

Switching Power Supply Enclosed Type SPP 150 Series Open Cage

CARLO GAVAZZI



- AC input selectable by switch (115VAC/230VAC)
- High Efficiency, and High reliability
- Output protections: OLP/OVP/SCP
- Wide operating ambient temperature (-25°C~70°C)
- Electrolytic capacitors

Product Description

Enclosed Switching Power Supply meets your needs for AC DC and DC DC power requirements. SPP provides the most flexible OEM system power solutions from 5V to 48V at 150W for industrial control

and automation applications. All the range carries full certification and offers a wide range of universal input and screw terminal connections. It has been designed for its performance.

Ordering Key

SP PC XX 150 1

Power supply model _____
 Panel mounted _____
 Output voltage _____
 Output power _____
 Input type (single phase) _____

Approvals



Output Performances

MODEL NO.	INPUT VOLTAGE	OUTPUT POWER	OUTPUT VOLTAGE	OUTPUT CURRENT	VOLTAGE OUT ADJ	EFF. (typ.)	
						115VAC	230VAC
Single Output Models							
SPPC 5150 1	115VAC/230VAC selectable by switch	150 WATTS	5 VDC	26.0 A	4.6VDC ~ 5.5VDC	78%	79%
SPPC 12150 1	115VAC/230VAC selectable by switch	150 WATTS	12 VDC	12.5 A	11.0VDC ~ 13.0VDC	83%	84%
SPPC 15150 1	115VAC/230VAC selectable by switch	150 WATTS	15 VDC	10.0 A	13.7VDC ~ 16.2VDC	83%	84%
SPPC 24150 1	115VAC/230VAC selectable by switch	150 WATTS	24 VDC	6.5 A	22.4VDC ~ 27.3VDC	85%	86%
SPPC 48150 1	115VAC/230VAC selectable by switch	150 WATTS	48 VDC	3.3 A	44.7VDC ~ 51.7VDC	85%	86%

Output Data

Line regulation	± 0.5%
Load regulation	±1.0%
Minimum load	0A
Turn on time (full resistive load)	<2.0S (115Vac input, Full load); <1.0S (230Vac input, Full load)
Transient recovery time	3ms
Output voltage accuracy	±1.0% ±2.0% (on SPPC 5150 1)
Temperature coefficient	±0.03%/°C
Hold up time	>10ms (115VAC input, Full load); >20ms (115VAC input, Full load);
Voltage fall time (I _{o,nom} Vi nom)	<80ms

Voltage rise time	
Vi nom, Io nom	150ms
Vi nom, Io nom with 3500µF CAP	500ms
Voltage trim range	
5V Model	4.6 VDC ~ 5.5 VDC
12V Model	11.0 VDC ~ 13.0 VDC
15V Model	13.7 VDC ~ 16.2 VDC
24V Model	22.4 VDC ~ 27.3 VDC
48V Model	44.7 VDC ~ 51.7 VDC
Rated continuous loading	
5V Model	26.0A
12V Model	12.5A
15V Model	10.0A
24V Model	6.5A
48V Model	3.3A

Output Data All specifications are at nominal values, full load, 25°C unless otherwise noticed

Capacitor load	3500 μ F	Ripple and noise	
Set up time	2.0S (115VAC input, Full load); 1.0S (230VAC input, Full load)	0~70°C	<120mV, (<60mV on SPPC 5150 1).
Voltage accuracy	\pm 1% \pm 2.0% (on SPPC 5150 1)	-25°C	<150mV, (<100mV on SPPC 5150 1), (<200mV on SPPC 48150 1)
		Overshoot and Undershoot	<5.0%

Input Data All specifications are at nominal values, full load, 25°C unless otherwise noticed

Rated input voltage Inom	115~230VAC	Power dissipation (VI: 230VAC, Io nom)	
Voltage range		5V Model	32.8W
AC IN	88 ~ 132VAC, 176 ~ 264VAC	12V Model	26.8W
DC IN	124 ~ 186VDC, 248 ~ 370VDC	15V Model	26.9W
Rated input current		24V Model	24.6W
88VAC	<3.5A	48V Model	23.9W
115VAC	<2.8A	Leakage current	
230VAC	<1.7A	Input-Output	<0.25mA
Inrush current	<20A@115VAC; <40A@230VAC Cold start	Input-PG	<2.0mA
Frequency range	47-63Hz	AC current (max.)	<3.5A

		Model				
		SPPC 5150 1	SPPC 12150 1	SPPC 15150 1	SPPC 24150 1	SPPC 48150 1
Efficiency (typical)	115VAC input	78%	83%	83%	83%	85%
	230VAC input	79%	84%	84%	86%	86%

Controls and Protection

Overload	105%~150% of rated output current, hiccup mode, auto recovery.	Over voltage protection	VDC	
Input fuse	5A/250VAC	5V Model	MIN	MAX
Output short circuit	Long-term mode, auto recovery.	12V Model	6.0	7.5
		15V Model	14.4	18.0
		24V Model	18.0	22.5
		48V Model	28.8	36.0
		Over voltage	57.6	72.0
			120%~150% of rated output voltage, shut down.	

General Data All specifications are at nominal values, full load, 25°C unless otherwise noticed

Ambient temperature	-25°C to +70°C	Insulation resistance I/O	100M ohms
Derating (>50C to +70C)	2.5%/C	Switching Frequency	65kHz
Relative humidity	20 - 90% RH	MTBF	More than 200.000 hrs
Storage	-40°C to +85°C; 10% ~ 95% RH no condensing.	Case material	Metal
Cooling	Free air convection	Altitude IEC 60068-2-13	3000 m
Insulation voltage		Dimensions LxWxD	199 x 98 x 38 mm
Input-Output	3.0kVAC; \leq 10mA,	Weight	750 g
Input-PG	1.5kVAC; \leq 10mA	Packing	20 PCS/CTN. G.W: 15kgs 0.04CBM

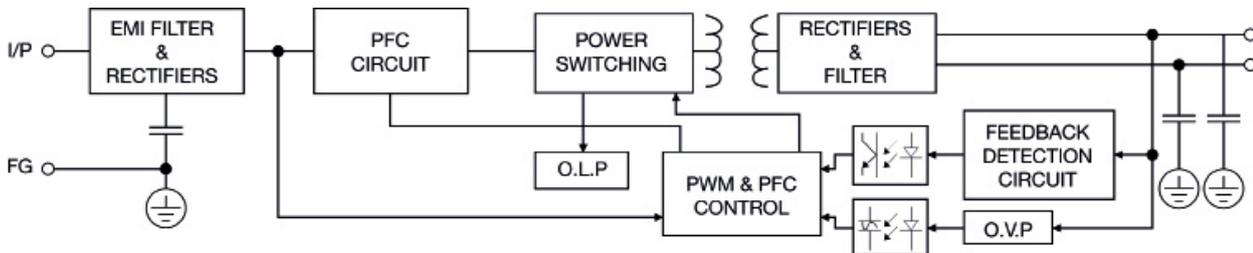
Norms and Standard

Safety standard	UL60950-1: EN60950-1: 2006	EMI Conduction & Radiation	Compliance to EN55022 Class B
Withstand voltage	Primary-Secondary: 3.0kVAC; ≤10mA. Primary-PG: 1.5KVDC; ≤10mA. Secondary PG: 0.5kVDC; ≤10mA	Vibration resistance	10~500Hz, 2G 10min/cycle, 60min, each along X, Y, Z axes
Isolation resistance	≥10M ohms	Shock resistance	20G, 11ms, 3 times along X, Y, Z axes
Harmonic Current	Compliance to EN61000-3- 2, 3	UL	cRUus (E258396)
EMS Immunity	Compliance to EN61000 -4- 2, 3, 4, 5, 6, 8, 11; ENV50204 heavy industry level, criteria A.	CE	EN55022, EN55024 Class B EN61000-3-2, -3 Class D EN61000-4-2, 3, 4, 5, 6, 8, 11 EN55024, EN61000-6-2, heavy industry level.

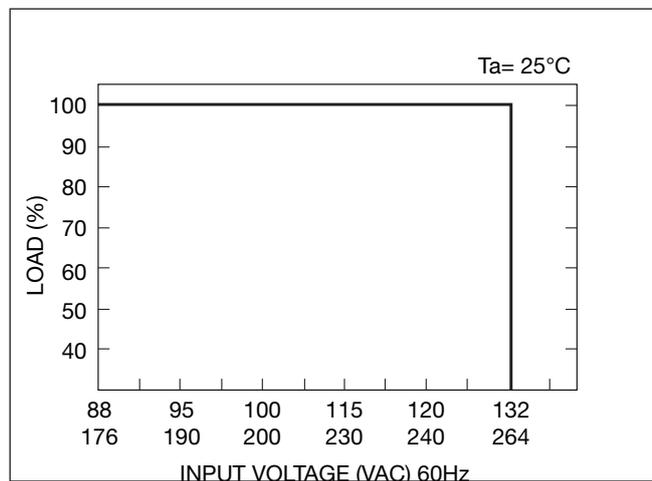
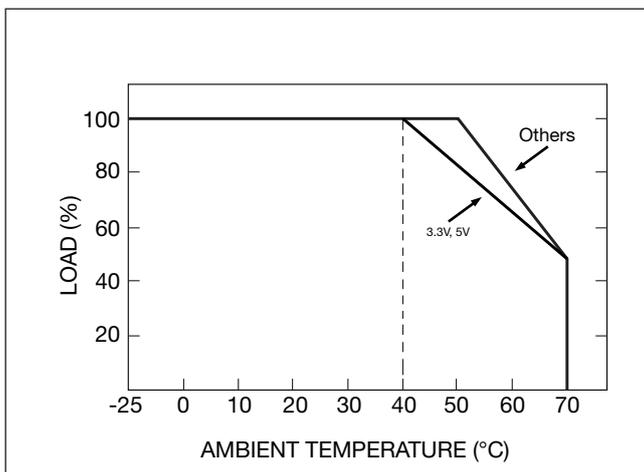
Installation

Ventilation and cooling	Normal convection	General tolleraces mm (in.)	
Connector size range		0.00 (0.00) ÷ 30.00 (1.18)	±0.5 (0.02)
Sprig terminal	AWG22-12 (0.2~2.5m ²) Flexible/silid cable, Connector can withstand torque at max 7.5Kgf.cm	30.00 (1.18) ÷ 120.00 (4.72)	±1.0 (0.04)

Block Diagram



Derating Curve



Mechanical Drawing

