No. of EXP: 3

Name of EXP: Control circuit of running (A.C) Motor single phase by using LOGO! PLC **continuously**.

Objective of experiment

1- Identify the PLC device.
2- Control of running single phase motor by PLC device.
3- Identify the way of programming the PLC device manually by using the function block diagram (FBD).

The tools that using in this experiment:

1- PLC device.
2- Board laboratories.
3- Cables for join circuit.

Theoretical study

In this circuit will have been using two inputs push button switches that can be represent in a normally open (N/O) for start motor and the second switch refer to normally closed (N/C) for stop motor in addition to using the third switch for over loading (O.L) to protection the motor when offer to high voltage, in worth mentioning the circuit consist of one output only.

Drawing the power circuit:
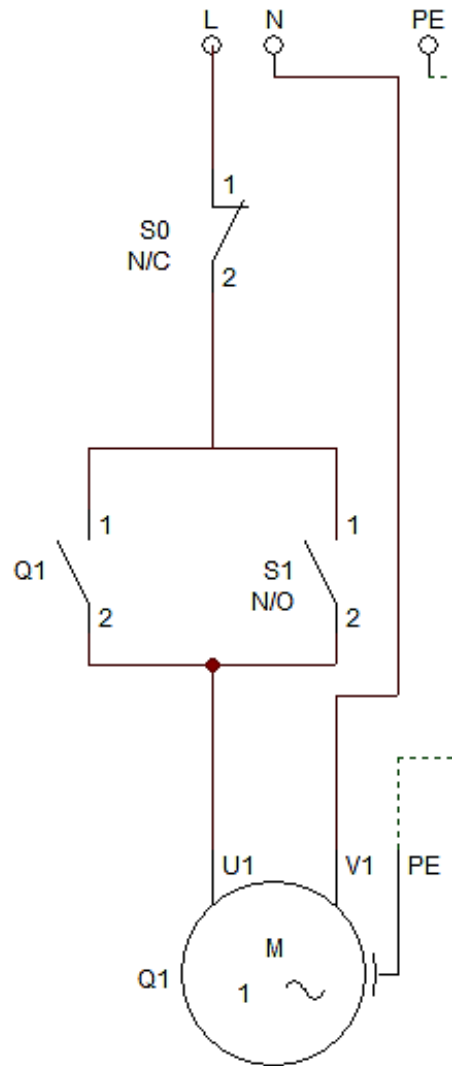
Drawing the Ladder diagram:
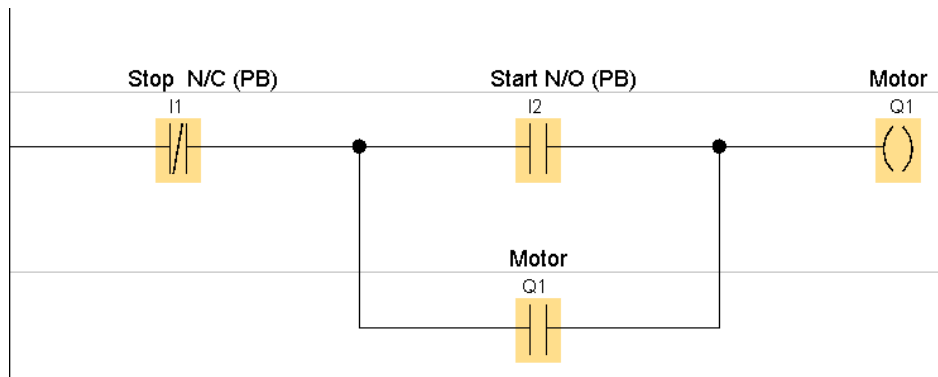
Discussion

Answer the following questions:

Q1/ Convert Ladder diagram to function block diagram (FBD)

Then apply it manually inside PLC (real work).

Q2/ Write truth table

Q3/Replace start push button (N/O) switch in this circuit with limit switch to get it same results and write truth table.

Q4/ write a table consist of status switches.

Q5/write all results in the timing diagram.

Q6/ Draw the connecting circuit:

   A- For inputs only
   B- For Outputs only

Good luck