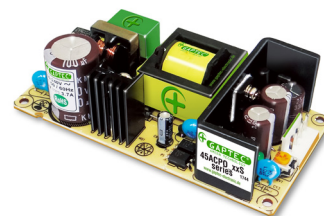


45ACPO_S Series

45W - Single Output AC-DC Converter - Universal Input - Isolated & Regulated



AC-DC Converter

45 Watt

- ⊕ High efficiency up to 86%
- ⊕ Universal AC input range (90~264VAC)
- ⊕ Over power protection (OPP)
- ⊕ Over voltage protection (OVP)
- ⊕ Over load protection (OLP)
- ⊕ Short circuit protection (SCP)
- ⊕ Wide operating ambient temperature (-10°C~65°C)
- ⊕ All using 105°C long life electrolytic capacitors
- ⊕ 100% full load burn-in test

The 45ACPO_S series features standard rail mounting, energy efficiency and is highly cost-effective. The series offers stability and high noise immunity especially for industrial control equipment, machinery and other demanding environments for industrial equipment. This converter offers a compact and light weight design with standard rail installation (35mm). Furthermore this series offers Easy Fuse Tripping due to a built-in DC OK relay contact. The converter can be installed on TS-35/7.5 or TS-35/15.



Common specifications

Short circuit protection:	Long-term mode, automatic recovery
Temperature rise at full load:	50°C MAX
Cooling:	Free air convection
Operation temperature range:	-10°C~+65°C
Storage temperature range:	-25°C ~+85°C
Storage humidity range:	< 95%
Temperature coefficient:	0.05%/°C MAX
MTBF (using MIL-HDBK-217F):	+25°C >200,000 hours
Safety standards:	UL60950-1; EN60950-1: 2006
Case material:	Heat-resistant Plastic (UL94-V0) and metal
Dimensions (L*W*H):	101.6×51×24mm
Weight:	183.3g

Isolation specifications

Item	Test condition	Min	Typ	Max	Units
Withstand voltage*	• Input-output: 10mA	3000			VAC
	• Output-PG: 10mA	1500			
	• Output-PG: 10mA	500			
Isolation resistance		100			MΩ

* Input-Output, tested for 1 minute, 500VDC and leakage current less than 1mA

Protection specifications

Over-load protection	• 12V: 3.9~6.2A • 24V: 2.0~3.2A • 48V: 1.1~1.56A	Protection type: Hiccup mode, auto recovery
Over-voltage protection	• 12V: 13.8~16.2V • 24V: 27.6~32.4V • 48V: 55.2~64.8V	Protection type: Constant voltage, auto recovery
Over-power protection	• 12V: 46.8~75W • 24V: 48~75W • 48V: 53~75W	Protection type: Hiccup mode, auto recovery

Input specifications

Input voltage range	90~264VAC		
Input frequency	47~63Hz		
AC current	230VAC	@115VAC <1A (max)	@230VAC <0.6A (max)
Inrush current	Cold start	@115VAC <20A (typ)	@230VAC <45A (typ)
Leakage current	Input—output: ≤0.25mA Input—PG: ≤3.5mA		

Output specifications

Item	Test conditions	Min	Typ	Max	Units
Output voltage accuracy	Full load		±3		%
Voltage adjustment range	• 12V	11.4		13.2	V
	• 24V	22.8		26.4	V
	• 48V	45.6		52.8	V
Line regulation	Vin= min. to max. at full load			±1	%
Load regulation	0% to 100% load			±3	%
Set-up time (full load)	• @230VAC input			0.8	s
Hold-up time (full load)	• @230VAC input	60			ms
Overshoot and undershoot				5	%
Switching frequency			65		KHz

* Measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1 uF & 10uF parallel capacitor.

Example: 45ACPO_24S

45 = 45Watt
AC = AC-DC
PO = series
24 = 24 Vout
S = single output

Note:

1. All parameters NOT specially mentioned are measured at 230VAC input, rated load and 25°C of ambient temperature.

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EMC specifications

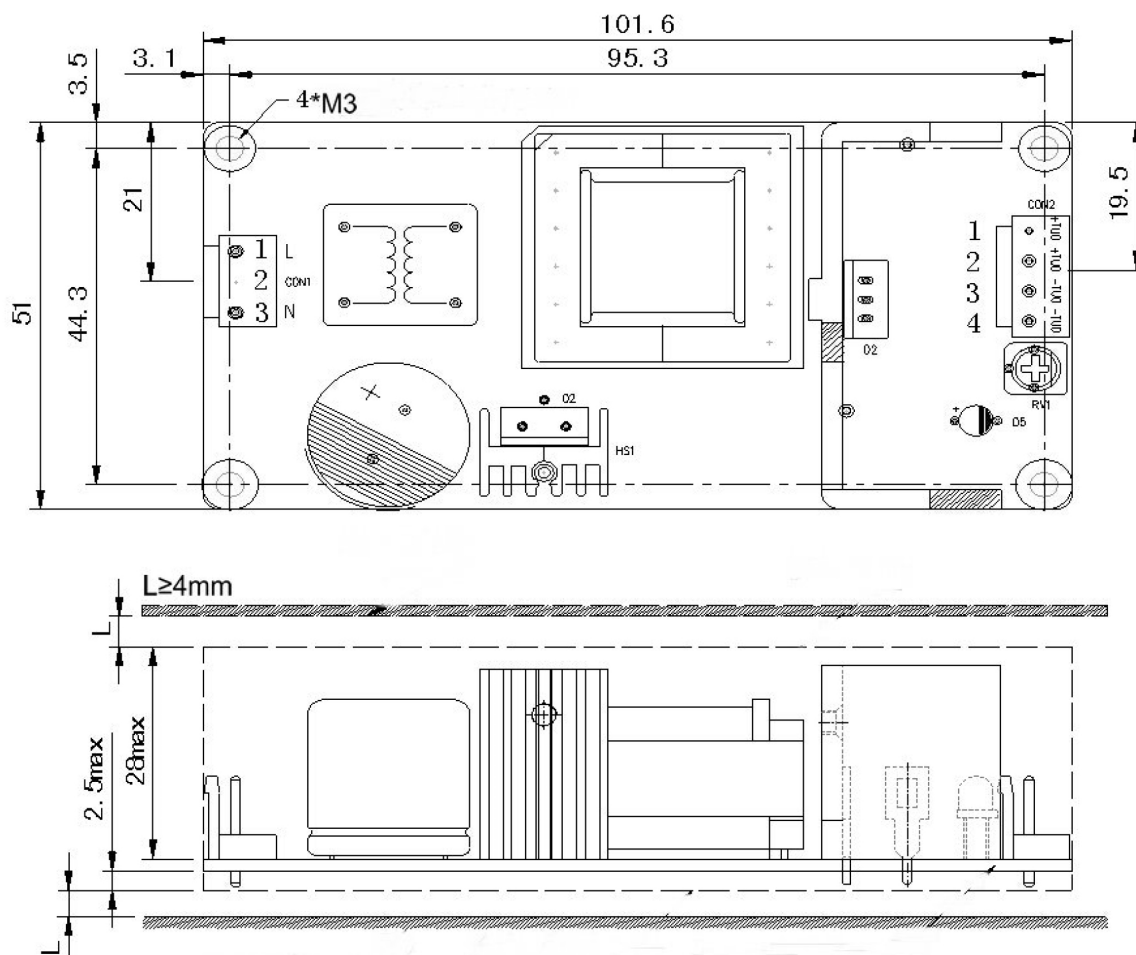
EMI / Conduction&Radiation	Compliance to EN55022, Class B
EMS / Immunity	Compliance to EN61000-4-2, -3, -4, -5, -6, -8, -11; heavy industry level

The power supply is considered as a component which will be installed into a final equipment.
The final equipment must be re-confirmed that it still meets EMC directives.

Approval	Model	Power [W]	Output [Vo, VDC]	Rated Current [A]	Ripple&Noise* [mV, typ]		Efficiency [%, typ]
					0~60°C	-10~0°C	220VAC
UL	45ACPO_12S	45	12	3.7	120	200	≥82
UL	45ACPO_24S	45	24	1.9	120	200	≥85
UL	45ACPO_48S	45	48	1	120	200	≥86

Measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1 uF & 10uF parallel capacitor.

Mechanical dimensions

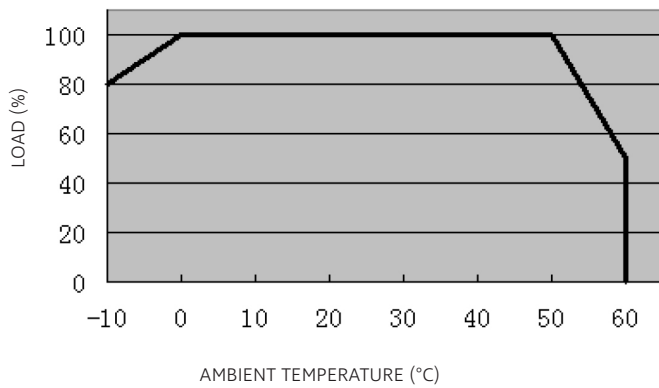


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Typical characteristics

Derating Curve



Functional block diagram

