

# 32.4 Timer Function Blocks

## TIMER\_□\_M

FX5S    FX5UJ    FX5U    FX5UC

When the execution condition is established, these function blocks start the timer count to the set time.

Ladder diagram, FBD/LD	Structured text
<p>(□ indicates TIMER_1_FB_M, TIMER_10_FB_M, TIMER_100_FB_M, TIMER_CONT_FB_M, TIMER_CONTHS_FB_M.)</p>	<pre>TIMER_1_FB_M_1(Coil:=s1,Preset:=s2,ValueIn:=s3,ValueOut:=d1,Status:=d2); TIMER_10_FB_M_1(Coil:=s1,Preset:=s2,ValueIn:=s3,ValueOut:=d1,Status:=d2); TIMER_100_FB_M_1(Coil:=s1,Preset:=s2,ValueIn:=s3,ValueOut:=d1,Status:=d2); TIMER_CONT_FB_M_1(Coil:=s1,Preset:=s2,ValueIn:=s3,ValueOut:=d1,Status:=d2); TIMER_CONTHS_FB_M_1(Coil:=s1,Preset:=s2,ValueIn:=s3,ValueOut:=d1,Status:=d2);</pre>

### Setting data

#### ■Descriptions, types, and data types

Argument	Description	Type	Data type
s1(Coil)	Execution condition (TRUE: Execution, FALSE: Stop)	Input variable	BOOL
s2(Preset)	Timer set value	Input variable	INT
s3(ValueIn)	Timer initial value	Input variable	INT
d1(ValueOut)	Timer current value	Output variable	ANY16
d2(Status)	Output	Output variable	BOOL

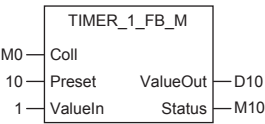
### Processing details

#### ■TIMER\_1\_FB\_M

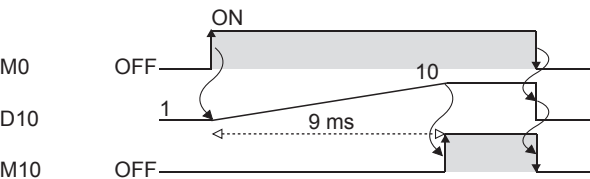
- When the execution condition of (s1) turns on, counting the current value starts. The timer starts counting from "(s3) × 1 ms". When it counts up to "(s2) × 1 ms", (d2) turns on. The current measurement value is output into (d1).
- When the execution condition of (s1) turns off, the current value is reset to (s3) and (d2) turns off.
- A value in the range of 0 to 32767 can be specified for (s2).
- A value in the range of -32768 to 32767 can be specified for (s3). However, when a negative value is specified, the initial value is set to 0.

Ex.

[Ladder example]



[Timing chart]

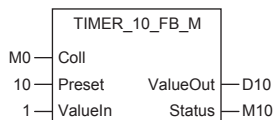


## ■TIMER\_10\_FB\_M

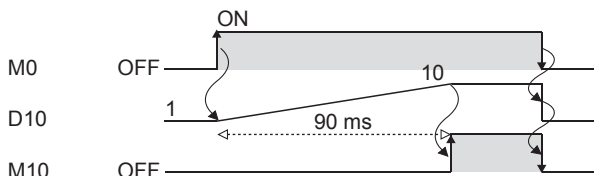
- When the execution condition of (s1) turns on, counting the current value starts. The timer starts counting from " $(s3) \times 10$  ms". When it counts up to " $(s2) \times 10$  ms", (d2) turns on. The current measurement value is output into (d1).
- When the execution condition of (s1) turns off, the current value is reset to (s3) and (d2) turns off.
- A value in the range of 0 to 32767 can be specified for (s2).
- A value in the range of -32768 to 32767 can be specified for (s3). However, when a negative value is specified, the initial value is set to 0.

**Ex.**

[Ladder example]



[Timing chart]

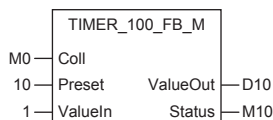


## ■TIMER\_100\_FB\_M

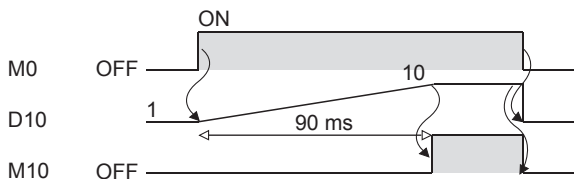
- When the execution condition of (s1) turns on, counting the current value starts. The timer starts counting from " $(s3) \times 100$  ms". When it counts up to " $(s2) \times 100$  ms", (d2) turns on. The current measurement value is output into (d1).
- When the execution condition of (s1) turns off, the current value is reset to (s3) and (d2) turns off.
- A value in the range of 0 to 32767 can be specified for (s2).
- A value in the range of -32768 to 32767 can be specified for (s3). However, when a negative value is specified, the initial value is set to 0.

**Ex.**

[Ladder example]



[Timing chart]



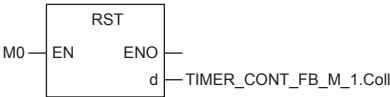
# ■TIMER\_CONT\_FB\_M

- This is a retentive timer that counts the time when the variable is on. When the execution condition of (s1) turns on, counting the current value starts. There are two retentive timers: low-speed (TIMER\_CONT\_FB\_M) and highspeed (TIMER\_CONTHS\_FB\_M) retentive timers.
- The timer starts counting from "(s3) × 100 ms"( or 1ms if the high-speed retentive timer is used). When it counts up to "(s2) × 100 ms"( or 1ms if the high-speed retentive timer is used), (d2) turns on. The current measurement value is output into (d1).
- The on/off status of (d1) and (d2) is maintained even if the execution condition of (s1) turns off. When the execution condition of (s1) turns on, the timer resume counting from the measurement it holds.
- A value in the range of 0 to 32767 can be specified for (s2).
- A value in the range of -32768 to 32767 can be specified for (s3). However, when a negative value is specified, the initial value is set to 0.
- To reset (d1) of the retentive timer, reset (s1) of FB directly.

## Ex.

For label name TIMER\_CONT\_FB\_M\_1

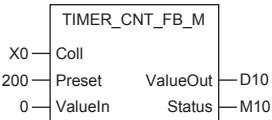
[Ladder program]



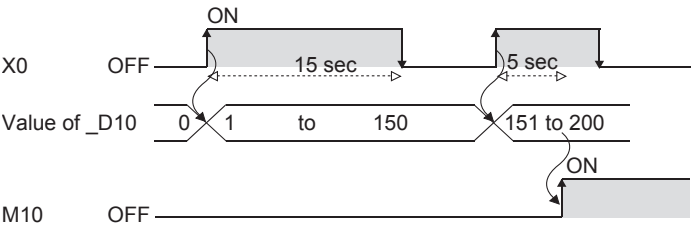
[ST]

RST(M0,TIMER\_CONT\_FB\_M\_1.Coil)

[Ladder example]



[Timing chart]



## Operation error

There is no error.