05 Timer and counter output instructions

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on 2022/06/15 11:40

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Timer output instruction

OUT T/Timer output

When the calculation result before the OUT instruction is ON, the coil of the timer/retentive timer specified in (d) will be ON and measurement will be performed until the set value is reached. If the time limit expires, the normally open contact will conduct and the normally closed contact will become non-conductive.

-[OUT (d) (value)]

Content, range and data type

Parameter	Content	Range
(d)	Timer device number	-
(value)	Timer setting value	0 to 32767

Device used

Instruction	Parameter	Devices						
		KnX	KnY	KnM	KnS	T	C	D
OUT T	Parameter 1					●		
	Parameter 2	●	●	●	●		●	●

Features

When the operation result before the OUT instruction is ON, the coil of the timer specified in (d) will be ON and measurement will be performed until the set value is reached. If the count reaches (current value ≥ set value), the normally open contact will be conductive, and the normally closed contact will become non-conductive.

When the operation result before the OUT instruction changes from ON to OFF, the situation is as follows.

Timer type	Timer coil	The current value of the timer	After the time limit Normally open contact
Timer	OFF	0	Non-conducti conductiv
Cumulative timer	OFF	Keep current value	Non-conducti conductiv

• After the time limit expires, clear the current value of the accumulative timer and turn off the contact with the RST instruction.

• When the setting value is 0, the time limit will expire when the OUT instruction is executed.

• While the OUT T instruction is ON, if the OUT T instruction is skipped by the CJ instruction, etc., the current value update and contact ON/OFF will not be performed.

• If the same OUT T instruction is executed more than twice in the same scan, the current value will be updated according to the number of executions.

• Description of each timer:

Device number	Timer specifications
T0 to T191	100ms timer
T192 to T199	100ms subroutine timer (used in the subroutine, even if the subroutine is not called, it will still be upd

T200 to T245	10ms timer

Error code

Error code	Content
4084H	The parameter setting in (value) is out of range

Example

Using timing, D0 increases by 1 after every 1S:

Counter output instructions

OUT C/Counter output

16-bit counter instruction: When the operation result before the OUT instruction changes from OFF to ON, the current value of the counter specified in (d) will be +1. If the count reaches, the normally open contact will be turned on and the normally closed contact will become Non-conductive.

-[OUT (d) (value)]

Content, range and data type

Parameter	Content	Range	Data type	Data type (label)
(d)	Counter device number	-	Counter	ANY
(value)	Counter setting value	0 to 32767	Unsigned BIN 16 bit	ANY_INT

Device used

Instruction	Parameter	Devices												Offset modification	Pulse extension
		KnX	KnY	KnM	KnS	T	C	D	R	SD	K	H	E	[D]	XXP
OUT C	Parameter 1						●								
	Parameter 2	●	●	●	●	●		●	●	●	●	●	●		

Features

• When the calculation result before the OUT instruction changes from OFF to ON, the current value (count value) of the counter specified in (d) will be +1. If the count reaches (current value ≥ set value), the normally open contact will be turned on , The normally closed contact becomes non-conductive.

• If the calculation result is ON, no counting is performed. (Counting input does not need to be pulsed.)

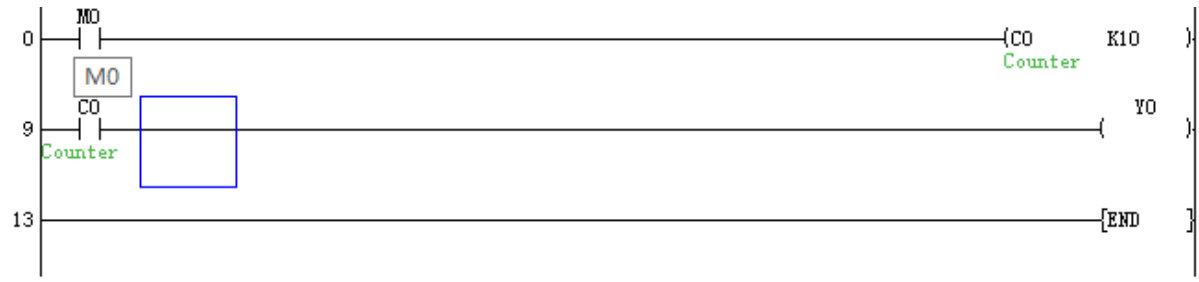
• After the count is reached, the count value and the state of the contact do not change before the RST instruction is executed.

• When the setting value is 0, the processing is the same as when it is 1.

Error code

Error code	Content
4084H	The parameter setting in (value) is out of range
4085H	The (value) parameter exceeds the device range

Example



Every time M0 changes from OFF→ON, C0 will increase by 1. When the value of C0 is added to K10, the normally open contact of C0 is closed and Y0 is output. At this time, M0 continues from OFF→ON, and the value of C0 will not change anymore.

The contact of C0 can only be turned OFF by RST/ZRST instruction and communication.

OUT LC instruction/Long counter output

32-bit counter instruction: When the operation result before the OUT instruction changes from OFF to ON, the current value of the long counter specified in (d) will be +1. If counted, the normally open contact will be turned on and the normally closed contact will change It is non-conductive.

-[OUT (d) (value)]

Content, range and data type

Parameter	Content	Range	Data type	Data type (label)
(d)	Long counter device number	-	Counter	ANY
(value)	Long counter setting value	0 to 4294967295	Unsigned BIN 32 bit	ANY_INT

Device used

Instruction	Parameter	Devices												Offset modification	Pulse extension
		KnX	KnY	KnM	KnS	T	D	R	SD	LC	K	H	E	[D]	XXP
OUT LC	Parameter 1									●					
	Parameter 2	●	●	●	●	●	●	●	●		●	●	●		

Features

• When the calculation result before the OUT instruction changes from OFF to ON, the current value (count value) of the long counter specified in (d) will be +1. If the count reaches (current value ≥ set value), the normally open contact will turn on On, the normally closed contact becomes non-conductive.

• If the calculation result is ON, no counting is performed. (Counting input does not need to be pulsed.)

• After the count is reached, the count value and contact status will not change before the RST instruction or ZRST instruction is executed.

• When the setting value is 0, the processing is the same as when it is 1.

Error code

Error code	Content
4085H	The (value) parameter exceeds the device range

Example

Each time M0 changes from OFF to ON, LC0 will increase by 1. When the value of LC0 is added to K10, the normally open contact of LC0 is closed and Y0 is output. At this time, M0 continues from OFF→ON, and the value of LC0 will not change anymore.

The contact of LC0 can only be turned OFF by RST/ZRST instruction and communication.