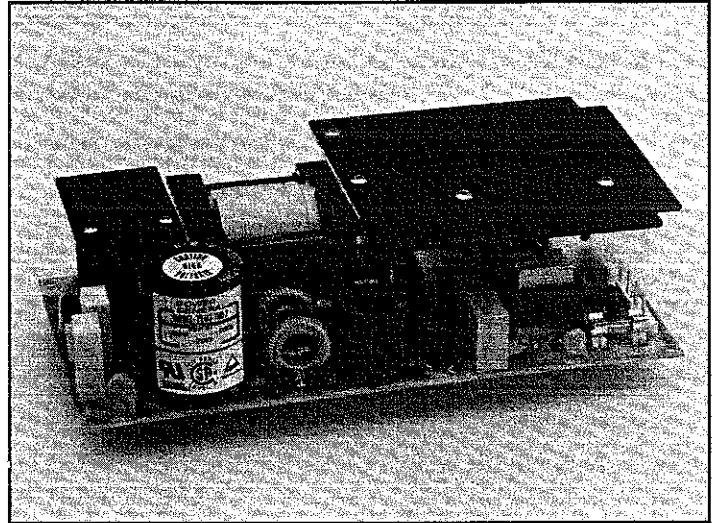


100W TRIPLE OUTPUT SWITCHING POWER SUPPLIES —UNIVERSAL INPUT RANGE, ULTRA-HIGH RELIABILITY—

FEATURES

- Universal Input Voltage Range
- 100 Watts Continuous Output Power
- UL1950 Approved
- CSA C22.2-220/C22.2-950 Approved
- Meets VDE0805
- TUV/EN60950/IEC950 Approved
- VDE/FCC Class B Input Line Filter
- 0% Minimum Load on All Outputs
- Over-Current Protection
- Short-Circuit Protection
- 2-Year Warranty
- **Minimum 165,000 Hours MTBF**



APPLICATIONS

- Data Communications Equipment
- Microcomputer-Based Systems
- Industrial Equipment and Instrumentation

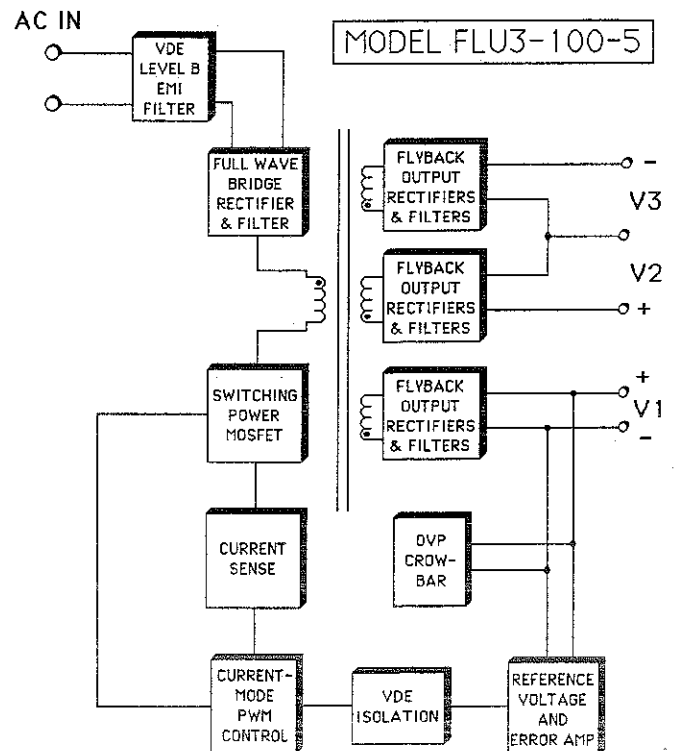
FLU3-100 is a series of three-output, 100-watt, open-frame switching power supplies. Approved to international safety agency standards, these supplies offer high-performance features such as a universal input voltage range of 85 VAC to 265 VAC (or 100-370 VDC) and an on-board EMI filter that complies to VDE/FCC Class B specifications.

Six models provide dc output of +5.0V and combinations of $\pm 12V$, $\pm 15V$, and $\pm 24V$. Standard features include 16-millisecond hold-up time, 5300 VDC input/output isolation and an on-board input line fuse. The series provides current limiting, soft start, indefinite short-circuit protection and over-voltage protection. The series' efficiency rating is 65 percent, minimum; primary load regulation is 1.0 percent; the primary is adjustable ± 5 percent.

The FLU3-100 series is designed for ultra-high reliability. The minimum MTBF (calculated per the "parts stress" method outlined in MIL-HDBK 217E) is greater than 165,000 hours. Operation is specified over the temperature range of $0^{\circ}C$ to $+70^{\circ}C$ with cooling by natural convection.

All models are fabricated on a compact, double-sided 4.0 x 8.0-inch printed circuit board with a maximum component height of 2.2 inches.

FUNCTIONAL BLOCK DIAGRAM



FLU3-100 SERIES

GENERAL SPECIFICATIONS

AC INPUT	Universal input voltage range, 85-265 VAC single phase, or 100-370 VDC.
INPUT LINE FREQUENCY	47-63 Hz.
INPUT LINE PROTECTION	MOV. Input line fuse provided on-board. (See Note 1.)
EMI FILTER	Standard. Exceeds requirements of VDE/FCC Class B by 10 dB, typical.
DC OUTPUT	See voltage/current rating chart.
CONTINUOUS OUTPUT POWER	100 watts, maximum.
OUTPUT VOLTAGE ADJUST	Adjustable $\pm 5\%$.
EFFICIENCY	65%, minimum.
HOLD-UP TIME	16 ms at 115 VAC; 40 ms at 230 VAC.
OVERLOAD PROTECTION	Power-limit circuit.
SHORT-CIRCUIT PROTECTION	Indefinite.
OVER-VOLTAGE PROTECTION	Primary output only, crowbar type, 120% V_{OUT} ; typical.
SOFT START	Standard on all models. Prevents output overshoot and power transformer saturation at turn-on.
DESIGN TOPOLOGY	Flyback converter, current-mode control.
FREQUENCY OF OPERATION	25 kHz (fixed).
HI-POT ISOLATION	5300 VDC, input-to-output for one minute. (See Note 2.)
NOISE, RIPPLE and SPIKES	1% peak-to-peak, maximum. (See Note 3.)
TRANSIENT RESPONSE	4 ms recovery to within 1% of regulation band with 5% maximum deviation.

ENVIRONMENTAL OPERATING CHARACTERISTICS

TEMPERATURE RANGE	0°C to +70°C
OUTPUT POWER DERATING	Derate output power and current linearly 2%/°C from +50°C to +70°C.
TEMPERATURE COEFFICIENT	$\pm 0.05\%/^{\circ}\text{C}$ over the entire operating temperature range.
RELATIVE HUMIDITY	0 to 95%, non-condensing.
ALTITUDE	0 to 10,000 feet.
COOLING	Convection cooling is adequate. When operating in a confined area, moving air is recommended.

STORAGE CHARACTERISTICS

TEMPERATURE RANGE	-40°C to +85°C.
RELATIVE HUMIDITY	0 to 95%, non-condensing.

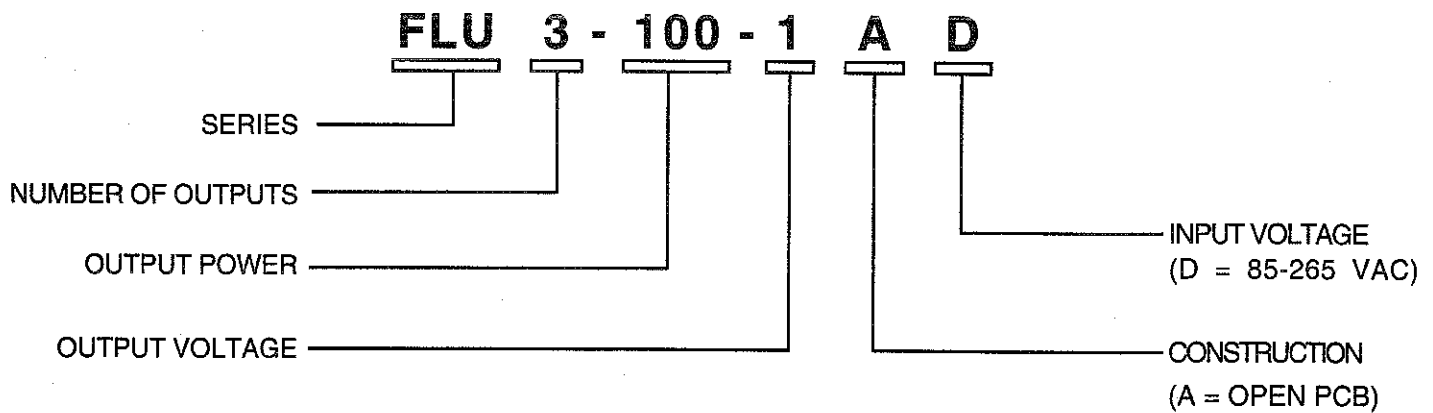
RELIABILITY

MEAN TIME BETWEEN FAILURES.....>165,000 hours. (See Note 4.)

Notes:

1. Replace input line fuse with the same type and rating. Recommended: **3.5A/250 VAC slow-blow** fuse.
2. Hi-Pot isolation is 2200 VDC between input and ground for one minute.
3. Peak-to-peak and RMS metering equipment shall have a 20 MHz response with probes and cables maintaining a frequency response of 20 Hz to 20 MHz. Output ripple and spikes are measured directly at the output terminals of the power supply across a 0.1 μF ceramic capacitor without use of the probe ground.
4. Calculated per the "parts stress" method as outlined in MIL-HDBK 217E. Assumes ground benign and +25°C.

MODEL SELECTION GUIDE



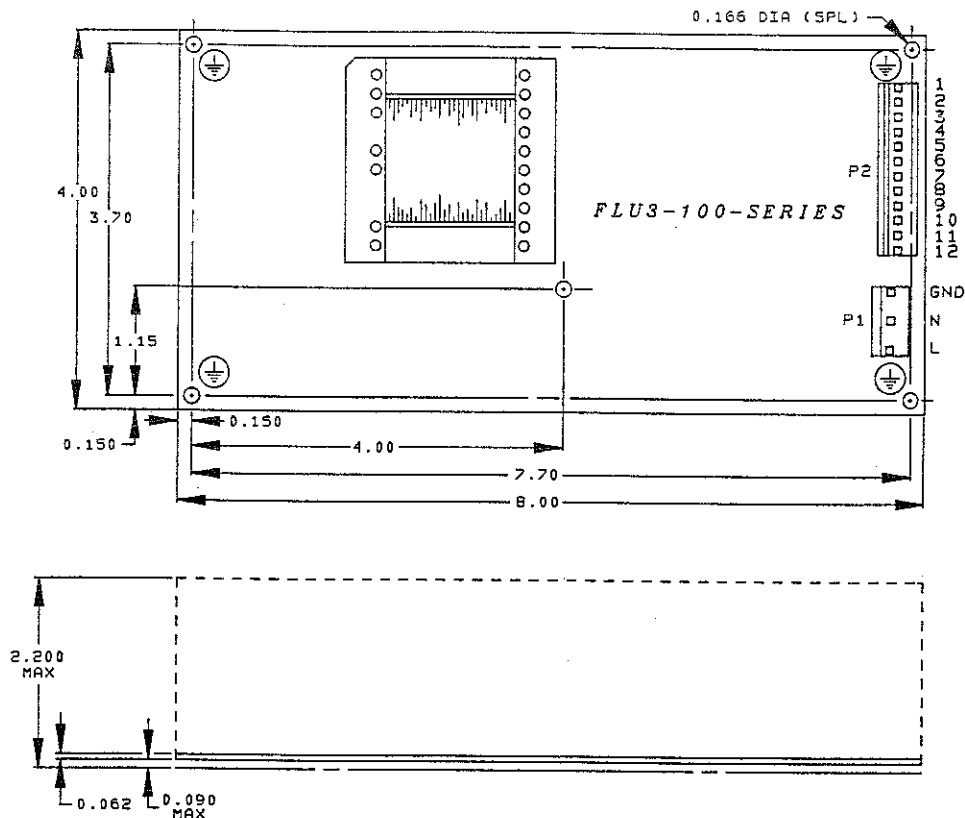
Model Number	Output Voltage		Output Current			Output Voltage Tolerance (Note 1)	Line Reg. (Note 2)	Load Reg. (Note 3)	Cross-Reg. (Note 4)
			Min. (A)	Nom. (A)	Max. (A)				
FLU3-100-1	V1	+5.0	0.0	10	15	±1%	0.2%	1.0%	—
	V2	+12	0.0	3.0	8.0	±5%	0.5%	3.0%	3.0%
	V3	-5.0	0.0	1.0	1.0	±5%	0.5%	1.0%	0.5%
FLU3-100-2	V1	+5.0	0.0	10	15	±1%	0.2%	1.0%	—
	V2	+12	0.0	3.0	8.0	±5%	0.5%	3.0%	3.0%
	V3	-12	0.0	1.0	1.0	±5%	0.5%	1.0%	0.5%
FLU3-100-3	V1	+5.0	0.0	10	15	±1%	0.2%	1.0%	—
	V2	+24	0.0	1.5	4.0	±5%	1.0%	3.0%	3.0%
	V3	-5.0	0.0	1.0	1.0	±5%	0.2%	1.0%	0.5%
FLU3-100-4	V1	+5.0	0.0	10	15	±1%	0.2%	1.0%	—
	V2	+24	0.0	1.5	4.0	±5%	1.0%	3.0%	3.0%
	V3	-12	0.0	1.0	1.0	±5%	0.2%	1.0%	0.5%
FLU3-100-5	V1	+5.0	0.0	10	15	±1%	0.2%	1.0%	—
	V2	+12	0.0	2.0	3.0	±5%	0.5%	5.0%	4.0%
	V3	-12	0.0	2.0	3.0	±5%	0.5%	5.0%	4.0%
FLU3-100-6	V1	+5.0	0.0	10	15	±1%	0.2%	1.0%	—
	V2	+15	0.0	1.6	2.2	±5%	0.5%	5.0%	4.0%
	V3	-15	0.0	1.6	2.2	±5%	0.5%	5.0%	4.0%

Notes:

- Output voltage tolerance is measured under nominal load conditions.
- Line regulation is measured under nominal load conditions with the input voltage varied from 85 to 265 VAC.
- Load regulation is measured at 115 VAC or 230 VAC input. The output being measured is brought to 60 percent of nominal load; that load current is then varied +40 percent/-30 percent of nominal load. The other output is held at nominal load conditions.
- Cross-regulation is tested by changing the load on the primary output from 50 percent to 100 percent of nominal load while measuring the voltage change on the auxiliary output.
- All measurements should be made directly at the terminals of the power supply.
- The FLU3-100 series is approved to UL1950 (File E140439), CSA C22.2-220/C22.2-950 (File LR52335), and EN60950/IEC950 (TUV License R9171540).

FLU3-100 SERIES

MECHANICAL OUTLINE AND PIN CONFIGURATION



Notes:

1. Dimensions shown are in inches.
2. Tolerances = 0.00 ±0.01
0.000 ±0.005

PIN-OUT

Pin	FLU3-100-1	FLU3-100-2	FLU3-100-3	FLU3-100-4	FLU3-100-5	FLU3-100-6
1	COMMON	COMMON	COMMON	COMMON	COMMON	COMMON
2						
3						
4	V1	V1	V1	V1	V1	V1
5						
6						
7	COMMON	COMMON	COMMON	COMMON	COMMON	COMMON
8	V2	V2	V2	V2	V2	V2
9	V2	V2	V2	V2	COMMON	COMMON
10	V3	V3	V3	V3	V3	V3
11	COMMON	COMMON	COMMON	COMMON	N/A	N/A
12	N/A	N/A	N/A	N/A		

CONNECTORS

P1 Input Connector

MOLEX 09-74-1051

Pin	Function
1	AC Line
2	AC Neutral
3	Ground

MOLEX Mating Connector:

Housing 09-50-1051
Crimp Terminal 08-70-1030

P2 Output Connector

MOLEX 09-74-1121

MOLEX Mating Connector

Housing 09-50-1121
Crimp Terminal 08-70-1030