



## 150ACP\_SC series

150W - Single Output AC-DC Converter - Universal Input - Isolated & Regulated

# AC-DC Converter 150 Watt

- ⊕ High efficiency up to 87%
- ⊕ Universal AC input range (85~264VAC)
- ⊕ Built-in Active PFC function, PF>0.95
- ⊕ Over power protection (OPP)
- ⊕ Over load protection (OLP)
- ⊕ Short circuit protection (SCP)
- ⊕ Wide operating ambient temperature (-20°C~65°C)
- ⊕ Operating altitude up to 5000M
- ⊕ 100% full load burn-in test
- ⊕ Easy assembling from top side
- ⊕ PCB soldering side with conformal coating

The 150ACP\_SC 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 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:	-20°C~+65°C
Storage temperature range:	-20°C ~+85°C
Storage humidity range:	< 95%
Temperature coefficient:	0.03%/°C MAX
MTBF (using MIL-HDBK-217F):	+25°C >200,000 hours
Power boost:	150% of rated current
Parallel function:	support
Safety standards:	UL60950-1 2 <sup>nd</sup> Ed; IEC 60950-1:2005(2 <sup>nd</sup> Ed); EN60950-1:2006
Case material:	Heat-resistant Plastic (UL94-V0) and metal
Dimensions:	199*99*38mm
Weight:	750g

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	105%~150% of rated output current, hiccup mode, auto recovery
Over-power protection	105%~150% of rated output current, hiccup mode, auto recovery

**Note:**

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

Input specifications			
Input voltage range	85~264VAC		
Input frequency	47~63Hz		
Power factor	115VAC	230VAC	
	• 0.98 (typ)	• 0.95 (typ)	
AC current	115VAC	230VAC	
	• 1.7A (max)	• 0.8A (max)	
Inrush current	Cold start	115VAC	230VAC
		• 30A (typ)	• 50A (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				±10	%
Line regulation	Vin= min. to max. at full load			±0.5	%
Load regulation	0% to 100% load			±1	%
Set-up time	• @230VAC input			2	s
	• @115VAC input			4	s
Hold-up time				15	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: 150ACP\_24SC**

150 = 150Watt  
 AC = AC-DC  
 P = series  
 24 = 24 Volt  
 S = single output  
 C = PFC (Power Factor Correction)

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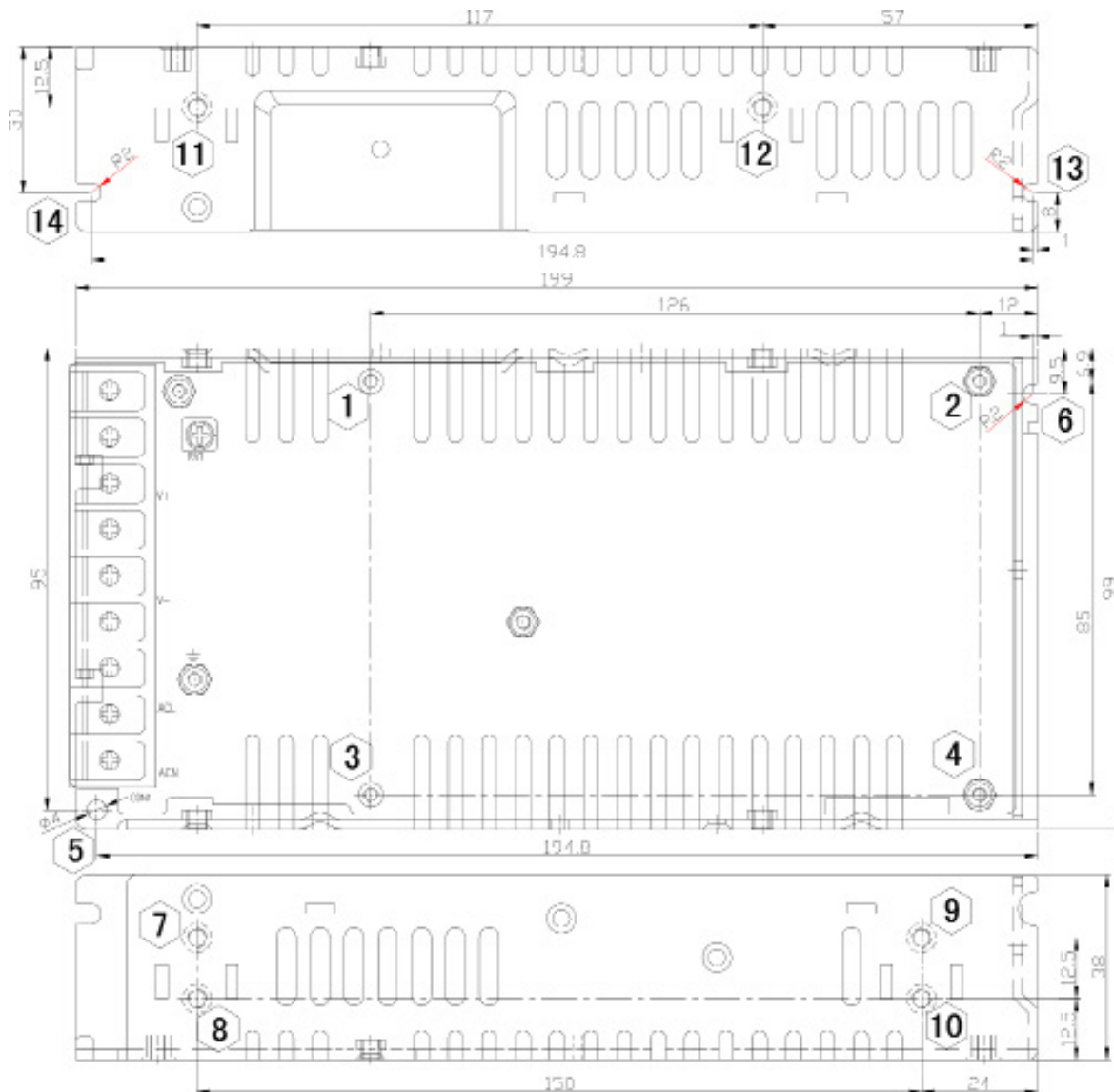
### EMC specifications

EMC / Emission	Compliance to EN55022, EN55024, FCC PART 15 Class B
EMC / Harmonic current	Compliance to EN61000-3-2, CLASS D
EMC / 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]	Current Range [A]	Ripple&Noise* [mV, typ]		Efficiency [%, typ]	
						0~65°C	-20~0°C	230VAC	120VAC
UL	150ACP_12SC	150	12	12.5	0~12.5	100	200	86	83
UL	150ACP_24SC	150	24	6.3	0~6.3	150	300	86	83
UL	150ACP_27SC	150	27.6	5.4	0~5.4	240	480	86	83
UL	150ACP_48SC	150	48	3.2	0~3.2	240	480	87	84

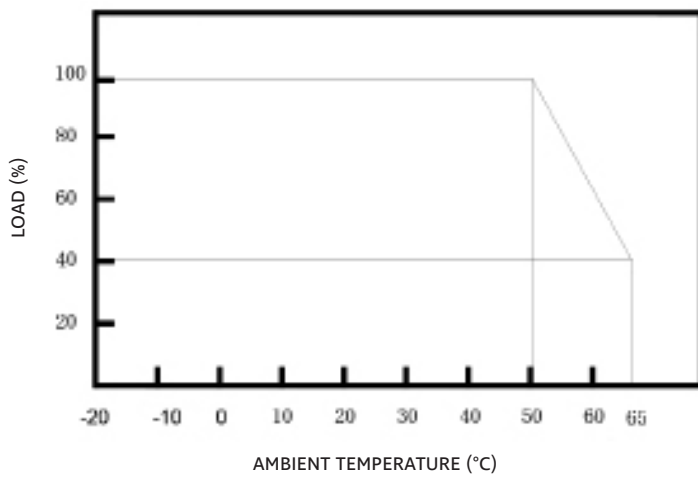
## Mechanical dimensions



1-4	M3	2.5mm	6.5kgf.cm (max)
5-6	M3	4mm	6.5kgf.cm (max)
7-12	M3	4mm	6.5kgf.cm (max)
13-14	M4	4mm	12kgf.cm (max)

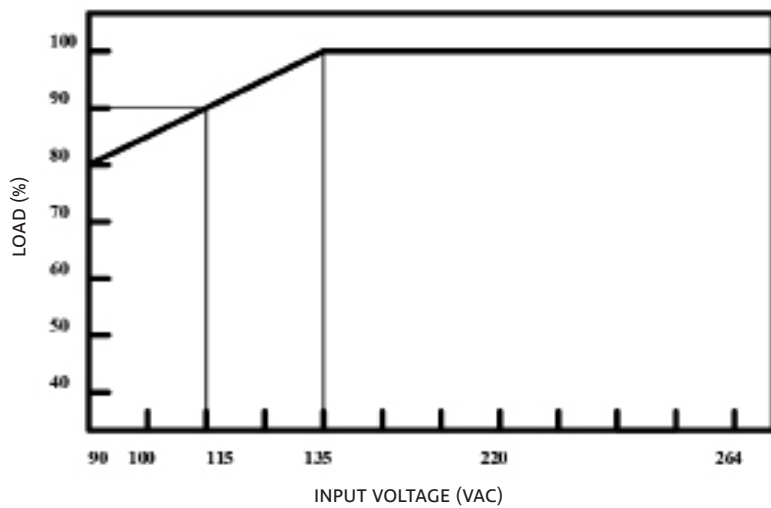
## Typical characteristics

Derating Curve



Efficiency

T<sub>a</sub>=25°C



## Functional block diagram

Functional diagram

