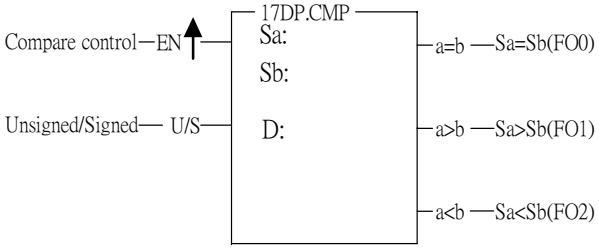
FUN 17 CMP	COMPARE (Compares the data of Sa and Sb and outputs the results to function Outputs)	FUN 17 CMP

Ladder Symbol



operand

Sa: The register to be compared

Sb: The register to be compared

Sa, Sb may combine with V、Z、P0~P9 to serve indirect addressing

Range / Operand	WX	WY	WM	WS	TMR	CTR	HR	IR	OR	HSCR	RTCR	SR	ROR	DR	K	XR
	WX0 | WX240	WY0 | WY240	WM0 | WM1896	WS0 | WS984	T0 | T255	C0 | C255	R0 | R3839	R3804 | R3903	R3904 | R3967	R4096 | R4127	R4128 | R4135	R4136 | R4167	R5000 | R8071	D0 | D4095	16/32 bit +/-number	V、Z P0~P9
Sa	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
Sb	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

- When the compare control input "EN" =1 or "EN↑" (P instruction) from 0 to 1 and unsigned/signed input "U/S"=0, it performs the signed comparison between the data of Sa and Sb. If the data of Sa is equal to Sb, then set FO0 to 1. If the data of Sa>Sb, then set FO1 to 1. If the data of Sa<Sb, then set FO2 to 1.
- When the compare control input "EN" =1 or "EN↑" (P instruction) from 0 to 1 and unsigned/signed input "U/S"=1, it performs the unsigned comparison between the data of Sa and Sb. If the data of Sa is equal to Sb, then set FO0 to 1. If the data of Sa>Sb, then set FO1 to 1. If the data of Sa<Sb, then set FO2 to 1.
- M1919=0, when this command is not performed, FO0, FO1, FO2 will remain in the status at last execution.
- M1919=1, when this command is not performed, FO0, FO1, FO2 are all cleared to 0.
- Control M1919 properly to obtain memory-holding function for functional output.

Example .16-bit signed comparison

Sa	R0	－5 (FFFBH)
Sb	R1	32767 (7FFFH)

⇩ X0＝1

Y0=0, Y1=0, Y2=1

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Example .16-bit unsigned comparison

Sa	R0	65531 (FFFBH)
Sb	R1	32767 (7FFFH)

⇩ X0 = 1

Y0=0, Y1=1, Y2=0