Expanding FX5U CPU module, I/O module, option lineup!

FX5U CPU module (DC power type)

NEW

FX5U-32MR/DS DC D2 R
FX5U-32MT/DS DC D2 T1
FX5U-32MT/DSS DC D2 T2

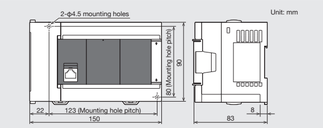
16 pt input | 16 pt output

■ Power supply specifications

Item	Specifications
Rated voltage	24 V DC
Allowable supply voltage range	16.8 to 28.8 V DC
Allowable instantaneous power failure time	Operation can be continued upon occurrence of instantaneous power failure for 5 ms or less.
Power fuse	250 V, 3.15 A Time-lag fuse
Rush current	50 A max. 0.5 ms or less/24 V DC
Power consumption*1	30 W
24 V DC power supply capacity	480 mA (360 mA)*2
5 V DC power supply capacity	900 mA (775 mA)*2

*1 : This item shows value when used in the maximum configuration connectable to the CPU module.
*2 : The value in ( ) is the power capacity when the power supply voltage is 16.8 to 19.2 V DC.

■ External dimensions



· MASS (Weight): Approx. 0.65 kg
· Exterior color : Main body Munsell 0.6B7.6/0.2

Powered I/O module (DC power type)

NEW

FX5-32ER/DS DC D2 R
FX5-32ET/DS DC D2 T1
FX5-32ET/DSS DC D2 T2

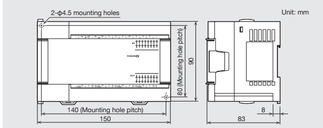
16 pt input | 16 pt output

■ Power supply specifications

Item	Specifications
Rated voltage	24 V DC
Allowable supply voltage range	16.8 to 28.8 V DC
Allowable instantaneous power failure time	Operation can be continued upon occurrence of instantaneous power failure for 5 ms or less.
Power fuse	250 V, 3.15 A Time-lag fuse
Rush current	50 A max. 0.5ms or less/24 V DC
Power consumption*	25 W
24 V DC power supply capacity	310 mA
5 V DC power supply capacity	965 mA

* : This item shows value when used in the maximum configuration connectable to the powered I/O module.

■ External dimensions



· MASS (Weight): Approx. 0.65 kg
· Exterior color: Munsell 0.6B7.6/0.2
· Accessories: Extension cable

FX5U CPU module (AC power type)

FX5U-32MR/ES AC D2 R
FX5U-32MT/ES AC D2 T1
FX5U-32MT/ESS AC D2 T2
input : 16 pt / output : 16 pt

FX5U-64MR/ES AC D2 R
FX5U-64MT/ES AC D2 T1
FX5U-64MT/ESS AC D2 T2
input : 32 pt / output : 32 pt

FX5U-80MR/ES AC D2 R
FX5U-80MT/ES AC D2 T1
FX5U-80MT/ESS AC D2 T2
input : 40 pt / output : 40 pt

Powered I/O module (AC power type)

FX5-32ER/ES AC D2 R
FX5-32ET/ES AC D2 T1
FX5-32ET/ESS AC D2 T2

AC AC power supply
DC DC power supply
D1 DC input (sink)
D2 DC input (sink/source)
T1 Transistor output (sink)
T2 Transistor output (source)
R Relay output

Connector conversion module

NEW

FX5-CNV-IF

Extended extension cable

NEW

FX5-30EC (30 cm)

NEW

FX5-65EC (65 cm)

Connector conversion adapter

NEW

FX5-CNV-BC

PROGRAMMABLE CONTROLLERS

FX5-16ET/E□-H

■ Power supply specification

Item	Specifications
Rated voltage	5 V DC (internal power) 24 V DC (service power supply or external power supply)
Current consumption	100 mA/5 V DC 125 mA/24 V DC (The current of the input circuit is included.)

■ Input specification

Item		Specifications	
No. of input points		8 points	
Connection type		Terminal block (M3 screw)	
Input type		Sink/source	
Input signal voltage		24 V DC +20%, -15%	
Input signal current		5.3 mA/24 V DC	
Input impedance		4.3 kΩ	
ON input sensitivity current		3.5 mA or more	
OFF input sensitivity current		1.5 mA or less	
Input response frequency	X□ to X□+5*	200 kHz	
	X□+6, X□+7*	10 kHz	
Pulse waveform	Waveform	T1 (pulse width) 	T2 (rise/fall time) 
	X□ to X□+5*	2.5 μs or more	1.25 μs or less
	X□+6, X□+7*	50 μs or more	25 μs or less
Input response time (H/W filter delay)	X□ to X□+5*	ON: 2.5 μs or less	OFF: 2.5 μs or less
	X□+6, X□+7*	ON: 30 μs or less	OFF: 50 μs or less
Input response time (Digital filter setting value)		None, 10 μs, 50 μs, 0.1 ms, 0.2 ms, 0.4 ms, 0.6 ms, 1 ms, 5 ms, 10 ms (initial values), 20 ms, 70 ms When using this product in an environment with much noise, set the digital filter.	
Input signal format		No-voltage contact input Sink: NPN open collector transistor Source: PNP open collector transistor	
Input circuit insulation		Photo-coupler insulation	
Indication of input operation		LED is lit when input is on	

*: □ Head input number of each high-speed pulse input/output module.

■ Output specification

Item		Specifications
No. of output points		8 points
Connection type		Terminal block (M3 screw)
Output type	FX5-16ET/ES-H	Transistor/sink output
	FX5-16ET/ESS-H	Transistor/source output
External power supply		5 to 30 V DC
Max. load		1.6 A/8 points common
Open circuit leakage current		0.1 mA or less/30 V DC
Voltage drop when ON	Y□, Y□+1, Y□+4, Y□+5*	1.0 V or less
	Y□+2, Y□+3, Y□+6, Y□+7*	1.5 V or less
Maximum frequency	Y□, Y□+1, Y□+4, Y□+5*	200 kpps
Response time	Y□, Y□+1, Y□+4, Y□+5*	2.5 μs or less/10 mA or more(5 to 24 V DC)
	Y□+2, Y□+3, Y□+6, Y□+7*	0.2 ms or less/200 mA or more (24 V DC)
Output circuit insulation		Photo-coupler insulation
Indication of output operation		LED is lit when output is on

*: □ Head output number of each high-speed pulse input/output module.

■ Applicable CPU module

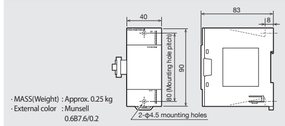
FX5U, FX5UC*	Ver. 1.030 or later Manufacturer's serial number: 165**** (May 2016)

*: FX5-CNV-IFC or FX5-C1PS-5V is necessary to connect FX5-16ET/E□-H with the FX5UC CPU module.

■ Supported engineering tool

GX Works3	Ver. 1.025B or later

■ External dimensions



· MASS(Weight) : Approx. 0.25 kg
· External color : Munsell 0.6B7.6/0.2

FX5-CCLIEF

■ Power supply specification

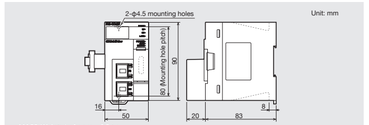
Item	Specifications
Rated voltage	5 V DC (internal power) 24 V DC (service power supply or external power supply)
Current consumption	10 mA/5 V DC 230 mA/24 V DC

■ Performance specifications

Item		Specifications
Station type		Intelligent device station
Station number		1 to 120 (sets by parameter or program)
Communication speed		1 Gbps
Network topology		Line topology, star topology (coexistence of line topology and star topology is also possible), and ring topology
Maximum station-to-station distance		100 m (conforms to ANSI/TIA/EIA-568-B (Category 5e))
Cascade connection		Max. 20 stages
Communication method		Token passing
Maximum number of link points*1	RX	384 points, 48 bytes
	RY	384 points, 48 bytes
	RWr	1024 points, 2048 bytes*2
	RWw	1024 points, 2048 bytes*2
Number of occupied I/O points		8 points
Applicable CPU module		FX5U, FX5UC*3: Ver. 1.030 or later Manufacturer's serial number: 165**** (May 2016)
Supported engineering tool		GX Works3 Ver. 1.025B or later

*1: The maximum number of link points that a master station can assign to one FX5-CCLIEF unit.
*2: 256 points (512 bytes) when the mode of the master station is online (High-Speed Mode).
*3: FX5-CNV-IFC or FX5-C1PS-5V is necessary to connect FX5-CCLIEF with the FX5UC CPU module.

■ External dimensions



· MASS(Weight) : Approx. 0.3 kg
· External color : Munsell 0.6B7.6/0.2

■ Product list

Model name	Power supply	Input specifications		Output specifications	
		No. of input points	Input type	No. of output points	Output type
FX5U-32MR/DS	24 V DC	16	24 V DC (Sink/source)	16	Relay
FX5U-32MT/DS					Transistor (sink)
FX5U-32MT/DSS					Transistor (source)
FX5-32ER/DS	24 V DC	16	24 V DC (Sink/source)	16	Relay
FX5-32ET/DS					Transistor (sink)
FX5-32ET/DSS					Transistor (source)
FX5-16ET/ES-H	High-speed pulse I/O module				
FX5-16ET/ESS-H					
FX5-CCLIEF	CC-Link IE Field network intelligent device station module				
FX5-CNV-IF	Connector conversion FX5 (extension cable type)→FX5 (extension connector type)				
FX5-30EC	Extended extension cable (30 cm)				
FX5-65EC	Extended extension cable (65 cm)				
FX5-CNV-BC	Connector conversion adapter				
FX5U-U-HW-E	MELSEC iQ-F FX5U User's Manual (Hardware) Manual No. JY997D55301				
FX5UC-U-HW-E	MELSEC iQ-F FX5UC User's Manual (Hardware) Manual No. JY997D61401				

Safety Warning

To ensure proper use of the products in this document, please be sure to read the instruction manual prior to use.

Registration

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eco Changes for a greener tomorrow

MITSUBISHI ELECTRIC
Changes for the Better

FACTORY AUTOMATION

MELSEC iQ-F Series
iQ Platform-compatible PLC

MELSEC iQ-F series

FX5-16ET/E□-H, FX5-CCLIEF,
FX5U-32M□/D□, FX5-32E□/D□,
FX5-CNV-IF, FX5-□EC, FX5-CNV-BC

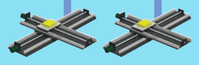
Increasing MELSEC iQ-F series efficiency and effectiveness!

Connects to CC-Link IE Field network!

CC-Link IE Field network intelligent device station module
FX5-CCLIEF

Affordable multi-axis control!

High-speed pulse I/O module
FX5-16ET/ES-H, FX5-16ET/ESS-H



Expanding FX5U CPU module, I/O module, option lineup!

FX5U CPU module (DC power type)
FX5U-32M□/D□

Powered I/O module (DC power type)
FX5-32E□/D□

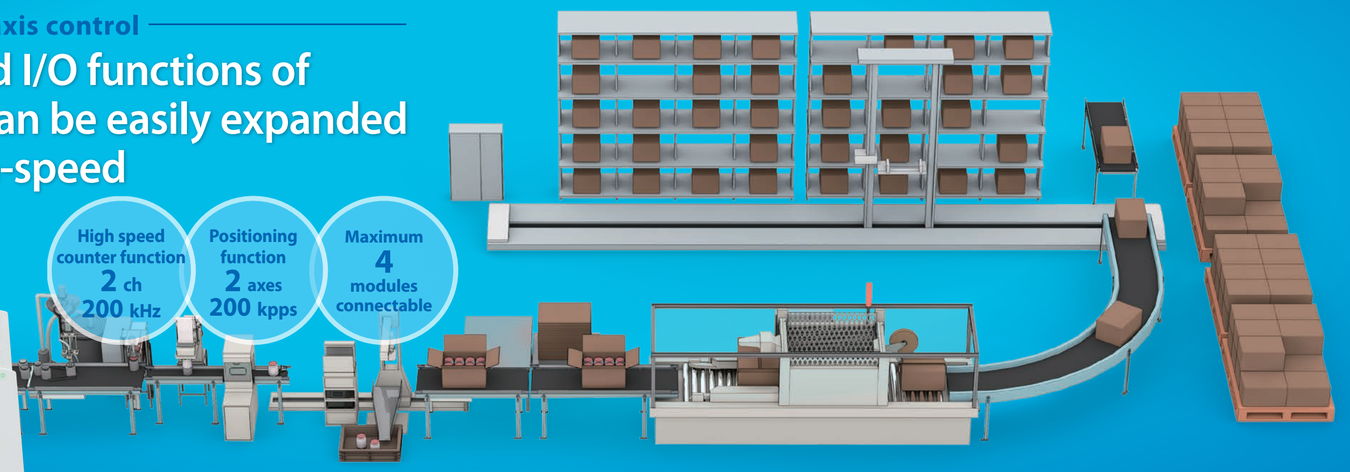
Connector conversion module
FX5-CNV-IF

Extended extension cable
FX5-□EC

Connector conversion adapter
FX5-CNV-BC

Realize affordable multi-axis control

Built-in high speed I/O functions of the CPU module can be easily expanded with the new high-speed pulse I/O module!



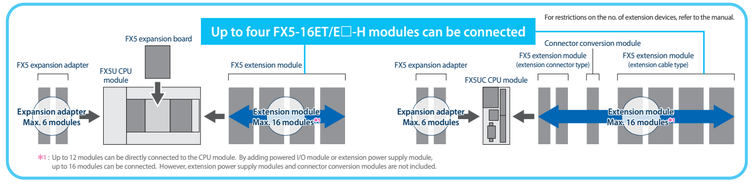
High speed counter function **2 ch 200 kHz**

Positioning function **2 axes 200 kpps**

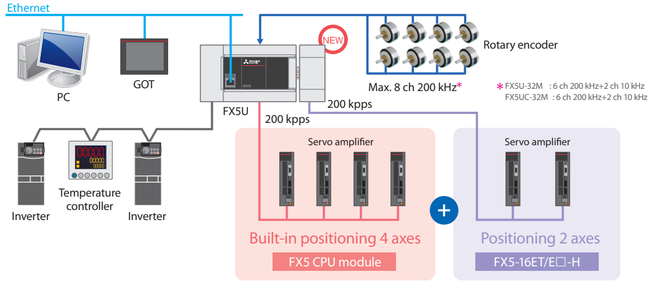
Maximum **4 modules connectable**

High-speed pulse I/O module

FX5-16ET/ES-H
FX5-16ET/ESS-H



System configuration example (positioning function)

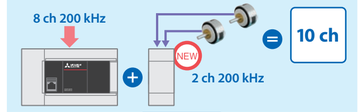


Positioning function (2 axes) built in!

Realize 6 axis control by expanding FX5U/FX5UC!

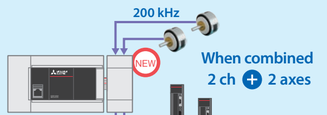
High speed counter function (2 ch) built in!

By expanding FX5U/FX5UC, counting 10 ch of high speed pulse input is possible.



Possible to combine high speed counter and positioning!

High speed counter function (2 ch) and positioning function (2 axes) can be combined.



I/O not used by high speed counter or positioning function can be used as normal input/output.

One software for efficient programming!

The FX5-16ET/E□-H can be programmed in the same software as for built-in positioning, leading to lower engineering time.

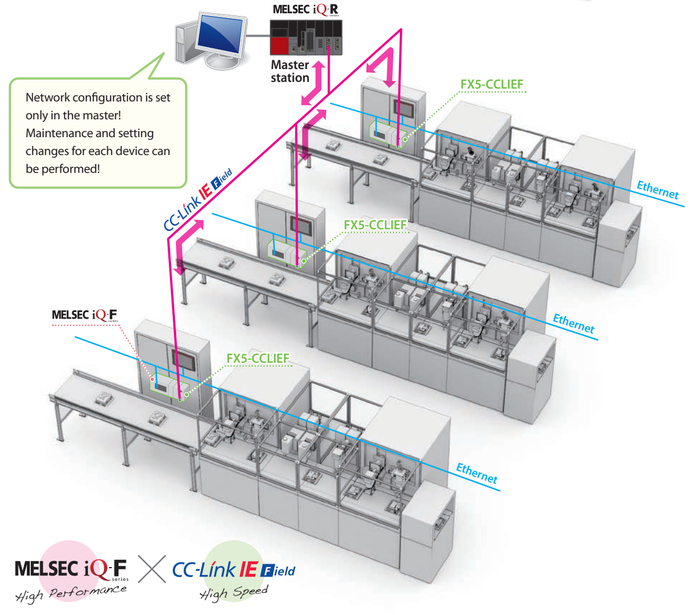
*: Supported in GX Works3 Ver. 1.025B or later

Network governs production efficiency

MELSEC iQ-F series can connect to CC-Link IE Field network!

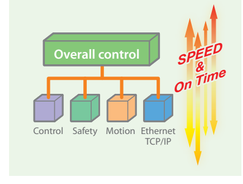
CC-Link IE Field network intelligent device station module

FX5-CCLIEF



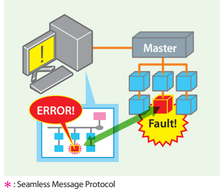
Super fast and deterministic!

With high speed communication (1 Gbps) and high capacity data link (max. 1024 points), realize a high performance decentralized control system, reduced cycle time, and greater traceability.



Efficient maintenance!

With seamless communication of the common protocol SLMP*, office PC can easily identify the location of a problem when error occurs, making quick maintenance possible!



*: Seamless Message Protocol

Flexible topology!

Choose high reliability ring topology or simple line topology according to your budget!