Inverter multi command

IVMC

This instruction writes 2 types of settings (operation command and set frequency) to the inverter, and reads 2 types of data (inverter status monitor, output frequency, etc.) from the inverter at the same time.

Ladder diagram	Structured text
▭ (s1) (s2) (s3) (d1) (n) (d2)	ENO:=IVMC(EN,s1,s2,s3,n,d1,d2);

FBD/LD

EN ENO
s1 d1
s2 d2
s3
n

Setting data

■Descriptions, ranges, and data types

Operand	Description	Range	Data type	Data type (label)
(s1)	Inverter station number	K0 to 31	16-bit signed binary	ANY16
(s2)	Multiple instructions for inverter: Send/receive data type specification	*1	16-bit signed binary	ANY16
(s3)	Head device which stores data to be written to the inverter	—	16-bit signed binary	ANY16_ARRAY (Number of elements: 2)
(d1)	Head device which stores values to be read from the inverter	—	16-bit signed binary	ANY16_ARRAY (Number of elements: 2)
(n)	Communication channel	■FX5S/FX5UJ CPU module K2 to 4 ■FX5U CPU module K1 to 4 ■FX5UC CPU module K1, K3 to 4	16-bit unsigned binary	ANY16_U
(d2)	Head bit device to which the execution status of the instruction is output	—	Bit	ANYBIT_ARRAY (Number of elements: 3)
EN	Execution condition	—	Bit	BOOL
ENO	Execution result	—	Bit	BOOL

*1   Refer to ▭MELSEC iQ-F FX5 User's Manual (Communication).

■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	○	○	—	—	○	○	—	—	—
(s2)	—	○*1	○	○	—	—	○	○	—	—	—
(s3)	—	○	○	—	—	—	○	—	—	—	—
(d1)	—	○	○	—	—	—	○	—	—	—	—
(n)	—	—	—	—	—	—	—	○	—	—	—
(d2)	○	○*1	—	—	—	—	—	—	—	—	—

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

Processing details

This instruction executes multiple commands of an inverter connected to the communication channel (n) whose station number is specified in (s1). Specify the send/receive data type using (s2), the head device which stores data to be written to the inverter using (s3), and the head device which stores values to be read from the inverter using (d1). For details, refer to 📖MELSEC iQ-F FX5 User's Manual (Communication).

Precautions

- If a device number outside the range due to indexing, etc. is specified in (d1), the receive data from the inverter is not stored in (d1). However, values set in (s3) and (s3)+1 may be written to the inverter.
- If any unspecified value is set in (s2), unexpected data may be written to and read from the inverter, and values of (d1) and (d1)+1 may be updated.
- The IVMC instruction reads the inverter status at the time of communication with the inverter, and stores it in (d1). Accordingly, the inverter status written by the IVMC instruction can be read when the next reading instruction (IVCK, IVMC, etc.) is executed.
- Two devices are occupied from the device specified in (s3) and (d1). Make sure that these devices are not used in other controls.
- Three devices are occupied from the device specified in (d2). Make sure that these devices are not used in other controls.

Operation error

Error code (SD0/SD8067)	Description
1810H	Channel number specified by (d) is used by another instruction.
2820H	The specified device exceeds the range of the corresponding device.
3405H	The value specified by (s1) is other than any of K0 to 31.
	When the value specified for (n) is other than the following channel numbers. • FX5S/FX5UJ CPU module K2 to 4 • FX5U/FX5UC CPU module K1 to 4
3600H	Channel number specified by (d) is not set by parameters.

For communication errors, refer to 📖MELSEC iQ-F FX5 User's Manual (Communication).