

PCB Mount Power Supply

AC To DC

multicompPRO

**RoHS
Compliant**

Description

This series is a 45W Smaller(87 × 52 × 30mm) AC-DC module power supply adopting the full range:90-264V AC input. The series has extremely low no-load power consumption below 0.1W. High efficiency up to 90.5% to reduce power loss

The series cost-effective, high reliability,operates from-30°C ~ 85°C. A variety of appearance sizes are available for easy installation and use.

These converters offer excellent EMC performance and meet internation standards, ready to be soldered onto the PCB boards of Industrial design,household appliances, communication equipment, testing instruments and other electronic instruments



Features

- Universal Input: 90~264V AC
- Low no-load power consumption
- Protection:Short Circuit/Over Current/Over Voltage
- Compact Size Design
- Low Ripple & Noise, high efficiency
- Three Years Warranty

Model Information

Part Number	DC Voltage	Rated Current	Rated Power	Max.Capacitive Load
MP60-12003800	12V	3.8A	45.6W	4400uF
MP60-15003000	15V	3A	45W	3300uF
MP60-24001900	24V	1.9A	45.6W	1500uF
MP60-48000940	48V	0.94A	45.12W	470uF

Input

Voltage Range	90-264V AC
Frequency Range	47-63Hz
No Load Power Consumption	0.15W MAX
Average Efficiency(Typ.)	87.5% - MP60-12003800 88.5% - MP60-15003000 89.5% - MP60-24001900 90.5% - MP60-48000940
AC Current(Typ.)	1.5A/115V AC , 0.9A/230V AC
Inrush Current (Typ.)	Cold Start 30A/115V AC, Cold Start 60A/230V AC
Leakage Current	<0.25mA/264V AC, 50Hz

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Output

Ripple & Noise	120mVp-p - MP60-12003800 120mVp-p - MP60-15003000 150mVp-p - MP60-24001900 240mVp-p - MP60-48000940
Voltage Tolerance	±2.5%
Line Regulation	±0.5%
Load Regulation	±1% MP60-12003800 ±0.5% MP60-15003000 ±0.5% MP60-24001900 ±0.5% MP60-48000940
Setup, Rise Time	200ms, 35ms/230V AC at full load, 300ms, 35ms/115V AC at full load
Hold Up Time (Typ.)	50ms/230V AC at full load, 5ms/115V AC at full load

Protection

Over Current	115%-160% Rated Output current Protection type: Hiccup mode, recovers automatically after current goes down
Short Circuit	Protection type: Hiccup mode, recovers automatically after fault condition is removed
Over Voltage	12.6 ~ 16.5V - MP60-12003800 15.75 ~ 24V - MP60-15003000 25.2 ~ 34V - MP60-24001900 50.4 ~ 65V - MP60-48000940 Protection type : Shut off o/p clamping by zener diode

Environment

Working Temp.	-30°C to +85°C (Refer to "Derating Curve")
Working Humidity	20 ~ 90% RH Non-Condensing
Storage Temp, Humidity	-40°C~+85°C, 10 ~ 95% RH non-condensing
Temp. Coefficient	+0.03%/°C (0 ~ 50°C)
Vibration	PCB mounting: 10~ 500Hz, 2G 10min./1cycle, period for 60min. each along X, Y, Z axes
Soldering Temperature	Wave soldering: 265°C, 5s (max.); Manual soldering: 390°C, 3s(max.)
Over Voltage Category	III, According to EN62368-1 altitude up to 2000 meters
Safety Protection	CLASS II
Altitude Application	2000m
MTBF	>800K hrs min. MIL-HDBK-217F (25°C)

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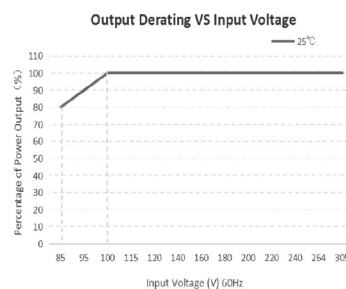
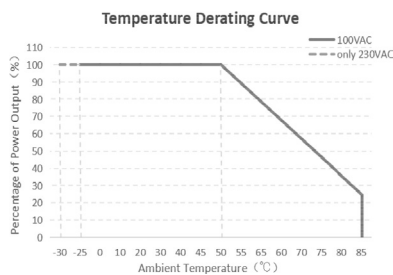
Note

1. All parameters NOT specially mentioned are measured at 230V AC input, rated load and 25°C of ambient temperature.
2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1μF & 47μF parallel capacitor.
3. Tolerance : includes set up tolerance, line regulation and load regulation.
4. The ambient temperature derating of 3.5°C /1000m with fanless models and of 5°C/1000m with fan models for operating altitude higher than 2000m (6500ft).
5. The power supply is considered as an independent unit ,but the final equipment still need to re-confirm that the whole system complies with the EMC directives.

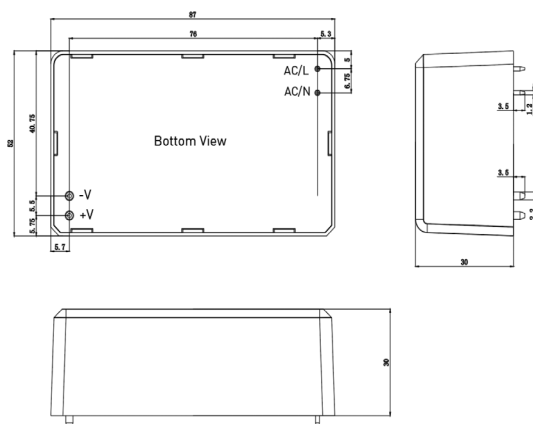
Physical Property

Length × Width × Height	87 × 52 × 30mm × 3.43in × 2.05in × 1.18; PCB Mounting Style
Weight	195g (PCB Mounting Style)
Cooling Method	Natural Air Cooling
Texture	Black flame retardant and heat resistant plastic

Curve



Dimensions and Installation



annotation:
unit of size:mm
Pin diameter tolerances:+0.1
General tolerances:+0.5

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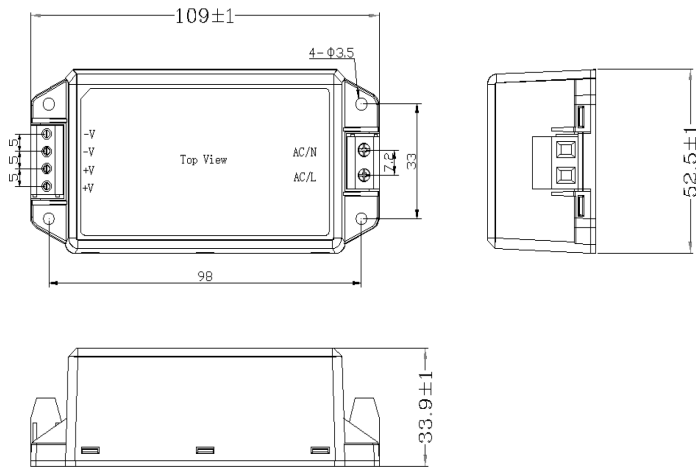
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External dimension



annotation:

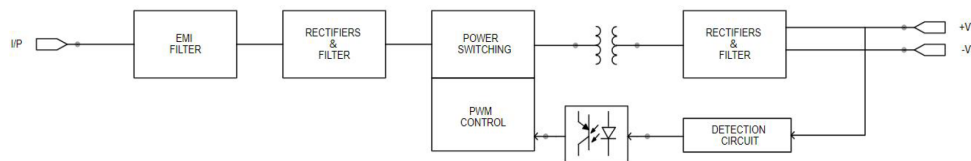
unit of size:mm

Connection Wire diameter :24-12AWG

Screw clamp unit: M2.5 Max 0.4 N*m

Unmarked tolerance:±1

Functional Diagram



Part Number Table

Description	Part Number
PCB Mount Power Supply, 12V, 3.8A	MP60-12003800
PCB Mount Power Supply, 15V, 3A	MP60-15003000
PCB Mount Power Supply, 24V, 1.9A	MP60-24001900
PCB Mount Power Supply, 48V, 0.94A	MP60-48000940

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