



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 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~+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*	<ul style="list-style-type: none"> Primary-Sec.: 10mA Primary-PG: 10mA Secondary-PG: 10mA 	3000		1500	VAC
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:

- 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 • 0.98 (max)	230VAC • 0.93 (typ)
AC current		1.5A (max)	
Inrush current	Cold start	115VAC • 30A (max)	230VAC • 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)	<ul style="list-style-type: none"> 5V, 12V 24V, 48V 			±2 ±1	% %
Voltage adjustment range	<ul style="list-style-type: none"> 5V 12V 24V 48V 	3.3 10 21 43.2		5.5 15 27 52.8	V V V V
Line regulation	Vin= min. to max. at full load			±0.5	%
Load regulation	<ul style="list-style-type: none"> 5V, 12V 24V, 48V 			±2 ±1	% %
Set-up time	<ul style="list-style-type: none"> @115VAC input @230VAC input 			4 2	s 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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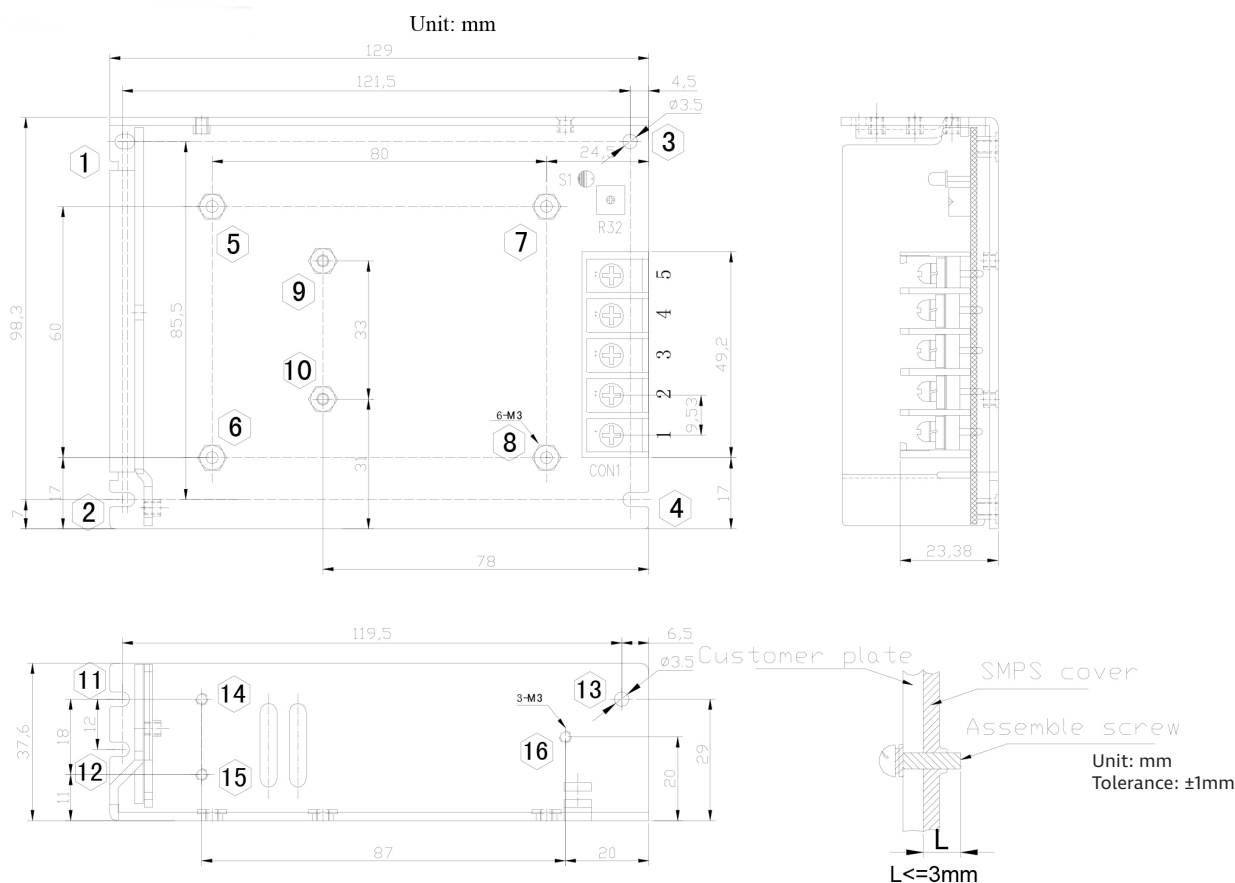
EMC specifications

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] 0~70°C -20~0°C		Efficiency [%, typ]
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

Mechanical dimensions



AC terminal blocks installation information

Terminal No.	Function	Wire specs	Torque max.
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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)

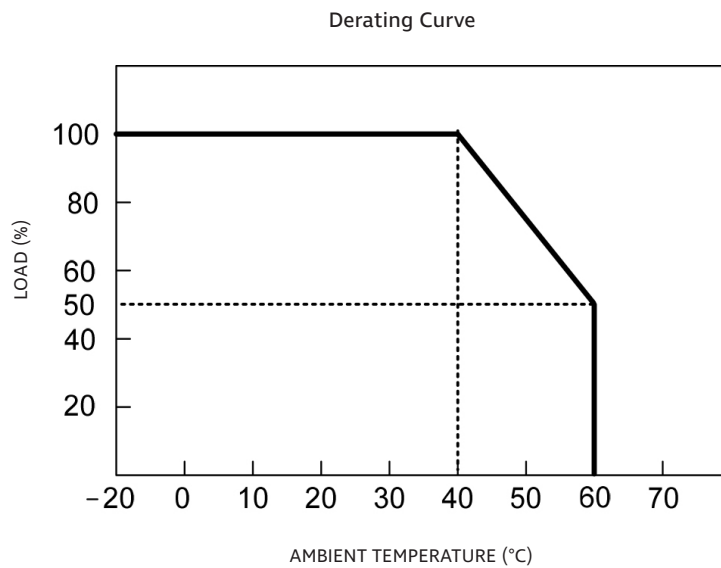
DC terminal blocks installation information

Terminal No.	Function	Wire specs	Rec. torque
4	-V	22-12AWG	7.5Kgf.cm
5	+V		

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Typical characteristics



Functional block diagram

