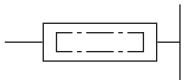
Returning from the interrupt program

IRET

FX5S FX5UJ FX5U FX5UC

This instruction indicates an end of the processing of an interrupt program.

Ladder diagram	Structured text
	Not supported

FBD/LD
Not supported.

Processing details

When an interrupt (input or timer) is generated while the main program is executing, the program execution jumps to an interrupt (I) routine. The IRET instruction returns the program execution to the main routine.
The table below shows three types of jump to an interrupt routine.

Function	Interrupt No.	Description
Interrupt from inputs (including counter)	I0 to I23	Interrupt pointer used for the CPU built-in functions (such as input interrupt, high-speed comparison match interrupt)
Interrupt setting from internal timer	I28 to I31	Interrupt pointer used for fixed-cycle interrupts of the internal timer
Interrupt from module*1	I50 to I177	Interrupt pointer used with module equipped with interruption function

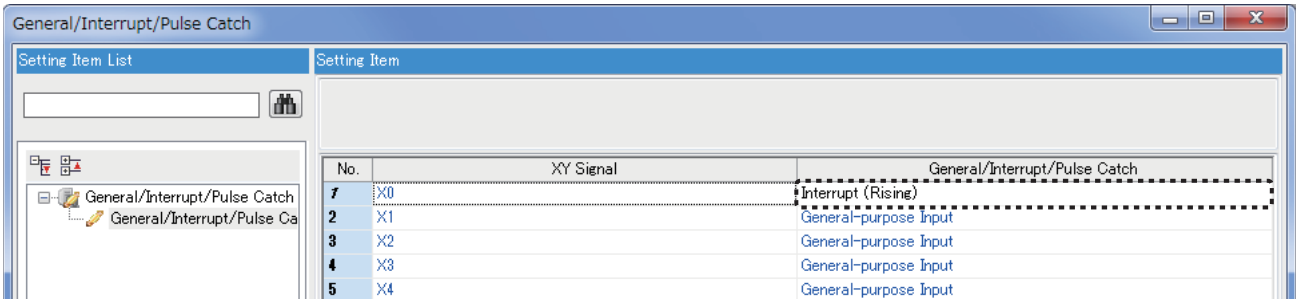
*1 FX5S does not support this function.

Program example

• Parameter setting

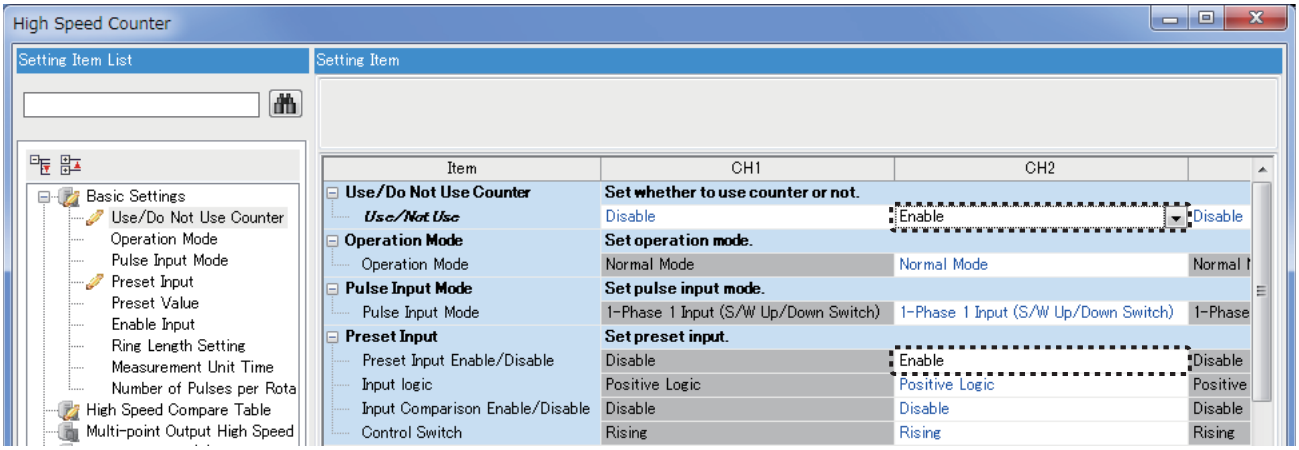
When using the input interrupt (detection of rising of X0), the high-speed comparison match interrupt (the high-speed counter CH2 reaches 10) and the internal timer interrupt (20 ms cycle), set interrupt and the high-speed counter by the parameter.
[Input interrupt]

Navigation window ⇨ [Parameter] ⇨ Module model name ⇨ [Module Parameter] ⇨ [High Speed I/O] ⇨ "Input Function" ⇨ "General/Interrupt/Pulse Catch" ⇨ "Detailed Setting"

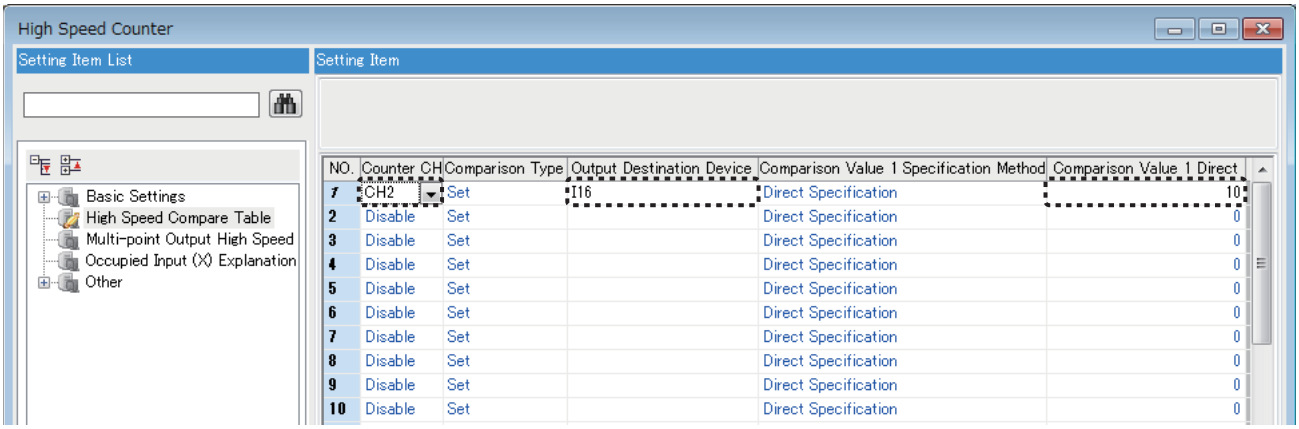


[high-speed comparison match interrupt]

Navigation window ⇨ [Parameter] ⇨ Module model name ⇨ [Module Parameter] ⇨ [High Speed I/O] ⇨ "Input Function" ⇨ "High Speed Counter" ⇨ "Detailed Setting" ⇨ "Basic Settings"



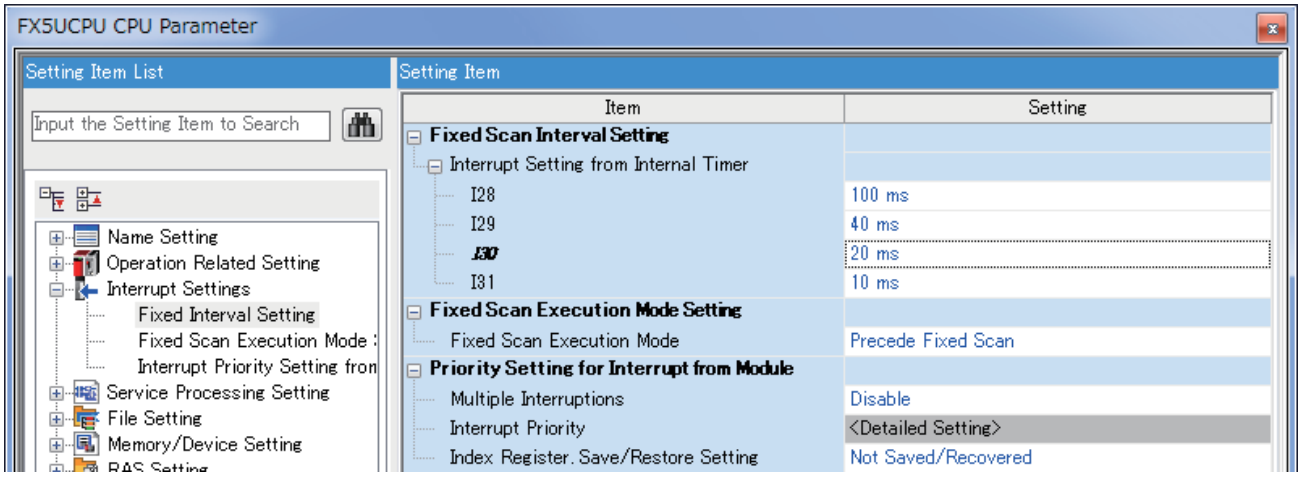
Navigation window ⇨ [Parameter] ⇨ Module model name ⇨ [Module Parameter] ⇨ [High Speed I/O] ⇨ "Input Function" ⇨ "High Speed Counter" ⇨ "Detailed Setting" ⇨ "High Speed Compare Table"



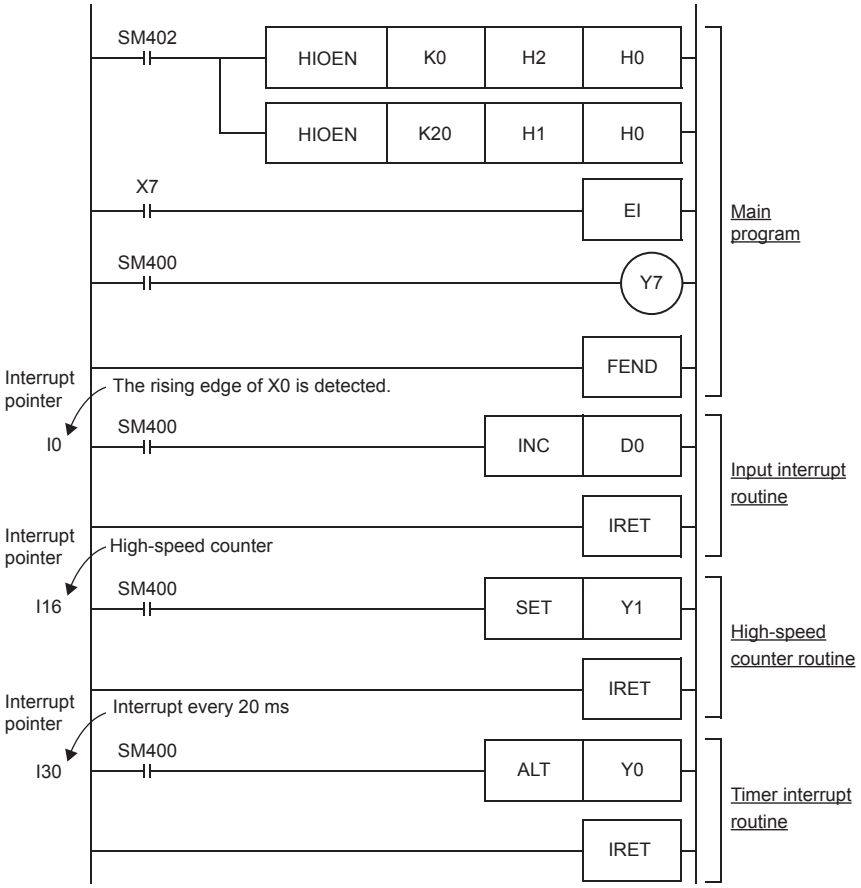
[Interrupt Settings from Internal Timer]

The parameter is used in default setting. To change the parameter, set it as follows.

Navigation window ⇨ [Parameter] ⇨ Module model name ⇨ [CPU Parameter] ⇨ "Interrupt Settings" ⇨ "Fixed Scan Interval Setting" ⇨ "Interrupt Setting from Internal Timer"



• Program



Interrupts are usually disabled in CPU modules.
Turn ON X7 and use EI instruction to enable interrupts.
When X0 turns ON while the main program is executed, instructions after the input interrupt routine pointer I0 are executed, and the program execution returns to the original main program by IRET instruction.

Make sure to program an interrupt pointer (I***) as a label after FEND instruction.

The high-speed counter interrupt of the pointer I16 is executed when the current value of a high-speed counter becomes equivalent to a value specified by the parameter. The program execution returns to the original main program by IRET instruction.

The timer interrupt of the pointer I30 is executed every timer time of 20 ms, and the program execution is returned to the original main program by IRET instruction each time.

Operation error

Error code (SD0/SD8067)	Description
33E6H	The IRET instruction is executed in the main program.