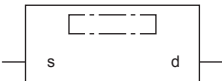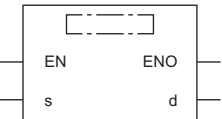# 20.30 Converting DINT to REAL

DINT_TO_REAL(_E)

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

These functions convert DINT type data to REAL type data.

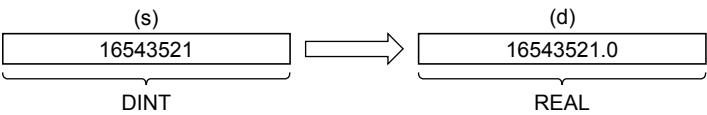| Ladder diagram, FBD/LD		Structured text

[Without EN/ENO]
 	
 ⎡ ▭:▭:▭ ⎤
 s   d
	[With EN/ENO]
	
	 ⎡ ▭:▭:▭ ⎤
	 EN ENO
	 s d
		[Without EN/ENO]
		 d:=DINT_TO_REAL(s);
		 [With EN/ENO]
		 d:=DINT_TO_REAL_E(EN,ENO,s);

Setting data

■Descriptions, types, and data types

Argument	Description	Type	Data type
EN	Execution condition (TRUE: Execution, FALSE: Stop)	Input variable	BOOL
s(IN)	Input	Input variable	DINT
ENO	Output status (TRUE: Normal, FALSE: Abnormal)	Output variable	BOOL
d(DINT_TO_REAL(_E))	Output	Output variable	REAL

Processing details

■Operation processing

- These functions convert the DINT type data input to (s) to REAL type data and output from (d).

(s)
16543521

DINT

⟹

(d)
16543521.0

REAL

- A value input to (s) is the DINT type data value.
- The number of significant figures of the REAL type data is approximately 7 since the data is processed in 32-bit single precision.
- The converted data includes an error (rounding error) if an integer value is outside the range of -16777216 to 16777215.

■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.