

FCA Series



- Input 187-528 VAC Single Phase
- Adjustable Output Voltage
- High Peak Current Capability
- Overvoltage Protection
- Overcurrent Protection
- DIN Rail Option Available
- International Safety Approvals

Specification

Input

Input Voltage	• 187-528 VAC single phase (FCA50/70 W: 265-746 VDC, FCA200 W: 265-530 VDC)
Input Frequency	• 47-63 Hz
Input Current	• See table
Inrush Current	• 25 A typical at 240 VAC 50 A typical at 480 VAC
Power Factor	• FCA200: 0.98 typical at 240 VAC, 0.93 typical at 480 VAC
Earth Leakage Current	• FCA50/75: 0.75 mA, FCA200: 1.50 mA at 60Hz
Input Protection	• FCA50/75: 5 A internal fuse FCA200: 10 A internal fuse

Output

Output Voltage	• See table
Output Voltage Trim	• $\pm 10\%$
Initial Set Accuracy	• $\pm 5\%$
Minimum Load	• No minimum load required
Start Up Delay	• 800 ms max
Start Up Rise Time	• 20 ms max. (240VAC input, 100% load)
Hold Up Time	• FCA50/75: 10 ms typical, FCA200: 100 ms typical (240 VAC input, 100% load)
Drift	• 100 mV max, (any eight hour period after a half-hour warm-up at 25 °C, input voltage constant at rated input/output).
Line Regulation	• 96 mV max
Load Regulation	• 150 mV max
Ripple & Noise	• 680 mV pk-pk max, 20 MHz b/w
Overvoltage Protection	• 115-140% Vnom
Overtemperature Protection	• Shuts down at 60 °C, auto recovery (FCA200 only)
Overload Protection	• >105% of peak current and recovers automatically
Short Circuit Protection	• FCA50-75: Constant current FCA200: Trip and restart (Hiccup mode)
Temperature Coefficient	• 600 mV max, -10 °C to +50 °C

General

Efficiency	• 81% typical at 240 VAC, 78% typical at 480 VAC
Isolation	• 3000 VAC Input to Output 2000 VAC Input to Ground 500 VAC Output to Ground
Switching Frequency	• FCA50/75: 120 kHz FCA200: 80 kHz - PFC, 120 kHz - PWM
Power Density	• FCA50: 0.9 W/In ³ , FCA75: 0.8 W/In ³ , FCA200: 0.7 W/In ³
MTBF	• FCA50/75: 438 kHrs per EIAJ RCR-9102 FCA200: 233 kHrs per EIAJ RCR-9102

Environmental

Operating Temperature	• FCA50/75: -10 °C to +70 °C FCA200: -10 °C to +60 °C (see derating curve)
Cooling	• Convection-cooled
Operating Humidity	• 20-90% RH, non-condensing
Storage Temperature	• -20 °C to +75 °C
Operating Altitude	• 3000 m max
Shock	• 20 g, 11 ms once on each axis (with DIN rail attachment (N1) X direction only)
Vibration	• 10-55 Hz, 2 g 3 minute period, 60 minutes along each axis (with DIN rail attachment (N1) X direction only)

EMC & Safety

Emissions	• Complies with FCC-A, CISPR11-A, EN55011-A
Harmonic Currents	• EN61000-3-2, class A
Voltage Flicker	• EN61000-3-3
ESD Immunity	• EN61000-4-2, level 2 Perf Criteria A
Radiated Immunity	• EN61000-4-3, level 3 Perf Criteria A
EFT/Burst	• EN61000-4-4, level 3 Perf Criteria A
Surge	• EN61000-4-5, Level 4 Perf Criteria A
Conducted Immunity	• EN61000-4-6, level 3 Perf Criteria A
Dips & Interruptions	• EN61000-4-11, 30 % 10 ms, 60 % 100 ms, 95 % 5000 ms Perf Criteria A, A, B
Safety Approvals	• UL60950-1, C-UL, EN60950-1, (EN50178 FCA75 and FCA75)

Models and Ratings

Input Current (typ)		Output Voltage	Output Current	Peak Output Current	Model Number ⁽³⁾
240 VAC	480 VAC				
0.55 A	0.30 A	24 V	2.1 A	6.7 A ⁽¹⁾	FCA50F-24
0.80 A	0.45 A	24 V	3.1 A	10 A ⁽¹⁾	FCA75F-24
1.10 A	0.55 A	24 V	8.4 A	42 A ⁽²⁾	FCA200F-24

Notes

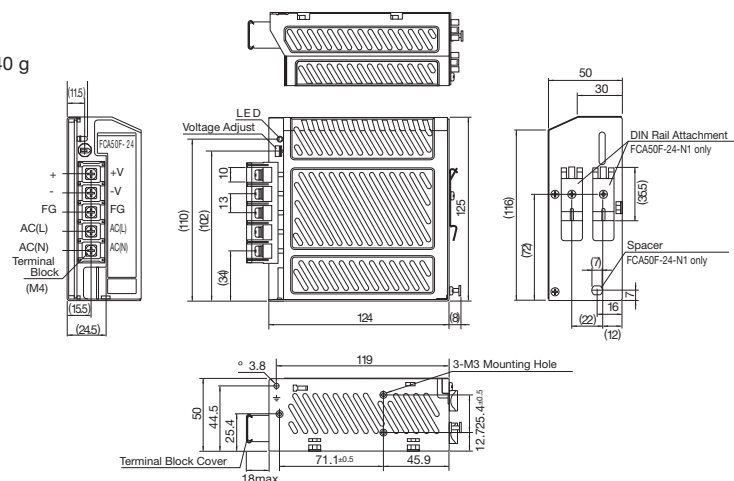
1. Peak current 150 ms max, in every 30 seconds.
2. Peak current 50 ms max, in every 30 seconds.

3. For DIN rail attachment, add suffix '-N1' to model number e.g. FCA50F-24-N1

Mechanical Details

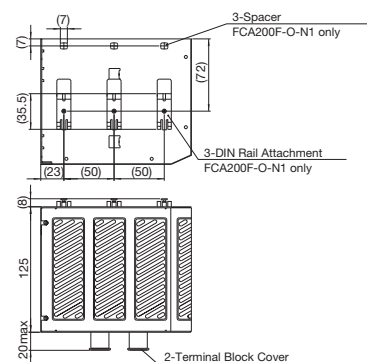
FCA50

Weight: <640 g



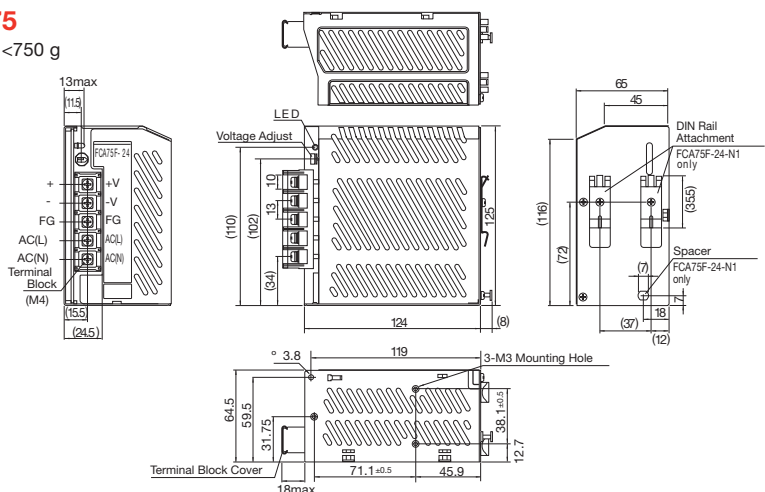
FCA200

Weight: <1700 g



FCA75

Weight: <750 g

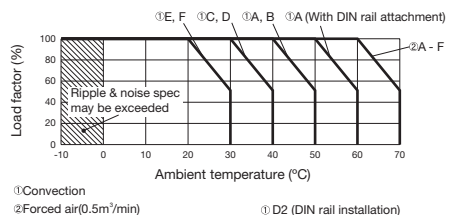


Notes

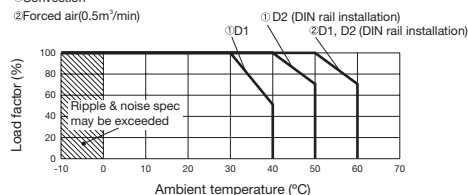
1. All measurements are in mm. Tolerance: ±1 mm
2. Mounting torque: 0.6 Nm

Derating Curve

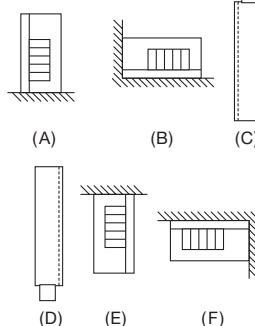
FCA50/75



FCA200



FCA50/75



FCA200

