

1 Electrical diagrams

Design a circuit. Draw wiring diagram using a special software tool. (For example, [PC|SCHEMATIC Automation](#)).

All PCs on the right side of our laboratory U02-302 have PcSchematic Automation Education environment.

Additional information can be found [Manuals and Tutorials For PC|SCHEMATIC Automation](#).

1. Add the title block.
 - (a) Set your name as a Constructor.
 - (b) Set supervisor name as a Customer.
 - (c) Title of the project is listed below.
2. Design a circuit
 - (a) Control circuit diagram.
 - (b) Power circuit diagram.
3. Do not provide unnecessary information (empty sheets).
4. Provide your homework
 - (a) on paper or
 - (b) as **PDF** file.

Pump Control

Provide pump control wiring diagram. Pump is operated by a single phase motor (220 V) and controlled by an operator. The system has the following components:

- 2 emergency switches (on the field and operator's station),
 - power source indicator,
 - 2 start and 2 stop buttons (on the field and operator's station),
 - overload protection of the motor.
1. If the temperature of the pumped liquid is too high, then alarm signal appears (sound and indication).

Task continues on the next page

2. If the pressure of the pumped liquid is too high, then alarm signal appears (sound and indication).
3. If alarm works for 5 minutes, then system shuts down automatically (emergency situation).

In case of an emergency situation the whole system shuts down. If we use "Stop" switch then only the pump stops and alarm system should continue to work.

Use the same siren (horn) for all alarm types. Each alarm type should have its own visual signal (indicator).