



# 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  $\mu$ 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/ $\mu$ 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  $\mu$ A under normal conditions (132 Vac @ 60 Hz ). Maximum under single fault conditions (264 Vac @ 50 Hz) is 170  $\mu$ 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 <sub>pk</sub>	40 g <sub>pk</sub>
Altitude	-500 to 10,000 ft	-500 to 40,000 ft
Vibration (C)	1.5 g <sub>rms</sub> , 0.003 g <sup>2</sup> /Hz	5 g <sub>rms</sub> , 0.026 g <sup>2</sup> /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

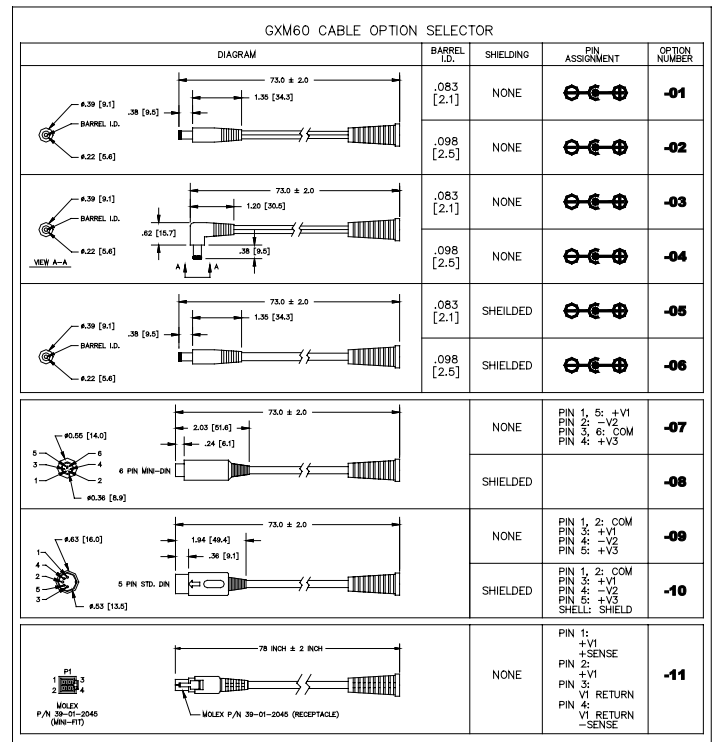
### GXM60-XXXXXX

**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.



## MECHANICAL SPECIFICATIONS

