

Teaching

GP.TEACH□



FX5S

FX5UJ

FX5U

FX5UC

This instruction teaches the specified axis.

Ladder diagram	Structured text
 ("GP.TEACH1, GP.TEACH2" enters □.)	<pre>ENO:=GP_TEACH1(EN,Un,s,d); ENO:=GP_TEACH2(EN,Un,s,d);</pre>

FBD/LD
 ("GP_TEACH1, GP_TEACH2" 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 1188 Control dataRefer to	Device name	ANY16_ARRAY ^{*2} (Number of elements: 4)
(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 (U)
		X, Y, M, L, SM, F, B, SB, S	T, ST, C, D, W, SD, SW, R	U□\G□	Z	LC		K, H	E	\$	
(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
(s)+2	Teaching data selection	Selects the address to which to write the current feed value (positioning or arc address). • 0: Writes the current feed value to the positioning address. • 1: Writes the current feed value to the arc address.	0, 1	User
(s)+3	Positioning data number	Sets the positioning data number at which to perform the teaching.	1 to 600	User

Processing details

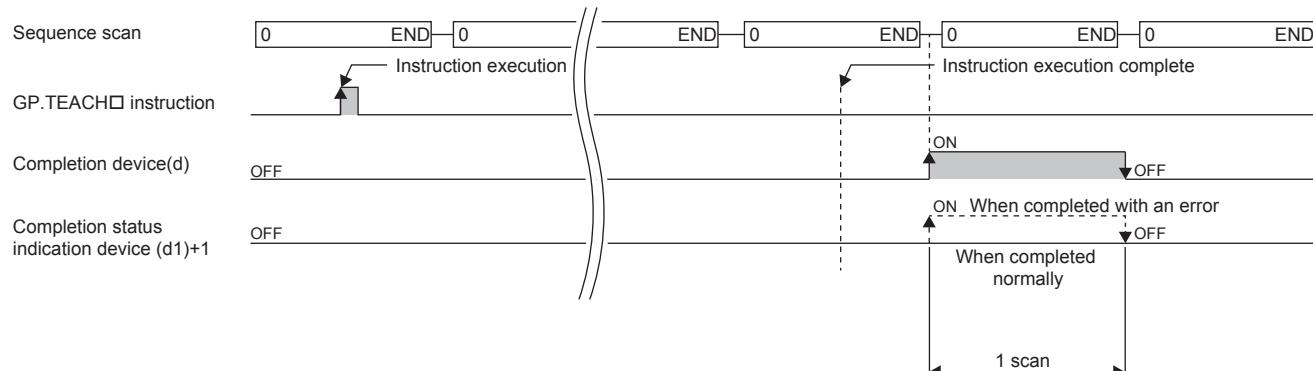
- The data of "[Md.20] Current feed value" of one of the following target axes is set in the positioning or arc address. The positioning data other than the positioning or arc address must be set using the engineering tool or program.

Instruction symbol	Target axis
GP.TEACH1	Axis 1
GP.TEACH2	Axis 2

- Positioning data No.1 to 600 can be taught.
- To move to an address (position) to be set as the positioning or arc address of the positioning data, JOG, inching, or manual pulse operation is used.
- Whether the GP.TEACH□ 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.TEACH□ 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.TEACH□ instruction. When completed normally: Unchanged from off. When completed with an error: Turns on during the END processing of the scan where the GP.TEACH□ instruction completed, and turns off during the next END processing.

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



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

Precautions

- The following instructions cannot be executed simultaneously to a single axis. For different axes, any of the following can be executed concurrently with a GP.TEACH \square instruction.
 - Positioning start instruction (GP.PSTRT \square)
 - Absolute position restoration instruction (G.ABRST \square)
 - Teaching instruction (GP.TEACH \square)
- The GP.TEACH \square instruction is executed when "[Md.141] BUSY signal" is off. While "[Md.141] BUSY signal" is ON, if the GP.TEACH \square instruction is executed, "Teaching during BUSY (Warning code: 0903H)" warning occurs in the positioning module and teaching cannot be executed. Before executing the instruction, check that the "[Md.141] BUSY signal" of the corresponding axis is off.
- 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
1863H	A value other than 0 or 1 was set in "Teaching data selection" of (s)+2.
1864H	A value other than 1 to 600 was set in "Positioning data number" of (s)+3.
1865H	An instruction was specified for an undefined axis.