

Example\_Library

RSE - Control Systems

UK

9/12/2025 3:44 PM



# Pump\_Block [FB4]

| Pump_Block Properties |            |                 |   |         |                          |          |     |  |  |
|-----------------------|------------|-----------------|---|---------|--------------------------|----------|-----|--|--|
| General               |            |                 |   |         |                          |          |     |  |  |
| Name                  | Pump_Block | Number          | 4 | Туре    | FB                       | Language | LAD |  |  |
| Numbering             | Automatic  |                 |   |         |                          |          |     |  |  |
| Information           |            |                 |   |         |                          |          |     |  |  |
| Title                 | Pump Block | Author          |   | Comment | Function Block for Pumps | Family   |     |  |  |
| Version               | 0.1        | User-defined ID |   |         |                          |          | ·   |  |  |

| Name              | Data type | Default value | Retain     | Accessible<br>from<br>HMI/OPC<br>UA/Web AP | able<br>from | Visible in<br>HMI engi-<br>neering | Setpoint | Supe<br>sion | rvi- | Comment                      |
|-------------------|-----------|---------------|------------|--|--------------|------------------------------------|----------|--------------|------|------------------------------|
| <b>▼</b> Input    |           |               |            |  |              |                                    |          |              |      |                              |
| Mode_Selection    | Bool      | false         | Non-retain | True                                       | True         | True                               | False    |              |      | Auto or Manual Mode Selected |
| Start_Manual      | Bool      | false         | Non-retain | True                                       | True         | True                               | False    |              |      | Starting by Manual           |
| Stop_Manual       | Bool      | false         | Non-retain | True                                       | True         | True                               | False    |              |      | Stopping by Manual           |
| Start_Auto        | Bool      | false         | Non-retain | True                                       | True         | True                               | False    |              |      | Starting by Auto             |
| Stop_Auto         | Bool      | false         | Non-retain | True                                       | True         | True                               | False    |              |      | Stopping by Auto             |
| Level_High        | Bool      | false         | Non-retain | True                                       | True         | True                               | False    |              |      | Level High Alarm             |
| Level_Low         | Bool      | false         | Non-retain | True                                       | True         | True                               | False    |              |      | Level Low Alarm              |
| Set_Time_Start    | DInt      | 0             | Non-retain | True                                       | True         | True                               | False    |              |      | Setting Timer for Start Auto |
| Overload          | Bool      | false         | Non-retain | True                                       | True         | True                               | False    |              |      | Motor Overload               |
| Reset_Fault       | Bool      | false         | Non-retain | True                                       | True         | True                               | False    |              |      | Reset Fault Command          |
| <b>▼</b> Output   |           |               |            |  |              |                                    |          |              |      |                              |
| Pump_Run          | Bool      | false         | Non-retain | True                                       | True         | True                               | False    |              |      | Motor Started                |
| Fault             | Bool      | false         | Non-retain | True                                       | True         | True                               | False    |              |      | Motor Fault                  |
| Running_Auto_Mode | Bool      | false         | Non-retain | True                                       | True         | True                               | False    |              |      | Running Auto Mode Signal     |

| Name                 | Data type | Default value | Retain     | Accessible<br>from<br>HMI/OPC<br>UA/Web API | able<br>from |      | Setpoint | Supervi-<br>sion | Comment                      |
|----------------------|-----------|---------------|------------|---|--------------|------|----------|------------------|------------------------------|
| InOut                |           |               |            |   |              |      |          |                  |                              |
| <b>▼</b> Static      |           |               |            |   |              |      |          |                  |                              |
| ▼ Timer_Start        | IEC_TIMER |               | Non-retain | True  | True         | True | False    |                  | Starting Timer for Auto Mode |
| PT                   | Time      | T#0ms         | Non-retain | True  | True         | True | False    |                  |                              |
| ET                   | Time      | T#0ms         | Non-retain | True  | False        | True | False    |                  |                              |
| IN                   | Bool      | false         | Non-retain | True  | True         | True | False    |                  |                              |
| Q                    | Bool      | false         | Non-retain | True  | False        | True | False    |                  |                              |
| Start_Auto_Activated | Bool      | false         | Non-retain | True  | True         | True | False    |                  | Starting Auto Activated      |
| <b>▼</b> Temp        |           |               |            |   |              |      |          |                  |                              |
| Timer_Start_Output   | Bool      |               |            |   |              |      |          |                  | Output of Timer Started      |
| Constant             |           |               |            |   |              |      |          |                  |                              |

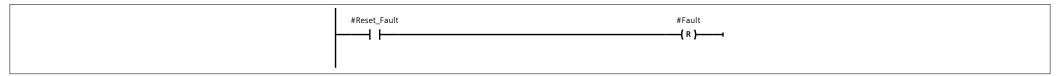
## Network 1: Motor overload Interlocking

If Overloaded trigger a fault



### **Network 2: Reset Command Fault**

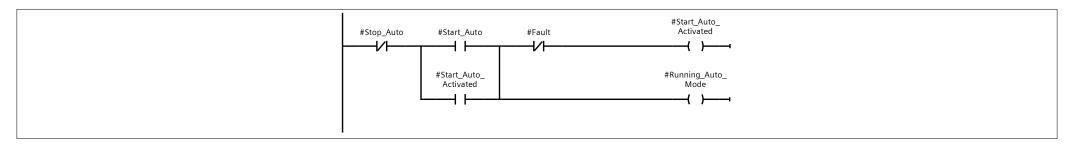
Reset the Fault





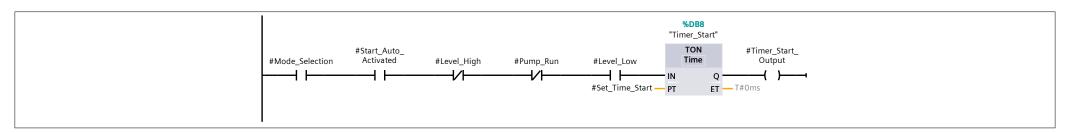
#### **Network 3: Command Start - Auto Mode**

Latching Auto Start upon Command



#### **Network 4: Auto Started Activated**

Runs when Auto Started



**Network 5: Motor Control** 

Turns Pump on / off



```
#Mode_Selection #Stop_Manual #Start_Manual #Fault #Level_High #Pump_Run

#Pump_Run

#Mode_Selection #Stop_Auto #Level_Low Output

#Pump_Run

#Pump_Run

#Pump_Run
```

**Network 6: Spare Network**