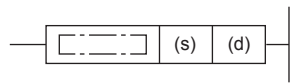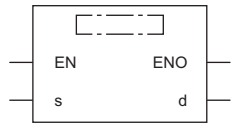# Detecting a character string length

LEN(P)

| FX5S | FX5UJ | FX5U | FX5UC |

These instructions detect the length of the character string specified by (s), and store the length in the device specified by (d) and later.

These instructions handle data stored in the device specified by (s) to the device storing 00H as a character string.

Ladder diagram	Structured text[*1]
(s) (d)	ENO:=LENP(EN,s,d);

FBD/LD[*1]
EN ENO / s d

*1 The LEN instruction is not supported by the ST language and the FBD/LD language. Use LEN of the standard function.
☞ Page 1337 LEN(_E)

Setting data

■Descriptions, ranges, and data types

Operand	Description	Range	Data type	Data type (label)
(s)	Character string or head device number storing a character string	—	Character string	ANYSTRING_SINGLE
(d)	Device number storing the detected character string length	—	16-bit signed binary	ANY16
EN	Execution condition	—	Bit	BOOL
ENO	Execution result	—	Bit	BOOL

■Applicable devices

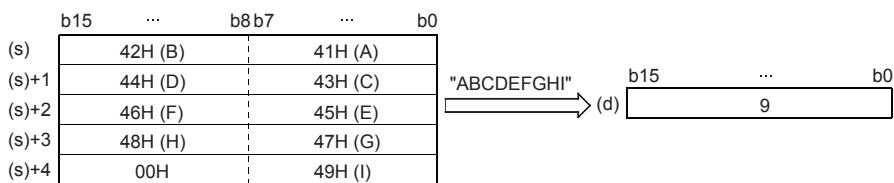| Operand	Bit	Word			Double word		Indirect specification	Constant			Others
	X, Y, M, L, SM, F, B, SB, S	T, ST, C, D, W, SD, SW, R	U□\G□	Z	LC	LZ		K, H	E	$	
(s)	—	○[*1]	—	—	—	—	○	—	—	○	—
(d)	○	○	○	○	—	—	○	—	—	—	—

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

Processing details

- These instructions detect the length of the character string specified by (s), and store the length in the device specified by (d) and later.
- These instructions handle data stored in the device specified by (s) to the device storing 00H as a character string.

Indicates the end of the character string.

Ex.
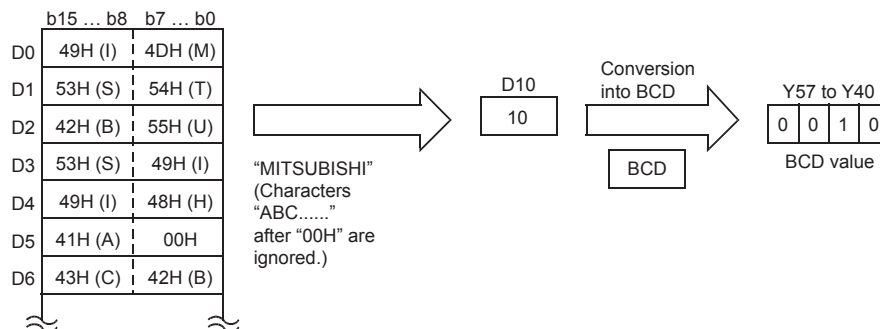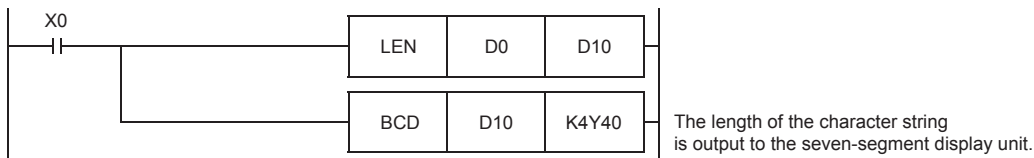When "ABCDEFGHI" is stored in (s) and later

Precautions

The LEN(P) instructions can handle character codes other than ASCII codes, but the character string length is handled in byte units (8 bits). Accordingly, in the case of character codes in which 2 bytes express 1 character such as shift JIS codes, the length of 1 character is detected as "2".

Program example

In the program example shown below, the length of a character string stored in D0 and later is output in 4-digit BCD to Y40 to Y57 when X0 turns ON.

The length of the character string is output to the seven-segment display unit.

"MITSUBISHI" (Characters "ABC......" after "00H" are ignored.)

Operation error

Error code (SD0/SD8067)	Description
2820H	In the corresponding device range of the device specified by (s) and later, "00H" does not exist.
3405H	The character string specified by (s) has more than 16383 characters.