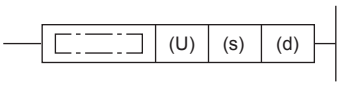
Backing up module data (writing data to the flash ROM)

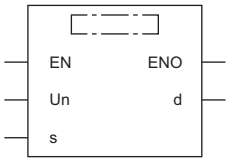
GP.PFWRT

~~FX5S~~ FX5UJ FX5U FX5UC

This instruction writes the module extension parameter (the positioning data and block start data) in the buffer memory to the module extension parameter file.

Ladder diagram	Structured text
	ENO:=GP_PFWRT(EN,Un,s,d);

FBD/LD



("GP_PFWRT" enters □.)

Setting data

■Descriptions, ranges, and data types

Operand	Description	Range	Data type	Data type (label)
(U)*1	Position number of the module connected	■FX5UJ CPU module 1H to 8H ■FX5U/FX5UC CPU module 1H to 10H	16-bit unsigned binary	ANY16
(s)	Own station head device where control data is stored	☞ Page 1191 Control dataRefer to	Device name	ANY16_ARRAY*2 (Number of elements: 2)
(d)	Own station device to be turned on for one scan when the instruction completes. When the instruction completes with an error, (d)+1 also turns on.	—	Bit	ANYBIT_ARRAY (Number of elements: 2)
EN	Execution condition	—	Bit	BOOL
ENO	Execution result	—	Bit	BOOL

*1 In the case of the ST language and the FBD/LD language, U displays as Un.

*2 When specifying setting data by using a label, define an array to secure enough operation area and specify an element of the array label.
Digit specified bit type label cannot be used.

■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	$	(U)
(U)	—	○	—	—	—	—	○	○	—	—	○
(s)	—	○	—	—	—	—	○	—	—	—	—
(d)	○*1	○*2	—	—	—	—	—	—	—	—	—

*1 S cannot be used.

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

■Control data

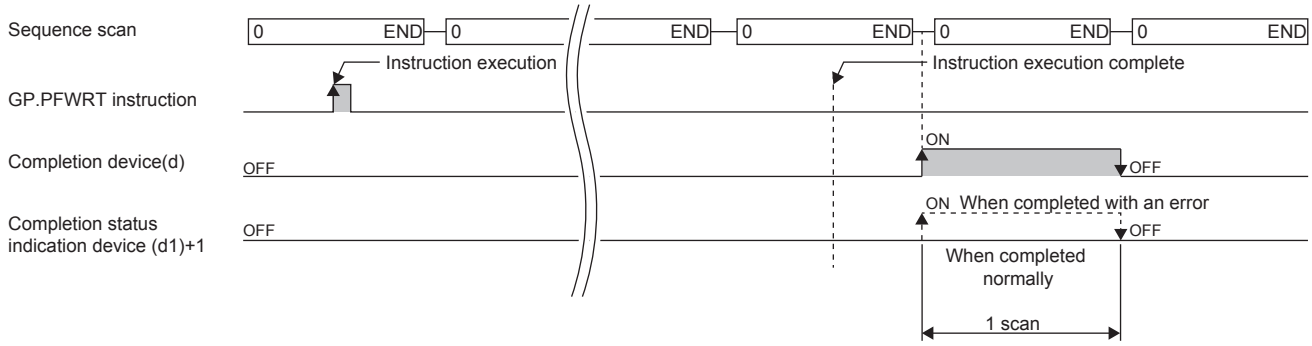
Device	Item	Description	Setting range	Set by
(s)+0	System area	—	—	—
(s)+1	Completion status	The instruction completion status is stored. • 0: Normal • Other than 0: Error (error code)	—	System

Processing details

- The buffer memory module extension parameters are written to the module extension parameter file.
- Whether the GP.PFWRT instruction has been completed normally or with an error can be checked with the completion device (d) or completion status indication device (d)+1.

Device	Description
Completion device (d)	This device turns on during the END processing of the scan where the GP.PFWRT instruction completed, and turns off during the next END processing.
Completion status indication device (d)+1	This device turns on or off depending on the completion status of the GP.PFWRT instruction. When completed normally: Unchanged from off. When completed with an error: Turns on during the END processing of the scan where the GP.PFWRT instruction completed, and turns off during the next END processing.

- The following figure shows the operation at completion of the GP.PFWRT instruction.



- For details of the function, refer to MELSEC iQ-F FX5 Positioning Module User's Manual.

Precautions

- While the module extension parameters are being written by using the GP.PFWRT instruction, do not power off the system or reset the CPU module. If the power is turned off or the CPU module is reset while the module extension parameters are being written, data is not normally written and normal positioning start is disabled. If normal positioning start is disabled, restart the system as follows.

Method	Description
Restart using the engineering tool	Write the positioning and block start data to the positioning module from the "Write to programmable controller" of the engineering tool.
Restart using the program	After initializing parameters by using the GP.PINIT instruction, set the module extension parameters in the buffer memory of the positioning module. Thereafter, execute the GP.PFWRT instruction.

- Data write to the flash ROM of the positioning module can be repeated a maximum of one hundred thousand times. Any attempt to write data to the flash memory beyond this count results in failure, and the flash ROM write error (error code: 1931H) occurs.
- After the power is turned on or the CPU module is reset once, module backup (including the number of times initialization is executed) can be repeated a maximum of 25 times if the program is used. Any attempt to write data to the flash ROM memory beyond 25 times results in a flash ROM write count error at error code 1080H. If this error occurs, reset the positioning module error with "[Cd.5] axis error reset", by turning the power OFF to ON, or by resetting the CPU module.
- The GP.PFWRT instruction can be executed when the READY signal ([Md.140] module status: b0) is OFF. While the READY signal ([Md.140] module status: b0) is ON, if the GP.PFWRT instruction is executed, "Writing during PLC READY ON (Warning code: 0905H) warning occurs in the positioning module and the module backup cannot be executed. Turn the "[Cd.190] PLC READY signal" OFF, and turn the READY signal ([Md.140] module status: b0) OFF before executing the GP.PFWRT instruction.
- If this instruction is executed in an interrupt program with the priority 1, operation error (3580H) occurs. This instruction operates in an interrupt program with the priority 2 or 3.

Operation error

Error code ((s)+1)	Description
1080H	Flash ROM write count error
1931H	Flash ROM write error