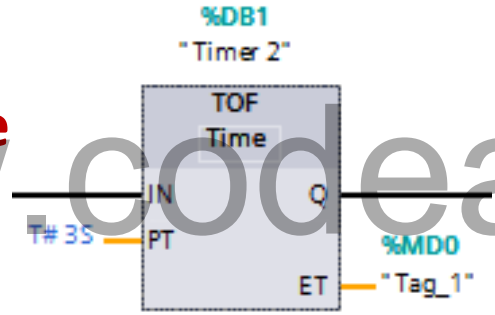
Siemens S7-1200

CPU 1212C AC/DC/Relay

Timer Operations (TOF)

- **Off-Delay**
- **Exercise Example**



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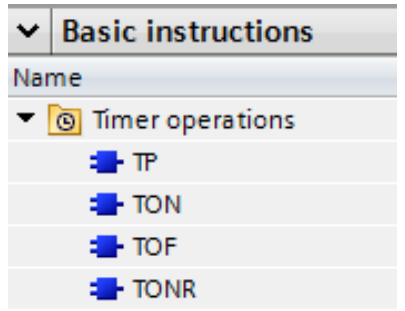
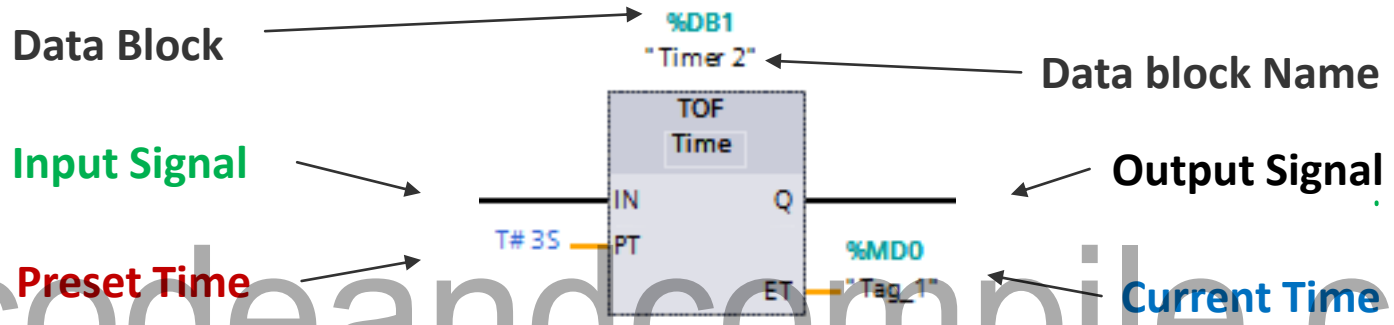
Timer Operations in LAD – **TOF (OFF Delay Timer)**

OFF Delay Timer

The **TOF timer** **sets the output (Q) to ON** and then **resets the output to OFF** after a **preset time delay.**





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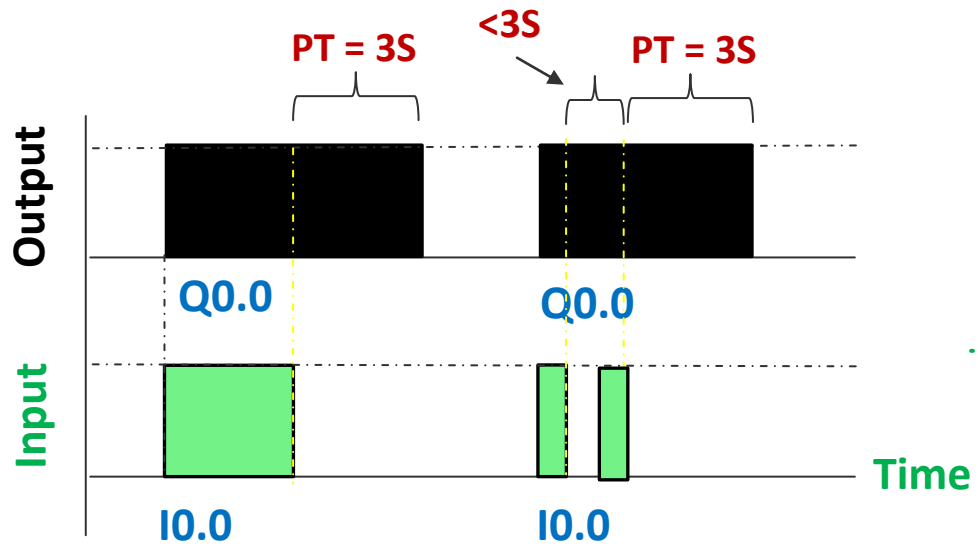
Example If Preset Time is 3000ms = 3 second

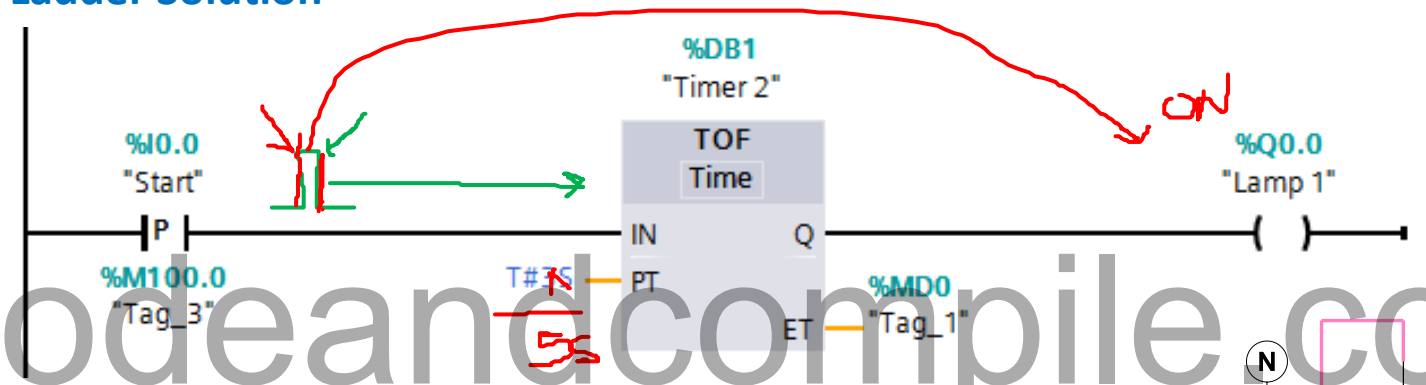


- **Changing PT** has **no effect** while the **timer runs.**
- Changing **IN** to **TRUE**, while the **timer runs**, **resets** and ~~**stops**~~ the timer.

Exercise Example

Write a Logic to Latch the output Q0.0 for 5 seconds with momentary input signal I0.0

Ladder Solution



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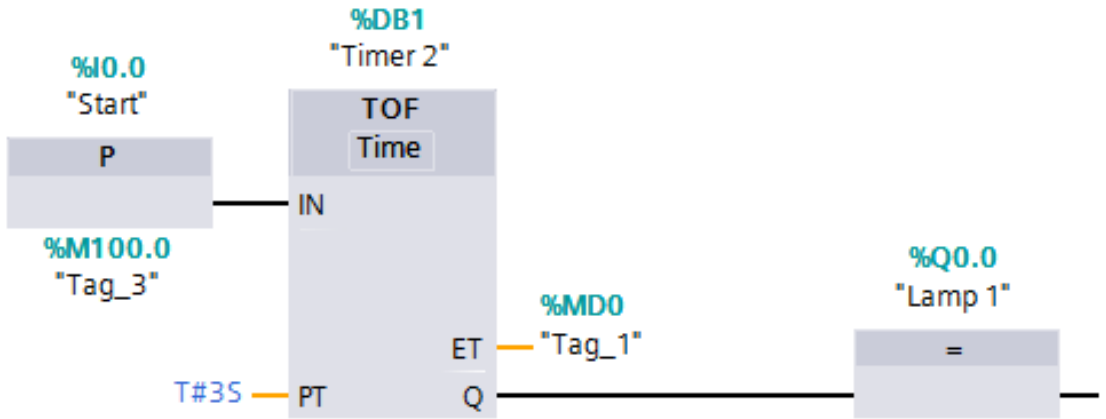
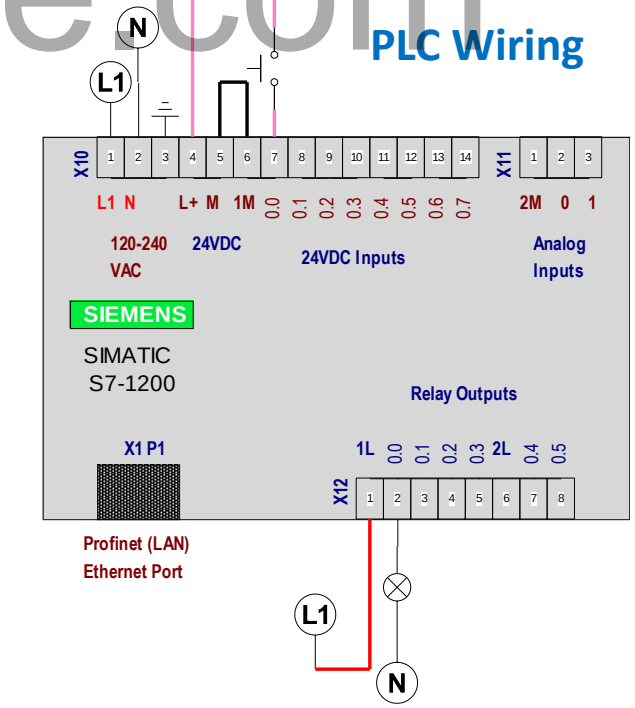
FBD Solution



PLC Wiring

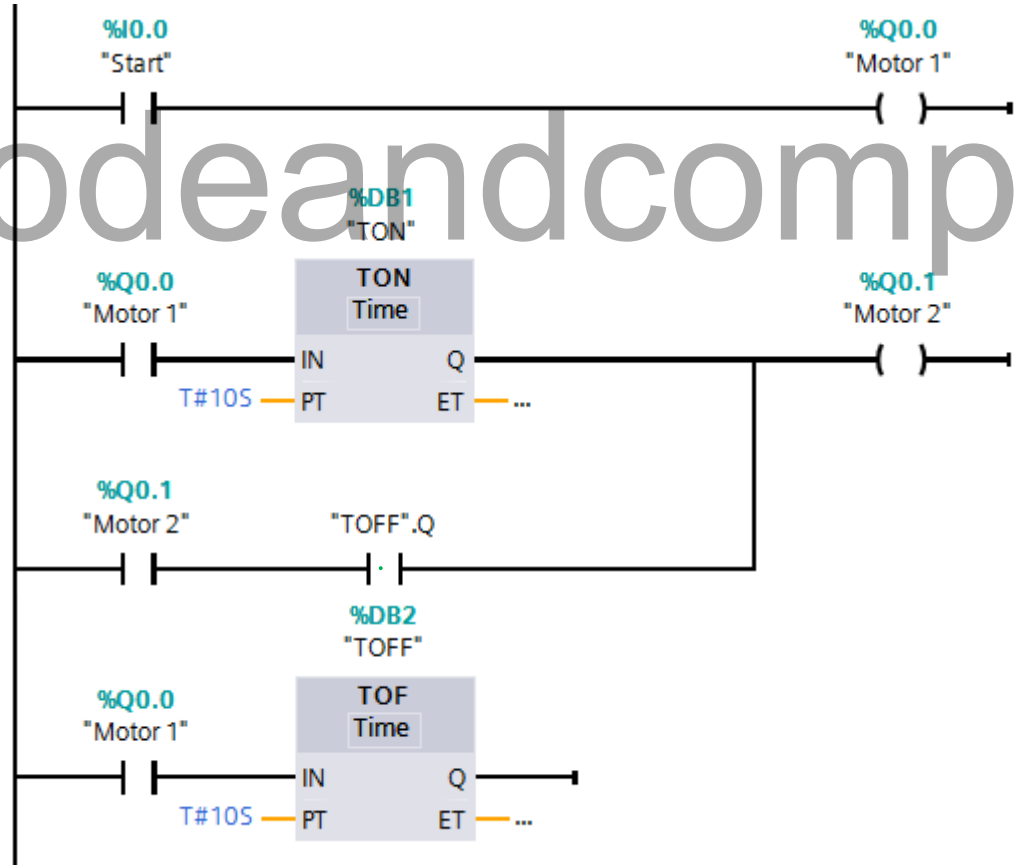


Exercise Example

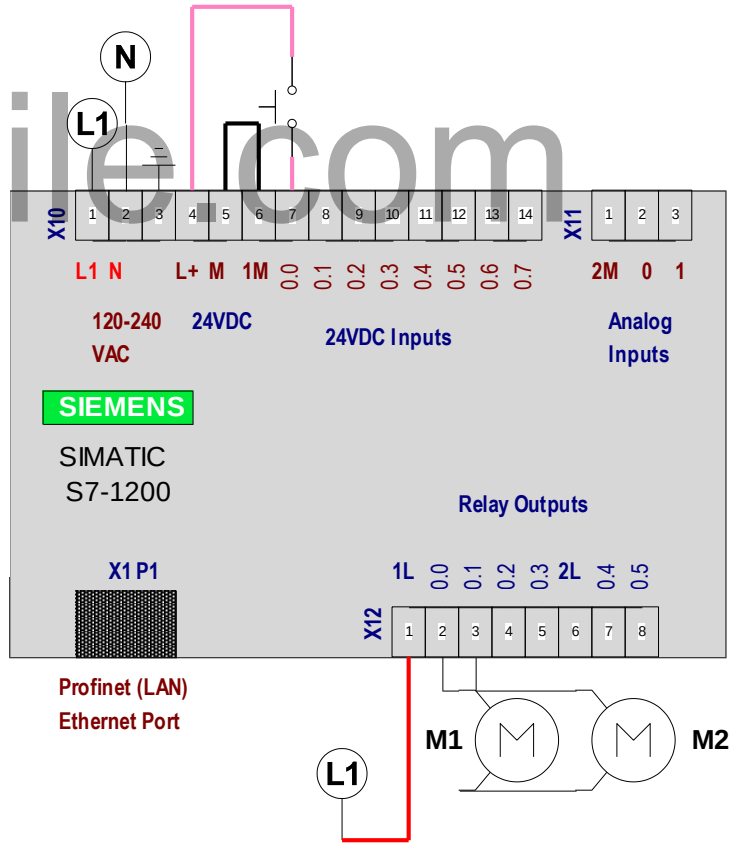
Write a logic to achieve the following objective:

- Start a **Motor 1 (Q0.0)** with I0.0 (0 - 1) and after 10s delay start a **Motor 2 (Q0.1)**
- Stop the **Motor 1 (Q0.0)** with I0.0 (1 – 0) and after 10s delay stop the **Motor 2 (Q0.1)**

Ladder Solution



PLC Wiring



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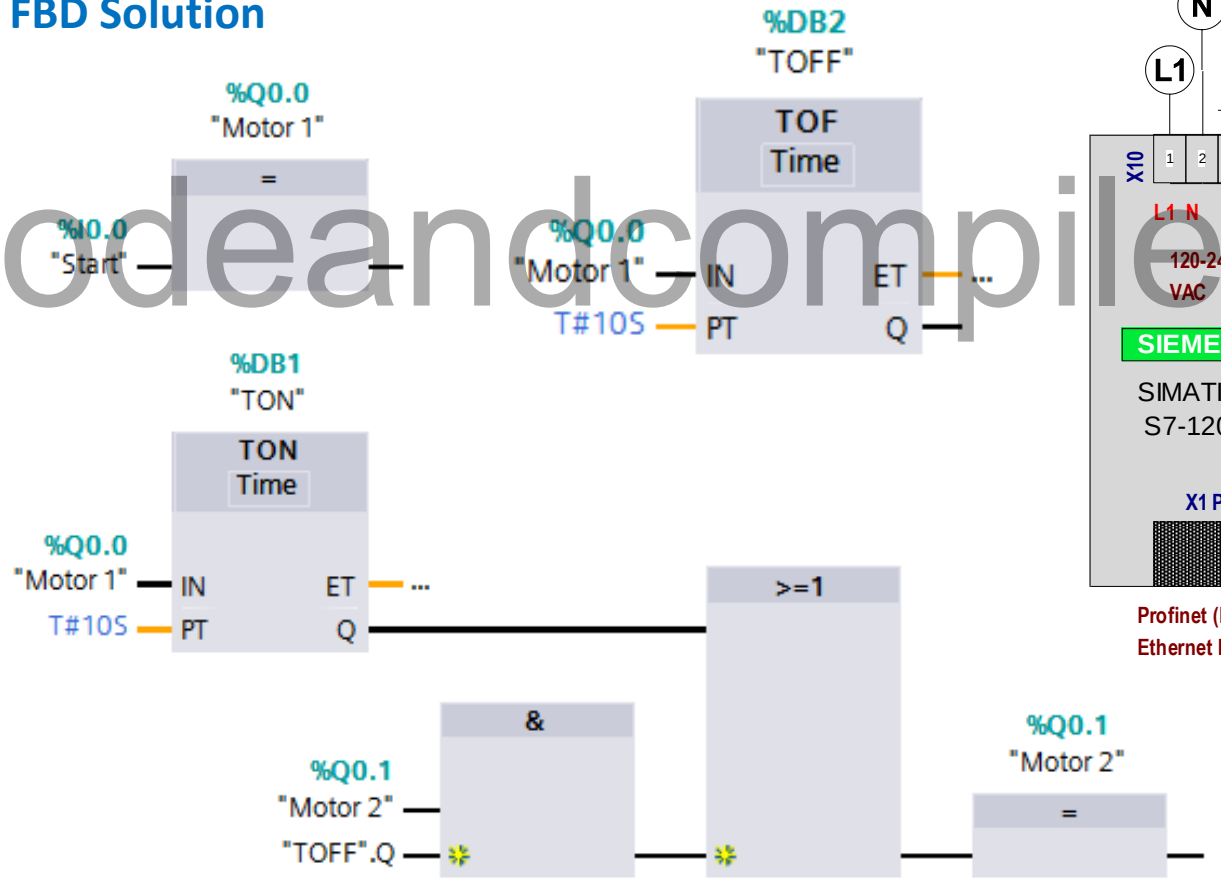
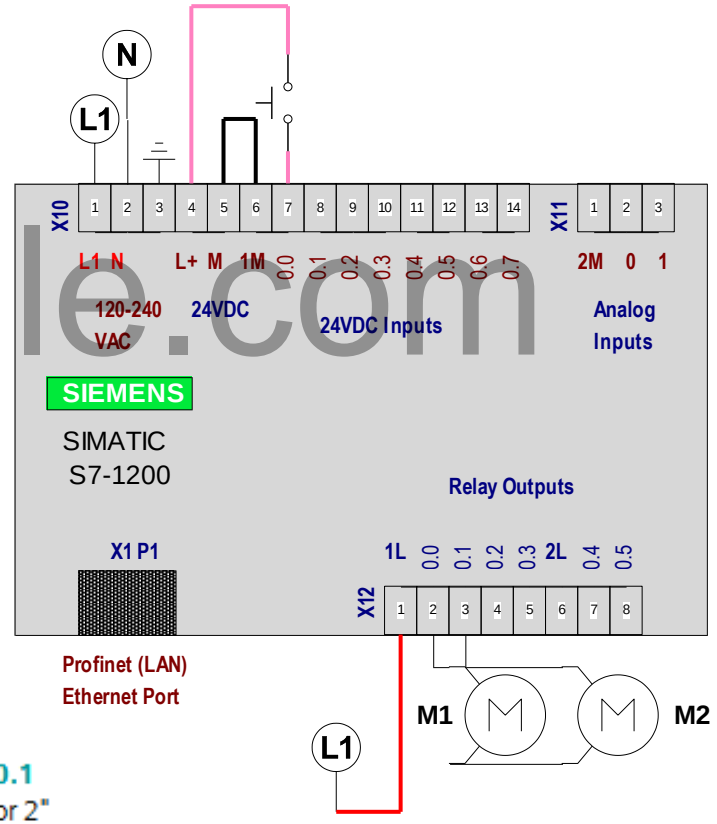
FBD Solution





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What did we learn in this lesson?

- **TOFF** is used to generate **OFF delay only**.
- The **parameters of TOFF** are stored in **Data block** which can be accessed anywhere in the logic by using the **specific address**.

Thank you

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