



100ACPM_SC Series

100W - Single Output AC-DC Converter - Universal Input - Isolated & Regulated

AC-DC Converter 100 Watt

- ⊕ High efficiency up to 88%
- ⊕ Universal AC input range (85~264VAC)
- ⊕ Built-in Active PFC function, PF>0.93
- ⊕ Over power protection (OPP)
- ⊕ Over load protection (OLP)
- ⊕ Short circuit protection (SCP)
- ⊕ Wide operating ambient temperature (-20°C~60°C)
- ⊕ Withstand 300VA surge input for 5 secs.
- ⊕ 100% full load burn-in test
- ⊕ Easy assembling from top side
- ⊕ PCB soldering side with conformal coating

The 100ACPM_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 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.



pending

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~+60°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
Power boost:	150% of rated current
Parallel function:	support
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:	129×98.3×37.6mm
Weight:	487g

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	110%~150% of rated output current, hiccup mode, auto recovery
Over-power protection	110%~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	90~264VAC		
Input frequency	47~63Hz		
Power factor	115VAC	230VAC	
	• 0.98 (max)	• 0.93 (typ)	
AC current	1.5A (max)		
Inrush current	Cold start	115VAC	230VAC
		• 30A (max)	• 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)	• 5V, 12V			±2	%
	• 24V, 48V			±1	%
Voltage adjustment range	• 5V	3.3		5.5	V
	• 12V	10		15	V
	• 24V	21		27	V
	• 48V	43.2		52.8	V
Line regulation	Vin= min. to max. at full load			±0.5	%
Load regulation	• 5V, 12V			±2	%
	• 24V, 48V			±1	%
Set-up time	• @115VAC input			4	s
	• @230VAC input			2	s
Hold-up time	@230VAC input	12			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:

100ACPM_24SC

100= 100Watt

AC= AC-DC

PM= series

24= 24 Vout

S= single output

C= PFC (Power Factor Correction)

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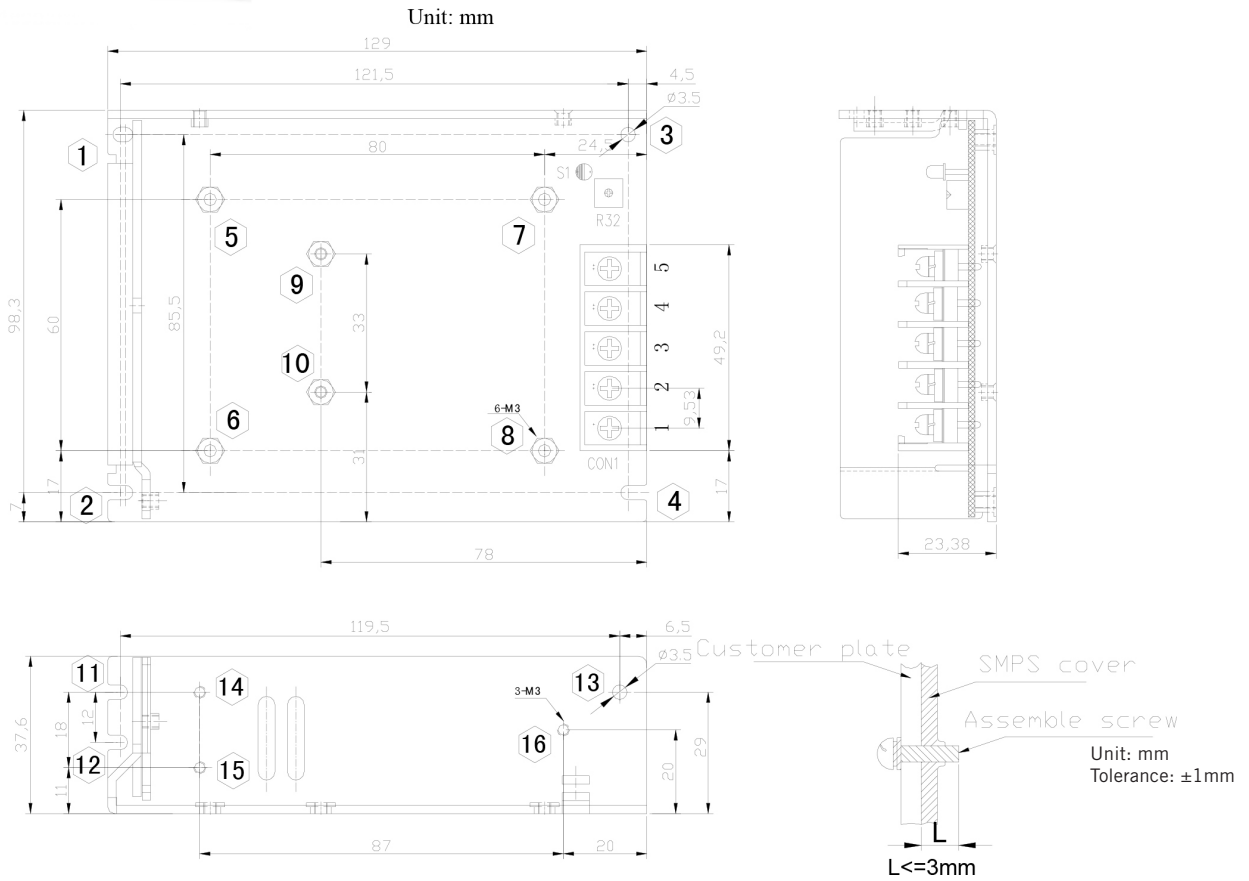
EMC specifications	
EMC / Emission	Compliance to EN55022, Class B
EMC / Harmonic current	Compliance to EN61000-3-2, CLASS A
EMC / Immunity	Compliance to EN61000-4-2, -3, -4, -5, -6, -8, -11; heavy industry level

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]
						0~70°C	-20~0°C	
UL (pending)	100ACPM_05SC	100	5	20	0~20	150	150	84
UL (pending)	100ACPM_12SC	100	12	8.5	0~8.5	150	150	87
UL (pending)	100ACPM_24SC	100	24	4.2	0~4.2	150	150	88
UL (pending)	100ACPM_48SC	100	48	2.2	0~2.2	150	200	88

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

Mechanical dimensions



AC terminal blocks installation information			
Terminal No.	Function	Wire specs	Torque max.
1	L	22-12AWG	7.5Kgf.cm
2	N		
3	PG		

Mounting method	Mounting holes	Screw specs	L max.	Torque max.
Bottom	1-4	M3	5mm	7kgf.cm (max)
Bottom	5-10	M3	3mm	6.5kgf.cm (max)
Side	11-13	M3	5mm	7kgf.cm (max)
Side	14-16	M3	3mm	6.5kgf.cm (max)

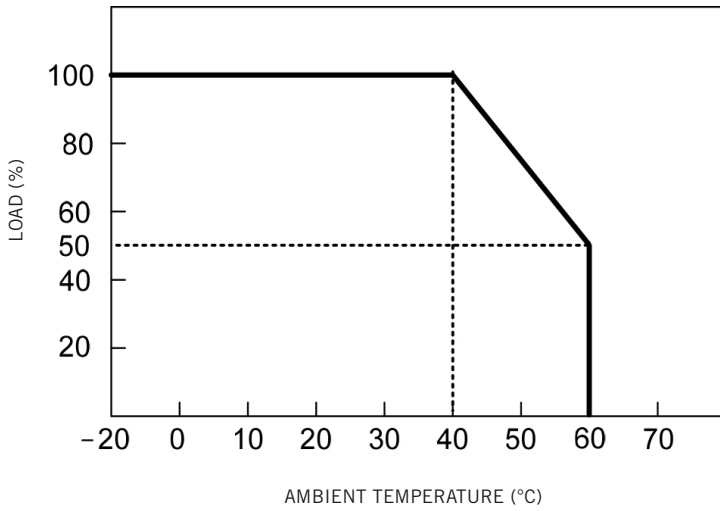
DC terminal blocks installation information			
Terminal No.	Function	Wire specs	Rec. torque
4	-V	22-12AWG	7.5Kgf.cm
5	+V		

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Typical characteristics

Derating Curve



Functional block diagram

Functional diagram

