



15ACP_S Series

15W - Single Output AC-DC Converter - Universal Input - Isolated & Regulated

AC-DC Converter

15 Watt

- ⊕ High efficiency up to 83%
- ⊕ 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 (-20°C~70°C)
- ⊕ 100% full load burn-in test
- ⊕ Easy assembling from top side
- ⊕ PCB soldering side with conformal coating

The 15ACP_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 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.



c **UL** [®] **US** **CB** **CE**

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~+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
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 (L*W*H):	79x51x28mm
Weight:	217g

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	<ul style="list-style-type: none"> • 3.3V: 4.4~7.2A • 5V: 3.3~5.4A • 12V: 1.43~2.34A • 15V: 1.1~1.8A • 24V: 0.77~1.26A 	Protection type: constant power
Over-voltage protection	<ul style="list-style-type: none"> • 3.3V: 14.52~23.76W • 5V: 16.5~27W • 12V: 17.16~28.08W • 15V: 16.5~27W • 24V: 18.48~30.24W 	Protection type: constant voltage

Note:

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

Input specifications			
Input voltage range	90~264VAC		
Input frequency	47~63Hz		
AC current	230VAC	0.7A (max)	
Inrush current	Cold start, 230VAC	• 120VAC 20A (typ)	• 230VAC 40A (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			±3	%			
Voltage adjustment range	<ul style="list-style-type: none"> • 3.3V • 5V • 12V • 24V • 48V 	3.1	4.75	11.4	12.6	15.75	25.2	V
Line regulation	Vin= min. to max. at full load			±1	%			
Load regulation	0% to 100% load			±2	%			
Set-up time (full load)	<ul style="list-style-type: none"> • @230VAC input • @120VAC input 			1	2	s		
Hold-up time (full load)	<ul style="list-style-type: none"> • @230VAC input • @120VAC input 			20	10	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:
15ACP_24S

15= 15Watt
AC= AC-DC
P= series
24= 24 Vout
S= single output

15ACP_S Series

15W - Single Output AC-DC Converter - Universal Input - Isolated & Regulated

EMC specifications

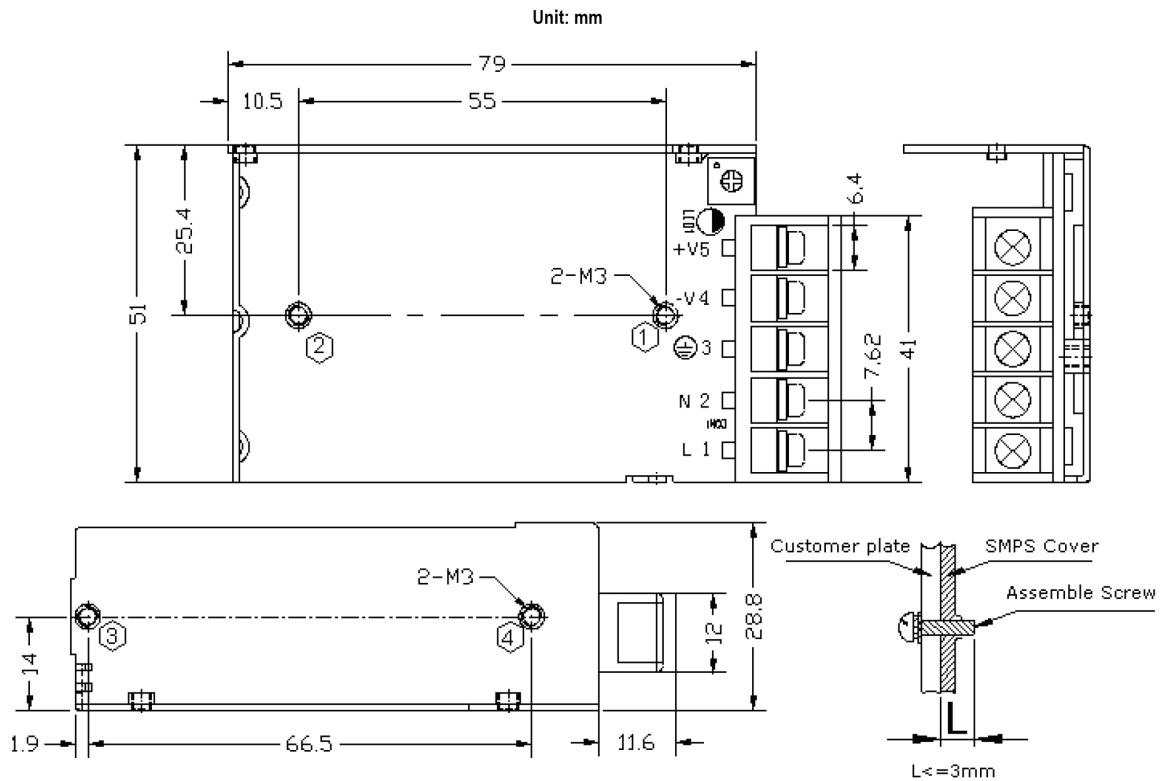
EMC / Emission	Compliance to EN55022 CALSS B FCC PART15 B
EMC / Immunity	Compliance to EN61000-4-2, 4, 5, 6, 8, 11

The SPS 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] 220VAC
						0~70°C	-20~0°C	
UL	15ACP_03S	15	3.3	4	0~0.4	50	50	70
UL	15ACP_05S	15	5	3	0~3	50	50	76
UL	15ACP_12S	15	12	1.3	0~1.3	120	120	80
UL	15ACP_15S	15	15	1	0~1	120	120	81
UL	15ACP_24S	15	24	0.7	0~0.7	120	120	83

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	22-14AWG	7.5Kgf.cm
2	N		
3	PG		

Mounting method	Mounting holes	Screw specs	Torque max.
Bottom	1~2	M3	6.5kgf.cm (max)
Side	3~4	M3	6.5kgf.cm (max)

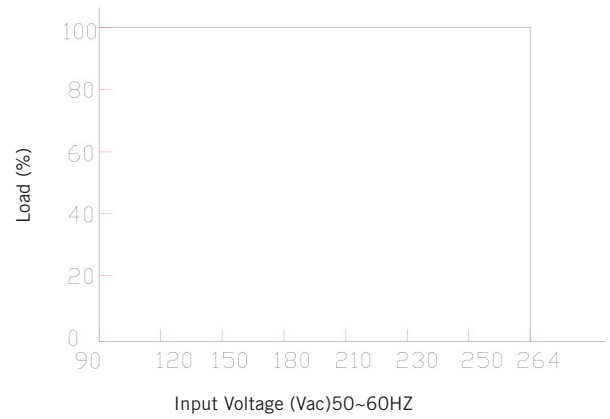
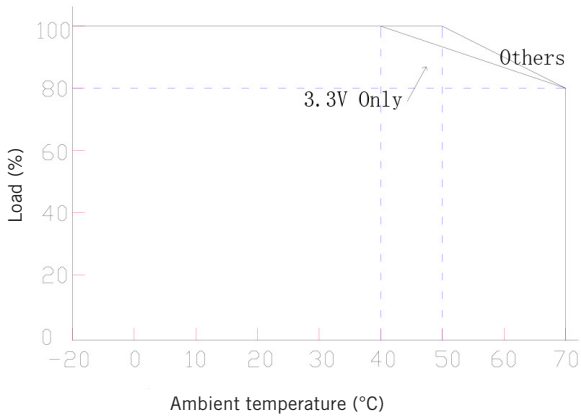
DC terminal blocks installation information			
Terminal No.	Function	Wire specs	Rec. torque
4	-V	22-14AWG	7.5Kgf.cm
5	+V		

15ACP_S Series

15W - Single Output AC-DC Converter - Universal Input - Isolated & Regulated

Typical characteristics

Derating Curves



Functional block diagram

