

# MELSEC-F Series Special Function Modules

## FX Input / Output Expansion Options

### Extension Boards

The FX3G Series extension boards are available for FX3G and FX3S main units and provide 4 additional inputs or 2 additional outputs for the system to use.

Model Number	FX3G-4EX-BD	FX3G-2EYT-BD
Stocked Item	S	S
Certification	CE (EMC)	
Applicable PLCs	FX3S / FX3G / FX3GE	
Power Supply	5 VDC (from main unit); 24VDC / 25 mA (S/S terminal)	5 VDC (from main unit)
Integrated Inputs	4	-
Input Level	Voltage	24VDC (+20% / -15%)
	Current	5 mA (24VDC)
Integrated Outputs	-	2
Output Type	-	Transistor (Sink/Source)
Max. Switching Voltage	-	5 - 30VDC
Weight (kg)	0.02	0.02
Dimensions (W x H x D) mm	35 x 51.2 x 29.2	35 x 51.2 x 29.2

### Powered Extension Units

The FX2N Series extension units are available with up to 48 integrated I/O with selectable relay or transistor output models.

Model Number	FX2N-32ER-ES/UL	FX2N-32ET-ESS/UL	FX2N-48ER-DS	FX2N-48ER-ES/UL	FX2N-48ER-UA1/UL
Stocked Item	S	S	-	S	S
Certification	UL • cUL • CE (EMC)		CE	UL • cUL • CE (EMC)	
Applicable PLCs	FX3U / FX3G / FX3GE				
Integrated Inputs / Outputs	32	32	48	48	48
Power Supply	AC Range (+10%, -15%)	100-240VAC	24VDC	100-240VAC	100-240VAC
External Service Power Supply (24VDC) mA	250	250	-	460	-
Power Supply Int. Bus (5VDC) mA	690	690	690	690	690
Integrated Inputs	16 (24VDC)	16 (24VDC)	24 (24VDC)	24 (24VDC)	24 (120VA C)
Integrated Outputs	16	16	24	24	24
Output Type	Relay	Transistor (Source)	Relay	Relay	Relay
ON Voltage (Max.)	Relay version: < 264VAC, < 30VDC; Transistor version: 5 - 30VDC				
Max. Output Current	Per Output (A)	2	0.5	2	2
	Per 4 Outputs (A)	8	0.8	8	8
Weight (kg)	0.65	0.65	0.85	0.85	1.0
Dimensions (W x H x D) mm	150 x 90 x 87	150 x 90 x 87	182 x 90 x 87	182 x 90 x 87	220 x 90 x 87

Model Number	FX2N-48ET	FX2N-48ET-DSS	FX2N-48ET-ESS/UL
Stocked Item	-	-	-
Certification	-	CE	UL • cUL • CE (EMC)
Applicable PLCs	FX3U / FX3G / FX3GE		
Integrated Inputs / Outputs	48	48	48
Power Supply	100-240VAC	24VDC	100-240VAC
External Service Power Supply (24VDC) mA	460	-	460
Power Supply Int. Bus (5VDC) mA	690	690	690
Integrated Inputs	24 (24VDC)	24 (24VDC)	24 (24VDC)
Output Type	Transistor (Sink)	Transistor (Source)	Transistor (Source)
ON Voltage (Max.)	Relay version: < 264VAC, < 30VDC; Transistor version: 5 - 30VDC		
Max. Output Current	Per Output (A)	0.5	0.5
	Per 4 Outputs (A)	0.8	0.8
Weight (kg)	0.85	0.85	0.85
Dimensions (W x H x D) mm	182 x 90 x 87	182 x 90 x 87	182 x 90 x 87

## Unpowered Extension Units

The FX2N Series 8 - 16 integrated I/O extension blocks are selectable with relay, transistor or triac outputs.

Model Number	FX2N-8ER-ES/UL	FX2N-8EX-ES/UL	FX2N-8EX-UA1/UL	FX2N-8EYR-ES/UL	FX2N-8EYT	FX2N-8EYT-ESS/UL	FX2N-8EYR-S-ES/UL	
Stocked Item	S	S	S	S	S	S	S	
Certification	UL • cUL • CE (EMC)		UL • cUL	UL • cUL • CE (EMC)	-	UL • cUL	UL	
Applicable PLCs	FX3U / FX3UC / FX3G / FX3GE							
Integrated Inputs / Outputs	8	8	8	8	8	8	8	
Power Supply	All modular extension units are powered by the base unit							
Integrated Inputs	4 (24VDC)	8 (24VDC)	8 (100-120VAC)	-	-	-	-	
Integrated Outputs	4	-	-	8	8	8	8	
Output Type	Relay	-	-	Relay	Transistor (Sink)	Transistor (Source)	Relay	
ON Voltage (Max.)	Relay version: < 240VAC, < 30VDC; Transistor version: 5 - 30VDC							
Max. Output Current	Per Output (A)	2	-	-	2	0.5	0.5	2.0
	Per 4 Outputs (A)	8	-	-	8	0.8	0.8	Isolated (commons)
5VDC Current Consumption (mA)	25	25	25	30	30	30	30	
Weight (kg)	0.2	0.2	0.2	0.2	0.2	0.2	0.3	
Dimensions (W x H x D) mm	43 x 90 x 87	43 x 90 x 87	43 x 90 x 87	43 x 90 x 87	43 x 90 x 87	43 x 90 x 87	40 x 90 x 87	

Model Number	FX2N-16EX-ES/UL	FX2N-16EYR-ES/UL	FX2N-16EYS	FX2N-16EYT	FX2N-16EYT-ESS/UL
Stocked Item	S	S	S	S	S
Certification	UL • cUL • CE (EMC)		UL • cUL	-	UL • cUL
Applicable PLCs	FX3U / FX3UC / FX3G / FX3GE				
Integrated Inputs / Outputs	16	16	16	16	16
Power Supply	All modular extension units are powered by the base unit				
Integrated Inputs	16 (24VDC)	-	-	-	-
Integrated Outputs	-	16	16	16	16
Output Type	-	Relay	Triac (SSR)	Transistor (Sink)	Transistor (Source)
ON Voltage (Max.)	Relay version: < 240VAC, < 30VDC; Transistor version: 5 - 30VDC; Triac version: 85 - 242VAC				
Max. Output Current	Per Output (A)	-	2	0.3	0.5
	Per 4 Outputs (A)	-	8	0.8	1.6
5VDC Current Consumption (mA)	45	40	160	180	180
Weight (kg)	0.3	0.3	0.3	0.3	0.3
Dimensions (W x H x D) mm	40 x 90 x 87	40 x 90 x 87	40 x 90 x 87	40 x 90 x 87	40 x 90 x 87

## FX2NC Unpowered Extension Units

The FX2NC Series extension blocks are available with 16 or 32 integrated I/O with selectable relay or transistor 16-output models.

Model Number	FX2NC-16EX-DS	FX2NC-16EX-T-DS	FX2NC-16EYR-T-DS	FX2NC-16EYT-D/UL	FX2NC-16EYT-DSS	FX2NC-32EX-DS	FX2NC-32EYT-D/UL
Stocked Item	S	S	S	S	S	-	-
Certification	UL • cUL • CE (EMC)			UL • cUL	UL • cUL • CE (EMC)	UL • cUL • CE	UL • cUL
Applicable PLCs	FX3UC						
Integrated Inputs / Outputs	16	16	16	16	16	32	32
Power Supply	All modular extension units are powered by the base unit						
Integrated Inputs	16	16	-	-	-	32 (24VDC)	-
Integrated Outputs	-	-	16	16	16	-	32
Output Type	-	-	Relay	Transistor (Sink)	Transistor (Source)	-	Transistor (Sink)
ON Voltage (Max.)	Relay version: < 240VAC, < 30VDC; Transistor version: 5 - 30VDC						
Max. Output Current	Per Output (A)	-	2	0.1	0.1	-	0.1
	Per 4 Outputs (A)	-	-	4	0.8	0.8	-
5VDC Current Consumption (mA)	30	30	50	30	50	60	100
Weight (kg)	0.15	0.15	0.15	0.15	0.15	0.2	0.2
Dimensions (W x H x D) mm	14.6 x 90 x 87	20.2 x 90 x 89	24.2 x 90 x 89	14.6 x 90 x 87	14.6 x 90 x 87	26.2 x 90 x 87	26.2 x 90 x 87