



GXM60 Medical Single Output 60 Watt-Range Input High Efficiency Desk-Top Supply



FEATURES:

- Universal Input
- Small size, light weight
- Medically approved to UL2601-1, CSA 22.2 No. 601.1-M90, EN60601-1, and CB certified to IEC601-1.
- Ultra efficient - Up to 90%
- Spill proof external enclosure
- 2 year warranty
- **CE** marked to LVD

SPECIFICATIONS:

AC INPUT

90-264 Vac, 47-63 Hz single phase. Input power is less than 75 W when output power is less than 60 W, 230 Vac in. Meets EN61000-3-2 harmonics standard.

OUTPUT POWER

Total continuous output power is 60 W (55 for any unit less than 8 V), 65 W peak for 60 s 10% duty cycle. Total power specified from supply output, derate for cable losses.

OUTPUT REGULATION

Supply regulation is +/- 1%. However, actual regulation limits are affected by cable losses on units without remote sense. Final regulation limits must include cable losses. Contact factory for assistance.

INPUT CURRENT

Maximum input current at minimum input voltage and output overload will be less than 2.0 A.

HOLD-UP TIME

Output voltage stays within regulation for 20 ms from loss of ac input at full load, from 120 Vac input.

MINIMUM LOAD

No minimum load required.

OVERLOAD PROTECTION

Fully protected against short circuit and output overload. Short circuit protection is cycling type power limit and will automatically recover after removal of fault.

OUTPUT NOISE

0.5% rms, 1% pk-pk, 20 MHz bandwidth, differential mode. Measured with a scope probe directly across the output connector. Load terminated with a 0.1 μ F capacitor in parallel with a low Z 10 mF capacitor.

TRANSIENT RESPONSE

Response at supply is 1.5 ms typical for return to regulation for a 50% load step, $\Delta i/\Delta t < 0.2$ A/ μ s. Maximum voltage deviation is 3.5%. Cable resistance will effect maximum voltage deviation.

OVER VOLTAGE PROTECTION

Prevents output from producing excessive voltage in the event of a single fault failure. Voltage limited typically to 130% depending upon model. OVP firing reduces output to less than 50% of nominal voltage in less than 50 ms.

OVERLOAD PROTECTION

Factory set to begin power limiting at approximately 75 W.

EFFICIENCY

77 to 90% at full rated load depending upon model and ac line. Units are typically > 85 % @ 230 Vac. Efficiency is measured at the supply output, cabling losses are not considered and will vary with different cables. Contact factory for assistance.

OVERSHOOT

Less than 3% overshoot at turn-on under nominal conditions.

TURN-ON TIME

Less than 1.5 s at 115 Vac, 25 °C

INPUT PROTECTION

Both lines protected with internal ac fuses, provided on all units. Designed to blow only if a catastrophic failure occurs in the unit — Fuse does not blow on short circuit or overload.

INRUSH CURRENT

Inrush is limited by internal thermistor. The inrush at 240 Vac, averaged over the first ac half-cycle under cold start conditions will not exceed 60 A.

EMI / EMC COMPLIANCE

All models include built-in EMI filtering.

Conducted Emissions	EN55011, Class B; FCC Class B
Static Discharge	EN61000-4-2, 6 kV contact 8 kV air
RF Field Susceptibility	EN61000-4-3, 3V/meter
Fast Transients / Bursts	EN61000-4-4, 2 kV, 5 kHz
Surge Susceptibility	EN61000-4-5, 1 kV diff., 2 kV com.
Conducted RF Susceptibility	EN61000-4-6, 3V
Voltage Sags & Surges	EN61000-4-11

MEDICAL SAFETY AGENCY

All models are approved to UL2601, CSA 22.2 No. 601.1-M90, IEC 601-1 (1988), EN 60601-1

LEAKAGE CURRENT

80 μ A under normal conditions (132 Vac @ 60 Hz). Maximum under single fault conditions (264 Vac @ 50 Hz) is 170 μ A.

Environmental Specification	Operating	Non-operating
Temperature (A)	0 to 40°C	-40 to +85°C
Humidity (A)	0 to 95% RH	0 to 95% RH
Shock (B)	20 g _{pk}	40 g _{pk}
Altitude	-500 to 10,000 ft	-500 to 40,000 ft
Vibration (C)	1.5 g _{rms} , 0.003 g ² /Hz	5 g _{rms} , 0.026 g ² /Hz

A. Units should be allowed to warm up/operate under non-condensing conditions before application of power.

B. Random vibration—10 to 2000 Hz, 6 dB/octave roll-off from 350 to 2000 Hz, 3 orthogonal axes. Tested for 10 min./axis operating and 1 hr./axis non-operating.

C. Shock testing—half-sinusoidal, 10 $\pm$ 3 ms duration, $\pm$ direction, 3 orthogonal axes, total 6 shocks.



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GXM60 Medical Single Output

Typical Standard Model Configurations:

Medical Model	Output (V)	Current (I)	Initial (1) Set Point	Total Regulation	Output Harness	Remote Sense	Ripple/ Noise
GXM60-5A11	5 V	11 A	2%	1%	Molex	Yes	1.5%
GXM60-12A01	12 V	5.0 A	2%	1%	2.1 mm	No	1%
GXM60-15A01	15 V	4.0 A	2%	1%	2.1 mm	No	1%
GXM60-24A01	24 V	2.5 A	2%	1%	2.1 mm	No	1%
GXM60-28A01	28 V	2.2 A	2%	1%	2.1 mm	No	1%
GXM60-36A01	36 V	1.7 A	2%	1%	2.1 mm	No	1%

Notes: 1) Initial set point without load. Total regulation shown includes cable losses. When selecting cable options without remote sense, cable drop should be considered.

MODEL NUMBER CONFIGURATION

GXM60-XXXXXX

Output Cable/Plug Option Number

Case Color: A = Beige
B = Black

Output Voltages:

Units are available standard with any output voltage from 5 to 35 Vdc in 1.0 increments. Also available in 0.1 increments data custom order.

Option No.	Output Cord/Plug	Cable/Plug Maximum Rating
01	Circular 5.6 mm O.D., 2.1 mm I.D., 18 ga.	5 A, 80 V max.
02	Circular 5.6 mm O.D., 2.5 mm I.D., 18 ga.	5 A, 80 V max.
03	Circular 5.6 mm O.D., 2.1 mm I.D., RT angle, 18 ga.	5 A, 80 V max.
04	Circular 5.6 mm O.D., 2.5 mm I.D., RT angle, 18 ga.	5 A, 80 V max.
05	Circular 5.6 mm O.D., 2.1 mm I.D., 18 ga., shielded	5 A, 80 V max.
06	Circular 5.6 mm O.D., 2.5 mm I.D., 18 ga., shielded	5 A, 80 V max.
07	Mini DIN 20 ga.	6 A, 36 V max.
08	Mini DIN 20 ga. shielded	6 A, 36 V max.
09	5 Pin 20 ga. DIN plug	6 A, 36 V max.
10	5 Pin 20 Ga. DIN plug, shielded	6 A, 36 V max.
11	Molex Mini-Fit, 18 ga.	11 A, 480 V max.
12	Power DIN	11 A, 20 V max.
13	Power DIN, shielded	11 A, 20 V max.

GXM60 CABLE OPTION SELECTOR				
DIAGRAM	BARREL I.D.	SHIELDING	PIN ASSIGNMENT	OPTION NUMBER
	.083 [2.1]	NONE		-01
	.083 [2.1]	NONE		-02
	.083 [2.1]	NONE		-03
	.083 [2.1]	NONE		-04
	.083 [2.1]	SHIELDED		-05
	.083 [2.1]	SHIELDED		-06
		NONE	PIN 1: 5: +V1 PIN 2: 6: -V2 PIN 3: 4: COM PIN 4: +V3	-07
		SHIELDED		-08
		NONE	PIN 1: 2: COM PIN 3: +V1 PIN 4: -V2 PIN 5: +V3	-09
		SHIELDED	PIN 1: 2: COM PIN 3: +V1 PIN 4: -V2 PIN 5: +V3 SHELL: SHIELD	-10
		NONE	PIN 1: +V1 PIN 2: -SENSE PIN 3: +V1 PIN 4: -V1 PIN 5: RETURN PIN 6: RETURN -SENSE	-11

MECHANICAL SPECIFICATIONS

