

## FCA50F

FCA 50 F -24 -□

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FCA



RoHS



- ① Series name  
 ② Output wattage  
 ③ Universal input  
 ④ Output voltage  
 ⑤ Optional \*6  
 N1 :with DIN rail attachment

|                       |                    |
|-----------------------|--------------------|
| MODEL                 | FCA50F-24          |
| MAX OUTPUT WATTAGE[W] | 50(Peak 160)       |
| DC OUTPUT             | 24V 2.1(Peak 6.7)A |

## SPECIFICATIONS

|                               |                                      |                                                                                                                |
|-------------------------------|--------------------------------------|----------------------------------------------------------------------------------------------------------------|
|                               | MODEL                                | FCA50F-24                                                                                                      |
| INPUT                         | VOLTAGE[V]                           | AC187 - 528 1 φ or DC265 - 746                                                                                 |
|                               | CURRENT[A]                           | ACIN 240V 0.55typ<br>ACIN 480V 0.30typ                                                                         |
|                               | FREQUENCY[Hz]                        | 50/60 (47 - 63)                                                                                                |
|                               | EFFICIENCY[%]                        | ACIN 240V 82typ<br>ACIN 480V 78typ                                                                             |
|                               | INRUSH CURRENT[A]                    | ACIN 240V 25typ (At cold start) (At Room Temperature)<br>ACIN 480V 50typ (At cold start) (At Room Temperature) |
|                               | LEAKAGE CURRENT[ma]                  | 0.75max (60Hz, According to IEC62368-1)                                                                        |
| OUTPUT                        | VOLTAGE[V]                           | 24                                                                                                             |
|                               | CURRENT[A]                           | *1 2.1 (Peak 6.7)                                                                                              |
|                               | LINE REGULATION[mV]                  | 96max                                                                                                          |
|                               | LOAD REGULATION[mV]                  | 0 - 2.1A 150max<br>0 - 6.7A 480max                                                                             |
|                               | RIPPLE[mVp-p]                        | 0 to +50°C *2 240max<br>-10 - 0°C *2 320max                                                                    |
|                               | RIPPLE NOISE[mVp-p]                  | 0 to +50°C *2 680max<br>-10 - 0°C *2 720max                                                                    |
|                               | TEMPERATURE REGULATION[mV]           | -10 to +50°C 600max                                                                                            |
|                               | DRIFT[mV]                            | *5 100max                                                                                                      |
|                               | START-UP TIME[ms]                    | 800max (ACIN 240V, Io=100%)                                                                                    |
|                               | HOLD-UP TIME[ms]                     | 10typ (ACIN 240V, Io=100%)                                                                                     |
| PROTECTION CIRCUIT AND OTHERS | OVERCURRENT PROTECTION               | Works over 105% of peak current and recovers automatically                                                     |
|                               | OVERVOLTAGE PROTECTION               | Works at 115 - 140% of rating                                                                                  |
|                               | OPERATING INDICATION                 | LED (Green)                                                                                                    |
| ISOLATION                     | INPUT-OUTPUT                         | AC3,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (At Room Temperature)                                 |
|                               | INPUT-FG                             | AC2,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (At Room Temperature)                                 |
|                               | OUTPUT-FG                            | AC500V 1minute, Cutoff current = 100mA, DC500V 50MΩ min (At Room Temperature)                                  |
| ENVIRONMENT                   | OPERATING TEMP., HUMID. AND ALTITUDE | -10 to +70°C, 20 - 90%RH (Non condensing) (Refer to DERATING CURVE), 3,000m (10,000feet) max                   |
|                               | STORAGE TEMP., HUMID. AND ALTITUDE   | -20 to +75°C, 20 - 90%RH (Non condensing), 9,000m (30,000feet) max                                             |
|                               | VIBRATION                            | *3 10 - 55Hz, 19.6m/s <sup>2</sup> (2G), 3minutes period, 60minutes each along X, Y and Z axis                 |
|                               | IMPACT                               | *3 196.1m/s <sup>2</sup> (20G), 11ms, once each X, Y and Z axis                                                |
| SAFETY AND NOISE REGULATIONS  | AGENCY APPROVALS                     | UL60950-1, C-UL, EN62368-1                                                                                     |
|                               | CONDUCTED NOISE                      | Complies with FCC-A, CISPR11-A, EN55011-A                                                                      |
| OTHERS                        | CASE SIZE/WEIGHT                     | *4 50×125×124mm (W×H×D) / 640g max                                                                             |
|                               | COOLING METHOD                       | Convection                                                                                                     |

\*1 Peak current for 150ms in a 30seconds period is acceptable.

\*2 In case of rated input/output(ACIN240-480V/2.1A), either the 20MHz oscilloscope or the ripple noise meter(equivalent to Keisokugiken:RM101) is used.

\*3 Option with DIN rail attachment(N1) is only for direction X(refer to sec4.2 in manual).

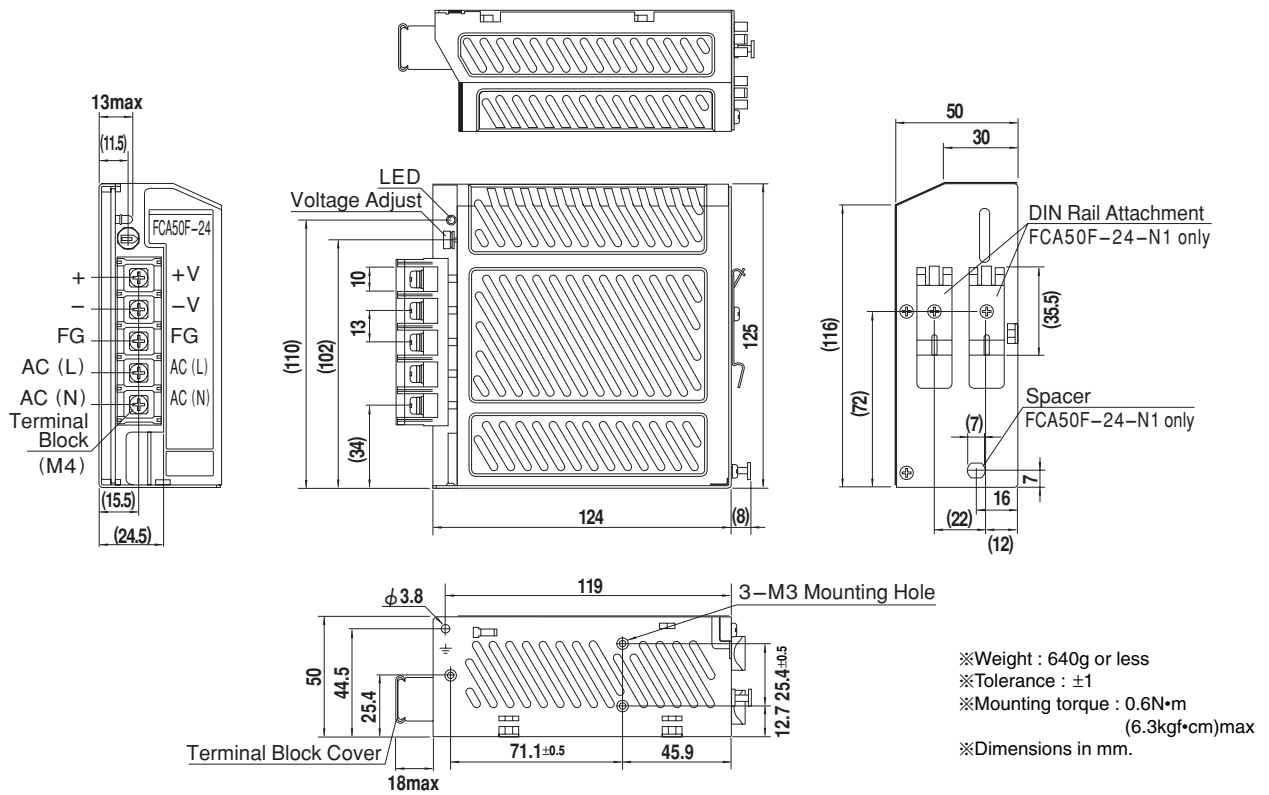
\*4 Depth of power supply is 132mm with DIN rail attachment.

\*5 Drift is the change in DC output for an eight hour period after a half-hour warm-up at 25°C, with the input voltage held constant at the rated input/output.

\*6 Please contact us about safety approvals for the model with option.

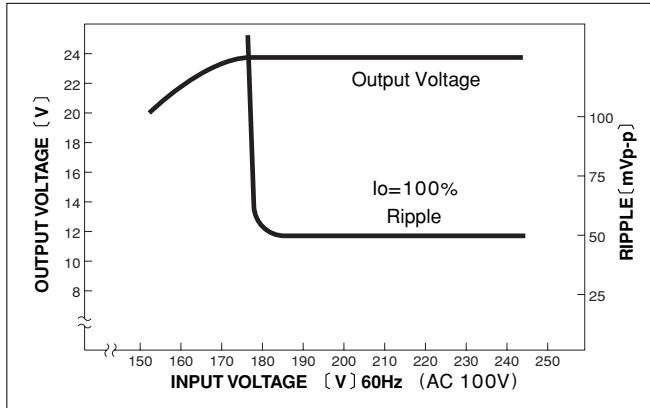
## External view

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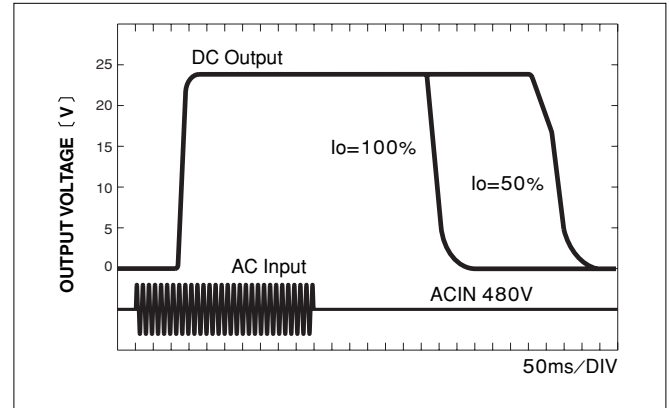


## Performance data

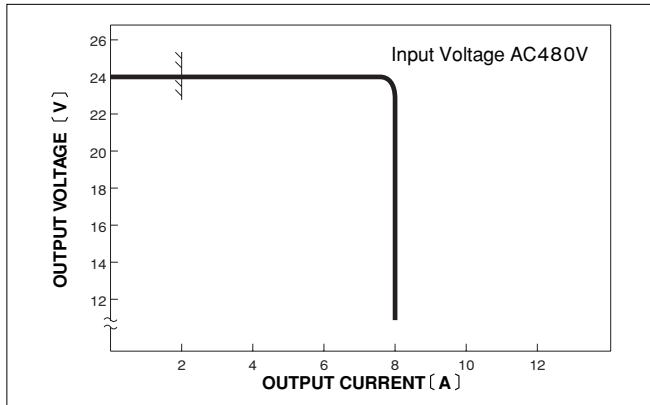
## ■ STATIC CHARACTERISTICS



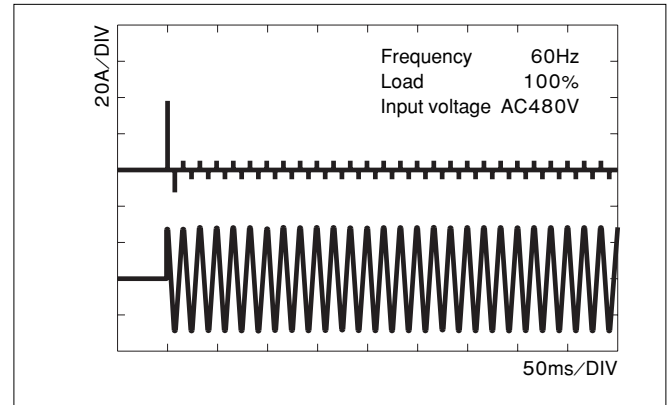
## ■ RISE TIME &amp; FALL TIME



## ■ OVERCURRENT CHARACTERISTICS



## ■ INRUSH CURRENT



# FCA75F

FCA 75 F -24 -□

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- ① Series name
- ② Output wattage
- ③ Universal input
- ④ Output voltage
- ⑤ Optional \*6  
N1 :with DIN rail attachment

|                       |                   |
|-----------------------|-------------------|
| MODEL                 | FCA75F-24         |
| MAX OUTPUT WATTAGE[W] | 75(Peak 240)      |
| DC OUTPUT             | 24V 3.1(Peak 10)A |

## SPECIFICATIONS

|                               |                                      |                                                                                                                |
|-------------------------------|--------------------------------------|----------------------------------------------------------------------------------------------------------------|
|                               | MODEL                                | FCA75F-24                                                                                                      |
| INPUT                         | VOLTAGE[V]                           | AC187 - 528 1 φ or DC265 - 746                                                                                 |
|                               | CURRENT[A]                           | ACIN 240V 0.80typ<br>ACIN 480V 0.45typ                                                                         |
|                               | FREQUENCY[Hz]                        | 50/60 (47 - 63)                                                                                                |
|                               | EFFICIENCY[%]                        | ACIN 240V 82typ<br>ACIN 480V 78typ                                                                             |
|                               | INRUSH CURRENT[A]                    | ACIN 240V 25typ (At cold start) (At Room Temperature)<br>ACIN 480V 50typ (At cold start) (At Room Temperature) |
|                               | LEAKAGE CURRENT[ma]                  | 0.75max (60Hz, According to IEC62368-1)                                                                        |
| OUTPUT                        | VOLTAGE[V]                           | 24                                                                                                             |
|                               | CURRENT[A]                           | *1 3.1 (Peak 10)                                                                                               |
|                               | LINE REGULATION[mV]                  | 96max                                                                                                          |
|                               | LOAD REGULATION[mV]                  | 0 - 3.1A 150max<br>0 - 10A 480max                                                                              |
|                               | RIPPLE[mVp-p]                        | 0 to +50℃ *2 240max<br>-10 - 0℃ *2 320max                                                                      |
|                               | RIPPLE NOISE[mVp-p]                  | 0 to +50℃ *2 680max<br>-10 - 0℃ *2 720max                                                                      |
|                               | TEMPERATURE REGULATION[mV]           | -10 to +50℃ 600max                                                                                             |
|                               | DRIFT[mV]                            | *5 100max                                                                                                      |
|                               | START-UP TIME[ms]                    | 800max (ACIN 240V, Io=100%)                                                                                    |
|                               | HOLD-UP TIME[ms]                     | 10typ (ACIN 240V, Io=100%)                                                                                     |
| PROTECTION CIRCUIT AND OTHERS | OVERCURRENT PROTECTION               | Works over 105% of peak current and recovers automatically                                                     |
|                               | OVERVOLTAGE PROTECTION               | Works at 115 - 140% of rating                                                                                  |
|                               | OPERATING INDICATION                 | LED (Green)                                                                                                    |
| ISOLATION                     | INPUT-OUTPUT                         | AC3,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (At Room Temperature)                                 |
|                               | INPUT-FG                             | AC2,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (At Room Temperature)                                 |
|                               | OUTPUT-FG                            | AC500V 1minute, Cutoff current = 100mA, DC500V 50MΩ min (At Room Temperature)                                  |
| ENVIRONMENT                   | OPERATING TEMP., HUMID. AND ALTITUDE | -10 to +70℃, 20 - 90%RH (Non condensing) (Refer to DERATING CURVE), 3,000m (10,000feet) max                    |
|                               | STORAGE TEMP., HUMID. AND ALTITUDE   | -20 to +75℃, 20 - 90%RH (Non condensing), 9,000m (30,000feet) max                                              |
|                               | VIBRATION                            | *3 10 - 55Hz, 19.6m/s <sup>2</sup> (2G), 3minutes period, 60minutes each along X, Y and Z axis                 |
|                               | IMPACT                               | *3 196.1m/s <sup>2</sup> (20G), 11ms, once each X, Y and Z axis                                                |
| SAFETY AND NOISE REGULATIONS  | AGENCY APPROVALS                     | UL60950-1, C-UL, EN62368-1                                                                                     |
|                               | CONDUCTED NOISE                      | Complies with FCC-A, CISPR11-A, EN55011-A                                                                      |
| OTHERS                        | CASE SIZE/WEIGHT                     | *4 65×125×124mm (W×H×D) / 750g max                                                                             |
|                               | COOLING METHOD                       | Convection                                                                                                     |

\*1 Peak current for 150ms in a 30seconds period is acceptable.

\*2 In case of rated input/output(ACIN240-480V/3.1A), either the 20MHz oscilloscope or the ripple noise meter(equivalent to Keisokugiken:RM101) is used.

\*3 Option with DIN rail attachment(N1) is only for direction X(refer to sec4.2 in manual).

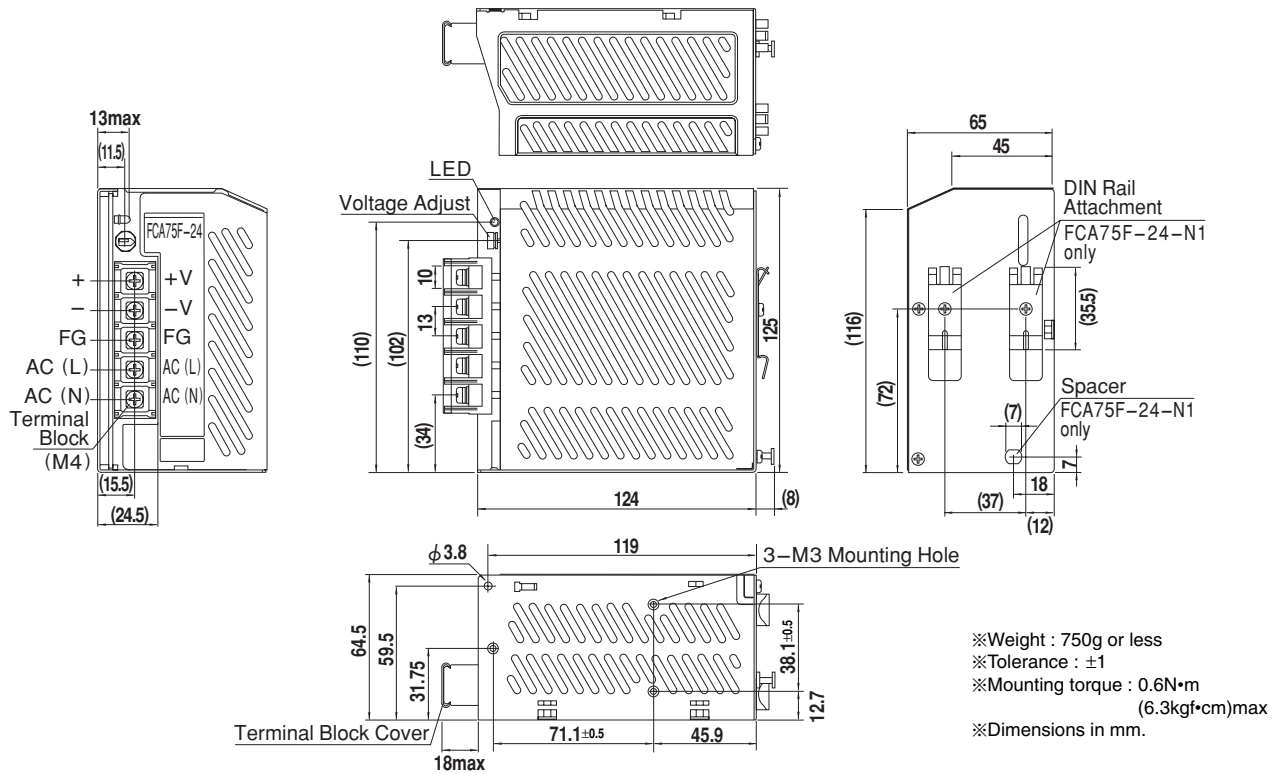
\*4 Depth of power supply is 132mm with DIN rail attachment.

\*5 Drift is the change in DC output for an eight hour period after a half-hour warm-up at 25℃, with the input voltage held constant at the rated input/output.

\*6 Please contact us about safety approvals for the model with option.

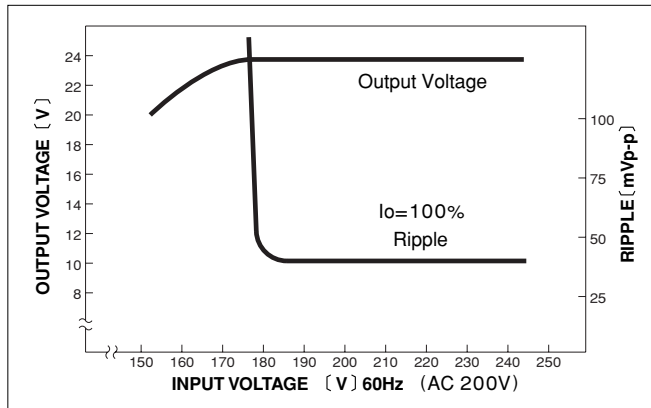
## External view

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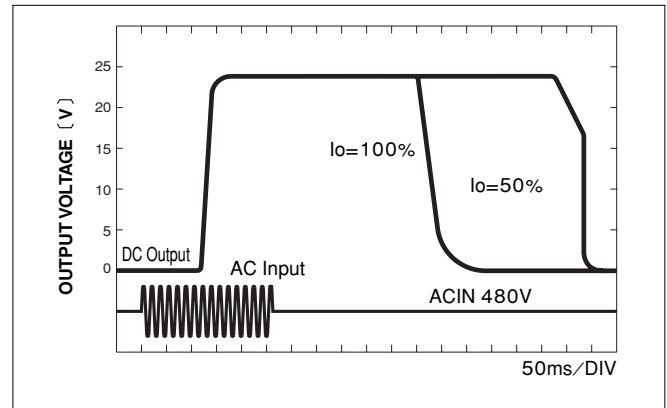


## Performance data

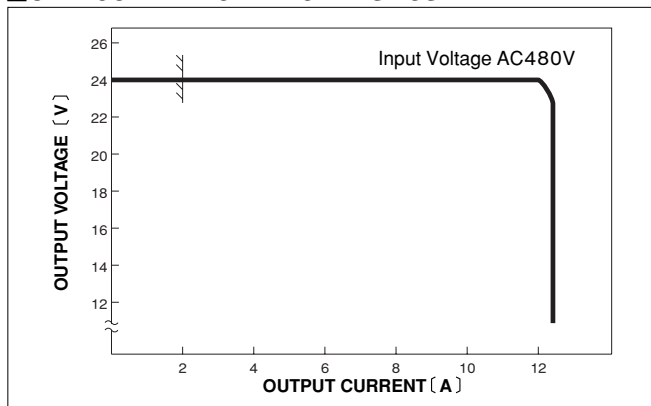
## ■ STATIC CHARACTERISTICS



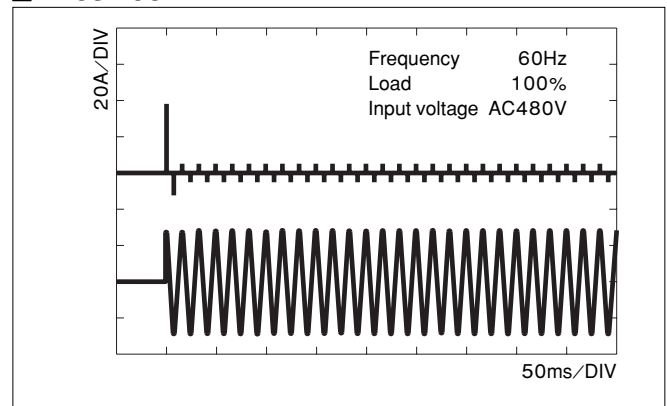
## ■ RISE TIME &amp; FALL TIME



## ■ OVERCURRENT CHARACTERISTICS



## ■ INRUSH CURRENT



## FCA200F

FCA 200 F -24 -□

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FCA



RoHS



- ① Series name  
 ② Output wattage  
 ③ Universal input  
 ④ Output voltage  
 ⑤ Optional \*6  
 N1: with DIN rail attachment

|                       |                    |
|-----------------------|--------------------|
| MODEL                 | FCA200F-24         |
| MAX OUTPUT WATTAGE[W] | 200 (Peak 1,008)   |
| DC OUTPUT             | 24V 8.4 (Peak 42)A |

## SPECIFICATIONS

|                               |                                      |                                                                                                                |
|-------------------------------|--------------------------------------|----------------------------------------------------------------------------------------------------------------|
| INPUT                         | MODEL                                | FCA200F-24                                                                                                     |
|                               | VOLTAGE[V]                           | AC187 - 528 1 φ or DC265 - 530                                                                                 |
|                               | CURRENT[A]                           | ACIN 240V 1.10typ<br>ACIN 480V 0.55typ                                                                         |
|                               | FREQUENCY[Hz]                        | 50/60 (47 - 63)                                                                                                |
|                               | EFFICIENCY[%]                        | ACIN 240V 81typ<br>ACIN 480V 81typ                                                                             |
|                               | POWER FACTOR                         | ACIN 240V 0.98typ<br>ACIN 480V 0.93typ                                                                         |
|                               | INRUSH CURRENT[A]                    | ACIN 240V 25typ (At cold start) (At Room Temperature)<br>ACIN 480V 50typ (At cold start) (At Room Temperature) |
|                               | LEAKAGE CURRENT[ma]                  | 1.5max (60Hz, According to IEC62368-1)                                                                         |
|                               | VOLTAGE[V]                           | 24                                                                                                             |
|                               | CURRENT[A]                           | *1 8.4 (Peak 42)                                                                                               |
| OUTPUT                        | LINE REGULATION[mV]                  | 96max                                                                                                          |
|                               | LOAD REGULATION[mV]                  | 0 - 8.4A 150max                                                                                                |
|                               | RIPPLE[mVp-p]                        | 0 to +50°C *2 240max<br>-10 - 0°C *2 320max                                                                    |
|                               | RIPPLE NOISE[mVp-p]                  | 0 to +50°C *2 680max<br>-10 - 0°C *2 720max                                                                    |
|                               | TEMPERATURE REGULATION[mV]           | -10 to +50°C 600max                                                                                            |
|                               | DRIFT[mV]                            | *5 100max                                                                                                      |
|                               | START-UP TIME[ms]                    | 800max (ACIN 240V, Io=100%)                                                                                    |
|                               | HOLD-UP TIME[ms]                     | 100typ (ACIN 240V, Io=100%)                                                                                    |
|                               | OUTPUT VOLTAGE ADJUSTMENT RANGE[V]   | 21.6 - 26.4                                                                                                    |
| PROTECTION CIRCUIT AND OTHERS | OVERCURRENT PROTECTION               | Works over 105% of peak current and recovers automatically                                                     |
|                               | OVERVOLTAGE PROTECTION               | Works at 115 - 140% of rating                                                                                  |
|                               | OPERATING INDICATION                 | LED (Green)                                                                                                    |
| ISOLATION                     | INPUT-OUTPUT                         | AC3,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (At Room Temperature)                                 |
|                               | INPUT-FG                             | AC2,000V 1minute, Cutoff current = 10mA, DC500V 50MΩ min (At Room Temperature)                                 |
|                               | OUTPUT-FG                            | AC500V 1minute, Cutoff current = 100mA, DC500V 50MΩ min (At Room Temperature)                                  |
| ENVIRONMENT                   | OPERATING TEMP., HUMID. AND ALTITUDE | -10 to +60°C, 20 - 90%RH (Non condensing) (Refer to DERATING CURVE), 3,000m (10,000feet) max                   |
|                               | STORAGE TEMP., HUMID. AND ALTITUDE   | -20 to +75°C, 20 - 90%RH (Non condensing), 9,000m (30,000feet) max                                             |
|                               | VIBRATION                            | *3 10 - 55Hz, 19.6m/s <sup>2</sup> (2G), 3minutes period, 60minutes each along X, Y and Z axis                 |
|                               | IMPACT                               | *3 196.1m/s <sup>2</sup> (20G), 11ms, once each X, Y and Z axis                                                |
| SAFETY AND NOISE REGULATIONS  | AGENCY APPROVALS                     | UL60950-1, C-UL, EN62368-1                                                                                     |
|                               | CONDUCTED NOISE                      | Complies with FCC-A, CISPR11-A, EN55011-A                                                                      |
| OTHERS                        | CASE SIZE/WEIGHT                     | *4 150 X 125 X 125mm (W X H X D) / 1,700g max                                                                  |
|                               | COOLING METHOD                       | Convection                                                                                                     |

\*1 Peak current for 50ms in a 30seconds period is acceptable.

\*2 In case of rated input/output(ACIN240-480V/8.4A), either the 20MHz oscilloscope or the ripple noise meter(equivalent to Keisokugiken:RM101) is used.

\*3 Option with DIN rail attachment(N1) is only for direction X(refer to sec4.2 in manual).

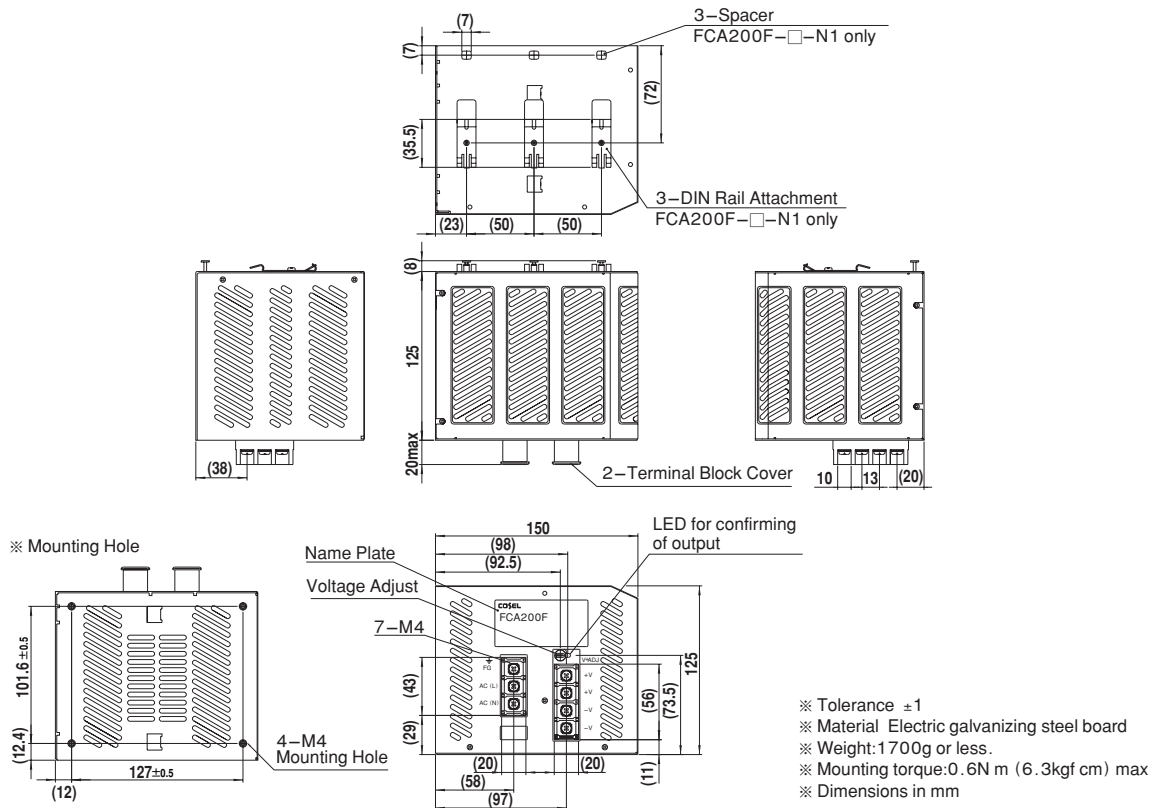
\*4 Depth of power supply is 133mm with DIN rail attachment.

\*5 Drift is the change in DC output for an eight hour period after a half-hour warm-up at 25°C, with the input voltage held constant at the rated input/output.

\*6 Please contact us about safety approvals for the model with option.

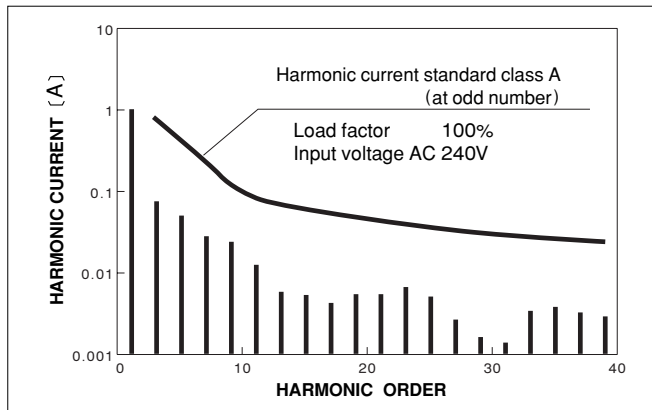
## External view

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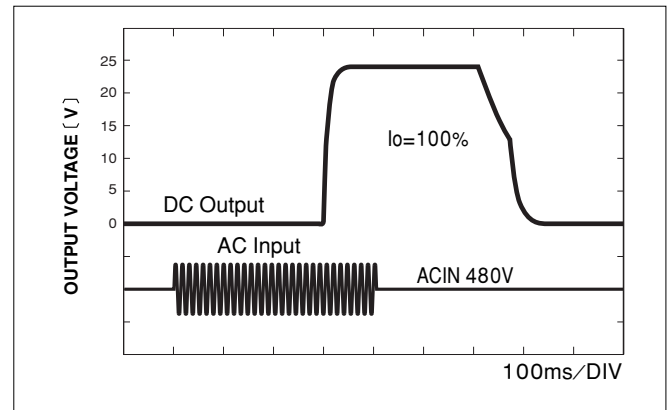


## Performance data

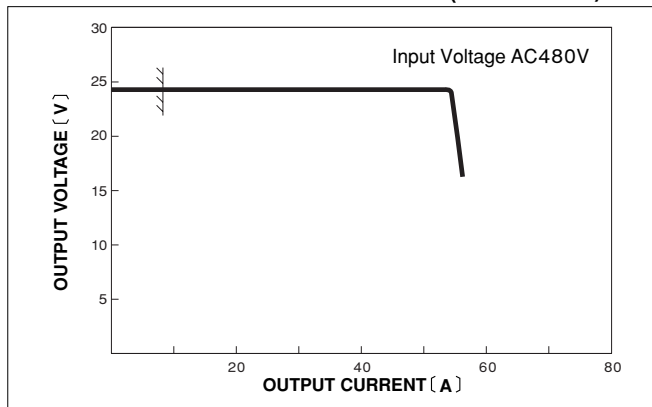
## INPUT HARMONIC CURRENT (FCA200F-24)



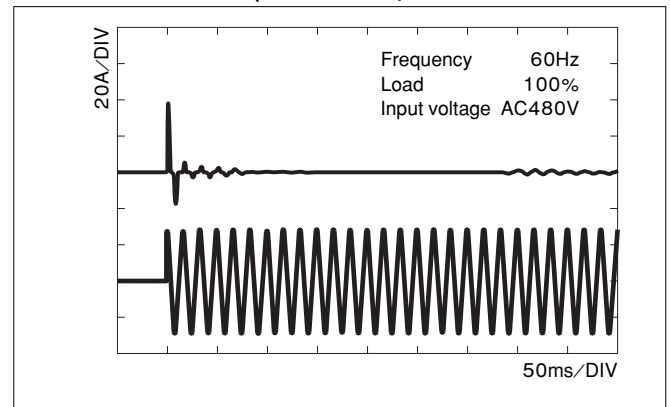
## RISE TIME &amp; FALL TIME (FCA200F-24)



## OVERCURRENT CHARACTERISTICS (FCA200F-24)



## INRUSH CURRENT (FCA200F-24)



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