

MITSUBISHI ELECTRIC Inverter

Sales and Service

No. 778EA

Addition of Branch Circuit Protection Devices to Comply with the UL 61800-5-1 Standard for the FR-E800 Series Inverters

Thank you for your continued patronage of Mitsubishi Electric drive control products.

For the FR-E800 series inverters, branch circuit protection devices to comply with the UL 61800-5-1 standard will be added.

1. Products Affected

FR-E800 series (not including FR-E846 and FR-E800-HVC)

2. Details of Change

For branch circuit protection to comply with the UL 61800-5-1 standard, UL Class fuses and molded-case circuit breakers (MCCB) will be added.

For selection according to the power supply and capacity of the inverter to be used, refer to the following tables (1) to (5).

For information on the already compliant semiconductor fuses, refer to the Inverter Safety Guideline.

(1) Three-phase 200 V class

FR-E820-□	Input current (A)	Output current (A)	SCCR 31 kA			SCCR 10 kA	
			UL Class fuse			MCCB	
			Rated current (A)	Rated voltage (V)	Minimum Enclosure Volume (in ³)	Rated current (A)	Minimum Enclosure Volume (in ³)
0008 (0.1K)	1.9	1.3	3	600	3051	15	3051
0015 (0.2K)	3.0	2.0	6	600	3051	15	3051
0030 (0.4K)	5.1	3.5	10	600	3051	15	3051
0050 (0.75K)	8.2	6.0	15	600	3051	15	3051
0080 (1.5K)	12.5	9.6	20	600	3051	30	3051
0110 (2.2K)	16.1	12.0	25	600	3051	40	3051
0175 (3.7K)	25.5	19.6	40	600	3051	60	3051
0240 (5.5K)	37.1	30.0	60	600	3051	60	3051
0330 (7.5K)	48.6	40.0	70	600	3051	80	3051
0470 (11K)	74.3	56.0	110	600	3051	125	3051
0600 (15K)	90.5	69.0	150	600	3051	150	3051
0760 (18.5K)	112.9	88.0	175	600	3051	175	3051
0900 (22K)	139.5	115.0	200	600	3051	225	3051

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(2) Three-phase 400 V class

FR-E840-[]	Input current (A)	Output current (A)	SCCR 31 kA			SCCR 10 kA	
			UL Class fuse			MCCB	
			Rated current (A)	Rated voltage (V)	Minimum Enclosure Volume (in ³)	Rated current (A)	Minimum Enclosure Volume (in ³)
0016 (0.4K)	3.3	2.1	6	600	3051	15	3051
0026 (0.75K)	6.0	3.5	10	600	3051	15	3051
0040 (1.5K)	8.9	5.5	15	600	3051	15	3051
0060 (2.2K)	10.7	6.9	15	600	3051	20	3051
0095 (3.7K)	16.2	11.1	25	600	3051	30	3051
0120 (5.5K)	24.9	17.5	35	600	3051	40	3051
0170 (7.5K)	32.4	23.0	45	600	3051	50	3051

FR-E840-[]	Input current (A)	Output current (A)	SCCR 31 kA			SCCR 10 kA	
			UL Class fuse			MCCB	
			Rated current (A)	Rated voltage (V)	Minimum Enclosure Volume (in ³)	Rated current (A)	Minimum Enclosure Volume (in ³)
0230 (11K)	46.7	35.0	70	600	3051	75	3051
0300 (15K)	54.2	41.0	80	600	3051	100	3051
0380 (18.5K)	59.1	45.0	90	600	3051	100	3051
0440 (22K)	75.6	60.0	110	600	3051	125	3051

(3) Three-phase 575 V class

FR-E860-[]	Input current (A)	Output current (A)	SCCR 31 kA			SCCR 10 kA	
			UL Class fuse			MCCB	
			Rated current (A)	Rated voltage (V)	Minimum Enclosure Volume (in ³)	Rated current (A)	Minimum Enclosure Volume (in ³)
0017 (0.75K)	4.3	2.5	10	600	3051	15	3051
0027 (1.5K)	5.9	3.6	10	600	3051	15	3051
0040 (2.2K)	8.9	5.6	20	600	3051	15	3051
0061 (3.7K)	12.4	8.2	25	600	3051	20	3051
0090 (5.5K)	15.9	11.0	30	600	3051	30	3051
0120 (7.5K)	22.4	16.0	35	600	3051	40	3051

(4) Single-phase 200 V class

FR-E820S-□	Input current (A)	Output current (A)	SCCR 31 kA			SCCR 10 kA	
			UL Class fuse			MCCB	
			Rated current (A)	Rated voltage (V)	Minimum Enclosure Volume (in ³)	Rated current (A)	Minimum Enclosure Volume (in ³)
0008 (0.1K)	2.3	0.8	3	600	3051	15	3051
0015 (0.2K)	4.1	1.5	6	600	3051	15	3051
0030 (0.4K)	7.9	3.0	10	600	3051	15	3051
0050 (0.75K)	11.2	5.0	20	600	3051	15	3051
0080 (1.5K)	17.9	8.0	30	600	3051	20	3051
0110 (2.2K)	25.0	11.0	35	600	3051	40	3051

(5) Single-phase 100 V class

FR-E810W-□	Input current (A)	Output current (A)	SCCR 31 kA			SCCR 10 kA	
			UL Class fuse			MCCB	
			Rated current (A)	Rated voltage (V)	Minimum Enclosure Volume (in ³)	Rated current (A)	Minimum Enclosure Volume (in ³)
0008 (0.1K)	3.7	0.8	Not available			15	3051
0015 (0.2K)	6.8	1.5	Not available			15	3051
0030 (0.4K)	12.4	3.0	Not available			15	3051
0050 (0.75K)	19.6	5.0	Not available			20	3051

For the details, refer to the Technical News MF-S-187.

Technical News MF-S-187 is available via the following link.

https://www.mitsubishielectric.com/fa/document/technews/inv/mf-s-187e/mfs187a_eng.pdf

3. Date of Application

The relevant devices can be applied to the FR-E800 series (not including FR-E846 and FR-E800-HVC) regardless of the date of manufacture.

There will be no change in the inverter.