

Comparison output 16-bit binary data

CMP(P)(_U)

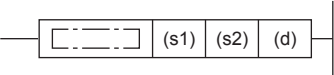
FX5S

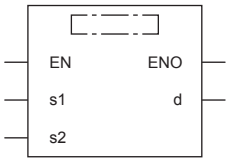
FX5UJ

FX5U

FX5UC

These instructions perform a comparison operation between the 16-bit binary data in the devices specified by (s1) and (s2).

Ladder diagram	Structured text	
	ENO:=CMP(EN,s1,s2,d); ENO:=CMPP(EN,s1,s2,d);	ENO:=CMP_U(EN,s1,s2,d); ENO:=CMPP_U(EN,s1,s2,d);

FBD/LD


Setting data

■Descriptions, ranges, and data types

Operand	Description	Range	Data type	Data type (label)
(s1)	CMP(P)	-32768 to +32767	16-bit signed binary	ANY16_S
	CMP(P)_U	0 to 65535	16-bit unsigned binary	ANY16_U
(s2)	CMP(P)	-32768 to +32767	16-bit signed binary	ANY16_S
	CMP(P)_U	0 to 65535	16-bit unsigned binary	ANY16_U
(d)	The starting bit device to which the comparison result is output	—	Bit	ANYBIT_ARRAY (Number of elements: 3)
EN	Execution condition	—	Bit	BOOL
ENO	Execution result	—	Bit	BOOL

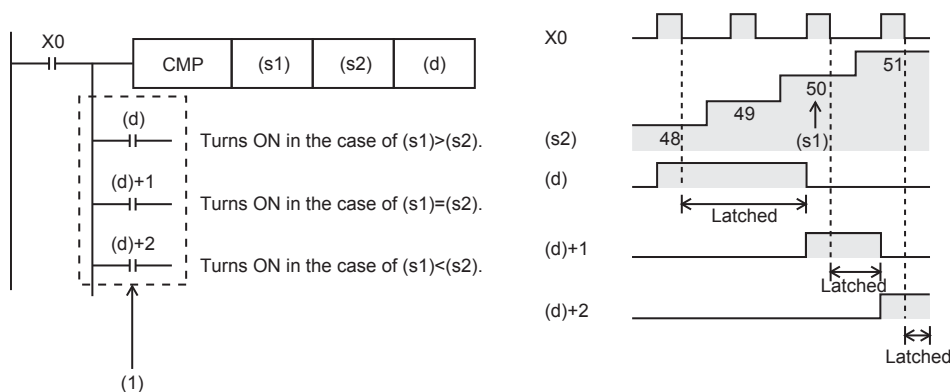
■Applicable devices

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)	○	○	○	○	—	—	○	○	—	—	—
(d)	○	○*1	—	—	—	—	—	—	—	—	—

*1 T, ST, and C cannot be used.

Processing details

- These instructions perform a comparison operation between the 16-bit binary data in the device specified by (s1) and the 16-bit binary data in the device specified by (s2) and according to the result (small, equal, large), (d), (d) + 1, or (d) + 2 is turned ON.
- (s1) and (s2) are handled as binary values within the range of above data setting.
- Large and small comparison is executed algebraically.
 - With sign...-10 (FFF6H) < 2 (0002H)
 - Without sign...32767 (7FFFH) < 65280 (FF00H)



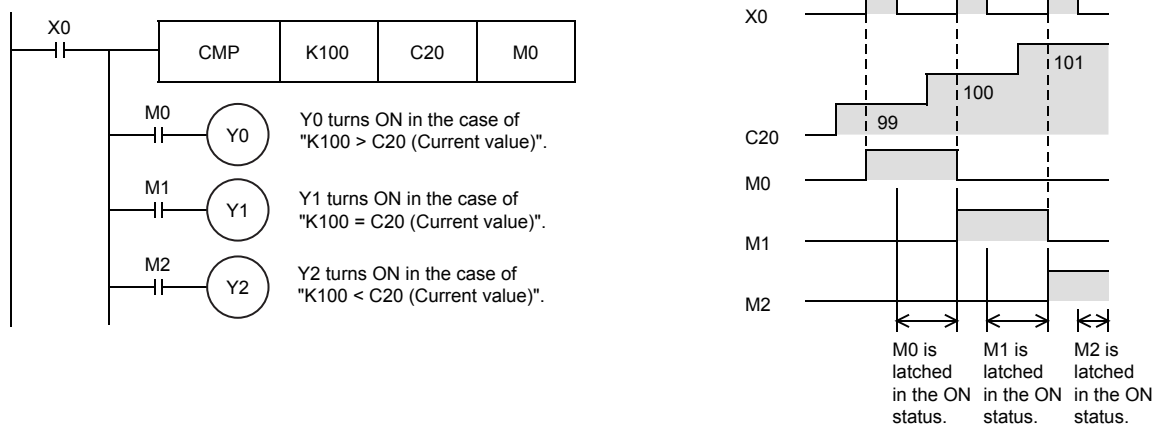
(1): Even if the command input turns OFF and the CMP instruction is not executed, (d) to (d)+2 latches the status just before the command input turns from ON to OFF.

Precautions

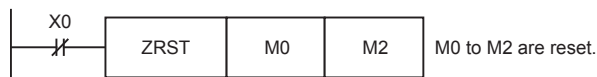
Three devices are occupied from the device specified in (d). Make sure that these devices are not used in other controls.

Program example

- When comparing the current value of a counter



If it is necessary to clear the comparison result when the instruction is not executed, add the following contents under the above program.



Operation error

Error code (SD0/SD8067)	Description
2820H	The range of 3 points of data starting from the device specified by (d) exceeds said device.