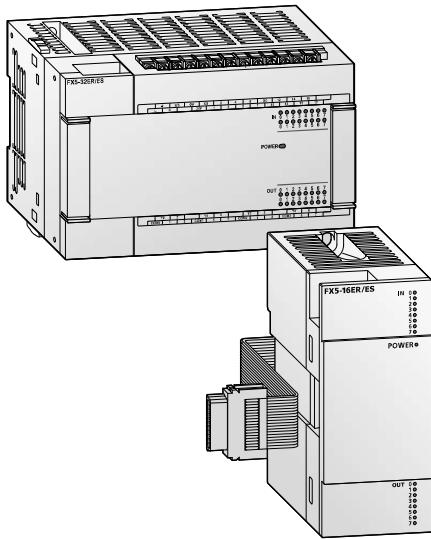


## ■ Powered extension units

FX3S  FX3G  FX3GC  FX3GE  FX3U  FX3UC  FX5U  FX5UC



### Powered input/output modules FX5

The powered input/output modules of the FX5 series are available with AC or DC power supply. They can be used in a system with a FX5U or FX5UC CPU module. Both relay and transistor output types are available.

- LEDs for indicating the input and output status
- MELSEC FX5U and FX5UC series compatible
- Detachable terminal blocks
- AC powered I/O modules with integrated service power supply with 310 mA

Specifications	FX5-16 ER/ES	FX5-16 ET/ESS	FX5-32 ER/DS	FX5-32 ET/DSS	FX5-32 ER/ES	FX5-32 ET/ESS	
<b>Electrical data</b>							
Integrated inputs/outputs	16		32				
Power supply	AC range (+10 %, -15 %)		—		100–240 V		
	Frequency at AC Hz		—		50/60		
	DC range (+20 %, -30 %)		24 V		—		
Max. input apparent power	W		25				
	24 V DC		50 A <0.5 ms		—		
Inrush current at ON	100 V AC		—		30 A <5 ms		
	200 V AC		—		65 A <5 ms		
Allowable momentary power failure time	ms		5		10 <sup>②</sup>		
External service power supply (24 V DC)	mA		—		310		
Power supply int. bus (5 V DC)	mA		965				
<b>Inputs</b>							
Integrated inputs	8		16				
Input type	Sink/source						
Input signal voltage	24 V DC +20 %, -15 %						
Min. current for logical 1	mA 3						
Max. current for logical 0	mA 1.5						
Response time	Hardware filter delay: ON: 50 μs or less; OFF: 150 μs or less Digital filter setting value: 10 ms (initial value), adjustable from 10 μs to 70 ms						
<b>Outputs</b>							
Integrated outputs	8		16				
Output type	Relay	Transistor (source) <sup>④</sup>	Relay	Transistor (source) <sup>④</sup>	Relay	Transistor (source) <sup>④</sup>	
Switching voltage (max.)	≤30 V DC, ≤240 V AC	5–30 V DC	≤240 V AC, ≤30 V DC	5–30 V DC	≤240 V AC, ≤30 V DC	5–30 V DC	
Max. output current	- per output	A 2	0.5	2	0.5	0.5	
	- per group*	A 8	0.8/1.6 <sup>③</sup>	8	0.8/1.6 <sup>③</sup>	8	0.8/1.6 <sup>③</sup>
Response time	ms 10		10		10		
Life of contacts (switching times) <sup>①</sup>	3,000,000 at 20 VA; 1,000,000 at 35 VA; 200,000 at 80 VA		3,000,000 at 20 VA; 1,000,000 at 35 VA; 200,000 at 80 VA		3,000,000 at 20 VA; 1,000,000 at 35 VA; 200,000 at 80 VA		
<b>Mechanical data</b>							
Weight	kg 0.25		0.65				
Dimensions (WxHxD)	mm 40x90x83		150x90x83				
<b>Order information</b>	Art. no.	304652	304654	297439	297441	280506	280508

① Not guaranteed by Mitsubishi Electric

② Adjustable from 10 to 100 ms when the supply voltage is 200 V AC

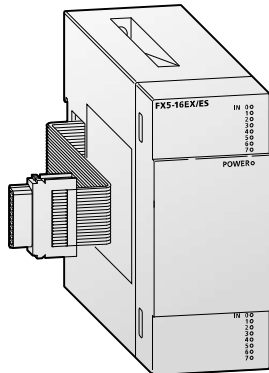
③ 0.8 A for 4 outputs per group and 1.6 A for 8 outputs per group

④ Sink type transistor output units on request.

\* This limitation applies only per reference terminal for each group. Please observe the terminal assignments for the group identification..

## Unpowered extension modules

FX3S  FX3G  FX3GC  FX3GE  FX3U  FX3UC  FX5U  FX5UC



### Input/output modules FX5 (terminal block type)

The FX5 series I/O modules with terminal block can be connected to a FX5U CPU module directly. For the connection to a FX5UC CPU module a connector conversion module FX5-CNV-IFC or an extension power supply module FX5-C1PS-5V is required. Modules are available with 8 or 16 inputs/output points and relay or transistor output type.

The FX5-16ET/ES-H and the FX5-16ET-ESS-H are high-speed pulse input/output modules for frequencies up to 200 kpps.

- LEDs for indicating the input and output status
- MELSEC FX5U and FX5UC series compatible
- Photocoupler isolation for input terminals and transistor outputs, mechanical isolation for relay outputs
- Vertically terminal blocks with a cable guide to the upper or lower side

Specifications	High-speed pulse input/output modules		Input modules		Output modules			
	FX5-16ET/ESS-H	FX5-8EX/ES	FX5-16EX/ES	FX5-8EYR/ES	FX5-8EYT/ESS	FX5-16EYR/ES	FX5-16EYT/ESS	
<b>Electrical data</b>								
Integrated inputs/outputs	16	8	16	8	8	16	8	16
Power supply	5 V DC	Supplied internally	Supplied internally	Supplied internally	Supplied internally	Supplied internally	Supplied internally	Supplied internally
	24 V DC	Supplied from service power supply or external power supply	Supplied from service power supply or external power supply	Supplied internally	Supplied internally	Supplied internally	Supplied internally	Supplied internally
Current consumption	5 V DC	mA 100	75	100	75	100	75	100
	24 V DC	mA 125 (82 <sup>①</sup> )	50	85	75	125	75	125
<b>Inputs</b>								
Integrated inputs	8	8	16	8	8	16	8	16
Input type	Sink/source	Sink/source	Sink/source	Sink/source	Sink/source	Sink/source	Sink/source	Sink/source
Input signal voltage	24 V DC +20 %, -15 %	24 V DC +20 %, -15 %	24 V DC +20 %, -15 %	24 V DC +20 %, -15 %	24 V DC +20 %, -15 %	24 V DC +20 %, -15 %	24 V DC +20 %, -15 %	24 V DC +20 %, -15 %
Min. current for logical 1	mA 3.5	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Max. current for logical 0	mA 1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Response time	X0 to X5: ON: ≤2.5 μs; OFF: ≤2.5 μs X6, X7: ON: ≤30 μs; OFF: ≤50 μs	ON: ≤50 μs; OFF: ≤150 μs	ON: ≤50 μs; OFF: ≤150 μs	ON: ≤50 μs; OFF: ≤150 μs	ON: ≤50 μs; OFF: ≤150 μs	ON: ≤50 μs; OFF: ≤150 μs	ON: ≤50 μs; OFF: ≤150 μs	ON: ≤50 μs; OFF: ≤150 μs
<b>Outputs</b>								
Integrated outputs	8	8	16	8	8	16	8	16
Output type	Transistor (source) <sup>④</sup>	Relay	Transistor (source) <sup>④</sup>	Relay	Transistor (source) <sup>④</sup>	Relay	Transistor (source) <sup>④</sup>	Relay
Switching voltage (max.)	5–30 V DC	≤240 V AC, ≤30 V DC	5–30 V DC	≤240 V AC, ≤30 V DC	5–30 V DC	≤240 V AC, ≤30 V DC	5–30 V DC	≤240 V AC, ≤30 V DC
Max. output current	- per output	A 0.5	0.5	0.5	0.5	0.5	0.5	0.5
	- per group*	A 1.6 <sup>②</sup>	1.6 <sup>②</sup>	1.6 <sup>②</sup>	1.6 <sup>②</sup>	1.6 <sup>②</sup>	1.6 <sup>②</sup>	1.6 <sup>②</sup>
Response time	ms	Y0, Y1, Y4, Y5: ≤2.5 μs Y2, Y3, Y6, Y7: ≤0.2 ms	Y0, Y1, Y4, Y5: ≤2.5 μs Y2, Y3, Y6, Y7: ≤0.2 ms	Y0, Y1, Y4, Y5: ≤2.5 μs Y2, Y3, Y6, Y7: ≤0.2 ms	Y0, Y1, Y4, Y5: ≤2.5 μs Y2, Y3, Y6, Y7: ≤0.2 ms	Y0, Y1, Y4, Y5: ≤2.5 μs Y2, Y3, Y6, Y7: ≤0.2 ms	Y0, Y1, Y4, Y5: ≤2.5 μs Y2, Y3, Y6, Y7: ≤0.2 ms	Y0, Y1, Y4, Y5: ≤2.5 μs Y2, Y3, Y6, Y7: ≤0.2 ms
<b>Mechanical data</b>								
Weight	kg	0.25	0.25	0.2	0.25	0.25	0.2	0.25
Dimensions (WxHxD)	mm	40x90x83	40x90x83	40x90x83	40x90x83	40x90x83	40x90x83	40x90x83
<b>Order information</b>								
Art. no.	297443	280498	280505	280499	280501	280502	280504	280504

① Current consumption when external power supply is used for the input circuit.

② 1.6 A for 8 outputs per group

③ 0.8 A for 4 outputs per group

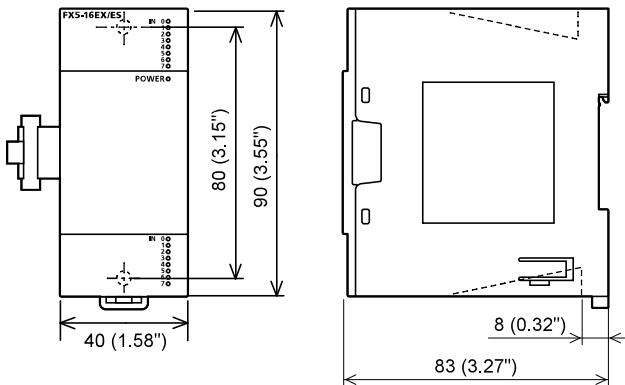
④ Sink type transistor output units on request.

\* This limitation applies only per reference terminal for each group. Please observe the terminal assignments for the group identification.

## Extension units

### Input module/output modules FX5 (extension cable type), high-speed pulse input/output modules

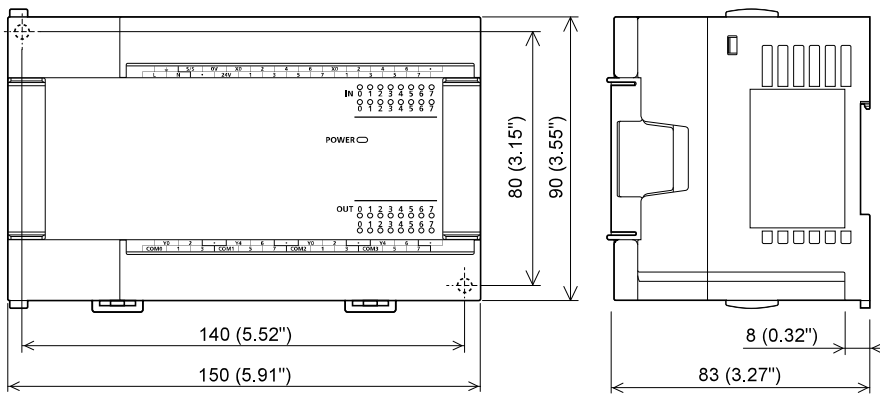
MELSEC-F series  MELSEC iQ-F series



All dimensions in mm

### Powered input/output modules FX5

MELSEC-F series  MELSEC iQ-F series



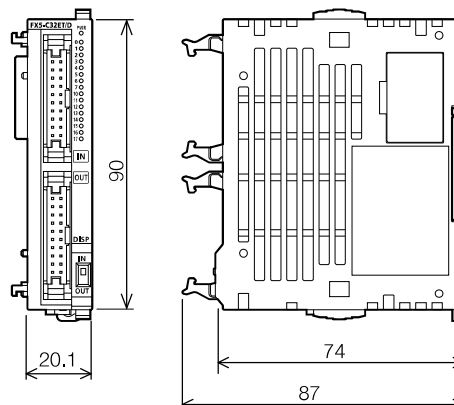
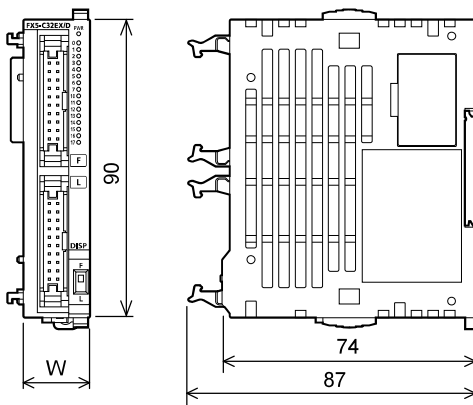
All dimensions in mm

### Input/output modules FX5 (extension connector type)

MELSEC-F series  MELSEC iQ-F series

FX5-C□EX/□, FX5-C□EYT/□

FX5-C32ET/D, FX5-C32ET/DSS



All dimensions in mm

Type	W
FX5-C16EX/D, FX5-C16EX/DS, FX5-C16EYT/D, FX5-C16EYT/DSS	14.6
FX5-C32EX/D, FX5-C32EX/DS, FX5-C32EYT/D, FX5-C32EYT/DSS	20.1