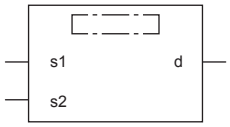
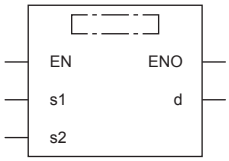
28.3 Multiplication

MUL_TIME(_E)

FX5S FX5UJ FX5U FX5UC

These functions output the multiplication of input values (TIME) ((s1) × (s2)).

Ladder diagram, FBD/LD		Structured text

[Without EN/ENO]
 
	[With EN/ENO]
	 
		[Without EN/ENO]
		d:=MUL_TIME(s1,s2);
		[With EN/ENO]
		d:=MUL_TIME_E(EN,ENO,s1,s2);

Setting data

■Descriptions, types, and data types

Argument	Description	Type	Data type
EN	Execution condition (TRUE: Execution, FALSE: Stop)	Input variable	BOOL
s1(IN1)	Input	Input variable	TIME
s2(IN2)	Input	Input variable	ANY_NUM
ENO	Output status (TRUE: Normal, FALSE: Abnormal)	Output variable	BOOL
d(MUL_TIME(_E))	Output	Output variable	TIME

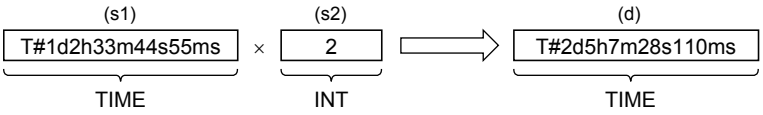
Processing details

■Operation processing

- These functions multiply the TIME type data input to (s1) and (s2) ((s1) × (s2)), and output the operation result from (d) as TIME type data.

Ex.

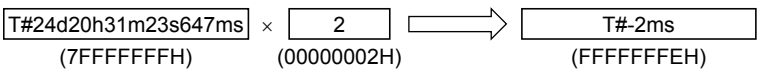
When a value input to (s1) and (s2) is T#1d2h33m44s55ms (1 day 2 hours 33 minutes 44 seconds 55 milliseconds) and 2



- A value input to (s1) is the TIME type data value.
- A value input to (s2) is the INT, DINT, or REAL type.
- Even if underflow or overflow occurs in the operation result, it is not regarded as an operation error. The data is output from (d) as follows: "MUL_TIME_E" outputs "TRUE" from the output variable ENO. (The operation result is the 64-bit data, however, the output data is the time type data with high-order 32 bits deleted.)

Ex.

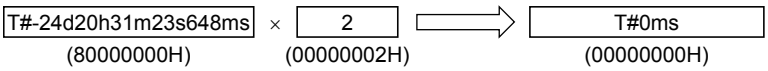
Overflow



The most significant bit becomes 1, and a negative time is output.

Ex.

Underflow



The most significant bit becomes 0, and a positive time is output.

■Operation result

1. Function without EN/ENO

The operation processing is executed. The operation output value is output from (d).

2. Function with EN/ENO

The following table lists the execution conditions and operation results.

Execution condition	Operation result	
EN	**ENO**	**(d)**
TRUE (Executes operation)	TRUE	Operation output value
FALSE (Stops operation)	FALSE*1	Indefinite value

*1 When FALSE is output from ENO, data output from (d) is undefined. In that case, modify a program so that the data output from (d) is not used.

Operation error

There is no operation error.