

AC-DC POWER SUPPLIES

UNIVERSAL INPUT, UP TO 40 WATTS

MEDICAL APPLICATIONS, 2" x 3" PACKAGE

MUI40 SINGLE OUTPUT



FEATURES

- 0.15 Watt Low Standby Power Consumption
- Wide Input Voltage Range 85 - 264 Vac, 47 - 63 Hz
- Built-in Class B EMI Filter
- Output Voltage Adjustable (Single Output Only)
- 4000 Vac Input to Output 2MOPP Insulation
- Protection Type Class I and Class II
- Low Leakage Current Under 75 μ A
- Operating Altitude 5000M
- 5 Year Warranty
- Safety Approvals: ANSI/AAMI ES60601-1, EN60601-1 and IEC60601-1 3rd Edition
- CE Marked: IEC60601-1-2 ED4.0
- Compliant to RoHS II & Reach
- Dimensions: 2" x 3" (50.8 mm x 76.2 mm)

SELECTION GUIDE

All specifications are typical at 230Vac input, full load and 25°C, unless otherwise noted.

Input Voltage Range Vac	Output Voltage Vdc	Output Current @ Convection cooled 73°C Ta A	Max. Output Power W	Input Power @ No Load	Efficiency %	Model Number*
85 - 264	5	8	40	0.11	90	MUI40-5S
85 - 264	7.5	5.34	40	0.11	90	MUI40-7.5S
85 - 264	9	4.45	40	0.11	91	MUI40-9S
85 - 264	12	3.34	40	0.11	92	MUI40-12SH
85 - 264	12	3.34	40	0.11	90	MUI40-12S
85 - 264	15	2.67	40	0.11	92	MUI40-15SH
85 - 264	15	2.67	40	0.11	90	MUI40-15S
85 - 264	24	1.67	40	0.11	92	MUI40-24S
85 - 264	28	1.43	40	0.11	91	MUI40-28S
85 - 264	36	1.12	40	0.11	92	MUI40-36S
85 - 264	48	0.84	40	0.11	93	MUI40-48S
85 - 264	53	0.77	40	0.11	92.5	MUI40-53S

* MUIO: Open Type

MUIT: Chassis Type

MUID: Din Rail

MUI: Enclosed (Standard)

B: Protection Type Class 11

No Suffix needed for Protection Type Class 1

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Input Specifications			Output Specifications			
Input voltage range	85 Min., 264 Max., Vac	AC input	Output power, Watt	40 Max.		
	120 Min., 370 Max., Vdc	DC input	Initial set voltage accuracy, %	-1 Min., 1 Max.	230Vac and Full Load	
Input frequency, Hz	47 Min., 63 Max.	AC input	Line regulation, %	-0.2 Min., 0.2 Max.	Low Line to High Line at Full Load	
Input current, A	1 Max.	100Vac and full load	Load regulation, %	-0.7 Min., 0.7 Max.	No Load to Full Load, Vout 5	
	0.5 Max.	240Vac and full load		-0.5 Min., 0.5 Max.	Others	
No load input power, Watts	0.11 Typ.	230Vac		-0.6 Min., 0.6 Max.	10% Load to 90% Load, 5 Vout	
			-0.4 Min., 0.4 Max.	Others		
Leakage current, μ A	75 Max.	264Vac	Voltage adjustability, %	-20 min, 10 Max.	Single Output, 53 Vout	
				-10 Min., 10 Max.	Others	
Start-up time, ms	1000 Max.		Minimum load, %	0 Typ.		
Rise time, ms	20 Typ.		Ripple and noise, mVp-p	Measured by 20MHz bandwidth		
				75 Typ.	With a 10 μ F/25V 1206 X7R MLCC, 5Vout, 7.5Vout, 9Vout	
				75 Typ.	With a 10 μ F/25V 1206 X7R MLCC, 12Vout, 15Vout	
				150 Typ.	With a 1 μ F/50V 1206 X7R MLCC, 24Vout, 28Vout, 36Vout	
Hold-up time, ms	25 Typ.	115Vac and full load	240 Typ.	With a 0.1 μ F/100V 1206 X7R MLCC, 48Vout, 53Vout		
Input inrush current, A	60 Max.	230Vac	Temperature coefficient, %/°C	-0.02 Min., 0.02 Max.		
Input protection	T3.15A/250Vac	Internal fuse in line and neutral	Transient response peak deviation, %	3Vout, Max.	Load step from 50-75% change at 2.5A/ μ s	
			Transient response recovery time, μ s	600, Typ.		
			Over voltage protection, %	125 Min., 140 Max.	% of Vout(nom); Latch mode	
			Over load protection, %	145 Typ.	% of Iout rated; Hiccup mode	
			Short circuit protection	Continuous, automatic recovery		

General Specifications					
Isolation voltage, Vac	1 minute (2MOPP insulation)	Input to Output	4000 Min.		
		Input (Output) to F.G.	2500 Min.		
Isolation resistance, G Ω	500Vdc		0.1 Min.		
Switching frequency, kHz	230Vac	5Vout	70 Typ.		
		Others	120 Typ.		

Environmental Specifications			
Operating ambient temperature, °C	Natural convection, with derating	-40 Min.	85 Max.
Storage temperature range, °C		-40 Min.	85 Max.
Operating altitude, m			5000 Max.
Shock		IEC60068-2-27	
Vibration		IEC60068-2-6	
Relative humidity	Non-condensing	5% to 95% RH	

MUI40 SINGLE OUTPUT

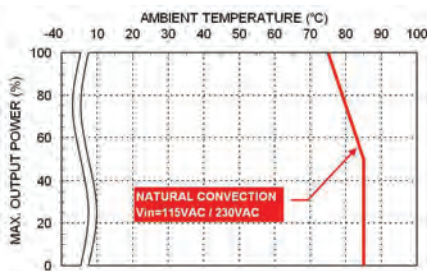
Physical Specifications			EMC Specifications					
Design meet safety standard	ANSI/AAMI, ES60601-1, IEC60601-1, EN60601-1		Specifications	Conditions		Level		
Weight, g	114 (4.02oz)	MUIO	EMI ⁽¹⁾	EN55011, EN55022 and FCC Part 18	Conducted	Class B		
	154 (5.43oz)	MUIT			Radiated	Class B		
	169 (5.96oz)	MUI	Harmonic currents	EN61000-3-2	Full load	Class A		
	190 (6.70oz)	MUID	Voltage flicker	EN61000-3-3				
			ESD	EN61000-4-2	Air ±15kV and Contact ±8kV		Perf. Criteria A	
Dimensions	2" × 3" (50.8 mm × 76.2 mm)		Radiated immunity	EN61000-4-3	20V/m		Perf. Criteria A	
			Fast transient	EN61000-4-4	±2kV		Perf. Criteria A	
MTBF	3.010 × 10 ⁶ hrs, MIL-HDBK-217F, Full load		Surge	EN61000-4-5	DM ±1kV		Perf. Criteria A	
			Conducted immunity	EN61000-4-6	20 Vr.m.s		Perf. Criteria A	
			Power frequency magnetic field	EN61000-4-8	30 A/M		Perf. Criteria A	
			Dip and interruptions	EN60601-1-2	0% of 240 Vac, 0.5 cycle			Perf. Criteria A
					0% of 240 Vac, 1 cycle			Perf. Criteria A
					70% of 240 Vac, 25/30 cycle			Perf. Criteria A
					0% of 240 Vac, Single phase			Perf. Criteria B
0% of 100 Vac, 0.5 cycle					Perf. Criteria A			
0% of 100 Vac, 1 cycle			Perf. Criteria B					
70% of 100 Vac, 25/30 cycle			Perf. Criteria A					
0% of 100 Vac, Single phase			Perf. Criteria B					

Note:

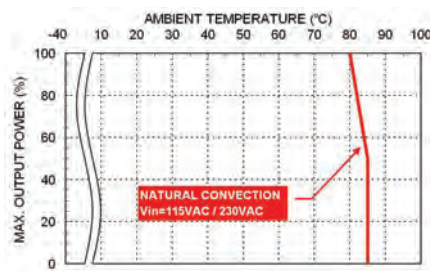
- External components may be required for Class I application. For further information, please contact Polytron Devices, Inc.

CAUTION: This power module is not internally fused. An input line fuse must always be used.

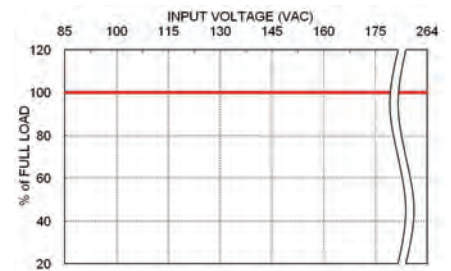
Characteristic Curve



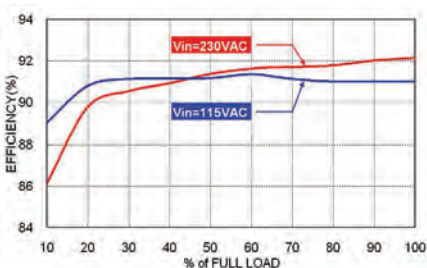
Derating Curve vs. Ambient Temperature



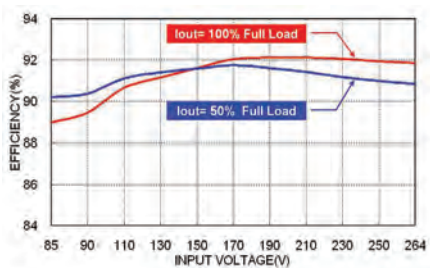
Derating Curve vs. Ambient Temperature



Derating Curve vs. Input Voltage



Efficiency vs. Output Load



Efficiency vs. Input Voltage

MUI40 SINGLE OUTPUT

Pin Connectors

CON1: INPUT CONNECTOR

PIN	
1	Line
3	Neutral

MATES WITH

JST Housing	VHR-3N
JST Crimp Terminals	SVH-21T-P1.1

CON2: OUTPUT CONNECTOR

PIN	
1, 2	-Vout
3, 4	+Vout

MATES WITH

JST Housing	VHR-4N
JST Crimp Terminals	SVH-21T-P1.1

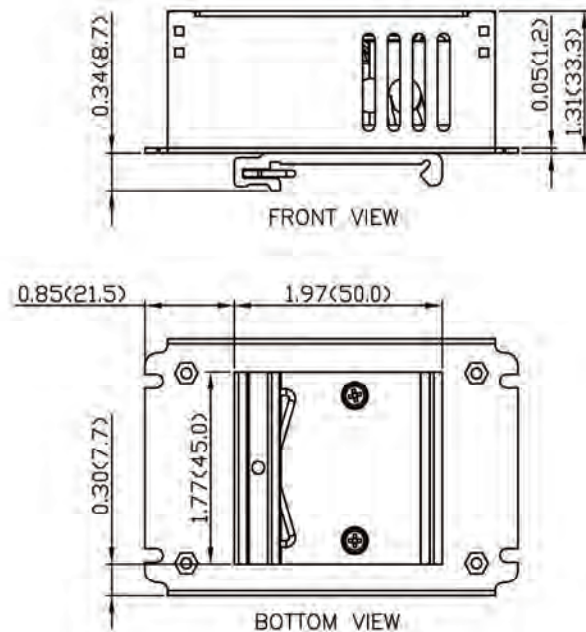
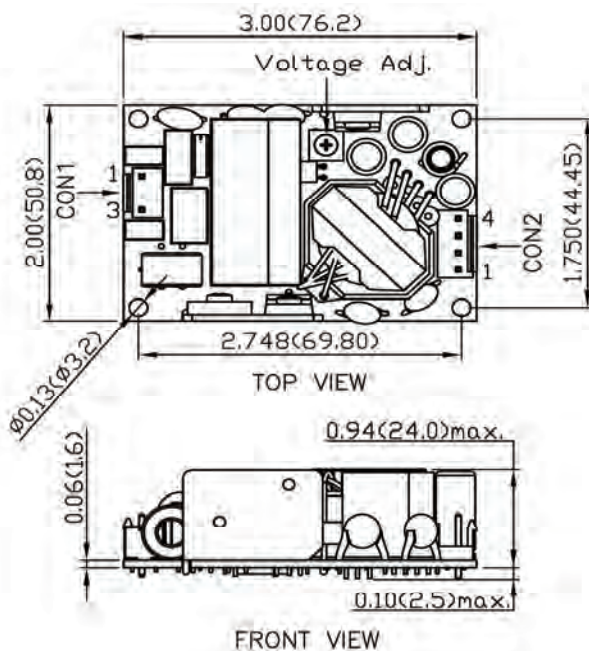
Note:

1. Either one of four screws holes of Open/ Chassis Type can be considered as PE connection for Class I application.

Mechanical Drawing

Open Type

DIN Rail Type



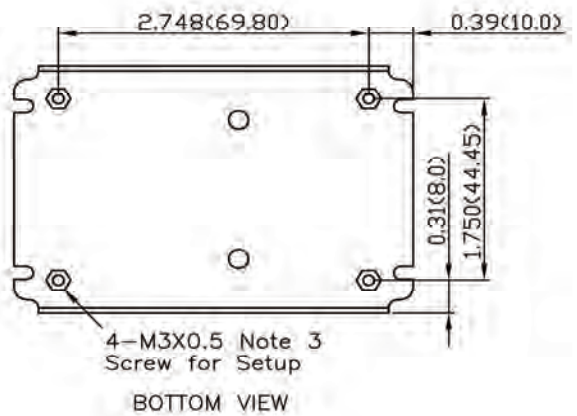
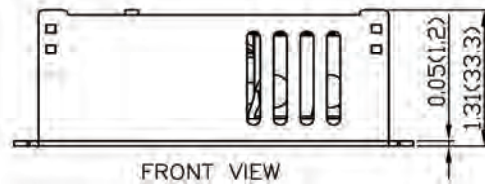
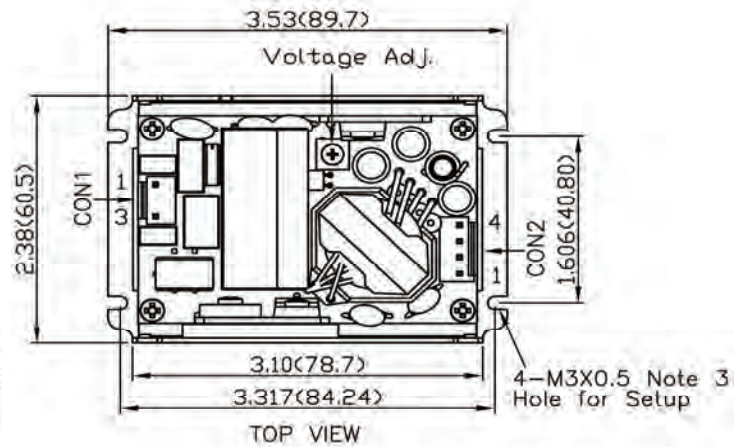
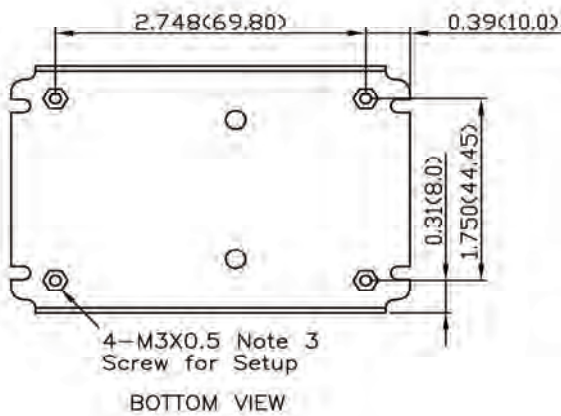
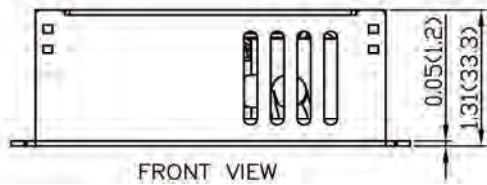
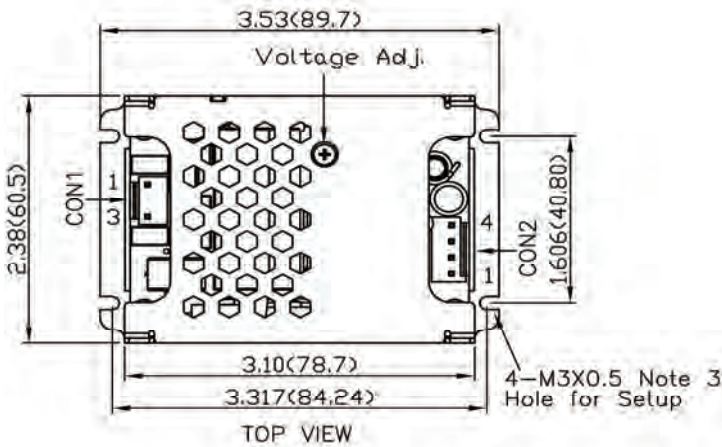
1. All dimensions in inch (mm)
2. Tolerance :x.xx±0.02 (x.x±0.5)
x.xxx±0.01 (x.xx±0.25)
3. M3 x 0.5 screw locked torque MAX 5Kgf.cm/0.49N.m

MUI40 SINGLE OUTPUT

Mechanical Drawing

Enclosed Type

U Chassis Type



1. All dimensions in inch (mm)
2. Tolerance :x.xx±0.02 (x.x±0.5)
x.xxx±0.01 (x.xx±0.25)
3. M3 x 0.5 screw locked torque MAX 5Kgf.cm/0.49N.m