

# 60W AC to DC Power Supply - DIN Rail Mount

# multicomp<sup>PRO</sup>

**RoHS  
Compliant**

## Features

- Universal 85V AC to 264V AC or 120V DC to 370V DC input voltage
- Accepts AC or DC input (dual-use of same terminal)
- Operating ambient temperature range: -40°C to +70°C
- High I/O isolation test voltage up to 4000V AC
- Industrial product technology design
- Over-voltage class III (Designed to meet EN61558 safety standards)
- Low standby power consumption, high efficiency
- Low ripple & noise
- Output short circuit, over-current, over-voltage protection
- Withstand 300V AC surge input for 5s
- UL/EN/IEC62368 safety approved
- DIN rail TS35X7.5/ TS35X15 mountable



**UL<sup>®</sup> US CE CB**

This is AC-DC series featuring a cost-effective, energy efficient solution for standard DIN-rail mounting. The products offer a high level of stability and immunity to noise, compliant with international IEC62368 standards for EMC and safety specifications meet IEC/EN61000-4, CISPR32, EN55032, UL62368, IEC62368 and EN62368. These light weight AC-DC converters also have an extremely compact design for space saving and are ideal for applications such as industrial control equipment machinery and all kinds of applications in a harsh environment.

## Selection Guide

Certification	Part No.*	Output Power (W)	Nominal Output Voltage and Current (Vo/Io)	Output Voltage Adjustable Range(V)*	Efficiency at 230V AC (%) Typ.	Max. Capacitive Load (µF)
UL/CE/CB	MP-LI60-20B05PR2	32.5	5V/6.5A	4.9-5.5	84	20000
	MP-LI60-20B12PR2	54	12V/4.5A	10.8-13.8	88	10000
	MP-LI60-20B24PR2	60	24V/2.5A	21.6-29	90	4000
	MP-LI60-20B48PR2		48V/1.25A	43.2-55.2	91	680

**Note:** \* The actual adjustment range may extend outside the values stated, care should be exercised to ensure that the output voltage and power levels remain within the published maximum values.

## Input Specifications

Item	Operating Conditions	Min.	Typ.	Max.	Unit
Input voltage Range	AC input	85	-	264	V DC
	DC input	120		370	
Input Frequency		47		63	Hz
Input Current	115V AC	-		1.2	A
	230V AC			0.8	
Inrush Current	115V AC	-	30	-	
	230V AC		60	-	
Leakage Current	264V AC	0.25mA RMS max.			
Hot Plug		Unavailable			

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## Output Specifications

Item	Operating Conditions		Min.	Typ.	Max.	Unit
Output Voltage Accuracy	0% to 100% load			±2		%
Line Regulation	Rated load		-	±0.5	-	
Load Regulation	230V AC			±1.5		
Output Ripple & Noise*	20MHz bandwidth (peak-to-peak value)	5V Output			100	mV
		12V Output			120	
		15V Output	-	-	150	
		24V Output			240	
		48V Output				
Temperature Coefficient				±0.02	-	%/°C
Stand-by Power Consumption	230V AC Input	5V/12V/15V/24V Output			0.3	W
		48V Output			0.4	
Short Circuit Protection			Hiccup, continuous, self-recovery			
Over-current Protection			≥120 % I <sub>o</sub> , self-recovery			
Over-Voltage Protection	5V Output		≤7.5V (Output voltage clamp or hiccup)			
	12V Output		≤16V (Output voltage clamp or hiccup)			
	15V Output		≤20V (Output voltage clamp or hiccup)			
	24V Output		≤36V (Output voltage clamp or hiccup)			
	48V Output		≤60V (Output voltage clamp or hiccup)			
Minimum Load			0	-	-	%
Start-up Delay Time			-	-	3	s
Hold-up Time	115V AC		-	15	-	ms
	230V AC		-	80	-	

**Note:** \*Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uf & 47uf parallel capacitor.

## General Specifications

Item	Operating Conditions		Min.	Typ.	Max.	Unit
Isolation Test	Input-output	Electric Strength Test for 1min., Leakage current<5mA	4000	-	-	V AC
Operating Temperature			-40	-	+70	°C
Storage Temperature					+85	
Storage Humidity			-	-	95	%RH
Operating Altitude			-	-	2000	m
Switching Frequency			-	65	-	kHz
Power Derating	-40°C to -30°C	5V/12V/48V Output	3	-	-	% / °C
		24V Output	7			
		15V Output	8			
	+45°C to +70°C		2			
	85V AC to 100V AC		1			

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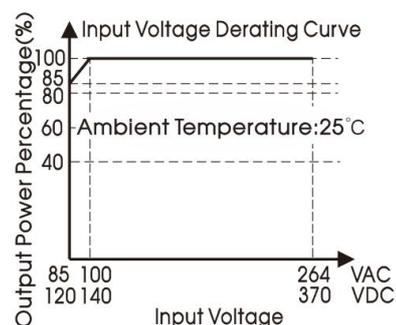
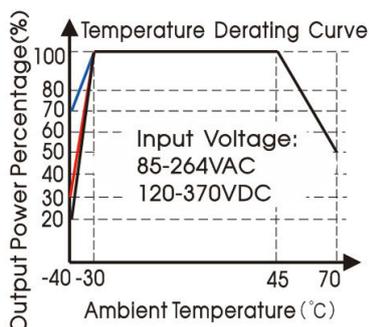
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Item	Operating Conditions	Min.	Typ.	Max.	Unit
Safety Standard		UL62368/EN62368/IEC62368			
Safety Certification		UL62368/EN62368/IEC62368			
Safety Class		CLASS II			
MTBF	MIL-HDBK-217F@25°C	> 300,000 h			

Mechanical Specifications	
Casing Material	Plastic, heat-resistant (UL94V-0)
Package Dimensions	92.66mm × 52mm × 58mm
Weight	175g (Typ.)
Cooling Method	Free air convection

Electromagnetic Compatibility (EMC)			
Emissions	CE	CISPR32/EN55032	CLASS B
	RE	CISPR32/EN55032	CLASS B
Immunity	ESD	IEC/EN61000-4-2	Contact ±6KV/ Air ±8KV perf. Criteria A
	RS	IEC/EN61000-4-3	10V/m perf. Criteria A
	EFT	IEC/EN 61000-4-4	±2KV perf. Criteria A
	Surge	IEC/EN 61000-4-5	line to line ±2KV perf. Criteria A
	CS	IEC/EN61000-4-6	10Vr.m.s perf. Criteria A
	Voltage dips, short interruptions and voltage variations	IEC/EN61000-4-11	0%,70% perf. Criteria A

## Product Characteristic Curve



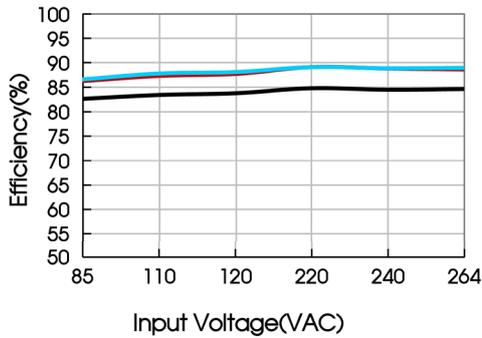
Note: ① With an AC input between 85-100VAC and a DC input between 120-140VDC, the output power must be derated as per temperature derating curves;  
 ② This product is suitable for applications using natural air cooling; for applications in closed environment please consult factory or one of our FAE.

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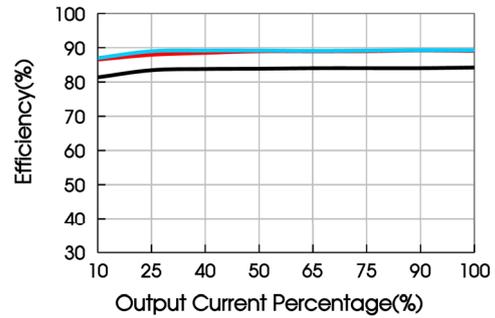
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Efficiency Vs Input Voltage (Full Load)

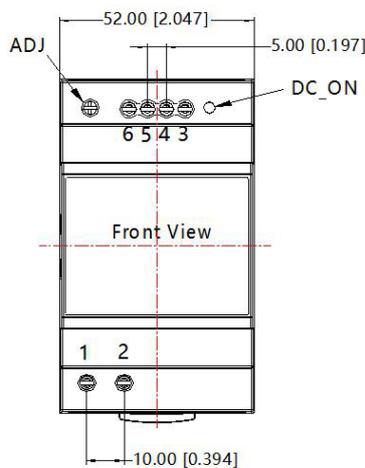
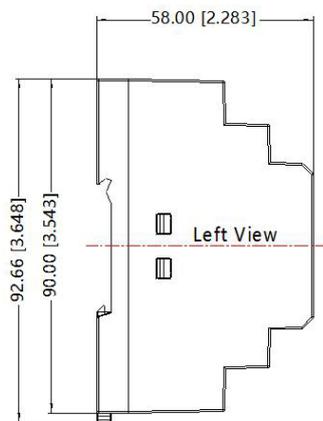


Efficiency Vs Output Load (Vin=230VAC)



## Dimensions and Recommended Layout

THIRD ANGLE PROJECTION



Pin-Out	
Pin	LI60-20B
1	AC(L)
2	AC(N)
3	+Vo
4	+Vo
5	-Vo
6	-Vo

Note:  
 Unit: mm[inch]  
 ADJ: adjustable resistance to change output voltage  
 Wire range: 24-12 AWG  
 Tightening torque: Max 0.4 N·m  
 Mounting rail: TS35  
 General tolerances:  $\pm 1.00[\pm 0.039]$

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