

# AC-DC DIN Rail Mount Power Supply 240W

**multicomp** PRO

**RoHS  
Compliant**

## Features

- Universal 85VAC to 264VAC or 120VDC to 370VDC Input voltage
- Accepts AC or DC input (dual-use of same terminal)
- Operating ambient temperature range: -40°C to +70°C
- High efficiency, high reliability
- DC OK function
- Built-in active PFC function
- 150% peak load output for 3 seconds
- LED indicator for power on
- Output short circuit, over-current, over-voltage,
- over-temperature protection
- Safety according to IEC/EN/UL62368, UL61010, UL508

These AC-DC converter series featuring a cost-effective, energy efficient green power supply solution for standard DIN-rail mounting. The products offer a high level of stability and immunity to noise for industrial control equipment, machinery, and other industrial equipment in a variety of harsh environments. These light weight AC-DC converters have an extremely compact design and the standard rail installation for space saving. With good EMC performance, compliant with international IEC/EN/UL62368, UL61010 standards for EMC and safety.

## Selection Guide

Part Number	Output Power (W)	Nominal Output Voltage and Current (Vo/Io)	Output Voltage Adjustable Range (V)	Efficiency at 230VAC (%) Typ.	Max. Capacitive Load (µF)
MPIF240-10B12	192	12V/16A	12.0-14.0	92	160,000
MPIF240-10B24	240	24V/10A	24.0-28.0	94	40,000
MPIF240-10B48		48V/5A	48.0-53.0	94	10,000

## Input Specifications

Item	Operating Conditions		Min.	Typ.	Max.	Unit
Input Voltage Range	AC input		85		264	V AC
	DC input		120		370	V DC
Input Voltage Frequency 47			47	--	63	Hz
Input Current	115V AC		--	--	3	A
	230V AC		--	--	1.5	
Inrush Current	115V AC	Cold start	--	15	--	
	230V AC		--	30	--	
Power Factor	115V AC		--	0.98	--	--
	230V AC		--	0.94	--	
Leakage Current	264V AC		<0.5 mA			
Hot Plug			Unavailable			

## Output Specifications

Item	Operating Conditions		Min.	Typ.	Max.	Unit
Output Voltage Accuracy	Full load range	12V	--	±2.0	--	%
		24V/48V		±1.0		
Line Regulat	Rated load		--	±0.5	--	
Load Regulation	0% - 100% load		--	±1.0	--	
Ripple & Noise*	20MHz bandwidth (peak-to-peak value)	12V	--	50	100	mV
		24V	--	60	120	
		48V	--	75	150	
Stand-by Power Consumption			--	4	--	W
Hold-up Time			--	20	--	ms
DC OK Signal*			30V DC/1A Max.			
Short Circuit Protection	Recovery time < 10s after the short circuit disappear.		Constant current, continuous, self-recovery			
Over-current Protection	230V AC, rated load	Normal temperature, high temperature	110% - 200% Io, self-recovery			
		Low temperature	≥105% Io, self-recovery			
Over-voltage Protection	12V		≤18V (Output voltage turn off, re-power on for recover)			
	24V		≤35V (Output voltage turn off, re-power on for recover)			
	48V		≤60V (Output voltage turn off, re-power on for recover)			
Over-temperature Protection	230VAC, rated load		--	80	--	°C

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General Specifications								
Item		Operating Conditions			Min.	Typ.	Max.	Unit
Isolation Test	Input -	Electric strength test for 1min., leakage current <15mA			2000	--	--	VAC
	Input - output				3000	--	--	
	Output -				500	--	--	
Insulation Resistance	Input -	At 500V DC			50	--	--	MΩ
	Input - output				50	--	--	
	Output -				50	--	--	
Operating Temperature					-40	--	+70	°C
Storage Temperature					-40	--	+85	
Operating Humidity		Non-condensing			--	--	95	%RH
Storage Humidity					--	--	90	
Switching Frequency					--	100	--	kHz
Power Derating	Operating temperature derating	-40°C to -25°C			3.34	--	--	%/ <sup>o</sup> C
		+45°C to +70°C		115VAC	2.0	--	--	
		+50°C to +70°C	12V	230VAC	1.25	--	--	
		+60°C to +70°C	24V/48V	230VAC	2.5	--	--	
	Input voltage derating		85VAC-100VAC		0.67	--	--	%/VAC
Safety Standard					Meet IEC/EN/UL62368/UL61010			
Safety Certification					EN62368/UL61010 (Pending)			
Safety Class					CLASS I			
MTBF		MIL-HDBK-217F@25°C			>300,000 h			

Mechanical Specifications	
Case Material	Metal (AL1100, SPCC) and Plastic (PC940)
Dimensions	124.00mm x 41.00mm x 110.00mm
Weight	650 (Typ.)
Cooling Method	Free air convection

## EMC Specifications

Emissions	CE	CISPR32/EN55032 CLASS B		
	RE	CISPR32/EN55032 CLASS B		
	Harmonic current	IEC/EN61000-3-2 CLASS A and CLASS D		
Immunity	ESD	IEC/EN 61000-4-2	Contact ±6KV/Air ±8KV	perf. Criteria A
	RS	IEC/EN 61000-4-3	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/line to ground ±4KV	perf. Criteria A
	CS	IEC/EN61000-4-6	10 Vr.m.s	perf. Criteria A
	Voltage dips, short interruptions and voltage variations immunity		IEC/EN61000-4-11	0%, 70%

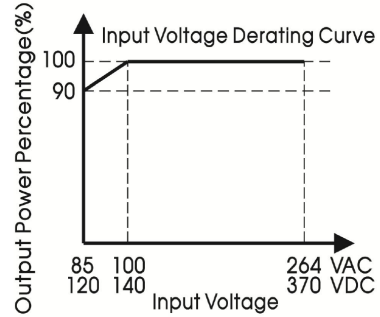
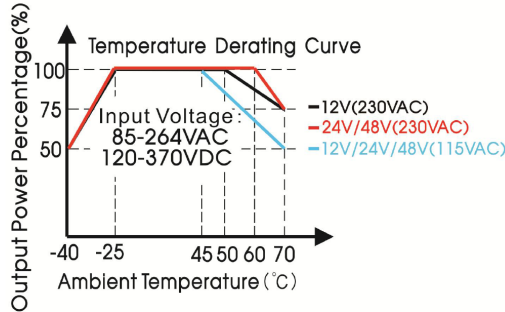
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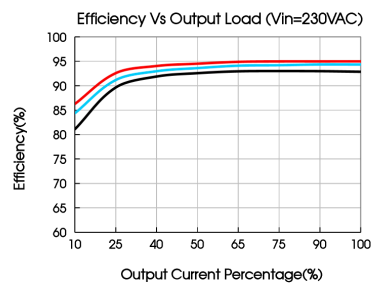
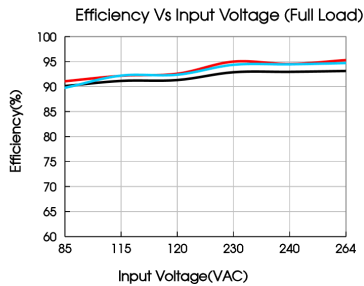
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## Product Characteristic Curve

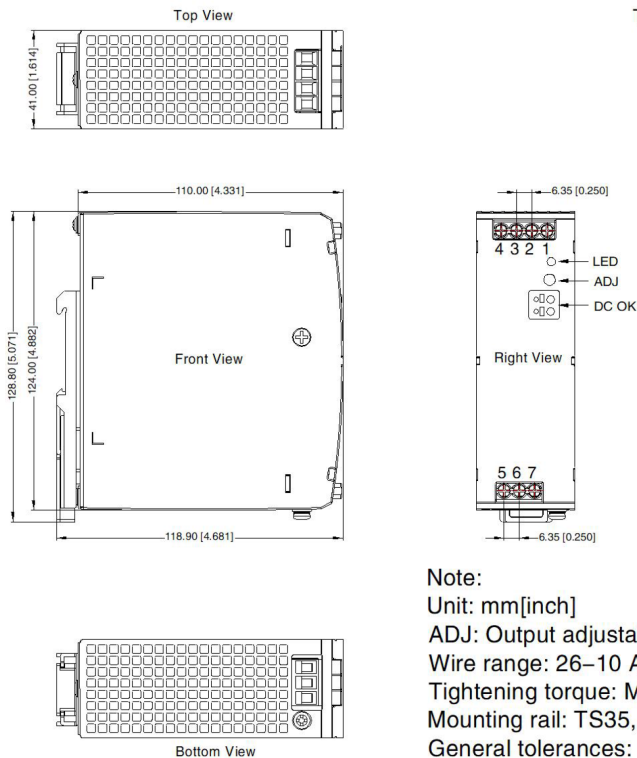


Note: 1. With an AC input voltage between 85 -100VAC and a DC input between 120-140VDC the output power must be derated as per the temperature derating curves;

2. This product is suitable for applications using natural air cooling; for applications in closed environment please consult Mornsun FAE.



## Dimensions and Recommended Layout



THIRD ANGLE PROJECTION

Pin-Out	
Pin	Mark
1	-Vo
2	-Vo
3	+Vo
4	+Vo
5	AC(N)
6	AC(L)
7	⊥

Note:

Unit: mm[inch]

ADJ: Output adjustable resistor

Wire range: 26-10 AWG

Tightening torque: Max 0.4 N·m

Mounting rail: TS35, rail needs to connect safety ground

General tolerances:  $\pm 1.00[\pm 0.039]$

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## Notes:

1. Unless otherwise specified, parameters in this datasheet were measured under the conditions of Ta=25°C, humidity<75% RH with nominal input voltage and rated output load;
2. The room temperature derating of 5°C/1000m is needed for operating altitude greater than 2000m;
3. All index testing methods in this datasheet are based on our company corporate standards;
4. In order to improve the efficiency at high input voltage, there will be audible noise generated, but it does not affect product performance and reliability;
5. We can provide product customization service, please contact our technicians directly for specific information;
6. Products are related to laws and regulations: see "Features" and "EMC";
7. The out case needs to be connected to the earth ( $\perp$ ) of system when the terminal equipment in operating;
8. The output voltage can be adjusted by the output adjustable resistance ADJ, turn it down clockwise.

## Part Number Table

Description	Part Number
AC-DC DIN Rail Mount Power Supply, 240W, 12V, 16A	MPIF240-10B12
AC-DC DIN Rail Mount Power Supply, 240W, 24V, 10A	MPIF240-10B24
AC-DC DIN Rail Mount Power Supply, 240W, 48V, 5A	MPIF240-10B48

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