Product specifications

CPU module specification

Generic Specifications	;								
14		Specifications							
Item			F)	x5U		FX5UC			
Operating ambient temperature*1	0 to 55°C (32	to 131°F)*2							
Storage ambient temperature	-25 to 75°C (-1	13 to 167°F)							
Operating ambient humidity	5 to 95%RH, r	non-condensatio	n						
Storage ambient humidity	5 to 95%RH, r	non-condensatio	n						
		Frequency	Acceleration	Half amplitude	Sweep count	Frequency	Acceleration	Half amplitude	Sweep count
Vibration resistance*3*4	Installed on	5 to 8.4 Hz	-	1.75 mm		5 to 8.4 Hz	-	1.75 mm	10 times each in X, Y, Z directions
	DIN rail	8.4 to 150 Hz	4.9 m/s ²	-	10 times each in X, Y, Z directions 8.4 to 150 Hz 4.9 m/s ²	8.4 to 150 Hz	4.9 m/s ²	-	(80 min in each direction)
	Direct installing	5 to 8.4 Hz	—	3.5 mm					
		8.4 to 150 Hz	9.8 m/s ²	—					
Shock resistance*3	147 m/s ² , Actio	on time: 11 ms, 3	times by half-sir	ne pulse in each o	direction X, Y, and Z				
Grounding	Class D groun	nding (grounding	resistance: 100	Ω or less) <com< td=""><td>non grounding with a heavy elect</td><td>trical system is n</td><td>ot allowed.>*5</td><td></td><td></td></com<>	non grounding with a heavy elect	trical system is n	ot allowed.>*5		
Working atmosphere	Free from corr	Free from corrosive or flammable gas and excessive conductive dust							
Operating altitude ^{*6}	0 to 2000 m	0 to 2000 m							
Installation location	Inside a control panel								
Overvoltage category*7	II or less	II or less							
Pollution degree ^{*8}	2 or less	2 or less							
Equipment class	Class 2								

* 1 : The simultaneous ON ratio of available PLC inputs or outputs changes with respect to the ambient temperature, refer to

manuals of each product. manuals or each product. * 2 : For details on Intelligent function modules, refer to manuals of each product. * 3 : The criterion is shown in IEC61131-2.

3 : The criterion is snown in IECoT13-2.
 4 : When the system has equipment which specification values are lower than above mentioned vibration resistance specification values, the vibration resistance specification of the whole system is corresponding to the lower specification.
 \$: For grounding, refer to manuals of each product.

* 6 : The PLC cannot be used at a pressure higher than the atmospheric pressure to avoid damage.
 * 7 : This indicates the section of the power supply to which the equipment is assumed to be connected between the public electrical power distribution network and the machinery within premises. Category II applies to equipment for which electrical power is supplied from fixed facilities. The surge voltage withstand level for up to the rated voltage of 300 V is 2500 V.
 * 8 : This index indicates the degree to which conductive material is generated in the environment in which the equipment is used. Pollution level 2 is when only non-conductive pollution occurs. Temporary conductivity caused by condensation must be expected occasionally.

*8

□ Power Supply Specifications

Item		Specifications					
		FX5U-32M[]	FX5U-64M[]	FX5U-80M[]	FX5UC-32MT/[]		
Rated voltage		100 to 240 V AC			24 V DC		
Allowable supply volta	age range	85 to 264 V AC			20.4 to 28.8 V DC		
Frequency rating		50/60 Hz			_		
Allowable instantaneous power failure time		Operation can be continued upon occu	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	250 V, 5 A Time-lag fuse		125 V, 3.15 A Time-lag fuse		
Rush current		25 A max. 5 ms or less/100 V AC 50 A max. 5 ms or less/200 V AC	30 A max. 5 ms or less/100 V AC 60 A max. 5 ms or less/200 V AC		30 A max. 0.5 ms or less/24 V DC		
Power consumption*1		30 W	40 W	45 W	8 W		
5 V DC power supply capacity*3		900 mA	1100 mA	1100 mA	720 mA		
24 V DC power	Supply capacity when service power supply is used for input circuit of the CPU module	400 mA	600 mA	600 mA	500 m A		
supply capacity ^{*2*3}	Supply capacity when external power supply is used for input circuit of the CPU module	480 mA	740 mA	770 mA			

* 1: This item shows value when all 24 V DC service power supplies are used in the maximum configuration connectable to the CPU module. (The current of the input circuit is included.)
 * 2: When I/O modules are connected, they consume current from the 24 V DC service power. For details on the service power supply, refer to manuals of each product.
 * 3: Internal power supply in case of FX3UC-32MT/[]

Performance Specifications

Itom		Specifications				
	item	FX5U/FX5UC				
Control system		Stored-program repetitive operation				
Input/output control system		Refresh system (Direct access input/output allowed by specification of direct access input/output [DX, DY])				
	Programming language	Ladder diagram (LD), structured text (ST), function block diagram/ladder diagram (FBD/LD)				
	Programming extension function	Function block (FB), structured ladder, label programming (local/global)				
	Constant scan	0.2 to 2000 ms (can be set in 0.1 ms increments)				
Programming specifications	Fixed cycle interrupt	1 to 60000 ms (can be set in 1 ms increments)				
	Timer performance specifications	100 ms, 10 ms, 1 ms				
	No. of program executions	32				
	No. of FB files	16 (Up to 15 for user)				
Operation encoifications	Execution type	Standby type, initial execution type, scan execution type, event execution type				
Operation specifications	Interrupt type	Internal timer interrupt, input interruption, high-speed comparison match interrupt				
Command processing time	LD X0	34 ns				
Command processing time	MOV D0 D1	34 ns				
	Program capacity	64 k steps (128 kbytes, flash memory)				
Momony consoity	SD memory card	Memory card capacity (SD/SDHC memory card: Max. 4 GB)				
Memory capacity	Device/label memory	120 kbytes				
	Data memory/standard ROM	5 Mbytes				
Flash memory (Flash ROM) w	rite count	Max. 20000 times				
	Device/label memory	1				
File storage capacity	Data memory P: No. of program files/FB: No. of FB files	P: 32, FB: 16				
	SD memory cord	2 GB: 511*1				
	SD memory card	4 GB: 65534*1				
	Display data	Year, month, day, hour, minute, second, day of week (leap year automatic detection)				
Clock function	Precision	-2.96 to +3.74 (TYP.+1.42) s/d (Ambient temperature: 0°C (32°F)) -3.18 to +3.74 (TYP.+1.50) s/d (Ambient temperature: 25°C (77°F)) -13.20 to +2.12 (TYP3.54) s/d (Ambient temperature: 55°C (131°F))				
	(1) No. of input/output points	256 points or less				
No. of input/output points	(2) No. of remote I/O points	384 points or less				
	Total No. of points of (1) and (2)	512 points or less				
	Retention method	Large-capacity capacitor				
Power failure retention*2	Retention time	10 days (Ambient temperature: 25°C (77°F))				
	Data retained	Clock data				

* 1: The value listed above indicates the number of files stored in the root folder.
 * 2: Clock data is retained using the power accumulated in a large-capacity capacitor incorporated into the PLC. When voltage of the large-capacity capacitor drops, clock data is no longer accurately retained. The retention period of a fully charged capacitor (electricity is conducted across the PLC for at least 30 minutes) is 10 days (ambient temperature: 25°C (77°F)). How long the capacitor can hold the data depends on the operating ambient temperature. When the operating ambient temperature is high, the holding period is short.

Refer to the manual for details on each device.

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	Item		Base		Max. number of points		
	Input relay (X)		8	1024 points			
	Output relay (Y)		8	1024 points	The total number of X and Y assigned to input/output points is up to 256 points.		
	Internal relay (M)		10	32768 points (can be changed wi	th parameter)*1		
	Latch relay (L)		10	32768 points (can be changed wi	32768 points (can be changed with parameter)*1		
	Link relay (B)		16	32768 points (can be changed wi	32768 points (can be changed with parameter)*1		
	Annunciator (F)		10	32768 points (can be changed wi	th parameter)*1		
	Link special relay (SB)		16	32768 points (can be changed wi	th parameter)*1		
No. of user device points	Step relay (S)		10	4096 points (fixed)			
	Timer system	Timer (T)	10	1024 points (can be changed with	n parameter)*1		
	Accumulation timer system	Accumulation timer (ST)	10	1024 points (can be changed with	n parameter)*1		
	Counter system	Counter (C)	10	1024 points (can be changed with	n parameter)*1		
	Long counter (LC)		10	1024 points (can be changed with parameter)*1			
	Data register (D)			8000 points (can be changed with parameter)*1			
	Link register (W)			32768 points (can be changed wi	32768 points (can be changed with parameter)*		
	Link special register (SW)			32768 points (can be changed with parameter)*1			
No. of system device points	Special relay (SM)		10	10000 points (fixed)			
No. or system device points	Special register (SD)		10	12000 points (fixed)			
Module access device	Intelligent function module dev	ice	10	65536 points (designated by U[])	G[])		
No. of index register points	Index register (Z)*2		10	24 points			
No. of index register points	Long index register (LZ)*2		10	12 points			
No. of file register points	File register (R)		10	32768 points (can be changed wi	th parameter)*1		
No. of nesting points	Nesting (N)		10	15 points (fixed)			
No. of pointer points	Pointer (P)		10	4096 points			
	Interrupt pointer (I)		10	178 points (fixed)			
	Decimal constant (K)	Signed	-	16 bits: -32768 to +32767, 32 bits	: -2147483648 to +2147483647		
	Decimal constant (iv)	Unsigned		16 bits: 0 to 65535, 32 bits: 0 to 4294967295			
Others	Hexadecimal constant (H)			16 bits: 0 to FFFF, 32 bits: 0 to FF	FFFFF		
	Real constant (E)	Single precision	-	E-3.40282347+38 to E-1.1754943	35-38, 0, E1.17549435-38 to E3.40282347+38		
	Character string			Shift- IIS code max_255 single-byte characters (256 including NULL)			

* 1: Can be changed with parameters within the capacity range of the CPU built-in memory. * 2: Total of the index register (Z) and long index register (LZ) is maximum 24 words.

□ Input Specifications

24 V DC Input (sink/source)

Item				Specifications			
		FX5U-32M[]	FX5U-64M[]	FX5U-80M[]	FX5UC-32MT/D	FX5UC-32MT/DSS	
No. of input points		16 points	32 points	40 points	16 points		
Connection type		Removable terminal block (M3 scree	ws)		Connector		
Input type		Sink/source			Sink	Sink/source	
Input signal voltage		24 V DC +20 %, -15%					
Input signal	X000 to X017	5.3 mA/24 V DC			5.3 mA/24 V DC		
current	X020 and subsequent	4.0 mA/24 V DC	4.0 mA/24 V DC				
	X000 to X017	4.3 kΩ			4.3 kΩ		
Input impedance	X020 and subsequent	5.6 kΩ		-			
	X000 to X017	3.5 mA or more			3.5 mA or more		
ON input sensitivity current	X020 and subsequent	3.0 mA or more			_		
OFF input sensitivity	v current	1.5 mA or less					
	X000 to X005	200 kHz			200 kHz		
Input response	X006 to X007	10 kHz	200 kHz		10 kHz		
frequency	X010 to X017	_	10 kHz		_		
Pulse waveform	Waveform	$\begin{array}{c} \hline \\ \hline $					
	X000 to X005	T1: 2.5 µs or more, T2: 1.25 µs or less	T4 0.5 T0 4.05		T1: 2.5 µs or more, T2: 1.25 µs or less		
	X006 to X007	T1: 50 µs or more, T2: 25 µs or less	11: 2.5 µs or more, 12: 1.25 µs or less	5 µs or more, 12: 1.25 µs or less		T1: 50 µs or more, T2: 25 µs or less	
	X010 to X017	-	T1: 50 us or more. T2: 25 us or less		-		
	X000 to X005	ON: 2.5 us or less. OFE: 2.5 us or less.	ON: 2.5 µs or less, OFF: 2.5 µs or less		ON: 2.5 us or less. OFF: 2.5 us or less		
Input response time	X006 to X007	ON: 30 us or less OFF: 50 us or less			ON: 30 us or less OEE: 50 us or less		
(H/W filter delay)	X010 to X017						
Input response time	7,010,07,017	None 10 us 50 us 0.1 ms 0.2 ms 1	0.4 ms 0.6 ms 1 ms 5 ms 10 ms (init	tial values) 20 ms 70 ms			
(Digital filter setting	value)	When using this product in an enviro	onment with much noise, set the digita	al filter.			
()	,	No-voltage contact input				No-voltage contact input	
Input signal format		Sink: NPN open collector transistor			No-voltage contact input	Sink: NPN open collector transistor	
		Source: PNP open collector transist	or		NPN open collector transistor	Source: PNP open collector transistor	
Input circuit insulation	on	Photo-coupler insulation			-		
Indication of input of	peration	LED is lit when input is on			LED is lit when input is on (DISP swi	itch: IN)	
		When using service power supply			Sink input wiring	Sink input wiring	
		Sink input wiring	Source input wirin	ng			
Input circuit configuration				V 100 to 240 V AC	Protocogler Protocogler Protocogler COM Protocogler	Protocoupler Pr	
		When using external power supply Sink input wiring	Source input wiri	ng		Source input wiring	
		Puse V 100 b 240 V AC V 00 b 240 V AC V 00 b 240 V AC V 00 b 240 V AC	Text repeations				

□ Output Specifications

Relay output

Item		Specifications					
		FX5U-32MR/[]	FX5U-80MR/[]				
No. of output points		16 points	32 points	40 points			
Connection type		Removable terminal block (M3 s	screws)				
Output type		Relay					
External power supply		30 V DC or less 240 V AC or less ("250 V AC or	less" if not a CE, UL, cUL compli	iant item)			
Max. load		2 A/point The total load current per common terminal should be the following value. • 4 output points/common terminal: 8 A or less • 8 output points/common terminal: 8 A or less					
Min. load		5 V DC, 2 mA (reference values)					
Open circuit leakage cu	urrent	-					
Posponso timo	OFF→ON	Approx. 10 ms					
Response unie	ON→OFF	Approx. 10 ms					
Insulation of circuit		Mechanical insulation					
Indication of output operation		LED is lit when output is on					
Output circuit configuration		Load C poper septy Fuse					
		A number is entered in the [] of [COM[]].					

Transistor output

Item		Specifications							
		FX5U-32MT/[]	FX5U-64MT/[]	FX5U-80MT/[]	FX5UC-32MT/D	FX5UC-32MT/DSS			
No. of output points		16 points	32 points	40 points	16 points				
Connection type		Removable terminal block (M3 s	screws)		Connector				
Output type		Transistor/sink output (FX5U-[] Transistor/source output (FX5U	MT/ES) -[]MT/ESS)		Transistor/sink output	Transistor/source output			
External power supply		5 to 30 V DC							
Max. load		0.5 A/point The total load current per comm • 4 output points/common termin • 8 output points/common termin	non terminal should be the followi nal: 0.8 A or less nal: 1.6 A or less	Y000 to Y003: 0.3 A/point Y004 and subsequent: 0.1 A/point The total load current per common terminal should be the following value. • 8 output points/common terminal: 0.8 A or less*					
Open circuit leakage current		0.1 mA or less/30 V DC							
Voltage drop when ON	Y000 to Y003	1.0 V or less							
Yorkage upp when or Y004 and subsequent 1.5 V or less									
Y000 to Y003		2.5 µs or less/10 mA or more (5 to 24 V DC)							
Y004 and subsequent		0.2 ms or less/200 mA or more	(24 V DC)	0.2 ms or less/100 mA (24 V D	C)				
Insulation of circuit		Photo-coupler insulation							
Indication of output operation		LED is lit when output is on							
Output circuit configuration		Sink output wiring	Source output wiring						

 \star : When 2 common terminals are connected outside the CPU module, resistance load is 1.6 A or less.

Built-in Analog input

14.		Specifications
	111	FX5U
Analog input points		2 points (2 channels)
Analog input	Voltage	0 to 10 V DC (input resistance 115.7 kΩ)
Digital output	·	Unsigned 12-bit binary
I/O characteristics,	Digital output value	0 to 4000
Maximum resolution	Maximum resolution	2.5 mV
Accuracy (Accuracy in respect to maximum digital output value)	Ambient temperature 25 ±5°C (77±41°F)	Within ±0.5% (±20 digit*)
	Ambient temperature 0 to 55°C (32±131°F)	Within ±0.1% (±40 digit*)
Conversion speed		30 µs/channels (data refreshed every operation cycle)
Absolute maximum inp	ut	-0.5 V, +15 V
Isolation		No isolation between analog input circuit and PLC circuit. No isolation between input terminals (channels).
Occupied points		0 points (does not pertain to the max. No. of input/ output points of the PLC.)
Terminal block used		European-type terminal block

Built-in Analog output

16.		Specifications
	111	FX5U
Analog output points		1 points (1 channels)
Digital input		Unsigned 12-bit binary
Analog output	Voltage	0 to 10 V DC (external load resistance 2 k to 1 M Ω)
I/O characteristics,	Digital input value	0 to 4000
Maximum resolution	Maximum resolution	2.5 mV
Accuracy (Accuracy in respect	Ambient temperature 25 ±5°C (77±41°F)	Within ±0.5% (±20 digit*)
to maximum analog output value)	Ambient temperature 0 to 55°C (32±131°F)	Within ±0.1% (±40 digit*)
Conversion speed		30 µs (data refreshed every operation cycle)
Isolation		No isolation between analog output circuit and PLC circuit.
Occupied points		0 points (does not pertain to the max. No. of input/ output points of the PLC.)
Terminal block used		European-type terminal block

*: "Digit" refers to digital values.

* : "Digit" refers to digital values.

Built-in RS-485 communication

ltom	Specifications	
item	FX5U/FX5UC	
Transmission standards	Conforms to RS-485/RS-422 specifications	
Data transmission speed	Max. 115.2 kbps	
Communication method	Full-duplex (FDX) / Half-duplex (HDX)	
Maximum total extension distance	50 m (164' 0")	
	MELSOFT connection	
	MELSEC Communication protocol (3C/4C frames)	
	Non-protocol communication	
Protocol type	MODBUS RTU	
	Inverter communication	
	N:N network	
	Predefined protocol support	
Insulation method	Not insulated	
Terminal resistors	Built-in (OPEN/110 Ω/330 Ω)	
Terminal block used	European-type terminal block	

Built-in Ethernet communication

Item		Specifications			
		FX5U/FX5UC			
Data transmiss	sion speed	100/10 Mbps			
Communicatio	n mode	Full-duplex (FDX) / Half-duplex (HDX)			
Interface		RJ45 connector			
Transmission r	nethod	Base band			
Maximum segment length (The distance between hub and node)		100 m (328' 1")			
Cascade	100BASE-TX	Cascade connection max. 2 stages*1			
connection 10BASE-T		Cascade connection max. 4 stages*1			
		MELSOFT connection			
Protocol turoo		SLMP (3E frame)			
FIDIOCOLITYPE		Socket communication			
		Predefined protocol support			
Number of simultaneously open connections allowed		Total of 8 for socket communication, MELSOFT connection, SLMP, and Predefined protocol support (Up to 8 external devices can access one CPU module at the same time.)			
Insulation method		Pulse transformer insulation			
O alt la una dit2	For 100BASE-TX connection	Ethernet standard-compatible cable, category 5 or higher (STP cable)			
Cable Used^-	For 10BASE-T connection	Ethernet standard-compatible cable, category 3 or higher (STP cable)			

* 1: Number of stages that can be connected when a repeater hub is used. When a switching hub is used, check the specifications of the switching hub used.
* 2: A straight cable can be used. If a personal computer or GOT and CPU module are directly connected a cross cable can be used.

\Box Built-in positioning function

ltom	Specifications				
item	FX5U/FX5UC				
Number of control axes	Independent 4 axes* (Simple linear interpolation by 2-axis simultaneous start)				
Maximum frequency	2147483647 (200 Kpps in pulses)				
Positioning program	Sequence program, Table operation				
Supported CPU units	Transistor output type				
Pulse output	1 instruction (PLSY)				
Positioning	8 instructions (DSZR_DVIT_TBL_PLSV_DRVL_DRVA_DRVTBL_DRVMUL) pulse output				

*: The number of control axes is 2 when the pulse output mode is CW/CCW mode.

□ Built-in high speed counter function

Itom	Specifications				
Item	FX5U	FX5UC			
	Input specifications	Maximum frequency			
	1 phase, 1 input counter (S/W)	200 KHz			
Types of high-speed counters	1 phase, 1 input counter (H/W)	200 KHz			
	1 phase, 2 input counter	200 KHz			
	2 phase, 2 input counter [1 edge count]	200 KHz			
	2 phase, 2 input counter [2 edge count]	100 KHz			
	2 phase, 2 input counter [4 edge count]	50 KHz			
Input allocation	Parameter setup*				
High-speed counter instruction	Parameter setup* [High-speed processing instruction] • Setting 32-bit data comparison • Comparison of 32-bit data band • Comparison of 32-bit data high-speed I/O function • Start/stop of the 16-bit data high-speed I/O function [High-speed current value transfer instruction] • High-speed current value transfer of 16-bit data				

*: Refer to manuals of each product.

Expansion Device Specifications

□ I/O Modules

Powered input/output modules

Model	Total No.	No. c	Connection			
Widdei	of points		Input		Output	type
FX5-32ER/ES					Relay	
FX5-32ET/ES	32 points	16 points	6 points Sink/source)	16 points	Transistor (sink)	Terminal block
FX5-32ET/ESS]		(Olink/Source)		Transistor (source)	

Input modules

Model	Total No.	No. of input/output points & Input/output type Connecti		Connection		
model	of points		Input		Output	type
FX5-8EX/ES	8 points	8 points	24 V DC			Terminal block
FX5-16EX/ES	16 points	16 points	(Sink/source)	-	_	Terminal DIOCK
FX5-C32EX/D	20 pointo	22 points	24 V DC (sink)			Connector
FX5-C32EX/DS	32 points	32 points	24 V DC (Sink/source)]	_	Connector

Output modules

Madal	Total No.	No. of input/output points & Input/output type Connec			Connection	
wodei	of points		Input		Output	type
FX5-8EYR/ES					Relay	
FX5-8EYT/ES	8 points			8 points	Transistor (sink)	
FX5-8EYT/ESS	1				Transistor (source)	To any in all hits all
FX5-16EYR/ES		-	-		Relay	Terminal block
FX5-16EYT/ES	16 points			16 points	Transistor (sink)	
FX5-16EYT/ESS					Transistor (source)	
FX5-C32EYT/D	00			00	Transistor (sink)	O
FX5-C32EYT/DSS	32 points	-	-	32 points	Transistor (source)	Connector

Input/output modules

Model	Total No.	No. d	Connection			
of points		Input		Output		type
FX5-C32ET/D	20 pointo	16 points	24 V DC (sink)	16 points	Transistor (sink)	Connector
FX5-C32ET/DSS	32 points	To points	24 V DC (source)	16 points	Transistor (source)	Connector

Expansion adapters

FX5-232ADP

Item	Specifications
Transmission standard/ Maximum transmission distance/ Insulation	Conforming to RS-232C/15 m (49' 2")/Photo-coupler isolation (Between communication line and CPU module)
Connection method	9-pin D-sub, male
Communication method	Half-duplex/Full-duplex
Baud rate	300/600/1200/2400/4800/9600/19200/38400/57600/115200 (bps)
Number of occupied I/O points	0 point (no points occupied)
Applicable CPU module	FX5U, FX5UC PLC
Control power (supplied from CPU module)	5 V DC, 30 mA / 24 V DC, 30 mA

FX5-485ADP

Item	Specifications
Transmission standard/ Maximum transmission distance/ Insulation	Conforming to RS-485, RS-422/1200 m (3937' 0")/Photo-coupler isolation (Between communication line and CPU module)
Connection method	European terminal block
Communication method	Half-duplex/Full-duplex
Baud rate	300/600/1200/2400/4800/9600/19200/38400/57600/115200 (bps)
Terminal resistor	Built-in (OPEN/110 Ω/330 Ω)
Number of occupied I/O points	0 point (no points occupied)
Applicable CPU module	FX5U, FX5UC PLC
Control power (supplied from CPU module)	5 V DC, 20 mA / 24 V DC, 30 mA

FX5-4AD-ADP

Item		SI	pecifications			
Number of analog input points	4 points (4 channels)					
Analog input voltage	-10 to +1	-10 to +10 V DC (input resistance 1 MΩ)				
Analog input current	-20 to +2	20 mA DC (input resi	stance 250 Ω)			
Digital output value	14-bit bi	nary value				
	Analog ir	nput range	Digital output value	Resolution		
Input characteristics,		0 to 10 V	0 to 16000	625 µV		
	1/-1/	0 to 5 V	0 to 16000	312.5 µV		
	voitage	1 to 5 V	0 to 12800	312.5 µV		
		-10 to +10V	-8000 to +8000	1250 µV		
	Current	0 to 20 mA	0 to 16000	1.25 µA		
		4 to 20 mA	0 to 12800	1.25 µA		
		-20 to +20 mA	-8000 to +8000	2.5 µA		
Accuracy (accuracy for the full scale digital output value)	Ambient temperature 25±5°C: within ±0.1% (±16 digit) Ambient temperature 0 to 55°C: within ±1.0% (±32 digit)					
Absolute maximum input	Voltage:	±15 V, Current: ±30	mA			
Isolation mothod	Between input terminal and PLC: Photocoupler					
Isolation method	Between input channels: Non-isolation					
Number of occupied I/O points	0 point (no points occupied)				
Applicable CPU module	FX5U,F	X5UC PLC				

*: For the input conversion characteristic, refer to manuals of each product.

FX5-4DA-ADP				
Item	Specifications			
Number of analog output points	4 points (4	channels)		
Analog output voltage	-10 to +10	V DC (external load	resistance value 1 k to	o 1 MΩ)
Analog output current	0 to 20 mA DC (external load resistance value 0 to 500 Ω)			
Digital input	14-bit binary value			
	Analog out	put range	Digital value	Resolu
		0 to 10 V	0 to 16000	625 μ\
	Voltago	0 to 5 V	0 to 16000	312.5
Output characteristics,	voltage	1 to 5 V	0 to 16000	250 μ\
1630101011		-10 to +10V	-8000 to +8000	1250 µ

Output also as at a lating	Voltago				
Output characteristics,	vollage	1 to 5 V	0 to 16000	250 µV	
resolution		-10 to +10V	-8000 to +8000	1250 µV	
	Current	0 to 20 mA	0 to 16000	1.25 µA	
	Current	4 to 20 mA	0 to 16000	1 µA	
Accuracy (accuracy for the full	Ambient temperature 25±5°C: ±0.1% (Voltage ±20 mV, Current ±40 µA)				
scale of the analog output value)	Ambient temperature 0 to 55°C: ±0.2% (Voltage ±30 mV, Current ±60 µA)				
Icolation mathed	Between output terminal and PLC: Photocoupler				
Isolation method	Between output channels: Non-isolation				
Number of occupied I/O points	0 point (no points occupied)				
Applicable CPU module	FX5U, FX5UC PLC				

tion

*: For the output conversion characteristic, refer to manuals of each product.

Expansion boards

ltom	Specifications					
ntein	FX5-232-BD	FX5-485-BD	FX5-422-BD-GOT			
Transmission standard	Conforming to RS-232C	Conforming to RS-485, RS-422	Conforming to RS-422			
Maximum transmission distance	15 m (49' 2")	50 m (164' 0")	According to the specification of the GOT			
Connection method	9-pin D-sub, male	European terminal block	8-pin MINI-DIN, female			
Insulation	Not insulated (Between	communication line and 0	CPU module)			
Communication method	Half-duplex/Full-duplex	Half-duplex/Full-duplex*	Half-duplex			
Baud rate	300/600/1200/2400/ 4800/9600/19200/ 38400/57600/115200 (bps)*	300/600/1200/2400/ 4800/9600/19200/ 38400/57600/115200 (bps)*	9600/19200/38400/ 57600/115200 (bps)			
Terminal resistor	_	Built-in (OPEN/110 Ω/330 Ω)	_			

*: The communication method and baud rate vary depending on the type of communication.

Extension power supply module

FX5-1PSU-5V

Item		Specifications			
Rated Supply voltage	je	100 to 240 V AC			
All owable supply voltage range		85 to 264 V AC			
Rated frequency		50/60 Hz			
Accuracy (accuracy	for the full	Operation can be continued upon occurrence of instantaneous power			
scale digital output	value	failure for 10 ms or less.			
Power fuse		250 V 3.15 A Time-lag Fuse			
In ruch ourront		25 A Max. 5 ms or less/ 100 V AC			
III-IUSII CUITEIII		50 A Max. 5 ms or less/ 200 V AC			
Power consumption		20 W Max.			
Output current* 24 V DC 5 V DC		0.3 A (Maximum output current depends on the ambient temperature.)			
		1.2 A (Maximum output current depends on the ambient temperature.)			
k: For the current conversion characteristic, refer to manuals of each product.					

Bus conversion modules

FX5-CNV-BUS (FX5 (terminal block) \rightarrow FX3 (terminal block) extension)

Item	Specifications
Number of occupied I/O points	8 point
Applicable CPU module	FX5U, FX5UC PLC
Control power (supplied from CPU module)	5 V DC, 150 mA

FX5-CNV-BUSC (FX5 (connector) \rightarrow FX3 (terminal block) extension)

Item	Specifications
Number of occupied I/O points	8 point
Applicable CPU module	FX5UC PLC
Control power (supplied from CPU module)	5 V DC, 150 mA

□ Connector conversion module

$\textbf{FX5-CNV-IFC} ~ (\textbf{FX5} ~ (\textbf{connector}) \rightarrow \textbf{FX5} ~ (\textbf{terminal block}) ~ \textbf{extension})$

Item	Specifications
Number of occupied I/O points	0 point (does not occupy any I/O points)
Applicable CPU module	FX5U, FX5UC PLC
Control power (supplied from CPU module)	0 mA (no power consumed)

Specifications

Simple Motion module specification

FX5-40SSC-S

Control specification

Module	specification
moaaro	opoonnounom

ltem

	specification							
Newsbarra	Item	Specifications	Comusion					
Number of cont	rolaxes	Up to 4 axes	Servo ai					
Operation cycle		Linear interpolation (Lip to 4 axes)	Maximur					
Interpolation fu	nction	Circular interpolation (2 axes)	Peripher					
		PTP (Point To Point) control, Trajectory control (both linear	Manual					
Control modes		and arc), Speed control, Speed-position switching control,						
		Position-speed switching control, Speed-torque control	Synchro					
Acceleration/de	eceleration process	deceleration						
Compensation	function	Backlash compensation, Electronic gear, Near pass function						
Synchronous	Input axis	Servo input axis, Synchronous encoder axis						
control	Output axis	Cam axis (Up to 4 axes)						
	Number of registration Up to 64 (depending on memory capacity, cam resolution and number of coordinates)							
Cam control		and number of coordinates)	Input sig					
	Cam data type	Stroke ratio data type, Coordinate data type						
Control unit	Camaulo-generation	mm inch degree pulse						
		600 data (positioning data No. 1 to 600)/axis (Can be set						
Number of posi	tioning data	with MELSOFT GX Works3 or a sequence program.)						
Backup		Parameters, positioning data, and block start data can be						
Baanap	1	saved on flash ROM (battery-less backup)						
	Home position return method	Proximity dog method, Count method 1, Count method 2, Data set method, Scale home position signal detection method						
Home position	Fast home position return control	Provided						
	Sub functions	Home position return retry. Home position shift						
		1-axis linear control, 2-axis linear interpolation control,	Forced o					
	Linear control	3-axis linear interpolation control, 4-axis linear interpolation	signal (E					
		control" (Composite speed, Reference axis speed)	J (2					
	Fixed-pitch feed control	1-axis fixed-pitch feed, 2-axis fixed-pitch feed,						
	2-axis circular interpolation	Sub point designation center point designation						
		1-axis speed control, 2-axis speed control*1.						
	Speed control	3-axis speed control*1, 4-axis speed control*1						
Positioning control	Speed-position switching control	INC mode, ABS mode	Signal in					
	Position-speed switching	INC mode						
	Current volue abange	Desitioning data. Start No. for a surrent value changing						
	NOP instruction	Positioning data, Start No. for a current value changing						
	.IUMP instruction	Unconditional IIIMP Conditional IIIMP						
	LOOP, LEND	Provided						
	High-level positioning	Block start, Condition start, Wait start, Simultaneous start,						
	control	Repeated start						
	JOG operation	Provided	Manual p					
Manual control	Inching operation	Provided	Increme					
	Manual pulse generator	Unit magnification (1 to 10000 times)	synchror					
Expansion	Canad targue control	Speed control without positioning loops, Torque control,	encoder					
control		Tightening & press-fit control						
Absolute position	on system	Made compatible by setting a battery to servo amplifier						
Synchronous e	ncoder interface	Up to 4 channels (lotal of the internal interface, via PLC CPU interface, and servo amplifier interface)						
	Internal interface	1 channel (Incremental)						
	Speed limit function	Speed limit value, JOG speed limit value						
	Torque limit function	Torque limit value_same setting,						
Functions that		torque limit value_individual setting						
limit control	Forced stop	Valid/Invalid setting	Number					
	Software stroke limit function	Movable range check with current feed value, movable range check with machine feed value	24 V DC					
	Hardware stroke limit function	Provided						
	Speed change function	Provided						
	Override function	1 to 300 [%]						
Functions that change control	Acceleration/deceleration	Provided						
details	time change function							
	Torque change function	Provided						
	Larget position change function	larget position address and speed are changeable						
Othor	Step function	Deceleration unit step. Data No. unit step						
functions	Skip function	Via PLC CPU. Via external command signal						
	Teaching function	Provided						
Parameter initia	alization function	Provided						
External input s	signal setting function	Via internal interface, CPU, servo amplifier						
Amplifier-less o	peration function	Provided						
Mark detection	function	Regular mode, Specified Number of Detections mode,						
	Mark datastian size-1	King Butter mode						
	Mark detection signal	Up to 4 points						
Optional data m	nonitor function	4 points/axis						
Driver commun	ication function	Provided						
SSCNET conne	ect/disconnect function	Provided						
Digital	Bit data	16 ch						
oscilloscope	Word data	16 ch						
runction **	molu uala							

* 1: Only reference axis speed can be specified as the interpolation speed designation method. * 2: 8 ch word data and 8 ch bit data can be displayed in real time.

Maximum overall cable distance [m(ft.)] 400 (1312.32) Maximum distance between stations [m(ft.)] 100 (032.80) Peripheral I/F Via CPU module (Ethernet) Manual pulse generator operation function Possible to connect 1 modules (Total of the internal interface) interface) Synchronous encoder operation function Possible to connect 1 modules (Total of the internal interface) Number of input points 4 points Input method Posible to connect 4 modules (Total of the internal interface) Querating voltage range 19.2 to 26.4 V DC (P4 V DC / 40%/20%, ripple ratio 5% or less) On voltage/current 7.1 V DC or less / 1.0 mA or less Input resistance Approx. 6.8 kD Recommended wire size AWG24 - 30 (0.2 - 0.05 mm ³) * & AWG24 (0.2 mm ³ recommended Viotage/current 7.1 S V DC or more/ 3.5 mA or more Operating voltage range 19.2 to 26.4 V DC (24 V DC / Approx. 5 mA Input method Positive common/Negative common shared (Photocoupler isolation) Rated input voltage/current 7.1 S V DC or more/ 3.5 mA or more OV voltage/current 7.1 S V DC approx. 5 mA Input method Positive common/Negative common shared (Photocoupler isolation) Rated in	Servo amplifier co	nnection method		SSCNET III/H				
Maximu distance between stations [m(ft.)] 100 (328.08) Peripheral I/F Via CPU module (Ethernet) Manual pulse generator operation function Possible to connect 4 modules Synchronous encoder operation function Possible to connect 4 modules Input method Possible to connect 4 modules Input method Possible to connect 4 modules Input signals(h) Rated input voltage/current 24 V DC / Approx.5 mA Operating voltage range [19 to 26 A V DC (24 V DC / Approx.5 mA or more OFF voltage/current 77 V DC or less/1 0 mA or less (100 ers) Input resistance Approx. 68 & 0 (24 V DC + 10%/-20%, ripple ratio 5% or less) OFF voltage/current 77 V DC or less/1 0 mA or less (100 ers) Input resistance Approx. 68 & 0 (100 ers) Recommended wire size AVG24 - 30 (0.2 - 0.05 mm ²) * AVG24 (20 cm ²) Rated input voltage/current 7 V DC or less/1 0 mA or less (100 ers) Input method Positive common/Negative common shared (Photocoupler isolation) (Positive common/Negative common shared (Photocoupler isolation) Rated input voltage/current 7 V DC or less/1 0 mA or less <t< td=""><td>Maximum overall</td><td>cable distance [m</td><td>(ft.)]</td><td colspan="4">400 (1312.32)</td></t<>	Maximum overall	cable distance [m	(ft.)]	400 (1312.32)				
Peripheral I/F Via CPU module (Ethernet) Manual pulse generator operation function Possible to connect 1 module Synchronous encoder operation function Possible to connect 1 module Synchronous encoder operation function Possible to connect 1 module Input method Possible common/Negative common shared (Photocoupler isolation) Rated input voltage/current 24 V DC/ Approx. 5 m A Operating voltage range (92 to 26 4 V DC (24 V DC + 10%/-20%, ripple ratio 5% or less) ON voltage/current 77 LD Cor less/ 1.0 m or reless Input resistance Approx. 6.8 kΩ Recommended wire size AVG24 (0.2 mm) recommon/Negative common/Negative common shared (Photocoupler isolation) Rated input voltage/current 1 point Input method Positive common/Negative common shared (Photocoupler isolation) Recommended wire size AVG24 (0.2 mm) recommended Input method Positive common/Negative common shared (Photocoupler isolation) Rated input voltage/current 1 point Input method Positive common/Negative common shared (Photocoupler isolation) Rated input voltage/current 1 point Input resistance Approx. 6.8 kΩ	Maximum distance	e between station	is [m(ft.)]	100 (328.08)				
Manual pulse generator operation function Possible to connect 1 module Synchronous encoder operation function Possible to connect 4 modules Synchronous encoder operation function Possible to connect 4 modules Number of input points 4 points Input method Possible to connect 4 modules Rated input voltage/current 24 V DC/Aprox. 5 mA Operating voltage range (24 V DC / Aprox. 5 mA Operating voltage/current 77.5 V DC or more? 3.5 mA or more OF voltage/current 77.05 C or more? 3.5 mA or more OF voltage/current 7.0 C or less? (10 mA or less Input resistance Approx. 6.8 kΩ Recommended wire size AWG24 - 30 (0.2 - 0.05 mr) [*] Recommended wire size AWG24 - 30 (0.2 - 0.05 mr) [*] Forced stop input input method Positive common/Negative common shared (Photocoupler isolation) Rated input voltage/current 24 V DC / Aprox. 5 mA 0 Input method Positive common/Negative common shared (Photocoupler isolation) Rate Rate input voltage/current 7 V DC or less/ 10 mA or less 0 Input method Posint Posint 0 </td <td>Peripheral I/F</td> <td></td> <td></td> <td>Via CPU module (Ethernet)</td>	Peripheral I/F			Via CPU module (Ethernet)				
Synchronous encoder operation function Possible to connect 4 modules Synchronous encoder operation function (Total of the internal interface, and Servo amplifier interface) Input signals (b) Input method Possible to connect 4 modules Input signals (b) Operating voltage range (19.2 to 26.4 V DC OPF voltage/current 17.5 V DC or more/ 3.5 m A or more OFF voltage/current 17.5 V DC or more/ 3.5 m A or more OFF voltage/current 17.5 V DC or more/ 3.5 m A or more OFF voltage/current 17.5 V DC or more/ 3.5 m A or more OFF voltage/current 17.5 V DC or more/ 3.5 m A or more Mumber of input points 1 ms or less (10 m A or less Input resistance Approx. 6.8 kΩ Recommended wire size 4VG24 (0.2 mm) recommon/Megative common/Megative common/M	Manual pulse gen	erator operation f	unction	Possible to connect 1 module				
Number of input points 4 points Input method Positive common/Negative common shared (Photocoupler isolation) Rated input voltage/current 24 V DC / Approx. 5 mA Operating voltage range 19.2 to 26.4 V DC (24 V DC - 10%/-20%, ripple ratio 5% or less) ON voltage/current 77.5 V DC or more/3.5 mA or more OFF voltage/current 77 V DC or less / 10 mA or less Input resistance Approx. 6.8 kD Response time 1 ms or less (OFFON, ONOFF) Recommended wire size AVMC24 - 30 (0.2 - 0.05 mm ²) * AVMC24 - 30 (0.2 - 0.05 mm ²) Rated input voltage/current 1 point Input method Positive common/Negative common shared (Photocoupler isolation) Rated input voltage/current 24 V DC / Approx. 5 mA Operating voltage range 19.2 to 26.4 V DC (24 V DC / Approx. 5 mA Operating voltage/current 7.5 V DC or more/ 3.5 mA or more OFF voltage/current 7.7 V DC or less/ 1.0 mA or less Input resistance Approx. 6.8 kD Response time 4 ms or less (OFFON, ONOFF) Response time 4 ms or less (OFFON, ONOFF) Response time 4 ms or less (OFFON, ONOFF)	Synchronous enco	oder operation fu	nction	Possible to connect 4 modules (Total of the internal interface, via PLC CPU interface, and servo amplifier interface)				
Input signals (b) Input method Positive common/Negative common shared (Photocoupler isolation) Rated input voltage/current 24 V DC/ Approx. 5 mA Operating voltage range 19.2 to 26.4 V DC (24 V DC + 10%/-20%, ripple ratio 5% or less) ON voltage/current 7.7 V DC or less/ 1.0 mA or less Input resistance Approx. 6.8 kQ Response time 1 ms or less (OFFON, ONOFF) Recommended wire size AWG24 - 30 (0.2 - 0.05 mm ³) * AWG24 (0.2 mm ³) recommended Input resistance Approx. 6.8 kQ Response time 1 point Recommended wire size AWG24 - 30 (0.2 - 0.05 mm ³) * AWG24 - 30 (0.2 - 0.05 mm ³) Rated input voltage/current 1 point Input method Positive common/Negative common shared (Photocoupler isolation) Rated input voltage/current 7.7 DC or more/3.5 mA or more Operating voltage range 19.2 to 2.64 V DC (Photocoupler isolation) Response time Response time 4 ms or less (OFFON, ONOFF) Recommended wire size AWG24 - 30 (0.2 - 0.05 mm ³) AWG24 - 30 (0.2 - 0.05 mm ³) AWG24 - 30 (0.2 - 0.05 mm ³) Kadin put voltage 0 to 1 Myoles ³) <td></td> <td>Number of input</td> <td>points</td> <td>4 points</td>		Number of input	points	4 points				
Input signals (b) Rated input voltage/current 24 V DC / Approx. 5 mA Input signals (b) Operating voltage range 19.2 to 26.4 V DC OFF voltage/current 17.5 V DC or more/3.5 mA or more OFF voltage/current 7.7 V DC or less/1.0 mA or less Input resistance Approx.6.8 kΩ Response time 1 ms or less (OFFON, ONOFF) Recommended wire size AVWG24 - 30 (0.2 - 0.05 mm ²) Number of input points 1 point Porting voltage/current 24 V DC / Approx.5 mA Operating voltage/current 24 V DC / Approx.5 mA Operating voltage/current 24 V DC / Approx.5 mA Operating voltage/current 19.2 to 26.4 V DC Operating voltage/current 7.7 VDC or more/3.5 mA or more OF voltage/current 7.7 VD C or more/3.5 mA or more OFF voltage/current 7.7 VD cor more/3.5 mA or more OFF voltage/current 7.7 VD cor more/3.5 mA or more Signal input form Parse A/Phase B (magnification by 4/magnification by 4/magnification by 1, PULSE/SIGN Voltage/current 7.7 VD cor less/1.0 mA or less Input resistance Approx.6.8 kΩ Response		Input method		Positive common/Negative common shared (Photocoupler isolation)				
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Input signals (D) OFF voltage/current 17.5 V DC or more/ 3.5 mA or more OFF voltage/current 7 V DC or less/1.0 mA or less Input resistance Approx. 6.8 kD Response time 1 ms or less (OFFON, ONOFF) Recommended wire size AWG24 - 30 (0.2 - 0.05 mm ²) * AWG24 (0.2 mm ³) recommended * AWG24 (0.2 mm ³) recommended Input method Positive common/Negative common shared (Photocoupler isolation) Rated input voltage/current 24 V DC / Approx. 5 mA Operating voltage range 19.2 to 26.4 V DC (24 V DC +10%/-20%, ripple ratio 5% or less) ON voltage/current 17.5 V DC or more/ 3.5 mA or more OFF voltage/current 7 V DC or less/1.0 mA or more Input resistance Approx. 6.8 kD Response time 4 ms or less (OFFON, ONOFF) Recommended wire size AWG24 - 30 (0.2 - 0.05 mm ³) Signal input form Input resistance Approx.6.8 kD Input resistance Approx.6.8 kD Recommended wire size AWG24 - 30 (0.2 - 0.05 mm ³) Kadige digre 1 put seteme 4 ms or less (OFFON, ONOFF) Recommended wire size AVG24 (0.2 mm ³) recommended <td>lasut size als (DI)</td> <td>Operating voltag</td> <td>ge range</td> <td colspan="5">19.2 to 26.4 V DC (24 V DC +10%/-20%, ripple ratio 5% or less)</td>	lasut size als (DI)	Operating voltag	ge range	19.2 to 26.4 V DC (24 V DC +10%/-20%, ripple ratio 5% or less)				
OFF voltage/current 7 V DC or less/ 1.0 mA or less Input resistance Approx. 6.8 k0 Response time 1 ms or less (OFFON, ONOFF) Recommended wire size AWG24 - 30 (0.2 - 0.05 mm ²) * AWG24 (0.2 mm ²) recommended Number of input points 1 point Input method Positive common/Negative common shared (Photocoupler isolation) Rated input voltage/current 24 V DC/ Approx. 5 mA Operating voltage/current 77.5 V DC or more/3.5 mA or more OFF voltage/current 77.5 V DC or more/3.5 mA or more OFF voltage/current 77.5 V DC or more/3.5 mA or more OFF voltage/current 77.5 V DC or more/3.5 mA or more OFF voltage/current 77.5 V DC or more/3.5 mA or more OFF voltage/current 77.5 V DC or more/3.5 mA or more OFF voltage/current 7.5 V DC or less/1.0 mA or less Input resistance Approx.6.8 k0 Recommended wire size 4 ms or less (OFFON, ONOFF) Recommended wire size 4 ms or less (OFFON, ONOFF) Recommended wire size 4 ms or less (OFFON, ONOFF) Recommended wire size 4 ms or less (OFFON, ONOFF) Recommended wire size<	Input signais (DI)	ON voltage/curr	ent	17.5 V DC or more/ 3.5 mA or more				
Input resistance Approx. 6.8 kΩ Response time 1 ms or less (OFFON, ONOFF) Recommended wire size AWG24 - 30 (0.2 ~ 0.05 mm ³) * AWG24 - 30 (0.2 ~ 0.05 mm ³) Number of input points 1 point Input method Positive common/Negative common shared (Photocoupler isolation) Rated input voltage/current 24 V DC / Approx. 5 m A Operating voltage range 19.2 to 26.4 V DC (24 V DC + 10%/-20%, ripple ratio 5% or less) ON voltage/current 17.5 V DC or more/3.5 m A or more OFF voltage/current 7 V DC or less/1.0 m A or less Input resistance Approx. 6.8 kΩ Response time 4 ms or less (OFFON, ONOFF) Recommended wire size AWG24 - 30 (0.2 ~ 0.05 mm ³) * AWG24 0.2 mm ³) recommended YWagnification by 4/magnification by 2/magnification by 1, PULSE/SIGN Signal input form Phase A/Phase B (magnification by 4/magnification by 2/magnification by 1, PULSE/SIGN Bifferential output type (acleS131 or equivalent) Input pulse frequency 0.25 µs or more Leading edgg(rin equivalent) 0.25 µs or less 10/more Voltage eutput frequency Chatence 0.25 µs or less Pulse width 1µ		OFF voltage/cur	rent	7 V DC or less/ 1.0 mA or less				
Response time 1 ms or less (OFFON, ONOFF) Recommended wire size AWG24 - 30 (0.2 - 0.05 mm ³) * AWG24 (0.2 mm ³) recommended * AWG24 (0.2 mm ³) Number of input points 1 point Input method Positive common/Negative common shared (Photocoupler isolation) Rated input voltage/current 24 V DC / Approx. 5 mA Operating voltage range 19.2 to 26.4 V DC (24 V DC +10%/-20%, ripple ratio 5% or less) ON voltage/current 7 V DC or more/3.5 mA or more OFF voltage/current 7 V DC or less / 1.0 mA or less Input resistance Approx. 6.8 kΩ Recommended wire size 4 ms or less (OFFON, ONOFF) Recommended wire size AWG24 - 30 (0.2 - 0.05 mm ³) * AWG24 0.2 mm ³) recommended * Response time 4 ms or less (OFFON, ONOFF) Recommended wire size AVG24 - 30 (0.2 - 0.05 mm ³) * AWG24 0.2 mm ³) recommended * Recommended wire size AVG24 - 30 (0.2 - 0.05 mm ³) * AWG24 - 30 (0.2 - 0.05 mm ³) * Recommended wire size Differential voltage for the magnification by 4. up to 4 Mpulse/s) Plase difference 1 µs or		Input resistance		Approx. 6.8 kΩ				
Recommended wire size AWG24 - 30 (0.2 - 0.05 mm ²) * AWG24 (0.2 mm ²) recommended Number of input points 1 point Input method Positive common/Negative common shared (Photocoupler isolation) Rated input voltage/current 24 V DC/ Approx. 5 mA Operating voltage range 19.2 to 26.4 V DC Operating voltage/current 17.5 V DC or more/3.5 mA or more OFF voltage/current 7 V DC or less/ 1.0 mA or less Input resistance Approx. 6.8 kΩ Recommended wire size AWG24 - 30 (0.2 - 0.05 mm ²) Recommended wire size AWG24 - 30 (0.2 - 0.05 mm ²) Recommended wire size AWG24 - 30 (0.2 - 0.05 mm ²) Recommended wire size AWG24 - 30 (0.2 - 0.05 mm ²) Recommended wire size AWG24 - 30 (0.2 - 0.05 mm ²) Recommended wire size AWG24 - 30 (0.2 - 0.05 mm ²) Recommended wire size AWG24 - 30 (0.2 - 0.05 mm ²) Recommended wire size AWG24 - 30 (0.2 - 0.05 mm ²) Recommended wire size AProse Branch/Charles Branch/Charles Phase d/Flores B (Magnification by 4, upto 4 Mpulse/s) Phase A/Phase B (Magnification by 4, up to 4 Mpulse/s) Pulse width 1 µs or more		Response time		1 ms or less (OFF→ON, ON→OFF)				
Number of input points 1 point Input method Positive common/Negative common shared (Photocoupler isolation) Rated input voltage/current 24 V DC/ Approx. 5 mA Operating voltage range 19.2 to 26.4 V DC (24 V DC. 410%/-20%, ripple ratio 5% or less) ON voltage/current 17.5 V DC or more/ 3.5 mA or more OFF voltage/current 7 V DC or less/ 1.0 mA or less Input resistance Approx. 6.8 kΩ Response time 4 ms or less (OFFON, ONOFF) Recommended wire size AWG24 ~ 30 (0.2 ~ 0.05 mm ²) Signal input form Phase A/Phase B (magnification by 4/magnification by 2/magnification by 1), PULSE/SIGN Signal input form Input pulse (requency Up to 1 Mpulse/s (After magnification by 4, up to 4 Mpulse/s) Pluise width 1 µs or more Leading edge/ trailing edge time 0.25 µs or more Nanual pulse generator/ Incremental synchronous encoder signal Input pulse tigh voltage 0.10 to 3.0 m (98.43 ft.) Voltage output type (5 V DC) Input see difference 1.2 µs or more Rated input voltage 5.1 V DC Eading edge/ trailing edge time Voltage output Input pulse frequency Cable length Up to 200 kpulse/s		Recommended	wire size	AWG24 ~ 30 (0.2 ~ 0.05 mm ²) * AWG24 (0.2 mm ²) recommended				
Input method Positive common/Negative common shared (Photocoupler isolation) Rated input voltage/current 24 V DC/ Approx. 5 mA Operating voltage range 19.2 to 26.4 V DC (24 V DC + 10%/-20%, ripple ratio 5% or less) ON voltage/current 17.5 V DC or more/3.5 mA or more OFF voltage/current 7 V DC or less/1.0 mA or less Input resistance Approx. 6.8 kΩ Recommended wire size AWG24 - 30 (0.2 ~ 0.05 mm ²) * AWG24 - 30 (0.2 ~ 0.05 MC Input pulse input of the put voltage 0.10 × 0.0C Quereert (ye (5 V DC) Input pulse inference 1.2 µs or more Yotage output (ye (5 V DC) Input pulse infine dinput voltage 5. V DC or less		Number of input	points	1 point				
Rated input voltage/current 24 V DC/ Approx. 5 mA Operating voltage/current 19.2 to 26.4 V DC (24 V DC +10%/-20%, ripple ratio 5% or less) Signal (EM) ON voltage/current 17.5 V DC or more/3.5 mA or more OFF voltage/current 7 V DC or less/1.0 mA or less Input resistance Approx. 6.8 kΩ Recommended wire size AWG24 - 30 (0.2 - 0.05 mm ²) Recommended wire size AWG24 - 30 (0.2 - 0.05 mm ²) Signal input form Phase A/Phase B (magnification by 4/magnification by 2/magnification by 1), PULSE/SIGN Signal input form Input pulse inferential output type (26LS31 or equivalent) Input pulse frequency Up to 1 Mpulse/s (After magnification by 4, up to 4 Mpulse/s) Plase difference 0.25 µs or less Phase difference 0.25 µs or more (26LS31 or equivalent) Input voltage 0.10 0.8 V DC Phase difference Voltage output Input voltage 0.20 v 0.8 V DC Plase difference 0.28 µs or more Voltage output Input voltage 0.10 0.8 V DC Plase difference 0.20 V Incremental synchronous Input pulse (Voltage output Input voltage 0.20 V cor less Voltage ou		Input method		Positive common/Negative common shared (Photocoupler isolation)				
Forced stop input signal (EM) Operating voltage range 19.2 to 26.4 V DC (24 V DC +10%/-20%, ripple ratio 5% or less) ON voltage/current 17.5 V DC or more/3.5 mA or more OFF voltage/current 7 V DC or less/1.0 mA or less Input resistance Approx. 6.8 kΩ Response time 4 ms or less (OFFON, ONOFF) Recommended wire size AWG24 - 30 (0.2 - 0.05 mm ³) * AWG24 (0.2 mm ³) recommended Signal input form Phase A/Phase B (magnification by 4/magnification by 2/magnification by 1), PULSE/SIGN Signal input form Input pulse Up to 1 Mpulse/s (After magnification by 4, up to 4 Mpulse/s) Plase A/Phase B (magnification by 4, up to 4 Mpulse/s) Plase width 1 us or more Pulse width 1 us or more Leading edge/ trailing edge time 0.25 µs or less Phase difference 0.25 µs or less Phase difference 0.25 µs or less High voltage 0.0 to 0.8 V DC Differential voltage 5.5 V DC or less High voltage edge(r) type (5 V DC) Input pulse frequency 4/ther magnification by 4, up to 800 kpulse/s) Pulse width 5 µs or more Leading edge(r) trailing edge time 1.2 µs or less Pulse width 5 µs		Rated input volt	age/current	24 V DC/ Approx. 5 mA				
signal (EM) ON voltage/current 17.5 V DC or more/3.5 mA or more OFF voltage/current 7 V DC or less/1.0 mA or less Input resistance Approx. 6.8 kΩ Approx. 6.8 kΩ Response time 4 ms or less (OFFON, ONOFF) Recommended wire size AWG24 - 30 (0.2 ~ 0.05 mm ³) Signal input form Phase A/Phase B (magnification by 4/magnification by 2/magnification by 1), PULSE/SIGN Signal input form Phase A/Phase B (magnification by 4, up to 4 Mpulse/s) Pulse width 1 µs or more Lading adg/t 0.25 µs or less Pulse width 1 µs or more Rated input voltage 0.5 25 V DC or less High voltage 0 to 0.8 V DC Differential voltage ±0.2 0V Cable length Up to 30 m (98.43 ft.) Nanual pulse encoder signal Input pulse Voltage output Input pulse Voltage doutput Up to 200 kpulse/s Prequency (After magnification by 4, up to 800 kpulse/s) Pulse width 5 µs or more Leading adge/ 1.2 µs or less Pulse width 5 µs or more	Forced stop input	Operating voltag	ge range	19.2 to 26.4 V DC (24 V DC +10%/-20%, ripple ratio 5% or less)				
OFF voltage/current 7 V DC or less/ 1.0 mA or less Input resistance Approx. 6.8 kΩ Response time 4 ms or less (OFFON, ONOFF) Recommended wire size AWG24 - 30 (0.2 ~ 0.05 mm ³) * AWG24 - 30 (0.2 ~ 0.05 mm ³) * AWG24 - 30 (0.2 ~ 0.05 mm ³) Signal input form Phase A/Phase B (magnification by 4/magnification by 2/magnification by 1), PULSE/SIGN Differential output type (26LS31 or equivalent) Input pulse (frequency) Up to 1 Mpulse/s (After magnification by 4, up to 4 Mpulse/s) Manual pulse generator/ Input pulse difference 0.25 µs or less Rated input voltage 0 to 0.8 V DC Differential voltage 0.0 to 0.8 V DC Differential voltage 0.20 woltage output type (26LS31 or equivalent) Input pulse (After magnification by 4, up to 4 Mpulse/s) Phase difference 0.25 µs or less High voltage 0 to 0.8 V DC Differential voltage 0.20 woltage Incremental synchronous encoder signal Input pulse (After magnification by 4, up to 800 kpulse/s) Yoltage output Input woltage 0.20 V inpulse/s Voltage output Frequency (After magnification by 4, up	signal (EMI)	ON voltage/curr	ent	17.5 V DC or more/ 3.5 mA or more				
Input resistance Approx. 6.8 kΩ Response time 4 ms or less (OFFON, ONOFF) Recommended wire size AWG24 - 30 (0.2 - 0.05 mm²) Signal input form AWG24 - 30 (0.2 - 0.05 mm²) Signal input form Phase A/Phase B (magnification by 4/magnification by 2/magnification by 1), PULSE/SIGN Virginitation by 2/magnification by 1), PULSE/SIGN Pulse width 1 µs or more Leading edge/ (26LS31 or equivalent) 1 µs or more Rated input voltage 0.25 µs or less High voltage 0.10 to 0.8 V DC Differential voltage 5.5 V DC or less High voltage 0.0 to 0.8 V DC Differential voltage 0.20 woltage Voltage output Input pulse (After magnification by 4, up to 800 kpulse/s) Pulse width 1 µs or more Leading edge/ trailing edge time 1.2 µs or more Voltage output Pulse width 5 µs or more High voltage 0.10 0.20 kpulse/s Frequency (After magnification by 4, up to 800 kpulse/s) Pulse width 5 µs or more Leading edge/ training edge time 1.2 µs or more		OFF voltage/cur	rent	7 V DC or less/ 1.0 mA or less				
Response time 4 ms or less (OFFON, ONOFF) Recommended wire size AWG24 - 30 (0.2 ~ 0.05 mm ²) Signal input form AWG24 - 30 (0.2 ~ 0.05 mm ²) Signal input form Phase A/Phase B (magnification by 4/magnification by 2/magnification by 1), PULSE/SIGN Bignal input form Input pulse Up to 1 Mpulse/s (After magnification by 4, up to 4 Mpulse/s) Pulse width 1 µs or more Leading edge/ trailing edge time 0.25 µs or less Pulse width 0.25 µs or less Phase difference 0.25 µs or less High voltage 2.0 to 5.25 V DC Low voltage 0 to 0.8 V DC Differential voltage 5.0 V DC or less Input pulse time difference synchronous encoder signal Input pulse Input pulse Up to 30 m (98.43 ft.) Voltage output Input bulse frequency (After magnification by 4, up to 800 kpulse/s) Pulse width 5 µs or more Leading edge/ Voltage output 1/us or less Pulse width 5 µs or more Low voltage 0 to 0.8 V DC Pulse width 12 µs or less Pulse width 5 µs or more Leading edge/ 12 µs or less <td></td> <td>Input resistance</td> <td></td> <td>Approx. 6.8 kΩ</td>		Input resistance		Approx. 6.8 kΩ				
Recommended wire size AWG24 - 30 (0.2 ~ 0.05 mm ³) * AWG24 (0.2 mm ³) recommended Signal input form Phase A/Phase B (magnification by 4/magnification by 2/magnification by 1, PULSE/SIGN Name Input pulse Up to 1 Mpulse/s (After magnification by 4, up to 4 Mpulse/s) Pulse width 1 µs or more Leading edge/ railing edge time 0.25 µs or more (26LS31 or equivalent) Phase difference 0.25 µs or more Rated input voltage 0.10 to 3.25 V DC 0.25 µs or more (26LS31 or equivalent) Up to 10 0.8 V DC Differential voltage 2.0 to 5.25 V DC Low voltage 0 to 0.8 V DC Differential voltage 40.2 00 kpulse/s ynchronous encoder signal Input pulse Up to 30 m (98.43 ft.) Input pulse Voltage output Input pulse 4.2 µs or more Eading edge/ trailing edge time 1.2 µs or more Voltage output (S V DC) Plase width 5 µs or more Eading edge/ trailing edge time 1.2 µs or less Plase difference 1.2 µs or more Eading edge/ trailing edge time 1.2 µs or more Rated input voltage 5.5 V DC or less High voltage 3.0 to 5.25 V		Response time		4 ms or less (OFF→ON, ON→OFF)				
Signal input form Phase A/Phase B (magnification by 4/magnification by 2/magnification by 1), PULSE/SIGN Manual pulse generator/ Incremental synchronous encoder signal Input pulse iffrequency Up to 1 Mpulse/s (After magnification by 4, up to 4 Mpulse/s) Manual pulse generator/ Incremental synchronous encoder signal Differential output type (26LS31 or equivalent) 0.25 µs or less Voltage output Phase difference 0.25 µs or more High voltage 0 to 0.8 V DC Differential voltage ±0.2 V Cable length Up to 30 m (98.43 ft.) Input pulse (requency Input pulse (After magnification by 4, up to 800 kpulse/s) Pulse width 5 µs or more Leading edge/ trailing edge time 1.2 µs or more Pulse width 5 µs or more Leading edge/ trailing edge/ trailing edge/ trailing edge time 1.2 µs or more Pulse width 5 µs or more Leading edge/ trailing edge/ trailing edge 1.2 µs or less Pulse width 5 µs or more Leading edge/ trailing edge 1.2 µs or less High voltage 3.0 to 5.25 V DC Low voltage 0 to 1.0 V DC Ov voltage 0 to 1		Recommended	wire size	AWG24 ~ 30 (0.2 ~ 0.05 mm ²) * AWG24 (0.2 mm ²) recommended				
Manual pulse generator/ Incremental synchronous encoder signal Input pulse Inferential output type (26LS31 or equivalent) Input pulse High voltage (26LS31 or equivalent) Input pulse (26LS31 or equivalent) 1 µs or more Manual pulse generator/ Incremental synchronous encoder signal Differential (26LS31 or equivalent) Input pulse (26LS31 or equivalent) 0.25 µs or more Voltage output thigh voltage 0.25 µs or more 0.25 µs or more Voltage output type (5 V DC) Input pulse (26LS31 or equivalent) 0.25 µs or more Voltage output type (5 V DC) Input pulse (26LS31 or equivalent) 0 to 0.3 V DC Differential voltage trequency (After magnification by 4, µp to 800 kpulse/s) Input pulse (26LS31 or equivalent) Voltage output type (5 V DC) Input pulse (After magnification by 4, µp to 800 kpulse/s) Pulse width type (5 V DC) 5 µs or more Rated input voltage High voltage 3.0 to 5.25 V DC Phase difference (1.2 µs or more High voltage (1.0 voltage 0 to 1.0 V DC 0 to 1.0 V DC	Signal input form			Phase A/Phase B (magnification by 4/magnification by 2/magnification by 1), PULSE/SIGN				
Manual pulse generator/ Incremental synchronous Pulse width 1 µs or more Voltage output type (26LS31 or equivalent) Phase difference 0.25 µs or less Mated input voltage 0.25 µs or more Rated input voltage 0.5 V DC or less High voltage 0 to 0.8 V DC Differential voltage 0 to 0.8 V DC Differential voltage ±0.2 V Cable length Up to 30 m (98.43 ft.) synchronous encoder signal Pulse width 5 µs or more Leading edge/ requercy (After magnification by 4, up to 800 kpulse/s) Pulse width 5 µs or more Leading edge/ trailing edge/ trailing edge/ trailing edge/ trailing edge 1.2 µs or less Phase difference 1.2 µs or less High voltage 3.0 to 5.25 V DC Leading edge/ trailing edge 1.2 µs or more Rated input voltage 3.0 to 5.25 V DC Low voltage 0.0 to 1.0 V DC Ow voltage 0 to 1.0 V DC			Input pulse frequency	Up to 1 Mpulse/s (After magnification by 4, up to 4 Mpulse/s)				
Manual pulse generator/ Incremental synchronous Differential output type (26LS31 or equivalent) Leading edge/ Phase difference 0.25 µs or more Manual pulse generator/ Incremental synchronous Phase difference 0.25 µs or more Voltage output Leading edge/ High voltage 0 to 0.8 V DC Differential voltage ±0.2 V Cable length Up to 30 m (98.43 ft.) Notage output Input pulse frequency Up to 200 kpulse/s Pulse width 5 µs or more Leading edge/ trailing edge time 1.2 µs or less Phase difference 1.2 µs or more Leading edge/ trailing edge 1.2 µs or more High voltage 3.0 to 5.25 V DC High voltage 3.0 to 5.25 V DC Low voltage 0 to 1.0 V DC			Pulse width	1 µs or more				
Manual pulse generator/ Incremental synchronous Phase difference 0.25 µs or more Voltage output type (26LS37) 2.0 to 5.25 V DC or less Uncremental synchronous 0 to 0.8 V DC Voltage output Voltage output type (5 V DC) Input pulse Up to 30 m (98.43 ft.) Plase width 5 µs or more Leading edge/ trailing edge time 1.2 µs or less Phase difference 1.2 µs or more High voltage 3.0 to 5.25 V DC		Differential	Leading edge/ trailing edge time	0.25 µs or less				
Manual pulse generator/ Incremental synchronous encoder signal Rated input voltage 5.5 V DC or less High voltage 2.0 to 5.25 V DC Low voltage 0 to 0.8 V DC Differential voltage ±0.2 V Cable length Up to 30 m (98.43 ft.) Pulse width 5 µs or more Leading edge/ type (5 V DC) 12 µs or less High voltage 1.2 µs or more Rated input voltage 5.5 V DC or less High voltage 0.0 to 0.8 V DC Pulse width 5 µs or more Leading edge/ trailing edge time 1.2 µs or less High voltage 3.0 to 5.25 V DC Low voltage 0 to 1.0 V DC Obs voltage 0 to 1.0 V DC		output type	Phase difference	0.25 µs or more				
Manual pulse generator/ Incremental synchronous High voltage 2.0 to 5.25 V DC Low voltage 0 to 0.8 V DC Differential voltage ±0.2 V Incremental synchronous Cable length Up to 30 m (98.43 ft.) Up to 200 kpulse/s Incur pulse encoder signal Input pulse frequency Up to 200 kpulse/s Leading edge/ trailing edge (trailing edge (trailing edge filme 1.2 µs or more Phase difference 1.2 µs or more High voltage 3.0 to 5.25 V DC High voltage 0 to 1.0 V DC Low voltage 0 to 1.0 V DC		(26LS31 0F	Rated input voltage	5.5 V DC or less				
Manual pulse generator/ Incremental synchronous encoder signal Low voltage 0 to 0.8 V DC Up to 200 kpulse/s (After magnification by 4, up to 800 kpulse/s) Up to 200 kpulse/s (After magnification by 4, up to 800 kpulse/s) Voltage output Pulse width 5 µs or more Leading edge/ type (5 V DC) 1.2 µs or less High voltage 3.0 to 5.25 V DC High voltage 0 to 1.0 V DC Over voltage 0 to 1.0 V DC		equivalenty	High voltage	2.0 to 5.25 V DC				
generator/ Incremental synchronous Differential voltage (Cable length synchronous ±0.2 V Voltage output Up to 30 m (98.43 ft.) Up to 200 kpulse/s Incurrential synchronous Up to 200 kpulse/s Up to 200 kpulse/s Pulse width 5 µs or more Leading edge/ trailing edge time 1.2 µs or less Phase difference 1.2 µs or more Phase difference 1.2 µs or more High voltage 3.0 to 5.25 V DC Low voltage 0 to 1.0 V DC	Manual pulse		Low voltage	0 to 0.8 V DC				
Incremental synchronous encoder signal Cable length Up to 30 m (98.43 ft.) Voltage output Voltage output Open-collector Input pulse frequency Up to 200 kpulse/s (After magnification by 4, up to 800 kpulse/s) Voltage output Open-collector Fulse width 5 µs or more Leading edge/ trailing edge time 1.2 µs or less Phase difference 1.2 µs or more High voltage 3.0 to 5.25 V DC Low voltage 0 to 1.0 V DC	generator/		Differential voltage	±0.2 V				
synchronous encoder signal Voltage output Voltage output type (5 V DC) Voltage output type (5 V DC) Voltage output Voltage output type (5 V DC) Voltage output type (5 V DC) Voltage output type (5 V DC) Voltage output Voltage output type (5 V DC) Voltage output Voltage output type (5 V DC) Voltage output Voltage output Voltage output type (5 V DC) Voltage output Voltage 0 to 1.0 V DC Voltage 0 to 1.0 V DC	Incremental		Cable length	Up to 30 m (98.43 ft.)				
encoder signal Voltage output Voltage output Voltage frequency Voltage output Voltage output Voltage output Voltage output Voltage frequency Voltage output Voltage output Voltage dege/ Phase difference 1.2 µs or more Phase difference 1.2 µs or more Voltage Volta	synchronous		Input pulse	Up to 200 kpulse/s				
Voltage output Pulse width 5 µs or more Leading edge/ Open-collector 1.2 µs or less type (5 V DC) Phase difference 1.2 µs or more Rated input voltage 5.5 V DC or less High voltage 0.0 to 5.25 V DC Low voltage 0 to 1.0 V DC	encoder signal		frequency	(After magnification by 4, up to 800 kpulse/s)				
Voltage output Leading edge/ trailing edge time 1.2 µs or less Open-collector type (5 V DC) Phase difference 1.2 µs or more Rated input voltage 5.5 V DC or less High voltage 3.0 to 5.25 V DC Low voltage 0 to 1.0 V DC			Pulse width	5 µs or more				
Open-collector Phase difference 1.2 µs or more type (5 V DC) Rated input voltage 5.5 V DC or less High voltage 3.0 to 5.25 V DC Low voltage 0 to 1.0 V DC		Voltage output	Leading edge/ trailing edge time	1.2 µs or less				
Rated input voltage 5.5 V DC or less High voltage 3.0 to 5.25 V DC Low voltage 0 to 1.0 V DC Orbit logget 0 to 2.0 (20 of 4)		type (5 V DC)	Phase difference	1.2 µs or more				
High voltage 3.0 to 5.25 V DC Low voltage 0 to 1.0 V DC Orbit Low does the set of the set o		() (0 (0 (0 (0 ())	Rated input voltage	5.5 V DC or less				
Low voltage 0 to 1.0 V DC			High voltage	3.0 to 5.25 V DC				
			Low voltage	0 to 1.0 V DC				
Cable length Up to 10m (32.81 ft.)			Cable length	Up to 10m (32.81 ft.)				
Number of occupied I/O points 8 points	Number of occupi	ed I/O points		8 points				
24 V DC internal current consumption 0.25 A	24 V DC internal c	urrent consumpti	on	0.25 A				

External Dimensions

*

22

(0.87")



8 (0.32")

83 (3.27")

Model name	W: mm (inches)	W1: mm (inches) Mounting hole pitches	MASS (Weight): kg (lbs)
FX5U-32M[]	150 (5.91")	123 (4.85")	Approx. 0.65 (1.43")
FX5U-64M[]	220 (8.67")	193 (7.60")	Approx. 1.0 (2.20")
FX5U-80M[]	285 (11.23")	258 (10.16")	Approx. 1.2 (2.64")

W1

w



Unit: mm (inches)

000000

8 (0.32")

83 (3 27")

I/O Modules

FX5 Powered I/O Modules FX5 input module/output module (terminal block type) 2-φ4.5 Mounting hole 2-q4.5 Mounting hole -16EX/ES -----80 (3.15") (Mounting hole pitch) 80 (3.15") (Mounting hole pitch) IN 0 0 0 0 3 4 5 6 7 0 0 0 0 3 4 5 6 7 0 90 (3.55") þ 90 (3.55") out 8 1 2 3 4 5 5 6 8 0 1 1 1 1 1 ------÷ 8 (0.32") 140 (5.52")(Mounting hole pitch) 40 (1.58") 83 (3.27") 150 (5.91") Model name MASS (Weight): kg (lbs) MASS (Weight): kg (lbs) Model name FX5-8EX/ES, FX5-8EYR/ES, FX5-8EYT/ES, FX5-8EYT/ESS Approx. 0.2 (0.44") FX5-32ER/ES, FX5-32ET/ES, FX5-32ET/ESS Approx. 0.65 (1.43")

FX5-16EX/ES, FX5-16EYR/ES, FX5-16EYT/ES, FX5-16EYT/ESS Approx. 0.25 (0.551")

FX5 input module/output module (connector type)



FX5 I/O module (connector type)



FX5-C32EX/D, FX5-C32EX/DS FX5-C32EYT/D, FX5-C32EYT/DSS

Intelligent Function Module

FX5-40SSC-S

MASS (Weight): Approx. 0.3 kg (0.66 lbs)

Approx. 0.15 (0.33")





Unit: mm (inches)



FX5-4AD-ADP / FX5-4DA-ADP



IUUooooooo 7 (0.28") 74 (<u>2.92</u>" 15.1 (0.6")

MASS (Weight): Approx. 0.1 kg (0.22 lbs)





Expansion boards

FX5-232-BD MASS (Weight): Approx. 0.02 kg (0.05 lbs)





FX5-485-BD MASS (Weight): Approx. 0.02 kg (0.05 lbs)





(0.61")

FX5-422-BD-GOT MASS (Weight): Approx. 0.02 kg (0.05 lbs)

Bus conversion modules

FX5-CNV-BUS MASS (Weight): Approx. 0.1 kg (0.22 lbs) 2-q4.5 Mounting hole ----! oitch 80 (3.15") Mounting hole 90 (3.55") Ц 8 (0.32") 8 (0.32") 16 83 (3.27") (0.63")

Connector conversion module

14.6

(0.58")

FX5-CNV-IFC









MASS (Weight): Approx. 0.1 kg (0.22 lbs)

38 (1.5")



Extension power supply module FX5-1PSU-5V









Standards

List of Compatible Products

Medel Neme	CE		UL	VC.	KC	Ship approvals						
wodername	EMC	LVD	CUL		ABS	DNV	LR	GL	BV	RINA	NK	KR
♦ FX5U CPU module	s											
FX5U-32MR/ES	0	0	0	0	_	—	_	_	-	-	_	—
FX5U-32MT/ES	0	0	0	0	-	—	_	—	-	-	—	-
FX5U-32MT/ESS	0	0	0	0	-	—	-	—	-	-	—	—
FX5U-64MR/ES	0	0	0	0	-	—	—	—	-	-	—	-
FX5U-64MT/ES	0	0	0	0	-	—	_	-	-	-	—	-
FX5U-64MT/ESS	0	0	0	0	-	—	_	-	-	-	—	-
FX5U-80MR/ES	0	0	0	0	-	—	—	—	-	—	—	—
FX5U-80MT/ES	0	0	0	0	-	—	—	—	-	-	—	-
FX5U-80MT/ESS	0	0	0	0	-	—	_	-	-	-	—	-
FX5UC CPU modul	les											
FX5UC-32MT/D	0		0	0	-	—	—	—	-	—	—	—
FX5UC-32MT/DSS	0		0	0	-	—	—	—	-	—	—	—
FX5 I/O modules (t	ermina	al bloc	k type)								
FX5-8EX/ES	0		0	0	-	—	_	-	-	-	-	-
FX5-16EX/ES	0		0	0	-	—	—	—	-	—	—	-
FX5-8EYR/ES	0	0	0	0	-	—	—	—	-	—	—	—
FX5-8EYT/ES	0		0	0	-	—	—	—	-	-	—	-
FX5-8EYT/ESS	0		0	0	-	-	—	-	-	-	—	-
FX5-16EYR/ES	0	0	0	0	-	—	—	—	-	—	—	—
FX5-16EYT/ES	0		0	0	—	—	—	—	—	-	—	—
FX5-16EYT/ESS	0		0	0	-	—	—	—	-	—	—	-
FX5-32ER/ES	0	0	0	0	-	—	_	—	-	-	_	—
FX5-32ET/ES	0	0	0	0	—	—	_	—		-	_	—
FX5-32ET/ESS	0	0	0	0	—	—	—	—	-	-	—	—
FX5 I/O modules (conne	ctor ty	pe)									
FX5-C32EX/D	0		0	0	-	-	—	—	-	—	—	-
FX5-C32EX/DS	0		0	0	-	—	_	—	-	-	_	—
FX5-C32EYT/D	0		0	0	-	—	_	—	-	-	_	—
FX5-C32EYT/DSS	0		0	0		—	—		-	-	_	—
FX5-C32ET/D	0		0	0	-	-	_	—	-	—	_	—
EX5-C32ET/DSS					_		_		I _	_		

Madel Nemo	CE		UL	Ship approvals								
wouer Name	EMC	LVD	cUL	, NC	ABS	DNV	LR	GL	BV	RINA	NK	KR
♦ FX5 Intelligent function module												
FX5-40SSC-S	0		0	0	-	—	—	—	—	-	—	—
FX5 Extension pov	♦ FX5 Extension power supply module											
FX5-1PSU-5V	0	0	0	0	—	—	—	—	—	-	—	—
♦ FX5 Bus conversion modules												
FX5-CNV-BUS	0		0	0	-	—	—	—	—	-	—	—
FX5-CNV-BUSC	0		0	0	-	-	—	-	—	-	—	—
FX5 Connector con	◆ FX5 Connector conversion module											
FX5-CNV-IFC	0		0	0	—	—	—	—	—	-	—	—
FX5 Expansion ada	apters											
FX5-4AD-ADP	0		0	0	-	-	—	-	—	-	—	—
FX5-4DA-ADP	0		*	0	—	—	—	_	—	-	—	—
FX5-232ADP	0		0	0	—	—	—	—	—	—	—	—
FX5-485ADP	0		0	0	—	—	—	—	—	-	—	—
FX5U Expansion b	oards											
FX5-232-BD	0		-	0	-	-	—	-	—	-	—	—
FX5-485-BD	0		—	0	—	—	—	—	—	—	—	—
FX5-422-BD-GOT	0		—	0	—	—	—	—	—	-	—	—
FX3 Intelligent fun	ction n	nodule	s									
FX3U-4AD	0		0	0	—	_	—	_	—	-	—	—
FX3U-4DA	0		0	0	—	_	—	_	—	_	—	—
FX3U-4LC	0		0	0	—	—	—	—	—	-	-	—
FX3U-1PG	0		0	0	—	—	—	—	—	-	—	—
FX3U-2HC	0		0	0	-	-	—	-	—	-	—	—
FX3U-16CCL-M	0		0	0	-	-	—	-	—	-	—	—
FX3U-64CCL	0		0	0	-	-	_	—	—	-	-	—
FX3 Extension pov	ver sup	oply m	odule									
FX3U-1PSU-5V	0	0	0	0	-	-	_	-	—]	_	—

 \bigcirc : Compliant with standards or self-declaration \Box : No need to comply *: Support planned

■EN Standards: Compliance with EC Directives/CE ■UL/cUL Standards marking

EC Directives were issued by the European Council of Ministers to unify standards in the EU Community, and to ensure smooth distribution of products for which safety is ensured. Approximately 20 types of EC Directives for product safety have been issued. Attachment of a CE mark (CE marking) is mandatory on specific products before they may be distributed in the EU. The EMC Directive (Electromagnetic Compatibility Directive) and LVD Directive (Low Voltage Directive) apply to the programmable controller, which is labeled as an electrical part of a machine product under the EC Directives.

1) EMC Directive

The EMC Directive is a directive that requires products to have "Capacity to prevent output of obstructive noise that adversely affects external devices: Emission damage" and "Capacity to not malfunction due to obstructive noise from external source: Immunity".

2) LVD Directive (Low Voltage Directive)

The LVD Directive is enforced to distribute safe products that will not harm or damage people, objects or assets, etc. With the programmable controller, this means a product that does not pose a risk of electric shock, fire or injury, etc.

UL is the United State's main private safety testing and certification agency for ensuring public safety.

UL sets the safety standards for a variety of fields. Strict reviews and testing are performed following the standards set forth by UL. Only products which pass these tests are allowed to carry the UL Mark.

As opposed to the EN Standards, the UL Standards do not have a legally binding effect. However, they are broadly used as the U.S. safety standards, and are an essential condition for selling products into the U.S..

UL is recognized as a certifying and testing agency by the Canadian Standards Association (CSA). Products evaluated and certified by UL in accordance with Canadian standards are permitted to carry the cUL Mark.



Products list

Madal	Specification						
Model	Power Supply		Input	Output			
CPU modules							
FX5U-32MR/ES					Relay		
FX5U-32MT/ES]	16 points		16 points	Transistor/sink		
FX5U-32MT/ESS	100 to 240 V AC 50/60 Hz				Transistor/source		
FX5U-64MR/ES					Relay		
FX5U-64MT/ES		32 points	24 V DC Sink/source	32 points	Transistor/sink		
FX5U-64MT/ESS	30/00 112				Transistor/source		
FX5U-80MR/ES	-				Relay		
FX5U-80MT/ES		40 points		40 points	Transistor/sink		
FX5U-80MT/ESS					Transistor/source		
FX5UC-32MT/D	24.1/ DC	16 pointo	24 V DC Sink	16 pointo	Transistor/sink		
FX5UC-32MT/DSS	24 V DC	10 points	24 V DC Sink/source	10 points	Transistor/source		
I/O modules							
FX5-8EX/ES	-	8 points	24 V DC Sink/course				
FX5-16EX/ES		16 points	24 V DO SINK/Source				
FX5-8EYR/ES					Relay		
FX5-8EYT/ES	Power supply from CPU module	-	—	8 points	Transistor/sink		
FX5-8EYT/ESS					Transistor/source		
FX5-16EYR/ES					Relay		
FX5-16EYT/ES]	-		16 points	Transistor/sink		
FX5-16EYT/ESS					Transistor/source		
FX5-32ER/ES	100 10 010 1/ 10				Relay		
FX5-32ET/ES	50/60 Hz	16 points	24 V DC Sink/source	16 points	Transistor/sink		
FX5-32ET/ESS	00,00112				Transistor/source		
FX5-C32EX/D		22 points	24 V DC Sink		—		
FX5-C32EX/DS	Power supply from CPU module	52 points	24 V DC Sink/source		—		
FX5-C32EYT/D				22 points	Transistor/sink		
FX5-C32EYT/DSS		_		32 points	Transistor/source		
FX5-C32ET/D]	16 points	24 V DC Sink	16 points	Transistor/sink		
FX5-C32ET/DSS			24 V DC Sink/source		Transistor/source		

Expansion Boards & Adapters

Model	Specification
FX5-232-BD	For RS-232C communication
FX5-485-BD	For RS-485 communication
FX5-422-BD-GOT	For GOT RS-422 communication
FX5-232ADP	For RS-232C communication
FX5-485ADP	For RS-485 communication
FX5-4AD-ADP	4 ch analog input adapter
FX5-4DA-ADP	4 ch analog output adapter

Power supply modules & Bus/Connector conversion modules

Model	Specification
FX5-1PSU-5V	Extension power supply module
FX5-CNV-BUS	Bus conversion FX5(terminal block)→FX3 (terminal block)
FX5-CNV-BUSC	Bus conversion FX5(connector)→FX3 (terminal block)
FX5-CNV-IFC	Connector conversion FX5(connector)→FX5 (terminal block)
FX3U-1PSU-5V	FX3U Extension power supply module

Software

Туре	Model	Specification
MELSOFT iQ Works (DVD-ROM)	SW2DND-IQWK-E	FA engineering software*1
MELSOFT GX Works3 (DVD-ROM)	SW1DND-GXW3-E	PLC engineering software (includes GX Works2, GX Developer)

st 1: Refer to the manual of the software for supported models.

User's manuals for the applicable modules

Manual name <manual number=""></manual>	Description
MELSEC iQ-F FX5 User's Manual (Startup) <jy997d58201></jy997d58201>	Describes the performance specifications, procedures before operation, and troubleshooting of the CPU module.
MELSEC iQ-F FX5UC User's Manual (Hardware) <jy997d61401></jy997d61401>	Describes the details on the hardware of the FX5UC CPU module, including input/output specifications, wiring, installation and maintenance.
MELSEC iQ-F FX5U User's Manual (Hardware) <jy997d55301></jy997d55301>	Describes the details on hardware of the FX5U series CPU module, including input/output specifications, wiring, installation, and maintenance.
MELSEC iQ-F FX5 User's Manual (Application) <jy997d55401></jy997d55401>	Describes basic knowledge required for program design, functions of the CPU module, devices/labels, and parameters.
MELSEC iQ-F FX5 Programming Manual (Program Design) <jy997d55701></jy997d55701>	Describes specifications of ladder, ST, and other programs and of labels.
MELSEC iQ-F FX5 Programming Manual (Instructions, Standard Functions/Function Blocks) <jy997d55801></jy997d55801>	Describes specifications of instructions and functions that can be used in programs.
MELSEC iQ-F FX5 User's Manual (Serial Communication) <jy997d55901></jy997d55901>	Describes inverter communication, and non-protocol communication.
MELSEC iQ-F FX5 User's Manual (SLMP) <jy997d56001></jy997d56001>	Describes SLMP communication.
MELSEC iQ-F FX5 User's Manual (MELSEC Communication Protocol) <jy997d60801></jy997d60801>	Describes MC protocol.
MELSEC iQ-F FX5 User's Manual (MODBUS Communication) <jy997d56101></jy997d56101>	Describes MODBUS serial communication.
MELSEC iQ-F FX5 User's Manual (Ethernet Communication) <jy997d56201></jy997d56201>	Describes the functions of the built-in Ethernet port communication function.
MELSEC iQ-F FX5 User's Manual (Positioning Control) <jy997d56301></jy997d56301>	Describes the built-in positioning function.
MELSEC iQ-F FX5 User's Manual (Analog Control) <jy997d60501></jy997d60501>	Describes the analog function.

Intelligent function modules

Model	Specification
FX5-40SSC-S	Simple Motion 4-Axis module
FX3U-4AD	4 ch analog input
FX3U-4DA	4 ch analog output
FX3U-4LC	4 ch temperature control
FX3U-1PG	Positioning pulse output 200 kHz
FX3U-2HC	2 ch 200 kHz high-speed counter
FX3U-16CCL-M	Master for CC-Link (compatible with Ver. 2.00)
FX3U-64CCL	Interface for CC-Link (compatible with Ver. 2.00)