3-PHASE, UNIVERSAL INPUT

FSA120-11-3PH
120 WATT, 3-PHASE DIN RAIL SWITCHING POWER SUPPLIES

FEATURES

- 120% of rated power ensures reliable startup of heavy loads.
- 3-Phase AC Input or DC Input. No manual switching.
- 75% of rated power for 2-phase operation
- Input Filtering, Power Factor meets EN61000-3-2
- Output voltage adjustment
- Overload and Short Circuit Protections
- ”DC OK” visual indicator LED
- Compact Size
- Industrial design and rugged construction quality
- Low EMI meets EN55022, FCC-15B, EN55024 standards
- Certified to UL 508 safety standard

DESCRIPTION

System power solutions. These 3-Phase DIN RAIL power supplies offer high quality, performance and value. They are designed to absorb a power surge to ensure startup of heavy loads. These units are “*parallel capable*” to permit load sharing and increased reliability for industrial and critical system applications.

State of the art technology. Switching technology and small compact high-frequency transformers achieve high DC regulation and stability in small lightweight packages. The Power Factor meets or exceeds EN61000-3-2 requirements.

Easy installation, safety and reliability. These power supplies have a rugged metal case (IP-20 rated) and a secure metal DIN Rail mounting clip. DIN screw terminals are easily accessible to ensure a safe and reliable installation. (2). A visual LED indicator monitors the operating status of the unit.

INPUT SPECIFICATIONS

Input Voltage	3AC: 340–575V max, 3AC: 400–500V nominal DC: 450～820V nominal
Input Frequency	47 to 63 Hz
Input Current (1)	3AC: 3 x 0.5A max DC: 1.2A max
Inrush Current (1)	< 25A (typ)
Power Factor	Conforms to EN61000-3-2
Earth Leakage Current (touch current)	< 3.5 mA Input / Enclosure < 0.25mA Output / Enclosure
Internal Fuse Protection	3 x T 1.5A / 250V (delay mode)

GENERAL SPECIFICATIONS

Construction	Industrial rugged metal case (IEC60529)
Connectors / Terminals	Screw terminals (IP-20 rating)
DIN Rail Mounting Bracket	Metal, Secure snap-on spring-loaded clip
Adjustable Settings	Output voltage is adjustable
Efficiency (1)	89% min
Cooling, Temp Coefficient	Free air, ambient, 0.02% /ºC
Parallel Operation	Use with external diode
Status Indicators	”DC OK” LED
Status Monitor Signal	(n/a)
AC Voltage Isolation	3000V In to Out, 1500V In to Ground, 500V Out to Enclosure

OUTPUT SPECIFICATIONS

Total Output Power	Refer to Rating Chart for each model
Output Voltage / Current	Refer to Rating Chart for each model
Output Adjustability	Refer to Rating Chart for each model
Output Peak Power	120% of rated max.
Minimum Load	No minimum load required
Start Up Time	< 1 Sec
Hold Up Time	≥ 15 mSec
Line Regulation	< ± 0.5%
Load Regulation, Drift	< ± 1%
Transient Response	< 500mV overshoot for 50%-100% load change, @ 0.2A / µSec rate
Ripple and Noise	< 100 mV pk-pk
Damage Protections:	Continuous Protection & auto recovery.
Short Circuit:	Auto recovery
Overvoltage:	Above 110% to 130% of max rating
Overcurrent:	Above 125% to 150% of max rating
Reverse Voltage Protection	<35 V (1)

ENVIRONMENTAL

Operating Temperature	–10 ºC to +70 ºC. From 60 ºC to 70 ºC, de-rate linearly from 100% to 50% load.
Storage Temperature	–40 °C to +85 °C
Operating Humidity	10% to 90% RH, non-condensing
Vibration and Shock	IEC68-2-6 and IEC68-2-27

EMC and SAFETY (2)

EMI Standards	EN55022, FCC-15B, EN55024
Safety Standards	UL508, UL60950-1
Harmonic Distortion	Meets EN61000-3-2

NOTES

1. Depends upon 3AC or DC input operation.
2. Products are rated for industrial environments and are not to be used nor are warranted in aerospace, medical or lifesafety applications.

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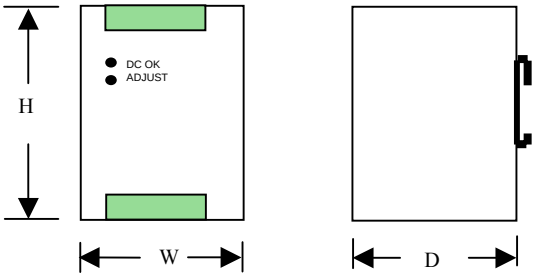
OUTPUT VOLTAGE / CURRENT RATINGS

MODEL	OUTPUT VOLTAGE	ADJUST RANGE	CURRENT	OUTPUT POWER
FSA120–11-3PH	24 V nominal	24 – 28 V	5.0 – 4.3 A	120 W max

MECHANICAL SPECIFICATIONS



FSA120-11-3PH Series

WIDTH	HEIGHT	DEPTH
2.56“ (65mm)	4.96” (126mm)	4.61” (117mm)

WEIGHT: 1.65 lbs (750g)

NOTES

1. DEPTH excludes the 0.3125” (9mm) DIN Rail mounting bracket.
2. WEIGHT is ‘net’, excluding packaging/shipping.
3. Recommended clearances at higher ambient operating temperatures for proper airflow and heat dissipation: 25mm sides, 70mm top/bottom.
4. Air flow is required to flow vertically from bottom to top to allow internal heat to escape at the top.

PIN ASSIGNMENTS

CONNECTOR	TERMINAL	TYPE	RECOMMENDED WIRE SIZE
AC Input (4)	L1, L2, L3, ⏚	Screw Terminals	Up to 6 AWG ($13.3\ mm^2$ area solid wire)
DC Output (4)	+, +, –, –	Screw Terminals	Up to 6 AWG ($13.3\ mm^2$ area solid wire)

NOTES

1. TERMINALS - Two positive “+” and two negative “–” DC output terminals on the unit, are respectively connected in parallel inside the unit. They actually belong to the same output pole. It is recommended that both “+” and both “–” output terminals be connected to the load.
2. PARALLEL OPERATION TO INCREASE OUTPUT POWER. The same models must be used and the output voltages of all units must be set to the same value. The load connection wires are recommended to be of the same gauge and length. Add an isolating diode or DC fuse at the positive outputs of each of the units. Check all earth leakage currents.
3. PARALLEL OPERATION FOR REDUNDANCY APPLICATION. To increase reliability of system, two units of the same model may be used for redundancy operation. In normal operation, each unit supplies 50% of load current. When a failure occurs on unit 1, then unit 2 immediately and automatically overrides unit 1 to continue the operation and supply 100% of the load current. All load connection wires should the same gauge and length and unit output voltages must be set as close as possible to the same value. Add a fuse or decoupling diode at the positive outputs of the two units. Check all earth leakage currents.
4. “DC OK” LED INDICATOR. The indicator lights up indicating the unit operate is operating normally. The indicator flashes indicating the output voltage is over normal value or a load shortcircuit, overload or overheat condition exists. The indicator turns off indicating a power failure or there is no AC input.