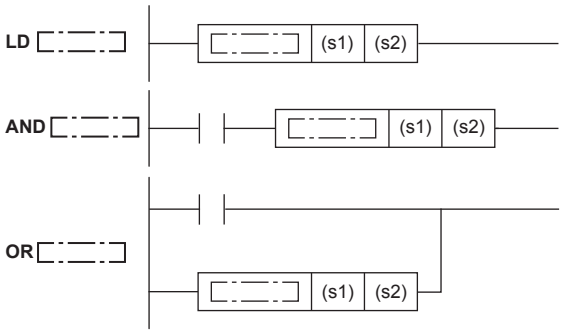
Comparing 32-bit binary data

LDD□(_U), ANDD□(_U), ORD□(_U)

FX5S FX5UJ FX5U FX5UC

These instructions perform a comparison operation between the 32-bit binary data in the device specified by (s1) and the 32-bit binary data in the device specified by (s2). (Devices are used as NO contacts)

Ladder diagram



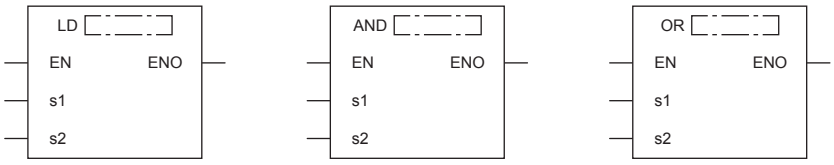
("D=(_U)", "D<>(_U)", "D>(_U)", "D<=(_U)", "D<(_U)", "D>=(_U)" enters □.)

Structured text[*1]

ENO:=LDD_□(EN,s1,s2); ENO:=ANDD_□(EN,s1,s2); ENO:=ORD_□(EN,s1,s2);	ENO:=LDD_□_U(EN,s1,s2); ENO:=ANDD_□_U(EN,s1,s2); ENO:=ORD_□_U(EN,s1,s2);

("EQ", "NE", "GT", "LE", "LT", "GE" enters □.)[*2]

FBD/LD



("D_EQ(_U)", "D_NE(_U)", "D_GT(_U)", "D_LE(_U)", "D_LT(_U)", "D_GE(_U)" 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)	LDD□, ANDD□, ORD□	Comparison data or head device where the comparison data is stored	-2147483648 to +2147483647	32-bit signed binary	ANY32_S
	LDD□_U, ANDD□_U, ORD□_U		0 to 4294967295	32-bit unsigned binary	ANY32_U
(s2)	LDD□, ANDD□, ORD□	Comparison data or head device where the comparison data is stored	-2147483648 to +2147483647	32-bit signed binary	ANY32_S
	LDD□_U, ANDD□_U, ORD□_U		0 to 4294967295	32-bit unsigned binary	ANY32_U
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 32-bit binary data in the device specified by (s1) and the 32-bit binary data in the device specified by (s2). (Devices are used as NO contacts)
- The following table lists the comparison operation results of each instruction.

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

Precautions

- When the most significant bit is "1" in the data stored in (s1) or (s2), it is regarded as a negative binary value for comparison. (Excluding unsigned operation)
- For comparison of 32-bit counter (LC), specify an instruction (LDD=, etc.) that handles 32-bit data. If an instruction (LD=, etc.) that handles 16-bit data is specified, a program error or operation error occurs. (Same applies for index device (LZ) as well.)

Program example

For a program example, refer to ☞ Page 189 Comparing 16-bit binary data.

Operation error

There is no operation error.