

AC-DC DIN Rail Power Supply 480W

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**RoHS
Compliant**

Features

- Universal 3x320-600VAC or 450-800VDC Input voltage
- Active PFC, PF>0.95
- Operating ambient temperature range: -30°C to +70°C, 60°C @ 100% load without derating
- Standard DIN-Rail mounting
- High efficiency, high reliability
- LED indicator for output status
- 150% peak power lasts for 4.5s
- Output short circuit, over-current, over-voltage, over-temperature protection
- Supporting parallel (2+1 current sharing) and series application
- Fault alarm function, DC OK, against backflow voltage
- Double-sided conformal coating, salt-spray proof
- 485 Communication, remote shutdown (PS ON)
- Operating altitude up to 5000m
- 3 Years Warranty

MPITF480-26Bxx AC-DC three-phase Din-Rail switching power supply. It features cost-effective, high efficiency and high reliability. With 150% power reserve, enough to support starting DC motor or capacitive load and other heavy load. These converters offer excellent EMC performance and meet IEC/UL62368, EN61010, UL508 standards and they are widely used in areas of industrial control equipment, factory automation and mechanical and electrical equipment and other industrial control fields.

Selection Guide

Part Number	Output Power (W)	Nominal Output Voltage and Current (Vo/Io)	Output Voltage Adjustable Range (V)	Efficiency at 400V AC (%) Typ.	Max. Capacitive Load (µF)
MPITF480-26B24	480	24V/20A	24-28	95	20000
MPITF480-26B36		36V/13.3A	36-42	95.3	13000
MPITF480-26B48		48V/10A	48-56	95.6	10000

Input Specifications

Item	Operating Conditions	Min.	Typ.	Max.	Unit
Input Voltage Range	Rated input (Certified voltage)	380	--	480	V AC
	AC input	320		600	
	DC input	450		800	V DC
Input Voltage Frequency	AC input rated frequency	50		60	Hz
	AC input	45		63	

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Item	Operating Conditions		Min.	Typ.	Max.	Unit
Input Current	Input rated current		--		1	A
	400V AC				1	
	480V AC				0.8	
Inrush Current	400V AC	Cold start		1.34	10	
	480V AC					
Power Factor	400V AC	Normal temperature, rated load	PF≥0.95			
	480V AC					
Leakage Current	480V AC		<2mA			
Hot Plug			Unavailable			

Output Specifications						
Item	Operating Conditions		Min.	Typ.	Max.	Unit
Output Voltage Accuracy	Full load range		--	±1	-	%
Line Regulation	Rated load			±0.5		
Load Regulation	0%-100% load			±0.5		
Ripple & Noise*	20MHz bandwidth (peak-to-peak value)			100		mV
Temperature Coefficient				±0.03		%/°C
Minimum Load				0		%
Dynamic Minimum Load				10		--
Standby Power	400V AC		--	8.2	12	W
	480V AC		--	10	15	
Hold-up Time	400V AC		18	22	--	ms
	480V AC					
Short Circuit Protection			Constant current mode, continuous, self-recover			
Over-current Protection			120% - 150% Io, enter constant current mode after 4.5s of normal output, automatic recover after fault condition is removed			
			≥150% Io, enter constant current mode, automatic recover after fault condition is removed			
Over-voltage Protection	24V		≤35V DC (Hiccup, self-recover)			
	36V		≤53V DC (Hiccup, self-recover)			
	48V		≤60VDC (Hiccup, self-recover)			
Over-temperature Protection	Over-temperature Protection start		--	--	85	°C
	Over-temperature Protection release		65	--	--	

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General Specifications

Item		Operating Conditions	Min.	Typ.	Max.	Unit
Isolation Test	Input - \perp	Electric strength test for 1min., leakage current <5mA	2500	--	--	V AC
	Input - output		4000			
	Output - \perp	Electric strength test for 1min., leakage current<10mA	500			
	Output - DC OK	Electric strength test for 1min., leakage current<1mA	500			
Insulation Resistance	Input - \perp	Environment temperature: 25±5°C	50	--		MΩ
	Input - output	Relative humidity: <95%, non-condensing				
	Output - \perp	Test voltage: 500V DC				
Operating Temperature			-30		70	°C
Storage Temperature			-40		85	
Storage Humidity		Non-condensing	20		90	%RH
Operating Humidity			10		95	
Switching Frequency	PFC		40	--	300	kHz
	DC-DC		60	--	150	
Power Derating	Operating temperature derating	+60°C to +70°C	2.5	--	--	%/°C
	Input voltage derating	320V AC - 350V AC	0.667	--	--	%/V AC
Safety Standard		UL61010-1, UL61010-2-201 safety approved & EN62368-1 (Report) Design refer to IEC/UL62368-1, EN61010-1, EN61010-2-201, UL508				
Safety Class		CLASS I, ANSI/ISA71.04-2013				
MTBF		MIL-HDBK-217F@25°C	≥250,000 h			
Pollution Degree		2				
Note:1*.The power supply has two converters with two different switching frequencies.						

Environmental Characteristics

Item	Operating Conditions	Standard
Sinusoidal Vibration	10 - 200Hz, 2g, three directions of X, Y, Z axis	GB2423.10, IEC60068-2-6

Mechanical Specifications

Case Material	Metal (AL5052, SPCC)
Dimensions	80mm x 124mm x 127mm
Weight	1250g (Typ.)
Cooling Method	Free air convection

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Electromagnetic Compatibility (EMC)

Emissions	CE	CISPR32/EN55032	CLASS B	
	RE	CISPR32/EN55032	CLASS B	
	Harmonic current	IEC/EN61000-3-2	CLASS A	
	Voltage flicker	IEC/EN61000-3-3	Fulfilled	
Immunity	ESD	IEC/EN 61000-4-2	Contact $\pm 8KV$ /Air $\pm 15KV$	perf. Criteria A
	RS	IEC/EN 61000-4-3	20V/m	perf. Criteria A
	EFT (Input)	IEC/EN 61000-4-4	$\pm 4KV$	perf. Criteria A
	EFT (Output)	IEC/EN 61000-4-4	$\pm 2KV$	perf. Criteria A
	EFT (DC OK)	IEC/EN 61000-4-4	$\pm 2KV$	perf. Criteria A
	Surge (Input)	IEC/EN 61000-4-5	line to line $\pm 2KV$ /line to PE $\pm 4KV$	perf. Criteria A
	Surge (Output)	IEC/EN 61000-4-5	Vo+ to Vo- $\pm 500V$; Vo+/Vo- to PE $\pm 1KV$	perf. Criteria A
	Surge (DC OK)	IEC/EN 61000-4-5	DC OK to PE $\pm 1KV$	perf. Criteria A
	CS	IEC/EN61000-4-6	20 Vr.m.s	perf. Criteria A
	Voltage dips, short interruptions and voltage variations immunity	IEC/EN61000-4-11	0% 70%	perf. Criteria A
	Intercom interference test	MS-SOP-DQC-007		perf. Criteria A

Functional Specifications

Item	Operating Conditions	Min.	Typ.	Max.	Unit
Remote Control Switch	0 - 0.8V DC power turn-on	0	--	0.8	V DC
	4 - 20V DC power turn-off	4	--	20	
DC OK Signal	Full input voltage range, full load range	DC OK power on	0.95Vo - Vo		
		DC OK power off	<0.90Vo		
Oring*		Support direct parallel use, achieve 2+1 parallel redundancy			
Current Sharing Accuracy*	When multiple units are connected in parallel, the sub-modules shunt more than 50% of the rated load	--	± 5	--	%
LED Signal	Main output status indication	Normal work	Green On		
		Peak power operation or about to enter over temperature protection	Red On		
		Power Off (No AC input) or PS ON Off	Turn-off		
RS485-B, RS485-A		RS485 communication			
Note: When multiple units work with current sharing, the output voltage deviation of each power supply working alone shall not exceed 100mV.					

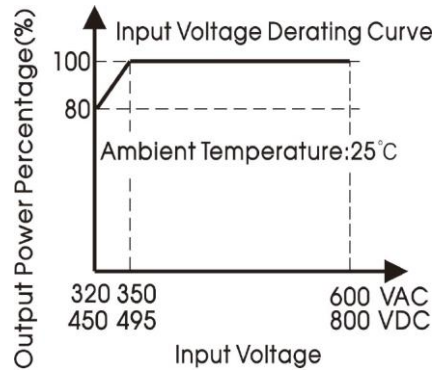
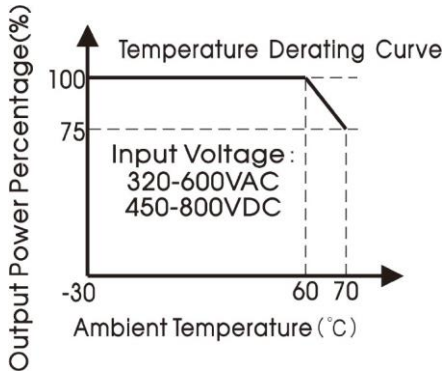
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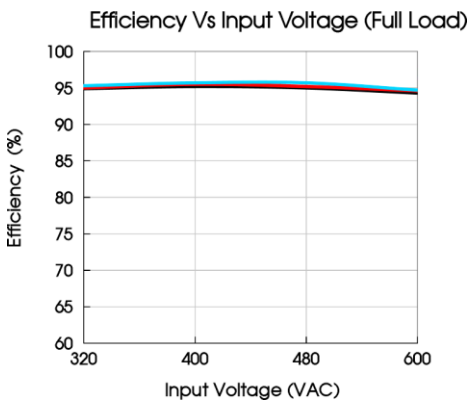
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Product Characteristic Curve

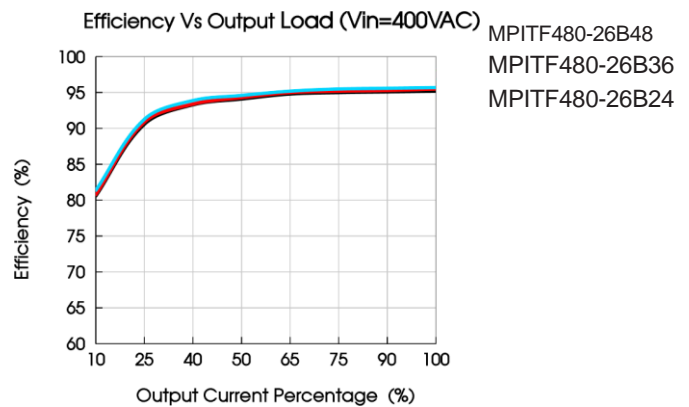


Note: 1. With an AC input voltage between 320 - 350V AC/450 - 495V DC the output power must be derated as per the temperature derating curves;

2. The operating temperature and the ambient temperature are determined according to the air temperature at 2cm below the power supply.



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MPITF480-26B36
MPITF480-26B24

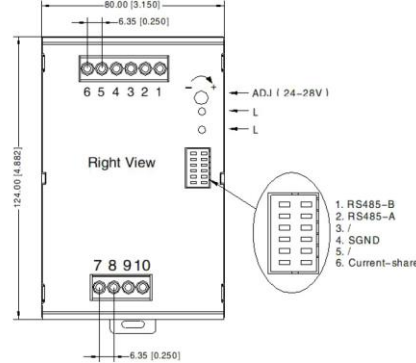
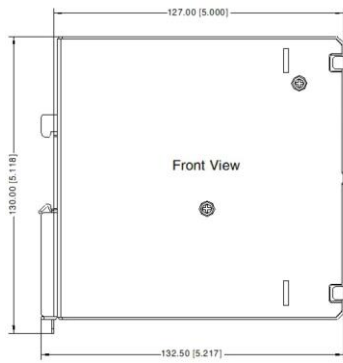


MPITF480-26B48
MPITF480-26B36
MPITF480-26B24

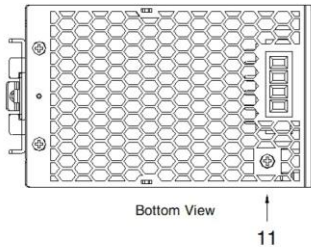
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Dimensions and Recommended Layout



Pin-Out	
Pin	Mark
1	DC OK
2	
3	-Vo
4	-Vo
5	+Vo
6	+Vo
7	L1
8	L2
9	L3
10	



10, 11 any position must be connected to the earth ()

Note:
 Unit: mm[inch]
 ADJ: Output adjustable resistor
 Wire range: Input: 22-10AWG
 Output: 24V 14-10AWG
 36V 16-10AWG
 48V 18-10AWG
 Signal: 22-16AWG
 Input Tightening torque: Max 0.5 N·m
 Output Tightening torque: Max 0.5 N·m
 Mounting rail: TS35, rail needs to connect safety ground
 General tolerances: ± 1.00[± 0.039]

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 3.5°C/1000m is needed for operating altitude greater than 2000m;
3. The out case needs to be connected to the earth () of system when the terminal equipment in operating;
4. The output voltage can be adjusted by the ADJ, clockwise to increase;

Part Number Table

Description	Part Number
AC-DC DIN Rail Power Supply, 3 Phase I/P, 24V, 20A	MPITF480-26B24
AC-DC DIN Rail Power Supply, 3 Phase I/P, 36V, 13.3A	MPITF480-26B36
AC-DC DIN Rail Power Supply, 3 Phase I/P, 48V, 10A	MPITF480-26B48

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