



50ACP_S Series

50W - Single Output AC-DC Converter - Universal Input - Isolated & Regulated

AC-DC Converter 50 Watt

- ⊕ High efficiency up to 88.5%
- ⊕ Universal AC input range (90~264VAC)
- ⊕ Withstand 300VA surge input for 5 sec.
- ⊕ Over voltage protection (OVP)
- ⊕ Over load protection (OLP)
- ⊕ Short circuit protection (SCP)
- ⊕ Wide operating ambient temperature (-25°C~70°C)
- ⊕ Operating altitude up to 5000M
- ⊕ 100% full load burn-in test
- ⊕ Easy assembling from top side
- ⊕ PCB soldering side with conformal coating

The 50ACP_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 and standard rail installation (35mm). Furthermore this series offers Easy Fuse Tripping due and 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:	40°C MAX
Cooling:	Free air convection
Operation temperature range:	-25°C~+70°C
Storage temperature range:	-40°C ~+85°C
Storage humidity range:	< 95%
Temperature coefficient:	0.03%/°C MAX
MTBF (using MIL-HDBK-217F):	+25°C >200,000 hours
Safety standards:	UL60950-1 2 nd Ed; IEC 60950-1:2005 (2 nd Ed); EN60950-1:2006
Case material:	Heat-resistant Plastic (UL94-V0) and metal
Dimensions (L*W*H):	99×82×35mm
Weight:	320g

Isolation specifications					
Item	Test condition	Min	Typ	Max	Units
Withstand voltage*	• Primary-Sec.: 10mA	3000			VAC
	• Primary-PG: 10mA	1500			
	• Secondary-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	•5V: 8.4~12A •12V: 4.41~6.3A •15V: 3.57~5.1A •24V: 2.31~3.3A •48V: 1.155~1.65A	Protection type: 5V is hiccup mode, rest are constant power, auto recovery
Over-voltage protection	•5V: 5.75~7.5V •12V: 13.8~18V •15V: 17.25~22.5V •24V: 27.6~36V •48V: 55.2~72V	Protection type: constant voltage, auto recovery

Note:

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

Input specifications		
Input voltage range	88~264VAC, 127~370VDC	
Input frequency	47~63Hz	
AC current	1.3A (max)	
Inrush current	Cold start, 230VAC	45A (max)
Leakage current (input 264Vac, 63Hz)	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	•5V: 4.75~5.5V •12V: 11.4~13.2V •15V: 14.25~15V •24V: 22.8~26.4V •48V: 45.6~52.8V				
Line regulation	Vin= min. to max. at full load			±0.5	%
Load regulation	0% to 100% load			±1	%
Set-up time	@230VAC input, full load			1.5	s
Hold-up time (full load)	@230VAC input	50			ms
Overshoot and undershoot				5	%
Switching frequency			100		KHz

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

Example: 50ACP_24S

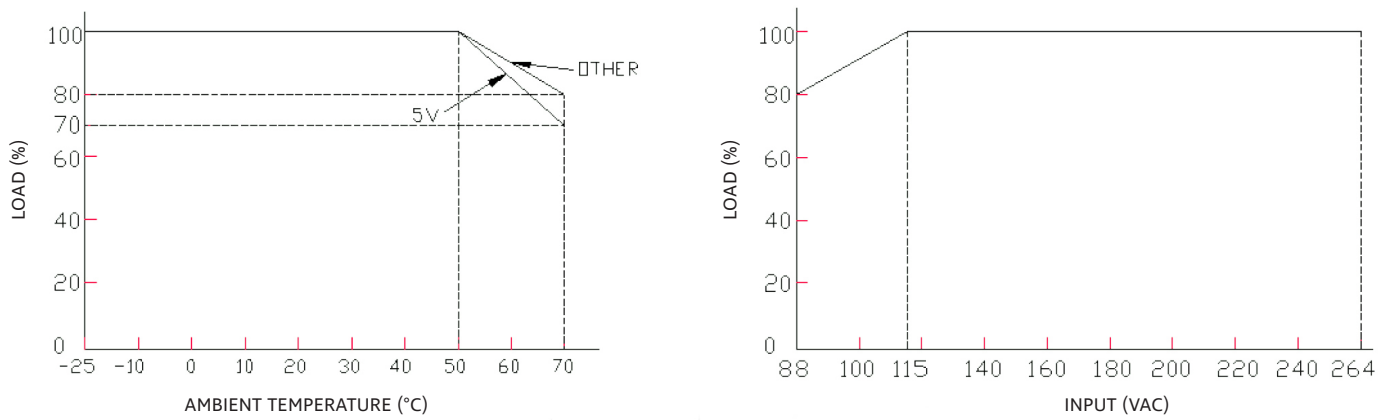
50 = 50Watt
AC = AC-DC
P = series
24 = 24 Vout
S = single output

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Typical characteristics

Derating Curves



Functional block diagram

Functional diagram

