Weekly timer

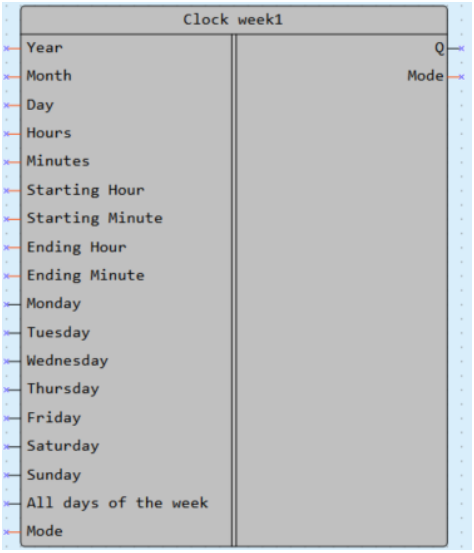

Figure 1 – Symbol

Inputs	Data type	Description	Range
Year	Int	Current data	*
Month	Int	Current data	*
Day	Int	Current data	*
Hours	Int	Current data	*
Minutes	Int	Current data	
Starting Hour	Int		
Starting Minute	Int		
Ending Hour	Int		
Ending Minute	Int		
Monday	Bool		0/1
Tuesday	Bool		0/1
Wednesday	Bool		0/1
Thursday	Bool		0/1
Friday	Bool		0/1
Saturday	Bool		0/1
Sunday	Bool		0/1
All days of the week	Bool	Automatically selects all days of the week	0/1
Mode	Int	Macro operating mode	0-2
Outputs	**Data type**	**Description**	**Range**
Q	Bool	Output	0/1
Mode	Int	Current macro mode	0-2

*-service variables of the real time clock are fed to the input

Explanation of how macro works

The weekly timer is designed to organize the issuance of control actions to the object depending on the day of the week and the current time. The timer automatically determines the current day of the week by the inputs "Year", "Month", "Day" to which it is necessary to supply service variables of the real-time clock. The current time is set on the timer through the inputs "Hours" and "Minutes". The timer can be in one of three states, which are determined by the input "Mode".

“Mode"=0

the timer is out of operation

“Mode"=1

- in this mode, the output of timer Q1 will be set to "1" if the following conditions coincide:

- a log.1 is applied to the input "All days of the week" or at least to one of the inputs of the day of the week

- the current time will be equal to or greater than the set on time selected via the inputs "Hours.ON" and "Minutes.ON"

- the current day of the week coincides with the day of the week selected via the inputs, or if the input "All days of the week" is set, the set on time coincides with the current time

The output of timer Q1 will be set to "0" under the following conditions:

- the current time will be equal to or greater than the set off time selected via the inputs "Hours.OFF" and "Minutes.OFF"

- the current day selection input will be reset or, if no day via the inputs was selected, but the input "All days of the week" was set, the input "All days of the week" will be reset

- the input "Mode" will be set to "0"

"Mode" = 2

This mode works similarly to mode 1, but only once.

After the timer output Q1 is turned off, the "Mode" output will be set to "0" - prohibiting the timer operation, the timer will not work until the next change in the operating mode via the "Mode" input. Regardless of how many days of the week are selected, the triggering will occur only once on the next selected day.

Notes:

1. In order for the timer to be automatically blocked in mode 2 after a single action, it is necessary to assign one variable to the input and to the output, then it will automatically be rewritten to "0" after a single action, and the timer will be blocked.

2. For the timer to operate correctly within the selected range, when the on time falls on one day, and the offtime on the next day, it is necessary to make sure that the next day is entered into operation. If the next day is not selected for operation, then the relay will turn off earlier than the off setpoint, namely at 00:00.

3 The output is triggered automatically as soon as the current time falls within the selected on and off time range, the current day is enabled, and the operating mode is set to "1" or "2".

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