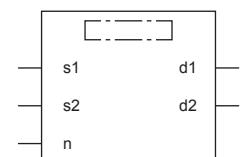
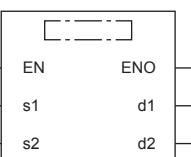


31.2 Down Counter

CTD(_E)

FX5S **FX5UJ** **FX5U** **FX5UC**

These function blocks count down the number of times of rising of a signal.

| Ladder diagram, FBD/LD | Structured text |
|---|--|
| [Without EN/ENO]  [With EN/ENO]  | [Without EN/ENO] CTD_1(CD:=s1,LD:=s2,PV:=n,Q:=d1,CV:=d2); [With EN/ENO] CTD_E_1(EN:=EN, ENO:=ENO CD:=s1,LD:=s2,PV:=n,Q:=d1,CV:=d2); |

Setting data

■Descriptions, types, and data types

| Argument | Description | Type | Data type |
|----------|--|-----------------|-----------|
| EN | Execution condition (TRUE: Execution, FALSE: Stop) | Input variable | BOOL |
| s1(CD) | Count signal input | Input variable | BOOL |
| s2(LD) | Count value set | Input variable | BOOL |
| n(PV) | Count start value | Input variable | INT |
| ENO | Output status (TRUE: Normal, FALSE: Abnormal) | Output variable | BOOL |
| d1(Q) | Count end | Output variable | BOOL |
| d2(CV) | Count value | Output variable | INT |

Processing details

■Operation processing

1. Count down

- These function blocks count down (subtract "-1" from) the value of (d2) when (s1) turns ON from OFF.
- When the value of (d2) is 0, (d1) turns ON and the function blocks stop counting down.
- Set the count start value for (n). When (s2) is turned ON, (d1) turns OFF and (n) is set for (d2).

2. Count start value

The effective setting range of (n) is from 0 to 32767.

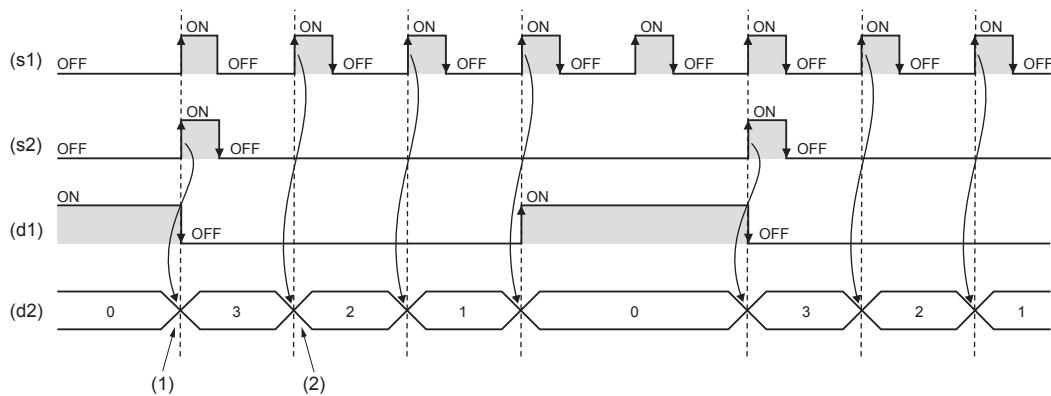
■Operation result

1. Function block without EN/ENO

The operation processing is executed. The operation output value is output from (d1) and (d2).

- Timing chart

When 3 is specified in n



(1): When (s2) is on, (d2) is initialized.

(2): On the rising edge of (s1), (d2) counts down.

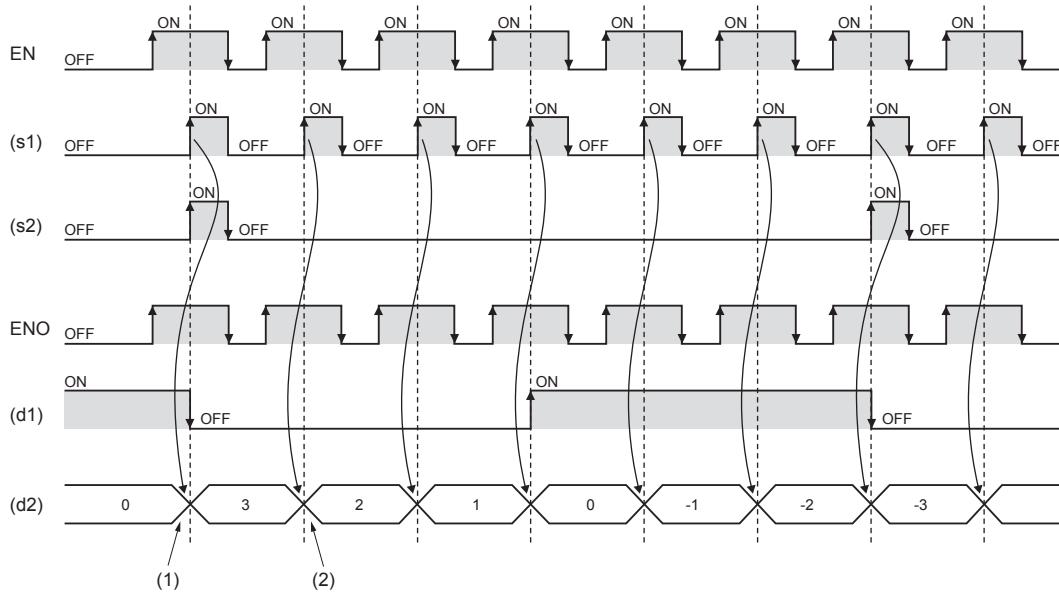
2. Function block with EN/ENO

The following table lists the execution conditions and operation results.

| Execution condition | Operation result | |
|---------------------------|------------------|------------------------|
| EN | ENO | (d1), (d2) |
| TRUE (Executes operation) | TRUE | Operation output value |
| FALSE (Stops operation) | FALSE | Previous output value |

- Timing chart

When 3 is specified in n



(1): When EN and (s2) are on, (d2) is initialized.

(2): When EN is on at the rising edge of (s1), (d2) counts down.

Operation error

There is no operation error.