

Task – configuration of Voltage selection

Model situation:

We have an generator-set which has mechanical selector for 2 different electric parameters (400V AC, 50Hz and 440V AC, 60 Hz).

Control system sets parameters on generator, but the electric parameters can be changed when engine is stopped only.

We need to create PLC logic which allow to follow position of this mechanical selector only when engine is not running. If selector will be changed during running of the engine, the control system (PLC logic) will not change the settings.

Well, we have Binary inputs:

Engine running (log 1 = engine running)

Electric parameters (log 1 = 400V AC, 50Hz, log 0 = 440V AC, 60 Hz)

Binary output from this PLC logic will directly set parameters on generator.

For making a logic you can use these PLC block: AND, OR, XOR and RS block. Single inputs or outputs of the blocks can be inverted.

| Mechanical Volt/freq selector | Engine running | Output to Generator |
|-------------------------------|----------------|---------------------------|
| 0 | 0 | 0 |
| 1 | 0 | 1 |
| 0 | 1 | n-1 (no change on output) |
| 1 | 1 | n-1 (no change on output) |

Please create the logic for this task by PLC blocks.

Hand writing picture (scheme) is ok.