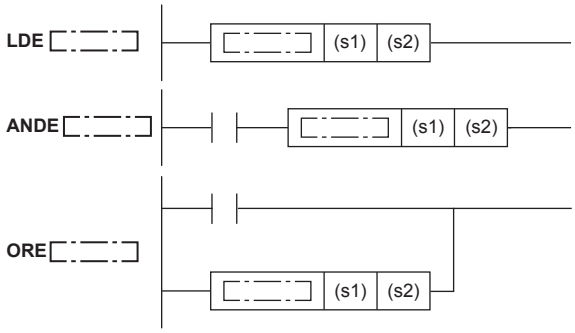
8.10 Real Number Instruction

Comparing single-precision real numbers

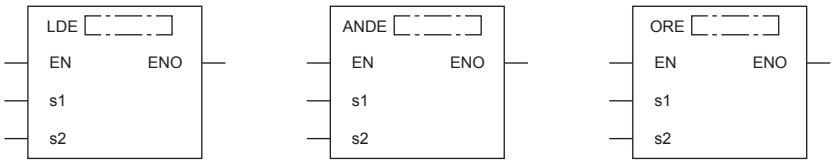
LDE□, ANDE□, ORE□

FX5S FX5UJ FX5U FX5UC

These instructions perform a comparison operation between the single-precision real number in the device specified by (s1) and the single-precision real number in the device specified by (s2). (Devices are used as a normally open contact.)

Ladder diagram	Structured text*1
 ("=", "<>", ">", "<=", "<", ">=" enters □.)	ENO:=LDE_□(EN,s1,s2); ENO:=ANDE_□(EN,s1,s2); ENO:=ORE_□(EN,s1,s2); ("EQ", "NE", "GT", "LE", "LT", "GE" enters □.)*2

FBD/LD



("_EQ", "_NE", "_GT", "_LE", "_LT", "_GE" enters □.)*2

*1 Supported by engineering tool version "1.035M" and later.

*2 EQ is =, NE is <>, GT is >, LE is <=, LT is <, and GE is >=.

Setting data

■Descriptions, ranges, and data types

Operand	Description	Range	Data type	Data type (label)
(s1)	Comparison data or the head device number where the comparison data is stored	0, 2^{-126}<|(s1)|<2^{128}	Single-precision real number	ANYREAL_32
(s2)	Comparison data or the head device number where the comparison data is stored	0, 2^{-126}<|(s2)|<2^{128}	Single-precision real number	ANYREAL_32
EN	Execution condition	—	Bit	BOOL
ENO	Execution result	—	Bit	BOOL

■Applicable devices

Operand	Bit	Word			Double word		Indirect specification	Constant			Others
	X, Y, M, L, SM, F, B, SB, S	T, ST, C, D, W, SD, SW, R	U□\G□	Z	LC	LZ		K, H	E	$	
(s1)	—	○	○	—	○	—	○	—	○	—	—
(s2)	—	○	○	—	○	—	○	—	○	—	—

Processing details

- These instructions perform a comparison operation between the single-precision real number in the device specified by (s1) and the single-precision real number in the device specified by (s2). (Devices are used as a normally open contact.)
- The following table lists the comparison operation results of each instruction.

Instruction symbol	Condition	Result	Instruction symbol	Condition	Result
E=	(s1)=(s2)	Conductive state	E=	(s1)≠(s2)	Non-conductive state
E<>	(s1)≠(s2)		E<>	(s1)=(s2)	
E>	(s1)>(s2)		E>	(s1)≤(s2)	
E<=	(s1)≤(s2)		E<=	(s1)>(s2)	
E<	(s1)<(s2)		E<	(s1)≥(s2)	
E>=	(s1)≥(s2)		E>=	(s1)<(s2)	

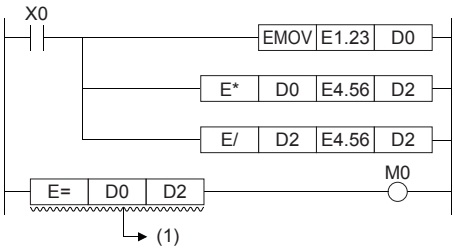
- When an input value is set from the engineering tool, a rounding error may occur.

Operation error

There is no operation error.

Point

When the E= instruction is used, note that values in the devices may not be equal.



(1): Values in the devices may not be equal.