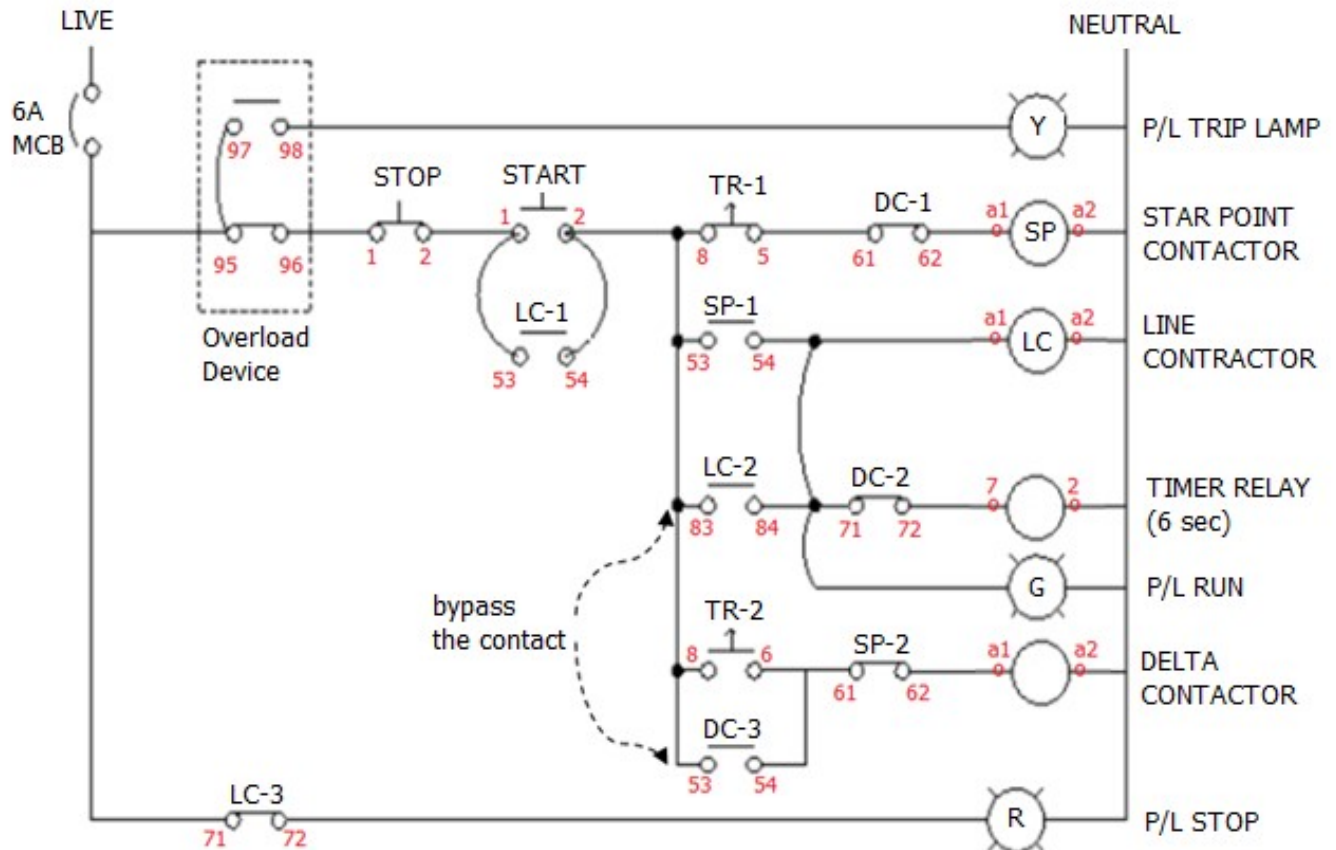


Task 1.1 : Star-Delta Control diagram

-- For candidates --

Task 1 : Candidate are required to perform motor circuit wiring of a STAR-DELTA motor starter circuit by referring to diagram below.



Control circuit operation :

1. Once START button is pressed, LC, SP and Timer Relay shall energized. Motor is connected in STAR point.
2. After timer Relay 6 second reached, SP shall de-energize and DC shall energize. Now motor will be connected in DELTA point.
3. LC shall remain unchange.

Note:

1. Control wiring cable size shall be minimum 1.0 mm² PVC.
2. Timer relay setting shall be 6 seconds.
3. Check the control circuit and test the circuit operation before put on supply.

Instruction:

1. All wires for control circuit shall be using 1.5mm² any colour cable.
2. Neutral shall be only using black colour conductor.
3. LC, DC and SP contactor supply coil shall be a1 and a2 neutral.
4. Timer relay base supply coil is 7 (LIVE) and 2 (Neutral) .
5. Ensure no loose coming out of terminal screw.
6. Test the control circuit operation by connecting L and N to terminal.
7. Detail component can refer to appendix page.

Task 1.2 : Sta-Delta Power diagram

-- For candidates --

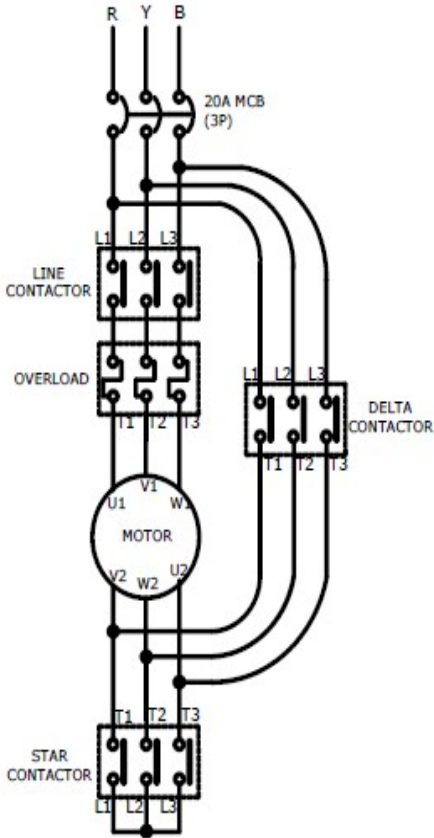


Figure 1 power circuit.

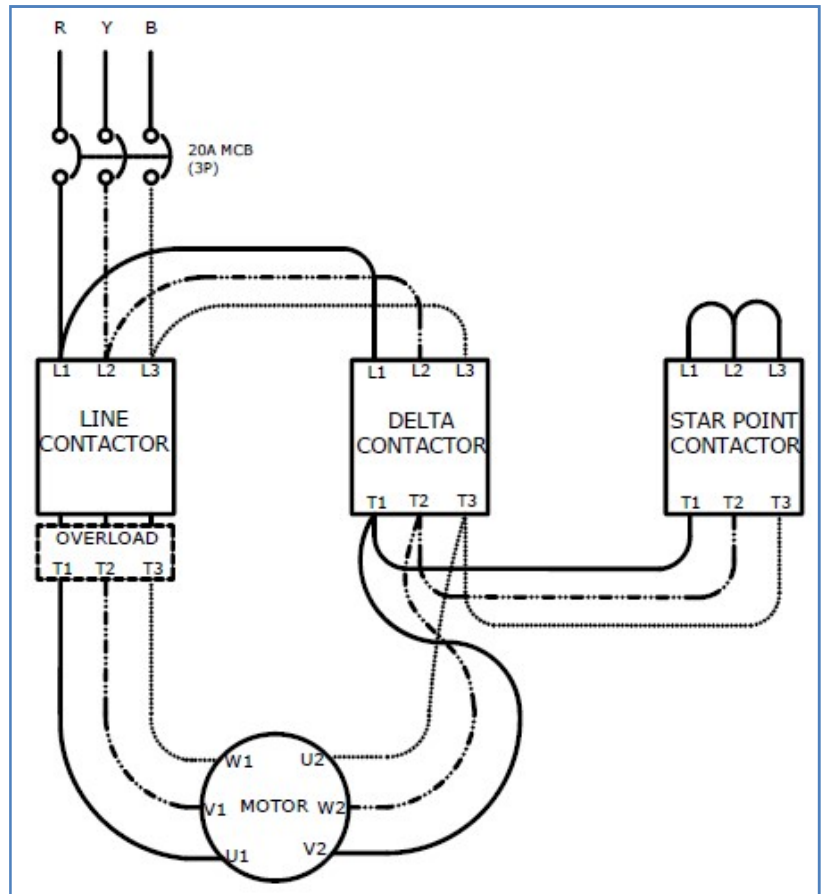
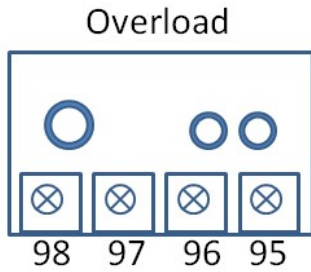


Figure 2 power circuits.

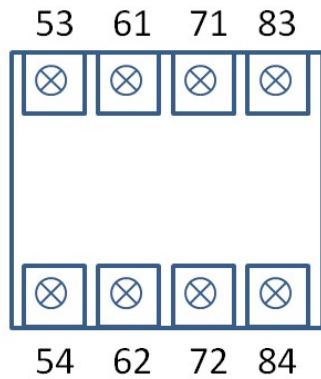
Instruction:

1. All wires for power shall be using 2.5mm² of 6 set RYB cables.
2. Ensure all terminal are secure before energize the three phase supply.



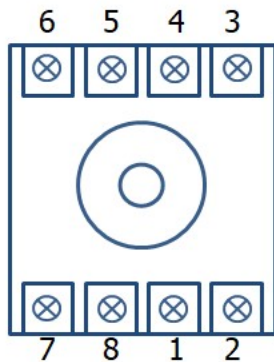
Overload device terminal label and contact number.

<u>Terminal No</u>	<u>Contact</u>
95 – 96	Normally Close
97 – 98	Normally Open



Auxiliary contact can be found on contactor surface clipped and can easily be removed on white clip near 61.

<u>Terminal No</u>	<u>Contact</u>
53 – 54	Normally Open
61 – 62	Normally Close
71 – 72	Normally Close
83 – 84	Normally Open



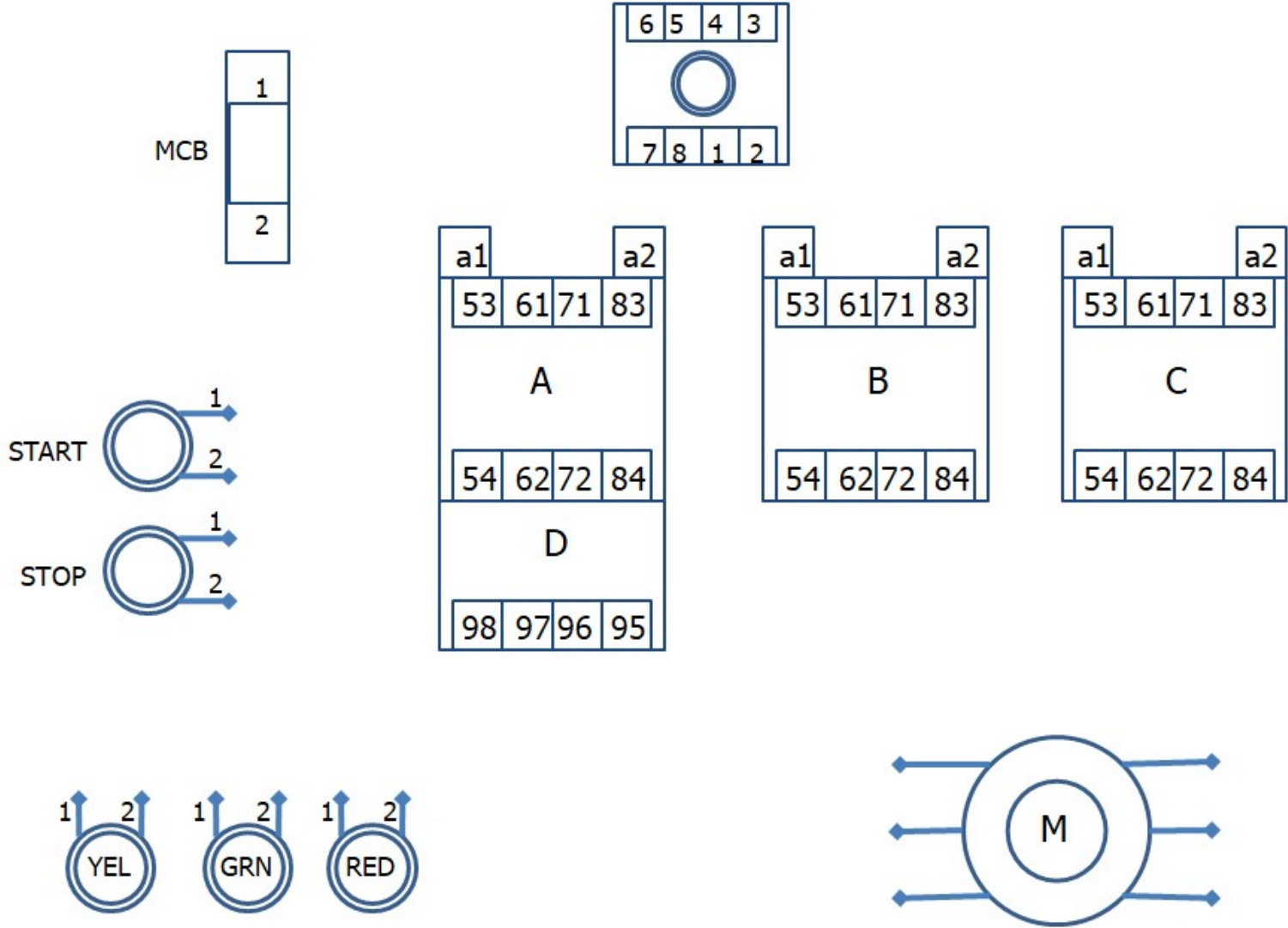
Timer base or relay base can be found on the motor board.

<u>Terminal No</u>	<u>Contact</u>
8 – 6	Normally Open
8 – 5	Normally Close 1 st set contact
1 – 4	Normally Close
1 – 3	Normally Open 2 nd set contact
7 – 2	coil supply 7(L), 2(N)

Note:

1. Ensure all terminal is identified.
2. Maximum total conductor on single terminal shall not more than two(2).
3. Use test pen size when doing work on relay/timer base.

Layout component for Star-Delta Control Wiring



Contactor A (LC), Contactor B (DC), Contactor C (SP), D (OL), M(Motor)