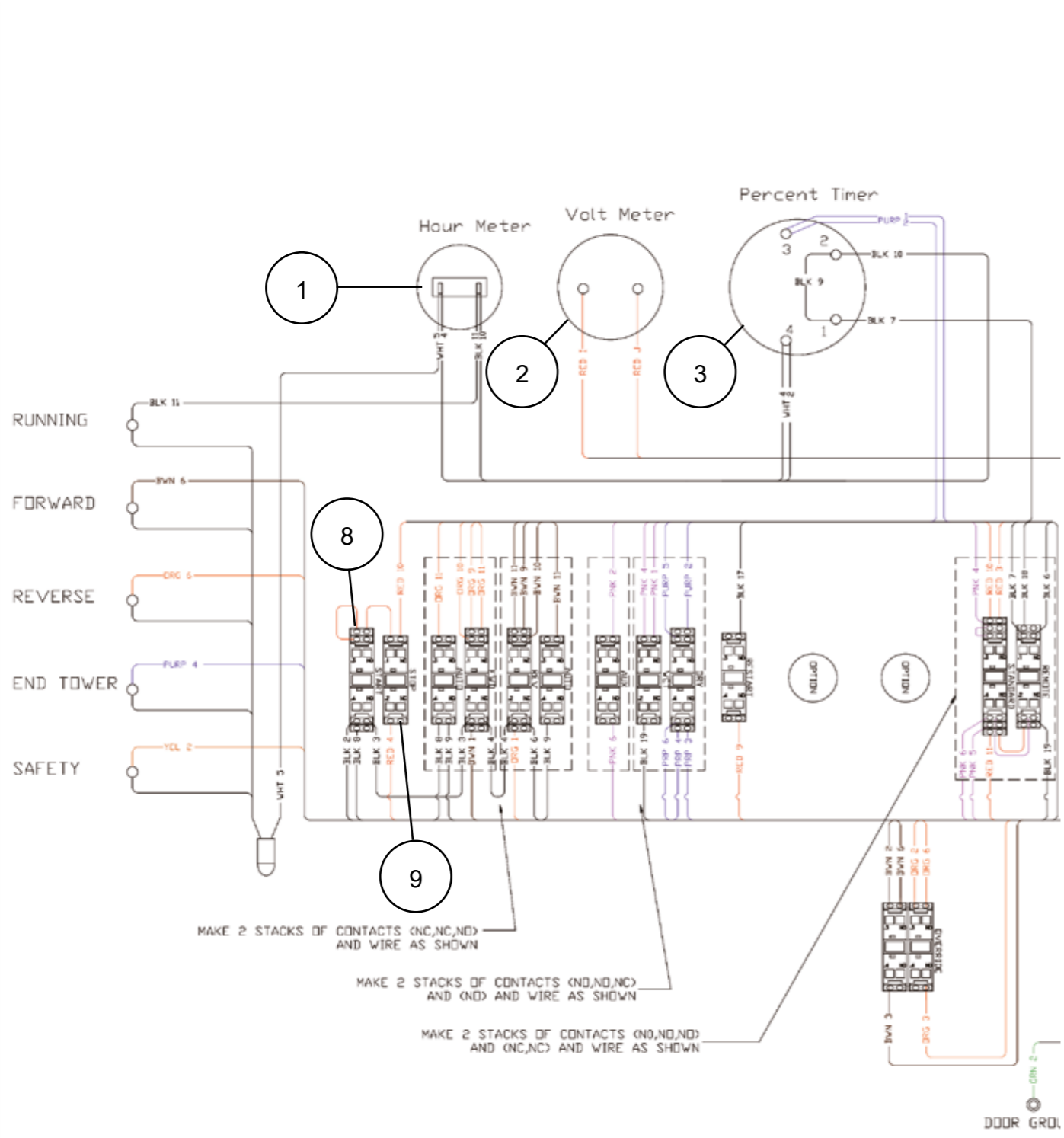
06.2 Diagrams

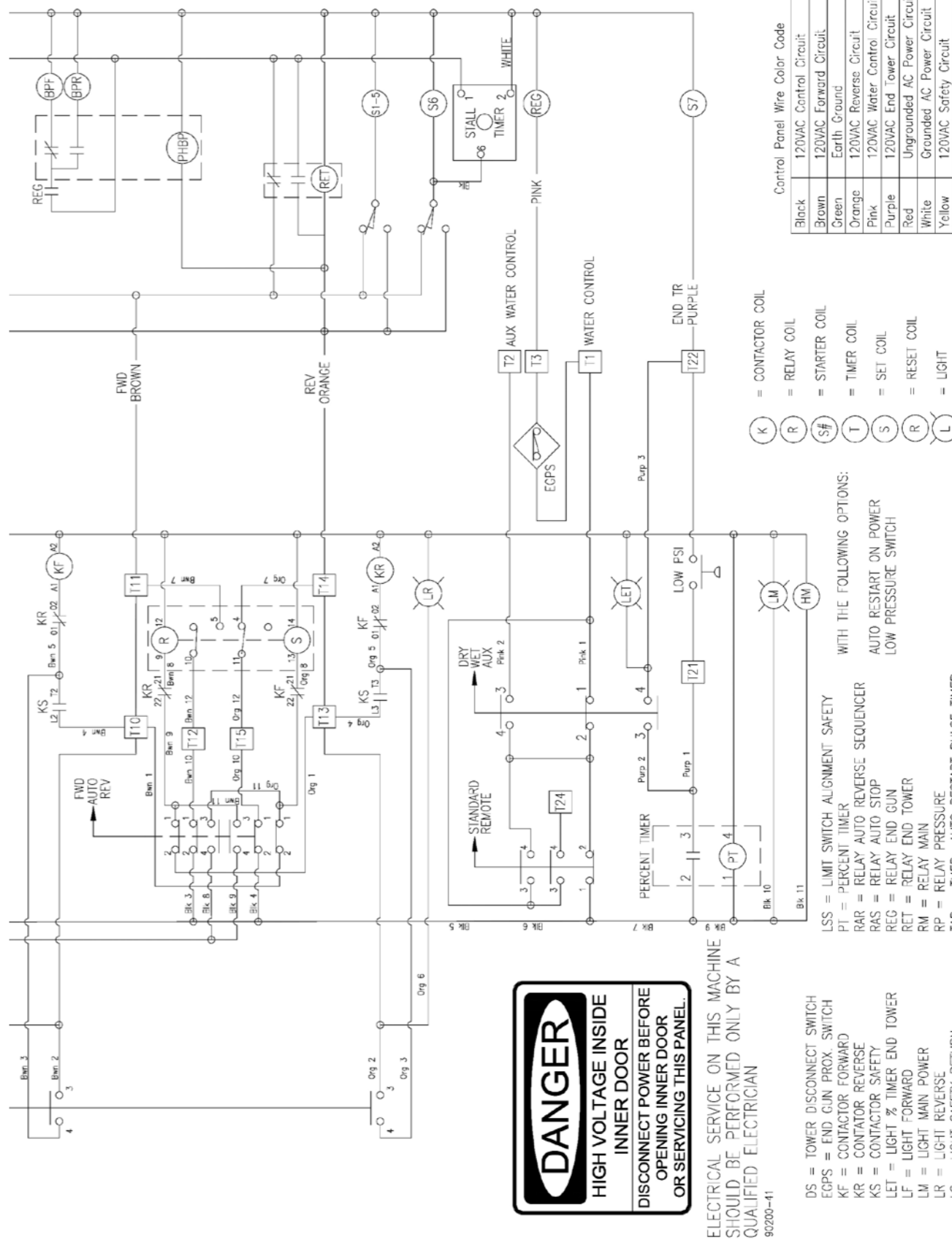
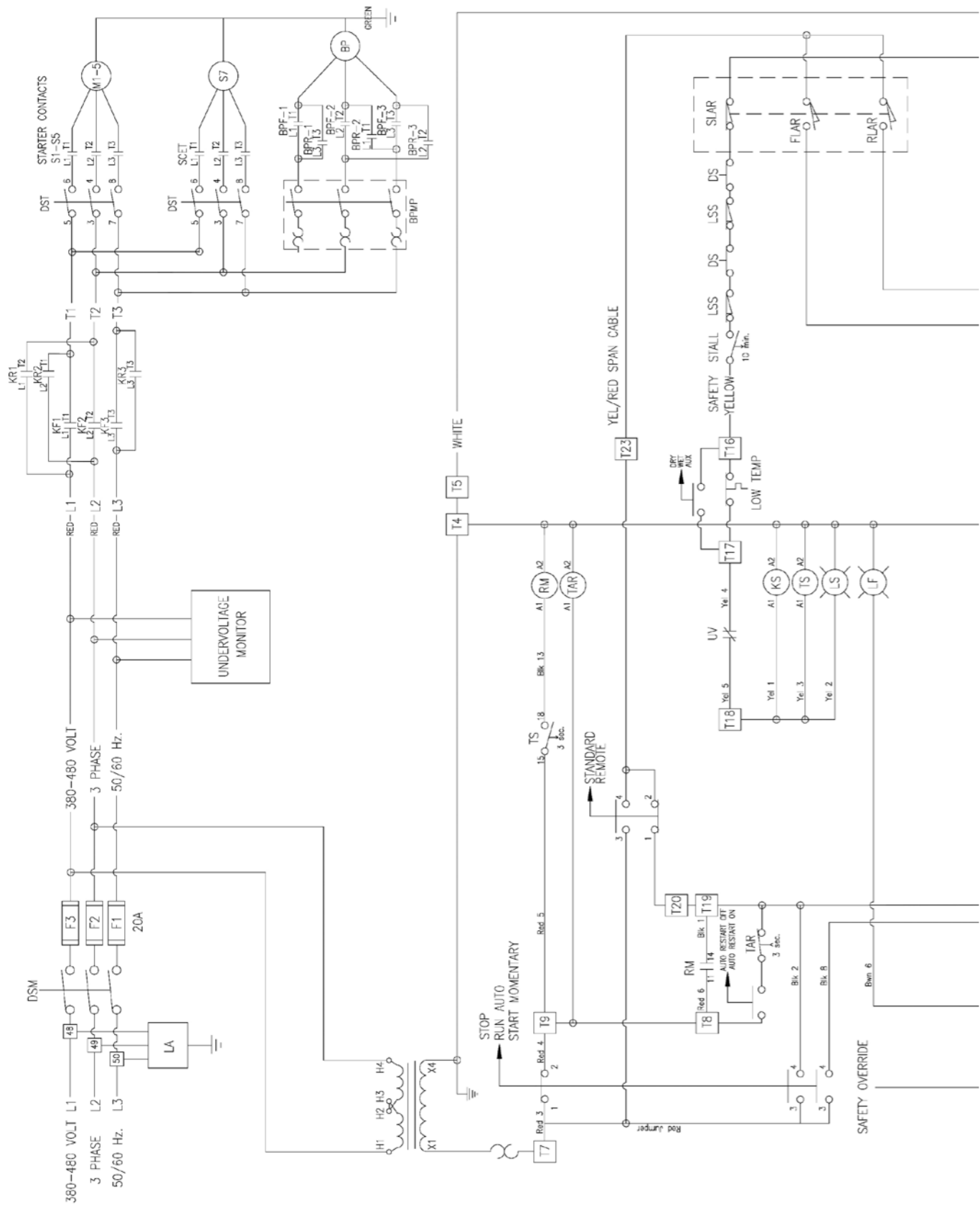
6.2.1 Cabling from panel to pivot



6.2.2 Panel components

Item	Part #	QTY	Description
1	12-869014	1	AC/DC HOUR METER, THREE HOLES CASE 1/4" MODEL 3410-1000; TRUMETER; 8826948 (ALT. 95.41010)
2	12-95.40089	1	VOLTMETER, 600V
3	12-401044	1	PERCENTAGE TIMER 60 SEC., MACROMATIC
4	12-860144	1	TRANSFORMER, INPUT: 380/400/415VAC, OUTPUT: 120VAC, 50Hz : SIEMENS : MT05001
5	12-860154	1	SWITCH DISCONNECT, SINGLE THROW, 30AF, 50KAIC : SIEMENS : CFS361J5
6	12-823005	3	TERMINAL BLOCK, PUSH-IN, 10MM
*	12-02613-01	5	INDICATOR LIGHT AMBER 1/4"
8	12-860141	24	CONTACT BLOCK NO : SIEMENS : 3SU1400-1AA10-3BA0
9	12-860142	11	CONTACT BLOCK NC : SIEMENS : 3SU1400-1AA10-3CA0
10	12-860145	1	PLUG-IN RELAY with BASE, PUSH-IN TERMINAL, 115VAC, 4C/O : SIEMENS: LZS:PT5D5S15
11	12-860153	1	MINICIRCUIT BREAKER, 6A, 1P, 230/400V, 6kA : SIEMENS : 5SY4106-6
12	12-860158	1	TIMER DELAY SAFETY : SIEMENS : 3RP2540-2AW30
13	12-860131	1	CONTACTOR FWD/REV : SIEMENS : 3RA2326-8XB30-2AK6
14	12-860132	1	CONTACTOR 18A 120VAC : SIEMENS : 3RT2015-2AK61
15	12-860157	25	MINI TERMINAL BLOCK, PUSH-IN, 2.5MM, 3-POINTS, GRAY, TE : SIEMENS : 8WH2003-0AF00
16	12-95.43031	1	NUTERAL BAR 10 HOLE
17	2202-01	2	Ground lug
18	12-860146	1	RELAY, PHASE SEQ/FAILURE/UV, PUSH-IN TERMINAL : SIEMENS : 3UG4614-2BR20
19	12-860159	1	TIMER DELAY AUTO RESTART : SIEMENS : 3RP2511-2AW30
20	12-0910119	1	SWITCH, PLUG-IN RELAY, LATCHING, AR, 120VAC : OMRON : MY2K-US-AC120
20	12-0910120	1	RELAY BASE, SWITCH, : OMRON : PYF-14A-E
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*			
*			
*			
*			
* Not shown			





ELECTRICAL SERVICE ON THIS MACHINE SHOULD BE PERFORMED ONLY BY A QUALIFIED ELECTRICIAN

90200-41

iControl



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