AC-DC DIN Rail Power Supply
240W

RoHS Compliant

Features

- Universal 320-600V AC or 450-850V DC input voltage, three-phase input (two or three phase are available)
- Operating ambient temperature range: -30°C to +70°C (60°C full load)
- High I/O isolation voltage up to 4000V AC
- Low ripple & noise, high efficiency, 5000m altitude
- DC OK function
- 130% peak load for 3 seconds
- Output short circuit, over-current, over-voltage, over-temperature protection
- 3 Years Warranty

MPIT240-26Bxx 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 electricity industry, and other industrial equipment in a variety of harsh environments. With good EMC performance, compliant with international UL/EN/IEC/ BS EN62368, UL61010, EN62477, EN61558 standards for EMC and safety.

Selection Guide

Part Number	Output Power (W)	Nominal Output Voltage and Current (Vo/Io)	Output Voltage Adjustable Range ADJ (V) (≤240W)*	Efficiency at 230V AC (%) Typ.	Capacitive Load (µF) Max.
MPIT240-26B24	240	24V/10A	24-28	92	10000
MPIT240-26B48		48V/5A	48-55	92	5000

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 (three-phase input)	AC input		320		600	V AC
	DC input		450		850	V DC
Input Frequency			47	--	63	Hz
Input Current	400V AC				0.85	A
	500V AC		--		0.75	
Inrush Current	400V AC	Cold start		50	60	
Leakage Current	480V AC		<2mA/rms			
Hot Plug			Unavailable			

Newark.com/multicomp-pro
Farnell.com/multicomp-pro
sg.element14.com/b/multicomp-pro

Output Specifications

Item	Operating Conditions		Min.	Typ.	Max.	Unit
Output Voltage Accuracy	All load range		--	±1	--	%
Line Regulation	Rated load			±0.5		
Load Regulation	400V AC			±1		
Ripple & Noise*	20MHz bandwidth (peak-to-peak value)	24V output		100	150	mV
		48V output		150	200	
Stand-by Power Consumption				--	2	W
Temperature Coefficient				±0.03	--	%/°C
Short Circuit Protection			Enter hiccup mode after constant current operation for 3s (typ.), continuous, self-recovery			
Over-current Protection			≥130% Io, enter hiccup mode after constant current operation for 3s (typ.), self-recovery			
Over-voltage Protection	24V output		≤36V	Output voltage hiccup, self-recovery		
	48V output		≤65V			
Over-temperature Protection	Over-temperature protection start		--	--	85	°C
	Over-temperature protection release		50	--	--	
Minimum Load			0	--	--	%
Start-up Time			--	--	1.5	s
DC OK Signal**	Resistive load		30V DC/1A Max.			
Hold-up Time	400V AC		10	20	--	ms
	400V AC		30	40		
Note: **DC OK Signal: When the output voltage is normal, the relay is connected. When the output voltage is abnormal (<90%Vo), the relay is disconnected.						

General Specifications

Item		Operating Conditions	Min.	Typ.	Max.	Unit
Isolation	Input - output	Electric Strength Test for 1min., leakage current<10mA	4000	--	--	V AC
	Input - ⏚	Electric Strength Test for 1min., leakage current<15mA	2500			
	Output - ⏚		500			
	Output - DC OK		500			
Insulation Resistance	Input - output	500V DC	100			MΩ
	Input - ⏚					
	Output - ⏚					
Operating Temperature			-30		70	°C
Storage Temperature			-40		85	
Storage Humidity			--		95	%RH
Altitude			--		5000	m

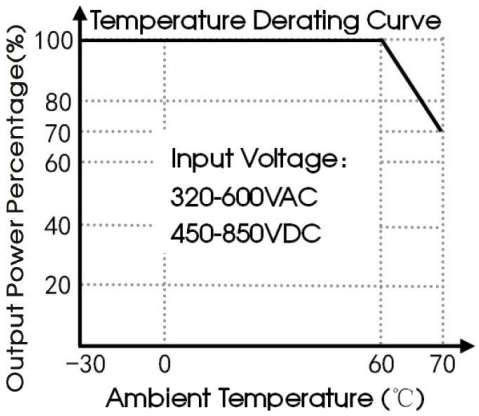
Item	Operating Conditions		Min.	Typ.	Max.	Unit
Power Derating	+60°C to +70°C		3	--	--	%/°C
	320V AC - 340V AC	Three-phase input	1			%/V AC
	550V AC - 600V AC		0.4			
	320V AC - 340V AC	Two-phase input (80%Io)	1			
	550V AC - 600V AC		0.4			
Safety Standard			Design refer to UL/EN/IEC/BS EN62368-1, UL61010-1, UL61010-2-201 & EN61558-1, EN62477			
Safety Class			CLASS I			
MTBF			MIL-HDBK-217F@25°C>300,000 h			

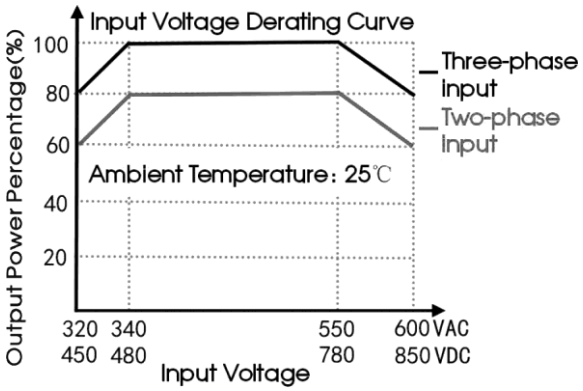
Mechanical Specifications	
Case Material	Metal (AL1100, SGCC)
Dimensions	124mm x 54mm x 110mm
Weight	750g (Typ.)
Cooling Method	Free air convection

Electromagnetic Compatibility (EMC)

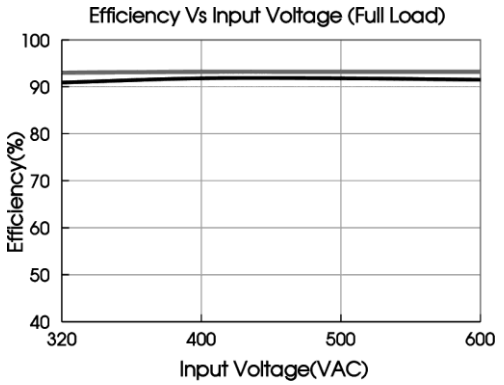
Emissions	CE	CISPR32 EN55032	CLASS B	
	RE	CISPR32 EN55032	CLASS B	
	Harmonic current	IEC/EN61000-3-2	CLASS A	
	Voltage flicker	IEC/EN61000-3-3		
Immunity	ESD	IEC/EN61000-4-2	Contact ±8KV/Air ±15KV	perf. Criteria A
	RS	IEC/EN61000-4-3	10V/m	perf. Criteria A
	EFT	IEC/EN61000-4-4	±2KV	perf. Criteria A
	Surge	IEC/EN61000-4-5	Line to line ±2KV/line to ground ±4KV	perf. Criteria A
	CS	IEC/EN61000-4-6	10 Vr.m.s	perf. Criteria A
	PFMF	IEC/EN61000-4-8	30A/m	Perf. Criteria B
	Voltage dips, short interruptions and voltage variations immunity	IEC/EN61000-4-11	100% dip 1 periods, 30% dip 25 periods, 100% interruptions 250 periods	perf. Criteria B

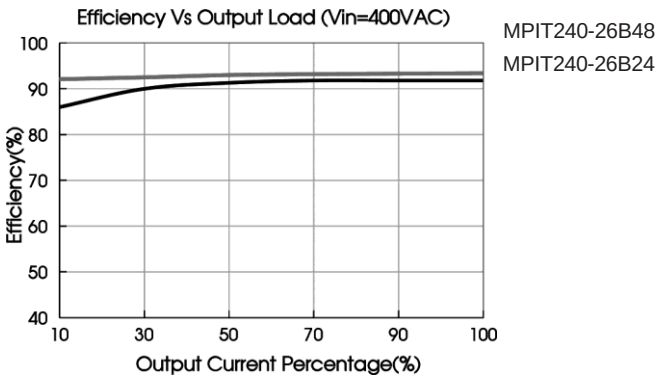
Product Characteristic Curve



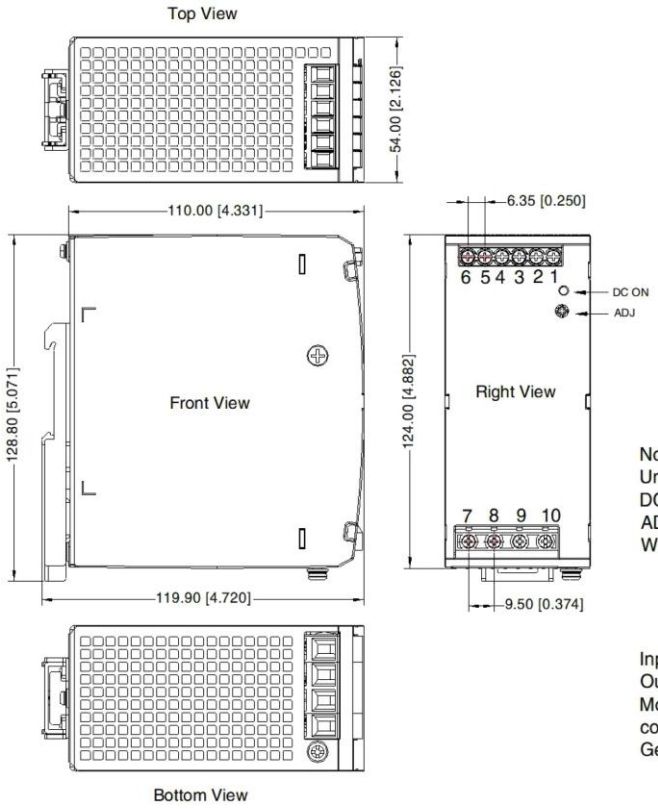


Note: With an AC input between 320-340V AC/550-600V AC and a DC input between 450-480V DC/780-850V DC, the output power must be derated as per temperature derating curves;





Dimensions and Recommended Layout



Pin–Out	
Pin	Mark
1	DC OK
2	
3	-Vo
4	
5	+Vo
6	
7	AC(L1) or DC+
8	AC(L2) or DC-
9	AC(L3)
10	⏚

Note:
Unit: mm[inch]
DC ON：Output status indicator LED
ADJ: Output adjustable resistor
Wire range: Input: 24–10 AWG
(12–10AWG for pin10)
Output: 24V: 16–10AWG
48V: 18–10AWG
DC OK: 24–16AWG
Input Tightening torque: Max 1.0 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. 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;
4. The out case needs to be connected to PE (⏚) of system when the terminal equipment in operating;

Part Number Table

Description	Part Number
AC-DC DIN Rail Power Supply, 3 Phase I/P, 24V, 10A	MPIT240-26B24
AC-DC DIN Rail Power Supply, 3 Phase I/P, 48V, 5A	MPIT240-26B48