35ACPO_S Series

35W - Single Output AC-DC Converter - Universal Input - Isolated & Regulated



AC-DC Converter 35 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 (-20°C~65°C)
- All using 105°C long life electrolytic capacitors
- 100% full load burn-in test

The 35ACPO_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.

SHORT CIRCUIT PROTECTED

c UL us
UL-60950-1 (E347551)

CE CB

Common specifications

Short circut protection:	Long-term mode, automatic recovery
Temperature rise at full load:	50°C MAX
Cooling:	Free air convection
Operation temperature range:	-20°C~+65°C
Storage temperature range:	-30°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; EN60950-1: 2006
Case material:	Heat-resistant Plastic (UL94-V0) and metal
Dimensions (L*W*H):	101.6×50.8×24mm
Weight:	183.3g

Isolation specifications

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

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

Protection specifications

Over-load protection	• 5V: 6.3~10.8A • 12V: 3.15~5.4A • 24V: 1.58~2.7A • 48V: 0.78~1.35A	Protection type: Hiccup model, auto recovery
Over-voltage protection	• 5V: 5.75~7.5V • 12V: 13.8~16.2V • 24V: 27.6~32.4V • 48V: 55.2~64.8V	Protection type: Constant voltage, auto recovery
Over-power protection	• 5V: 31.5~54W • 12V: 37.8~64.8W • 24V: 37.9~64.8W • 48V: 37.4~64.8W	Protection type: Hiccup model, auto recovery

Input specifications

Input voltage range		90~264VAC	
Input frequency		47~63Hz	
AC current	230VAC	1A (max)	
Inrush current	Cold start	@115VAC 23A (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		±1		%
Voltage adjustment range	• 5V • 12V • 24V • 48V	4.75 11.4 22.8 45.6		5.5 13.2 26.4 52.8	V
Line regulation	Vin= min. to max. at full load			±0.5	%
Load regulation	0% to 100% load			±1	%
Set-up time (full load)	• @230VAC input • @115VAC input			1 2	s s
Hold-up time (full load)	• @230VAC input • @115VAC input			20 10	ms 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:
35ACPO_24S

35 = 35Watt
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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Specifications subject to change without notice.

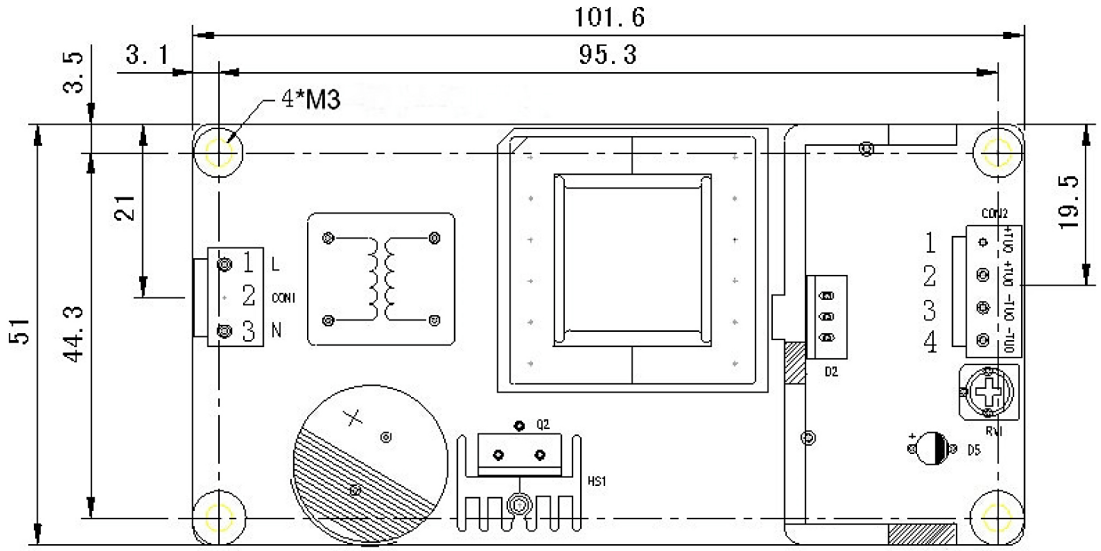
EMC specifications	
EMI / Conduction&Radiation	Compliance to EN55022, Class B, FCC PART15B
EMS / Immunity	Compliance to EN61000-4-2, -3, -4, -5, -6, -8, -11; heavy industry level

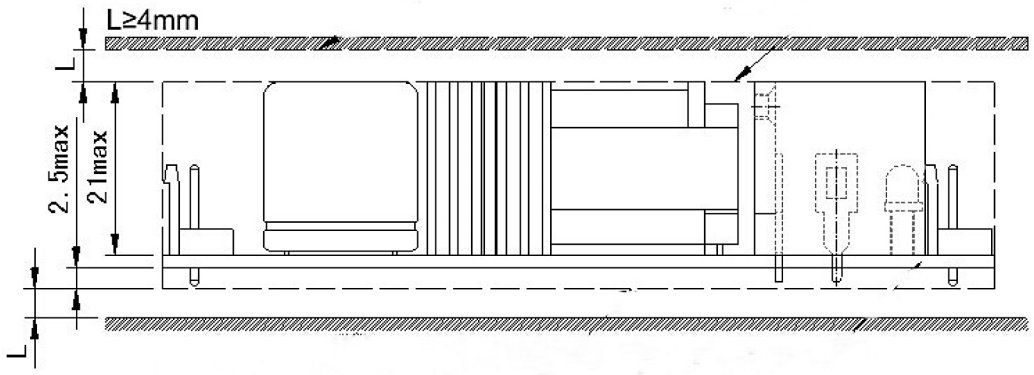
The power supply is considered as a component which will be installed into a final equipment.
The final equipment must be re-confirmed that it still meets EMC directives.

Approval	Model	Power [W]	Output [Vo, VDC]	Rated Current [A]	Ripple&Noise* [mV, typ] 0~65°C	-20~0°C	Efficiency [%, typ] 220VAC
UL	35ACPO_05S	35	5	6	80	150	78
UL	35ACPO_12S	35	12	3	120	200	81
UL	35ACPO_24S	35	24	1.5	120	200	83
UL	35ACPO_48S	35	48	0.75	120	200	86

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

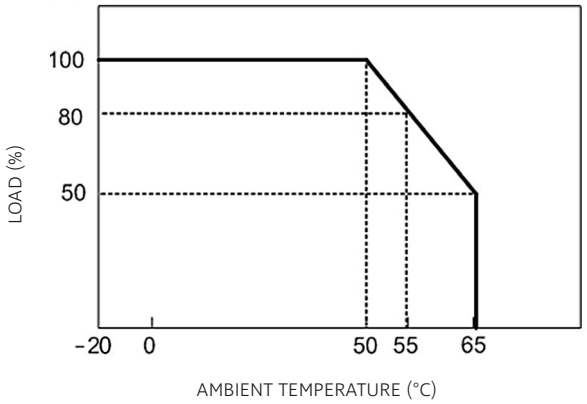
Mechanical dimensions





Typical characteristics

Derating Curve



Functional block diagram

Functional diagram

