

# Zero return(OPR) with 16-bit data DOG search

## DSZR [For the FX3 compatible operand specification]

**FX5S**

**FX5UJ**

**FX5U**

**FX5UC**

This instruction executes mechanical zero return. Only CPU module is supported.

Ladder diagram	Structured text
	ENO:=DSZR(EN,s1,s2,d1,d2);
FBD/LD	

## Setting data

### ■Descriptions, ranges, and data types

Operand	Description	Range	Data type	Data type (label)
(s1)	Bit device number to which the near-point dog signal is input	—	Bit	ANY_ELEMENTARY (BOOL)
(s2)	Bit device number to which the zero-phase signal is input	—	Bit	ANY_ELEMENTARY (BOOL)
(d1)	Bit device number (Y) from which pulses are output	■FX5S/FX5UJ CPU module 0 to 2 ■FX5U/FX5UC CPU module 0 to 3	Bit	ANY_ELEMENTARY (BOOL)
(d2)	Bit device number from which the rotation direction is output	—	Bit	ANY_BOOL
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	\$	
(s1)	○*1	○*5	—	—	—	—	—	—	—	—	—
(s2)	○*1*2	○*5	—	—	—	—	—	—	—	—	—
(d1)	○*3	—	—	—	—	—	—	—	—	—	—
(d2)	○*4	○*5	—	—	—	—	—	—	—	—	—

\*1 When using X, always specify a device that has been set by parameter.

\*2 Specify the device set with a parameter or same as the one set in (s1).

\*3 Only Y can be used.


\*4 When the output mode is CW/CCW, specify the CCW axis. When the output mode is PULSE/SIGN and using Y, only the SIGN output or general-purpose output of the self-axis can be specified.

\*5 T, ST, and C cannot be used.

## Processing details

This instruction executes mechanical zero return. The values of special devices are applied as the zero return speed and creep speed. With the forward limit or reverse limit, zero return with the dog search function can be executed.

- For (s1), specify the near-point dog signal input device number. When an X device is specified, the near-point dog signal functions follow the logic set by parameter. When other than X device is specified, the device functions follow the positive logic.
- For (s2), specify the zero-phase signal input device number. When an X device is specified, the zero-phase signal functions follow the logic set by parameter. When other than X device is specified, the device functions follow the positive logic.
- For (d1), specify the device from which pulses are output. Only the output devices (Y) having positioning parameters can be specified.
- For (d2), specify the bit device from which the rotation direction signal is output. Only the device specified with a parameter or general-purpose outputs can be specified. When the output devices (Y) is executed by another function (PWM, positioning PULSE axis, or CW/CCW axis etc.), the device does not function and causes an error.

For details on the function, precautions, and error code, refer to  MELSEC iQ-F FX5 User's Manual (Application).

## DSZR [For the FX5 operand specification]

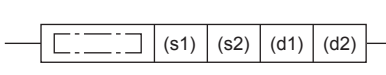
**FX5S**

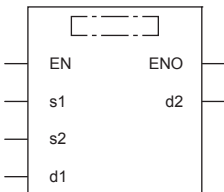
**FX5UJ**

**FX5U**

**FX5UC**

This instruction executes mechanical zero return.

Ladder diagram	Structured text
	<pre>ENO:=DSZR(EN,s1,s2,d1,d2);</pre>

FBD/LD


### Setting data

#### ■Descriptions, ranges, and data types

Operand	Description	Range	Data type	Data type (label)
(s1)	Zero return speed	1 to 65535	16-bit unsigned binary	ANY_ELEMENTARY (WORD)
(s2)	Creep speed	1 to 65535	16-bit unsigned binary	ANY_ELEMENTARY (WORD)
(d1)	Axis number from which pulses are to be output	■FX5S/FX5UJ CPU module K1 to K3, K5 to K12 ■FX5U/FX5UC CPU module K1 to K12	16-bit unsigned binary	ANY_ELEMENTARY (WORD)*1
(d2)	Bit device number of the zero return complete flag or abnormal end flag	—	Bit	ANY_BOOL
EN	Execution condition	—	Bit	BOOL
ENO	Execution result	—	Bit	BOOL

\*1 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	\$	
(s1)	○	○	○	○	—	—	○	○	—	—	—
(s2)	○	○	○	○	—	—	○	○	—	—	—
(d1)	—	○	○	○	—	—	○	○	—	—	—
(d2)	○	○*1	—	—	—	—	—	—	—	—	—

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

## Processing details

This instruction executes mechanical zero return. The near-point dog signal and zero-phase signal function follow the device set with parameters. With the forward limit or reverse limit, zero return with the dog search function can be executed.

- For (s1), specify the zero return speed in the user units. (The speed must be 200 kpps or lower in frequency.)
- For (s2), specify the creep speed in the user units. Set the creep speed equal to or slower than the zero return speed set in (s1). (The speed must be 200 kpps or lower in frequency.)
- For (d1), specify the axis number for which zero return is performed.
- For (d2), specify the bit device of the zero return complete flag or abnormal end flag.

For details on the function and error code, refer to  MELSEC iQ-F FX5 User's Manual (Application).

## Precautions

Two devices are occupied from the device specified in (d2). Make sure that these devices are not used in other controls.

For other precautions, refer to  MELSEC iQ-F FX5 User's Manual (Application).