

# FE5A AC-DC Front End Data Sheet

## Three-Phase Input, 5000 Watts



### Features

- Three-phase Ac input
- High efficiency: 90% at full load
- 11.8 Watts/cubic inch power density
- Power factor corrected
- No minimum load required
- Single-wire current sharing
- Current limit and over-voltage protection
- Full power up to 50° C
- Compact size: 5" x 5" x 17"
- LED supply status indicators
- TUV, cTUVus & CB report

Model Number	Output Rating
FE5A-1D-0	12V/400A
FE5A-1E-0	15V/330A
FE5A-1F-0	24V/208A
FE5A-1G-0	28V/180A
FE5A-1H-0	36V/140A
FE5A-1J-0	48V/104A
Options O = M (Output power good – TTL high); N (Power fail – TTL high); R (Reverse airflow)	

### Description

The ultra-compact FE5A Series Front-End Power Supply provides a single isolated output of up to 5000-Watts with inputs ranging from 365 Vac to 528 Vac, 3 phase, and can handle frequencies from 47 Hz to 63 Hz. Designed for high current applications requiring a compact size. The FE5A series operates either as a standalone unit or as part of rack-mounted power systems. The supply provides true front-end capability to automatic test equipment, telecom, data communications, and other distributed power designs.

### Input Specifications

**Input voltage range:** 380 to 498 Vac, 480 Vac Nominal, Three Phase, 47 to 63 Hz.

**Power Factor:** >0.95 at full load and nominal line

**Inrush Current:** 40 A peak hot and cold start

**Input Protection:** 15A internal fuse per line is provided

### Signals and Controls

**LED Output Good Indicator:** Front panel green LED indicates power supply is good; amber indicates fault.

**LED AC Good Indicator:** Front panel green LED indicates Ac input voltage is present and above minimum level.

**Output Good Signal\*:** TTL compatible signal, normally high. Goes low when power supply is out of specified range.

**Power Fail Signal\*:** TTL compatible signal, normally high (indicating Vin is present and above minimum level).

**Enable\*:** Normally TTL High, drive low to enable.

\*All interface signals are TTL compatible

### Output Specifications

**Output Power:** 5000 W maximum

**Output Voltage & Current Ratings:** See chart shown above

**Overshoot/Undershoot:** Less than 1% at turn-on or turn-off. Less than 2% for 50% to 100% load step.

**Start-Up Time:** Less than 3 seconds

**Efficiency:** 90% typical measured at full load, nominal input

**Hold-up Time:** 20 ms minimum at full load and low line

**Overcurrent Protection:** Set to 105-130% of full rated load with automatic recovery

**Overtemperature Protection:** Automatic shutdown with auto recovery.

**Remote Sense:** Compensates for voltage drop of up to 0.5 V to the load. Shorted sense lead protection.

**Overvoltage Protection:** Set at 120%-130% of nominal; reset by cycling input power.

**Output Noise and Ripple:** PARD: 1% of output voltage measured at 20 Mhz bandwidth.

**Single Wire Current Share:** 5% full load rating

**Load Regulation:** 0.5% with remote sense, 2% without

**Line Regulation:** 0.2% over entire operating range

**Minimum Load:** No minimum load required

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### Safety & Environmental

#### Temperature Range:

Operating: 0 to 50°C

Storage: -40°C to +85°C

**Operating Humidity:** Maximum 95% RH non-condensing

**Operating Altitude:** 10,000 feet

**Non-operating Altitude:** 40,000 feet

**Temperature Coefficient:** 0.01% per °C within rated load

**Safety Agency Compliance:** TUV, cTUVus & CB report

**EMI:** Meets EN55022, Class A

**Harmonic Suppression:** Meets EN6100-3-2

#### Input Transient Protection:

Electrostatic Discharge: EN61000-4-2, Criteria B

Radiated, Radio-Frequency, Electromagnetic Field:

EN61000-4-3, Criteria A

Electrical Fast Transients/Burst: EN61000-4-4, Criteria B

Voltage Fluctuations and Flickers: EN61000-3-3, Criteria B

Surge Test: EN61000-4-5, Criteria B

Conducted Immunity: EN61000-4-6, Criteria A

### Safety & Environmental (continued)

#### Dielectric Withstand:

Input-to-ground: 2121 Vdc

Input-to-output: 4242 Vdc

Output-to-case: 50 Vdc

**Ac Leakage Current:** 2mA maximum at 480 Vac, 60 Hz

### Mechanical Specifications

**Size:** 5" H x 5" W x 17" D

**Input/Output Connector:** Elcon Double Drawer male connector

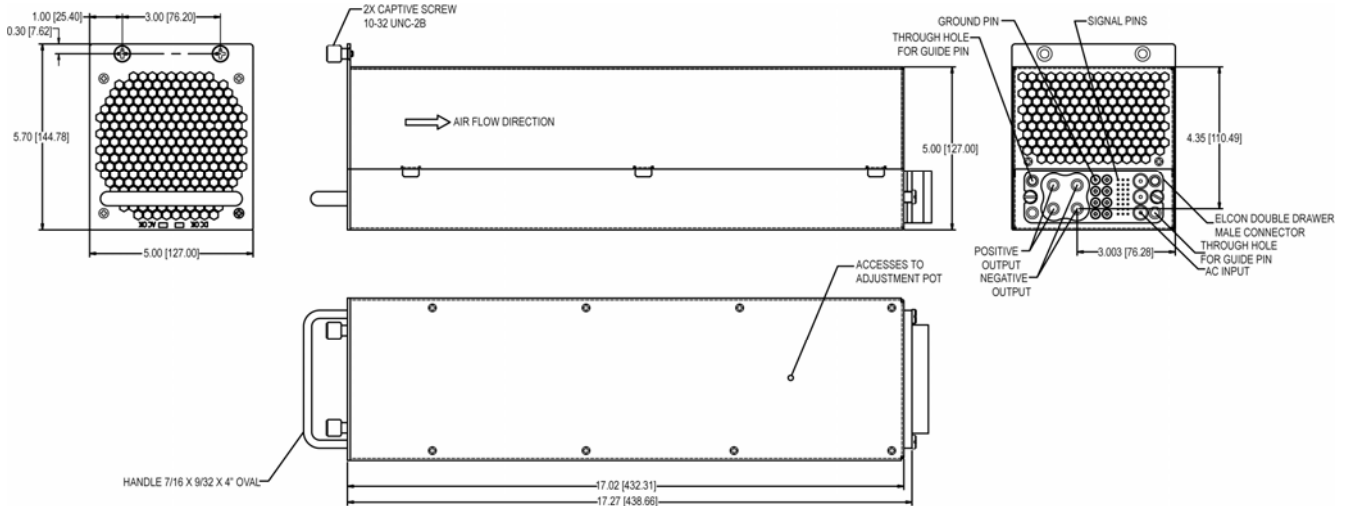
**Mating Connector:** Elcon Double Drawer female connector

**MTBF:** 100,000 hours calculated at 50°C, Bellcore Standard

**Warranty:** Two years from date of shipment, standard product only

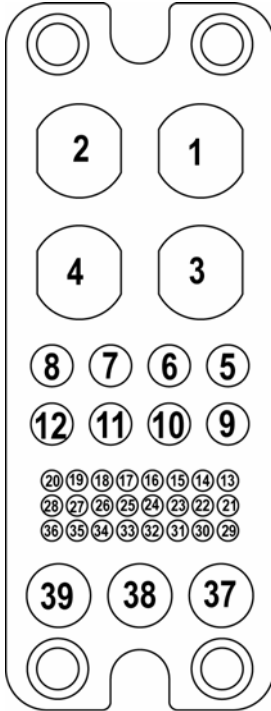
Specifications are subject to change without notice.

### Outline Drawing and Dimensions





**Connector Pin Descriptions**



**FRONT VIEW**

Pin Number	Signal Name
1	Output (+)
2	Output (+)
3	Output (-)
4	Output (-)
9	Chassis Ground
17	I_Share_M
18	Remote Sense S+
19	DC_Enable (See Note 1)
20	PF_HI (See Note 2)
26	Remote Sense S-
27	Logic_Rtn
28	Pwr_OK (See Note 3)
37	Input Line A
38	Input Line B
39	Input Line C

Notes
1. To turn on output, short Dc-Enable pin # 19 to Logic_Rtn, Pin #27 and short pin 29 to pin 21
2. Ac Good: PF_Hi Pin #20 ref. to Logic_Rtn Pin #27
3. Output Good: Pwr_OK Hi Pin #28 ref. to Logic_Rtn Pin #27

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TECHNICAL REVISIONS - The appearance of products, including safety agency certifications pictured on labels, may change depending on the date manufactured. Specifications are subject to change without notice.