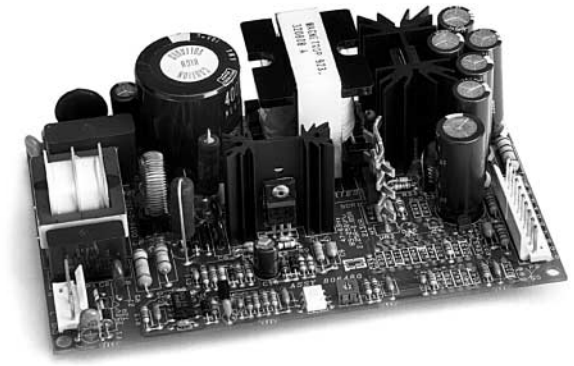
80-100W

Open-Frame Switching Power Supplies

- ✔ Convection-Cooled Single, Triple, Quad Output Models
- ✔ 85-265 VAC Universal Input
- ✔ *CE* Mark: UL/CSA/EN60950 Approvals
- ✔ EN55022/FCC Class B Input Line Filter
- ✔ 0% Minimum Load Requirement
- ✔ Over-Current/Short-Circuit Protection
- ✔ Over-Voltage Protection
- ✔ Remote Output Sensing
- ✔ 2-Year Warranty
- ✔ Minimum 165,000-Hour MTBF



Characteristics

Input Voltage	Universal input range, 85-265 VAC single phase, or 100-370 VDC.
Input Line Frequency	47-440 Hz (50/60 Hz, nominal).
Input Line Protection	MOV transient protected. Input line fuse provided on-board (Note 1).
EMI Filter	Standard. Performance surpasses conducted EMI requirements of EN55022/FCC Class B by 10 dB, typ.
Continuous Output Power	FLU1-80 series, 80W, maximum. FLU1-100, FLU3-100, FLU4-100 series, 100W, maximum.
Output Voltage Adjust	Primary output adjustable ±5%; auxiliary outputs fixed.
Efficiency	65-75%, typical (115 or 230 VAC input, maximum load conditions).
Hold-Up Time	16 ms at 115 VAC input, 32 ms at 230 VAC input, minimum (full load).
Overload Protection	Power-limit circuit.
Short-Circuit Protection	Continuous.
Over-Voltage Protection	Primary output only (120% of rated output voltage, typical).
Soft Start	Standard on all models.
Design Topology	Flyback converter with current-mode control.
Frequency of Operation	FLU1-80 series, 50 kHz, fixed. FLU1-100, FLU3-100, FLU4-100 series, 25 kHz, fixed.
Electrical Strength/Isolation	5300 VDC, input-to-output for one minute. (Note 2.)
Noise, Ripple and Spike	1% peak-to-peak, maximum. (See Note 4.)
Transient Response	4 ms recovery to within 1% of the regulation band with no more than 5% deviation.
Temperature Range	-20°C to +70°C.
Output Power De-Rating	De-rate output power and current linearly 2%/°C from +50°C to +70°C.
Temperature Coefficient	±0.05%/°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. Moving air is recommended for operation in a confined area.
Storage Temperature	-40°C to +85°C.
Storage Humidity	0 to 95%, non-condensing.
Mean Time Between Failures	FLU1-80 series, >185,000 hours. FLU1-100, FLU3-100, FLU4-100 series, >165,000 hours. (Note 5)

Model	Output Voltage Output	(V)	Output Current Min. (A)	Nom. (A)	Max. (A)	Output Voltage Tol.	Line Reg.	Load Reg.	Cross-Reg.
80W AC-DC Single Output									85-265 VAC Input
FLU1-80-5AD	V1	24	0.00	3.30	3.30	1.0%	0.1%	0.2%	—
100W AC-DC Single Output									85-265 VAC Input
FLU1-100-1AD	V1	5	0.00	20.0	20.0	1.0%	0.2%	0.2%	—
FLU1-100-2AD	V1	12	0.00	8.30	8.30	1.0%	0.2%	0.2%	—
FLU1-100-4AD	V1	24	0.00	4.20	4.20	1.0%	0.2%	0.2%	—
100W AC-DC Triple Output									85-265 VAC Input
	V1	+5	0.00	10.0	15.0	1.0%	0.2%	1.0%	—
FLU3-100-2AD	V2	+12	0.00	3.00	8.00	5.0%	0.5%	3.0%	3.0%
	V3	- 12	0.00	1.00	1.00	5.0%	0.5%	1.0%	0.5%
100W AC-DC Quad Output									85-265 VAC Input
FLU4-100-3AD	V1	+5	0.0	10.0	15.0	1.0%	0.2%	1.0%	—
	V2	+12	0.0	1.80	3.00	5.0%	0.5%	5.0%	4.0%
	V3	- 12	0.0	1.80	3.00	5.0%	0.5%	5.0%	4.0%
	V4	$5_{(ISO)}$	0.0	1.00	2.00	3.0%	0.2%	1.0%	0.2%
FLU4-100-5AD	V1	+5	0.0	10.0	15.0	1.0%	0.2%	1.0%	—
	V2	+12	0.0	1.00	3.00	5.0%	0.5%	5.0%	4.0%
	V3	- 12	0.0	1.00	3.00	5.0%	0.5%	5.0%	4.0%
	V4	$24_{(ISO)}$	0.0	1.00	2.00	5.0%	0.5%	5.0%	4.0%
FLU4-100-6AD	V1	+5	0.0	10.0	15.0	1.0%	0.2%	1.0%	—
	V2	+15	0.0	0.80	2.20	5.0%	0.5%	5.0%	4.0%
	V3	- 15	0.0	0.80	2.20	5.0%	0.5%	5.0%	4.0%
	V4	$24_{(ISO)}$	0.0	1.00	2.00	5.0%	0.5%	5.0%	4.0%

Pin-Out

Pin	FLU1-80	FLU1-100	FLU3-100	FLU4-100
1	N/C	- Sense§	Common	Common
2	N/C	Return	Common	Common
3	- Sense§	Return	Common	Common
4	Return	Return	V1	V1
5	Return	Return	V1	V1
6	Return	Return	V1	V1
7	V1	V1	Common	Common
8	V1	V1	V2	V2
9	V1	V1	V2	Common
10	+Sense§	V1	V3	V3
11	N/A	V1	Common	- $V4_{(ISO)}$
12	N/A	+Sense§	N/A	+$V4_{(ISO)}$

§ If Remote Sense terminals on the FLU1-80 series are *not* used, tie Pins 1 and 2 together and tie Pins 9 and 10 together. If Remote Sense terminals on the FLU1-100 series are *not* used, tie Pins 1 and 2 together and tie Pins 11 and 12 together.

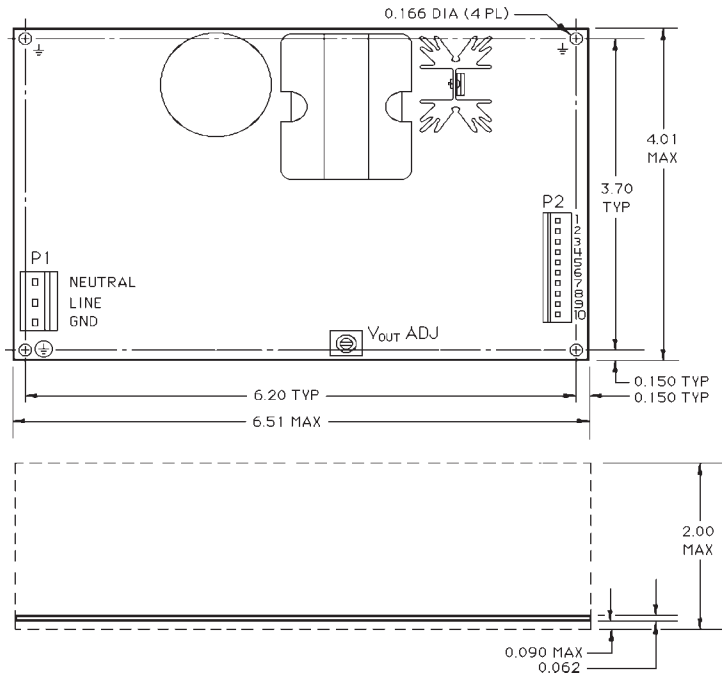
POWER GENERAL

80-100W

Open-Frame Switching Power Supplies

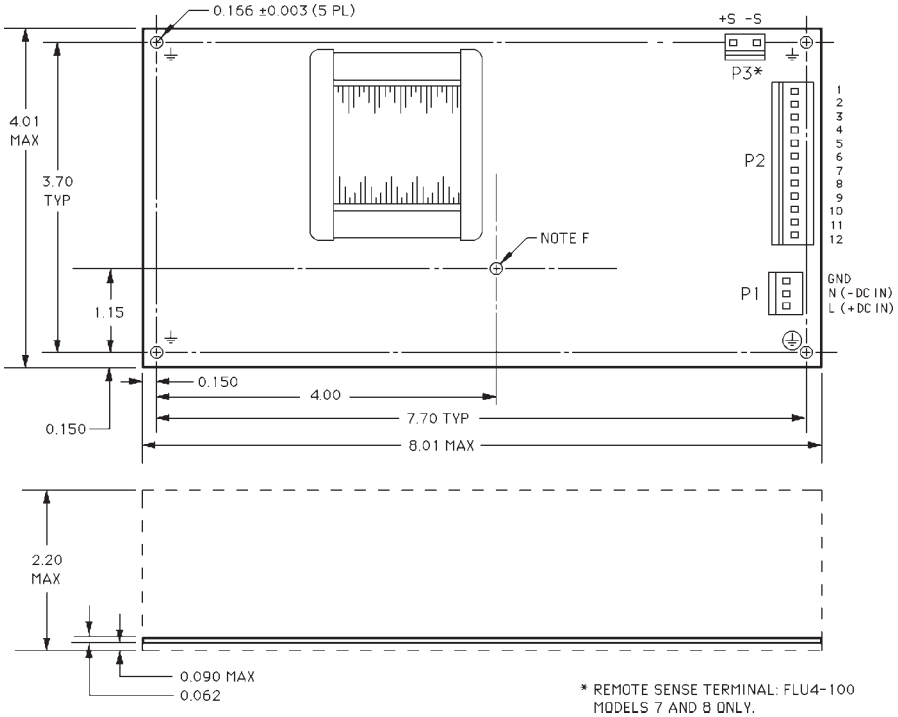
FLU1-80 SERIES

A. Dimensions shown are in inches.
B. Tolerances = 0.00 ±0.01 inch.
0.000 ±0.005 inch.
C. P1 input connectors are Molex 26-62-4051. The mating connector combines Molex housing 43061-0005 and crimp terminal 08-70-1030.
D. P2 output connectors are Molex 26-60-4100 The mating connector combines Molex housing 43061-0010 and crimp terminal 08-70-1030.
E. If Remote Sense is *not* used, tie together Pins 3 and 4, and tie together Pins 9 and 10.



Notes

1. Replace the input line fuse with the same type and rating. Recommended: FLU1-80 Series, 2A/250V slow-blow fuse; FLU1-100, FLU3-100, FLU4-100 Series, 3.5A/250V slow-blow fuse.
2. Electrical strength/isolation is 2200 VDC from the input of the power supply to ground for 60 seconds.
3. All measurements are made directly at the terminals of the supply.
4. Peak-to-peak and RMS metering equipment must have a 20 MHz frequency response with probes and cables that maintain a frequency response of 20 Hz to 20 MHz. Output ripple and spikes are measured directly at the output terminals of the power supply with a 0.1 µF ceramic capacitor. The probe ground band must make direct contact with the output return or the common terminal of the power supply to prevent erroneous noise measurements.
5. MTBF is calculated using the parts stress method in MIL-HDBK 217F (ground benign, T_A = +25°C).
6. Output voltage tolerance is measured under nominal load current conditions specified for the power supply.
7. Line regulation is measured under nominal load conditions as the input voltage is varied from 85 to 265 VAC.
8. Load regulation for the FLU1-80 series is measured at 115 VAC input. The output voltage is measured as the output current is varied from 0% to 100% of maximum load conditions. Load regulation for the FLU1-100, FLU3-100 and FLU4-100 series is measured at 115 VAC or 230 VAC input. The output under test is brought to 60% of nominal load; load current is then varied +40%/-30% of nominal while any other outputs are held at nominal load current conditions.
9. Cross-regulation is tested by changing the load on the primary output from 50% to 100% of nominal load while measuring the voltage change on the auxiliary output under test.
10. The Power General FLU1-100, FLU3-100 and FLU4-100 series are approved to UL1950 (File E140439), to CAN/CSA22.2 No. 234 (File LR52335), and to EN60950/IEC950/DIN VDE 0805 (TÜV Licenses R9071540 and R9071577.



* REMOTE SENSE TERMINAL: FLU4-100 MODELS 7 AND 8 ONLY.

FLU1-100/FLU3-100/ FLU4-100 SERIES

A. Dimensions shown are in inches.
B. Tolerances = 0.00 ±0.01 inch.
0.000 ±0.005 inch.
C. P1 input connectors are Molex 26-62-4051. The mating connector combines Molex housing 43061-0005 and crimp terminal 08-70-1030.
D. P2 output connectors are Molex 26-60-4120 The mating connector combines Molex housing 43061-0012 and crimp terminal 08-70-1030.
E. Safe use of the mid-board mounting hole on these power supplies requires non-conductive hardware.