40 Watt Medical (MWLT)



Features

- 4 x 2 x 1.2 inches
- Ultra high efficiency > 85%
- Low leakage current < 250 µA
- Nemko, UL & CSA approvals to IEC60601
- EN55022–B, CISPR22–B, FCC Part15 Level B, IEC60601–1–2
- No Load Power < 0.3 W
- Class I & Class II options
- Cover kit accessory available
- Meets standard IEC60601-1-2 : 2014 (4th Edition)

Electrical Specifications

AC Input	90–264 V, Universal	
Input Frequency[4]	47–400 Hz	
Input Current	120 VAC: 0.85 A max.	230 VAC: 0.45 A max.
No Load Power	< 0.3 W for single output models < 0.5 W for multi output models	
Inrush Current	120 VAC: 30 A max.	230 VAC: 60 A max.
Leakage Current	120 VAC: < 140 µA	230 VAC: < 250 µA
Efficiency[1]	120 VAC: 85% typical	230 VAC: 85% typical
Hold-up Time	>10 ms @ 120 VAC typical	
Output Power	40 W	
Line Regulation	+/–0.3%	
Load Regulation	V1: +/–0.5%; V2 & V3: +/–5%	
Transient Response	< 10%, 50% to 100% load change, 50/60 Hz, 50% duty cycle, 0.1 A/µs, recovery time < 5 ms	
Rise Time	< 100 ms	
Set Point Tolerance	V1: +/–3%; V2 & V3: +/–5%	
Output Adjustability	V1: +/–10%	
Over Current Protection	130% typical above rating	
Over Voltage Protection	130% typical for V1 only	
Short Circuit Protection	Short term, autorecovery	
Switching Frequency	Approximately 67 kHz	
Operating Temperature	–20 to 70°C, refer derating curve; –20 to 0°C, start-up is guaranteed	
Storage Temperature	–40 to +70°C	
Relative Humidity	95% Rh, noncondensing	
Altitude	Operating: 10,000 ft.; Nonoperating: 40,000 ft.	
MTBF	1.87m Hours, Telcordia -SR332-issue 3	
Isolation Voltage	4000 VAC Input to Output, 2MOPP, 1500 VAC Input to Earth, 1MOPP, 500 VAC Output to Earth, 1MOPP	
Cooling	Convection	

Please read our datasheet & drawing disclaimer here.

Model Number	Voltage	Max. Load[2]	Min. Load[5]	Ripple[3]
LFMWLT40–1000	V 1=5.1 V	8.0 A	0.0 A	1%
LFMWLT40–1001	V1=12 V	3.5 A	0.0 A	1%
LFMWLT40–1002	V1=15 V	2.7 A	0.0 A	1%
LFMWLT40–1003	V1=24 V	1.7 A	0.0 A	1%
LFMWLT40–1004	V1=48 V	0.83 A	0.0 A	1%
LFMWLT40–3000	V1=5.2 V, V2=12.5 V, V3=–12.8 V	V1=6.0 A, V2=2.0 A, V3=0.5 A	V1=0.5 A, V2=0.1 A, V3=0.0 A	1%
LFMWLT40–3001	V1=5.2 V, V2=24 V, V3=–12.8 V	V1=6.0 A, V2=1.0 A, V3=0.5 A	V1=0.5 A, V2=0.1 A, V3=0.0 A	1%
LFMWLT40–3002	V1=5.2 V, V2=15 V, V3=–15 V	V1=6.0 A, V2=1.5 A, V3=0.5 A	V1=0.5 A, V2=0.1 A, V3=0.0 A	1%
LFMWLT40–3003	V1=3.3 V, V2=5.2 V, V3=–12.8 V	V1=6.0 A, V2=3.0 A, V3=0.5 A	V1=1.0 A, V2=0.1 A, V3=0.0 A	V1=1.5%, V2 & V3=1%
LFWLT60–CK metal cover kit accessory				

Connectors		
J1	Pin 1	AC LINE
	Pin 2	AC NEUTRAL
Spade Connector		EARTH
J2	Pin 1	V1
	Pin 2	V1
	Pin 3	RTN
	Pin 4	RTN
	Pin 5	V3
	Pin 6	V2
J3	Pin 1	+V1 SENSE
	Pin 2	–V1 SENSE

Notes

1. For MWLT40-3003 efficiency is 75% typical.
2. Maximum current per output channel. Do not exceed total output power rating.
3. Ripple is peak to peak with 20 MHz bandwidth and 10 µF (Electrolytic capacitor) in parallel with a 0.1 µF capacitor at rated line voltage and load ranges.
4. Safety approved 47-63 Hz.
5. Min Load specified to meet cross regulation.
6. Class II version available, Add "-II" suffix at the end of the Model Number.
7. Specifications are for nominal input voltage, 25oC and max. load unless otherwise stated.
8. Derate output power linearly to 80% from 90 VAC to 80 VAC input.
9. Please refer mechnical outline drawing for height of component above and below PCB for - 1xxx & 3xxx.

Mechanical Specifications

AC Input Connector (J1)	Molex: 26–60–4030 or equivalent Mating: 09–50–3031; Pins: 08–50–0106
EARTH	Molex: 19705–4301 Mating: 190030001
DC Output Connector (J2)	Tyco: 640445–6 or equivalent Mating: 647402–6; Pins: 3–647409–1
Signal Connector (J3)	Molex: 22–23–2021 or equivalent Mating: 22–01–2021
Dimensions	4.0 x 2.0 x 1.2 inches (101.6 x 50.8 x 30.48 mm)
Weight	150 g

EMC*

Parameter	Conditions/Description	Criteria
Conducted Emissions	EN 55011-B,CISPR22-B, FCC PART15-B	Pass
Radiated Emissions	EN 55011 B	Pass
Input Current Harmonics	EN 61000-3-2	Class A
Voltage Fluctuation and Flicker	EN 61000-3-3	Pass
ESD Immunity	EN 61000-4-2	Level 4, Criterion A
Radiated Field Immunity	EN 61000-4-3	Level 3, Criterion A
Electrical Fast Transient Immunity	EN 61000-4-4	Level 3, Criterion A
Surge Immunity	EN 61000-4-5	Level 3, Criterion A
Conducted Immunity	EN 61000-4-6	Level 3, Criterion A
Magnetic Field Immunity	EN 61000-4-8	Level 4, Criterion A
Voltage dips, interruptions	EN 61000-4-11	Criterion A & B

Safety*

CE Mark	Complies with LVD Directive
Approval Agency	Nemko, UL, C–UL
Safety Standard(s)	EN60601–1, IEC60601–1 (ed.3), ANSI / AAMI ES 60601 - 1, CSA C22.2 No. 60601-1
*Safety File Number(s)	Class I : Nemko: P13216549, NO72791 UL/C-UL: E173812 Class II : Nemko: P13216630, NO73023 UL/C-UL: E173812

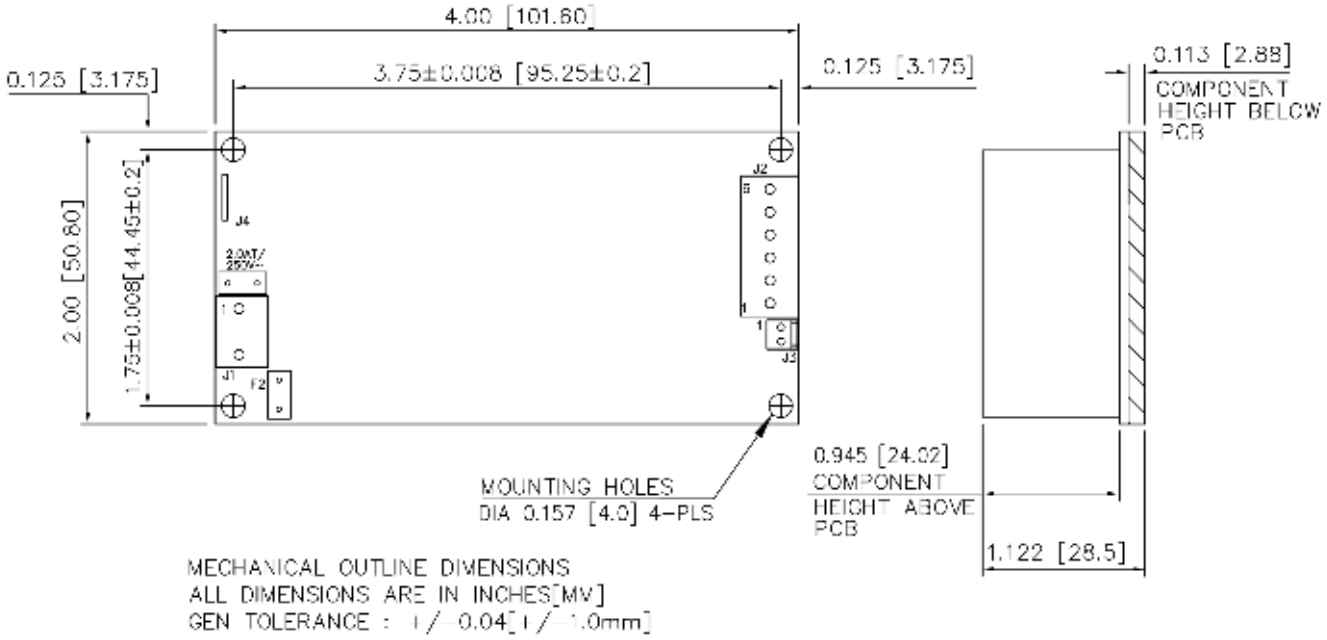
Derating Curve



De-rate linearly from 100% at 50°C to 75% at 70°C

Mechanical Drawing

MWLT40 - 1xxx

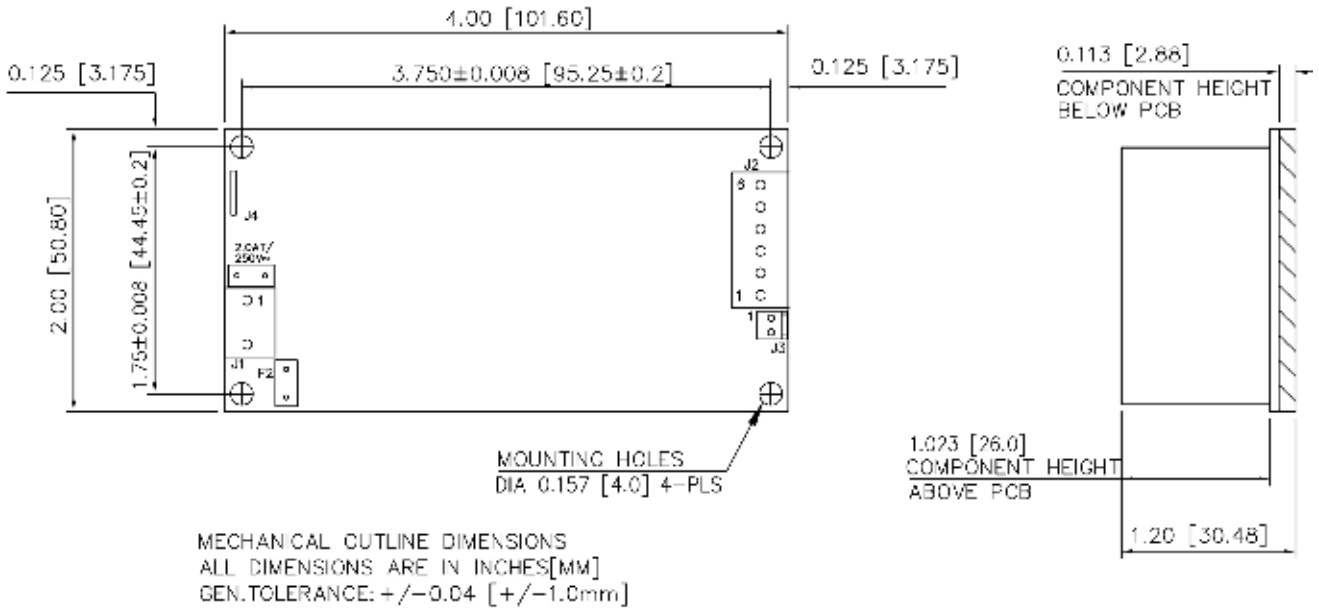


Notes: In case the PCB is mounted in a metal enclosure, using metal hardware ensure the following

1. Stand off, used to mount PCB has OD of 5.4 mm max.
2. Screws, used to fix PCB on stand off, have head dia of 6.0 mm max.
3. Washer, if used, to have dia of 6.5 mm max.

Mechanical Drawing

MWLT40 - 3xxx



Notes: In case the PCB is mounted in a metal enclosure, using metal hardware ensure the following

1. Stand off, used to mount PCB has OD of 5.4 mm max.
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3. Washer, if used, to have dia of 6.5 mm max.