

Switching Power Supply Type SPD 120W 3 phases DIN rail mounting

CARLO GAVAZZI



- Universal AC 3 phases input full range
- Can also be used as single phase 480VAC
- Installation on DIN rail 7.5 or 15mm
- PFC as standard
- High efficiency up to 88%
- Power ready output
- Compact dimensions
- UL, cUL listed and TUV/CE

Product Description

The Switching power application where the supplies SPD series are specially designed to be used in all automation and performance are a must.

Ordering Key

SP D 24 120 3

Model _____
 Mounting (D= Din rail) _____
 Output voltage _____
 Output power _____
 Input Type _____

Input type: 3 = three phase (or single phase 400/500VAC³⁾)

Approvals



Output Performances

MODEL NO.	INPUT VOLTAGE	OUTPUT WATTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT	EFF. (min.)	EFF. (typ.)
Single Output Models						
SPD12	3 ϕ 340~575 VAC	120 WATTS	+12 VDC	10 A	85%	87%
SPD24	3 ϕ 340~575 VAC	120 WATTS	+24 VDC	5 A	87%	89%

Output Data

Line regulation	$\pm 1\%$	Voltage fall time (I_o, nom Vi nom)	150ms max
Load regulation	$\pm 1\%$	Rated continuous loading	
Minimum load	0A	12V Model	10A @ 12VDC/8.2A @ 14.5VDC
Turn on time (full resistive load)		24V Model	5A @ 24VDC/4.2A @ 28.5VDC
Vi nom, Io nom	150ms	Reverse voltage	
Vi nom, Io nom 12V model with 7000 μ F CAP	500ms	12V Model	VDC 18
Vi nom, Io nom 24V models with 3500 μ F CAP	500ms	24V Model	VDC 35
Transient recovery time	2ms	Capacitor load	
Ripple and noise	100mVpp	Vi nom Io nom 12V model	7000 μ F
Output voltage accuracy	$\pm 1\%$	Vi nom Io nom 24V model	3500 μ F
Temperature coefficient	$\pm 0.03\%/^{\circ}C$	Voltage rise time	
Hold up time Vi	20ms	Vi nom Io nom	150ms
Voltage fall time (I_o, nom Vi nom)	150ms max	Vi nom, Io nom 12V model with 7000 μ F CAP	500ms
		24V model with 3500 μ F CAP	500ms

Input Data

Rated input voltage	400 - 500VAC		Inrush current time	4 ~ 6ms	
Voltage range			<small>Vi nom, Io nom</small>		
AC	340 - 575VAC		Power dissipation		
DC	480 - 820VDC		12V Model	20W	
Input current	Typ.	0.36A / 0.3A	24V Model	16W	
<small>(Vi: 400VAC / 500VAC, Io nom)</small>			Frequency range	47-63Hz	
Rated input current	Max.	0.5A	Leakage current		
<small>(Vi: 340VAC, Io nom)</small>			Input-Output	0.25mA	
Inrush current	Typ.	10A	Input-FG	3.5mA	
<small>Vi nom, Io nom</small>	Max.	12A			

Controls and Protections

Overload	115-135%	Over voltage protection	VDC	
Input fuse	T2A/600VAC internal ¹⁾		Min.	Max.
Output short circuit	Hiccup mode	12V Model	14.5	17.4
Power ready output on threshold	≥17.6-19.4VDC	24V Model	30	33
Electrical isolation	500VDC	Internal surge voltage protection	Varistor	
Contact rating at 60VDC	0.3A	<small>(IEC 61000-4-5)</small>		

1) Fuse not replaceable by user

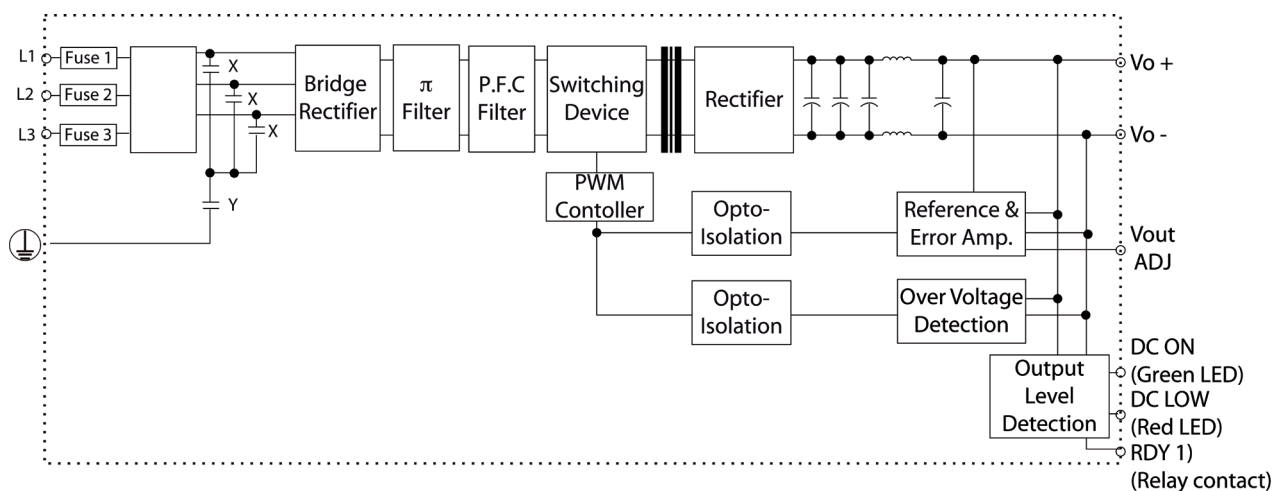
General Data (@ nominal line, full load, 25°C)

Ambient temperature	-35°C to +71°C	MTB (Bellcore issue 6 @ 40°C, GB)	
Derating (>61°C to +71°C)	2.5%/C	12V Model	527000 Hours
Ambient humidity	20 - 90% RH	24V Model	559000 Hours
Storage	-25°C to +85°C	Case material	Metal
Protection degree	IP20	Dimensions LxWxD mm(inch)	124(4.88) x 74.3(2.92) x 118.8(4.68)
Cooling	Free air convection	Weight	800 g
Pollution degree	2		


Norms and Standards

Vibration resistance	meet IEC 60068-2-6 (Mounting by rail: 10-500Hz, 2G, along X, Y, Z each Axis, 60 min for each Axis)	CCC	Available upon request
Shock resistance	meet IEC 60068-2-27 (15G, 11ms, 3 Axis, 6 faces, 3 times for each face)	CE	EN 61000-6-3, EN 55022 Class B, EN 61000-3-2, EN 61000-3-3, EN 61000-6-2, EN 55024, EN 61000-4-2 Level 4, EN 61000-4-3 Level 3, EN 61000-4-4 Level 4, EN 61000-4-5 Level 3, L/N-FG Level 4, EN 61000-4-6 Level 3, EN 61000-4-8 Level 4, EN 61000-4-11, ENV 50204 Level 2, EN 61204-3
UL/cUL	UL508 listed, UL60950-1, Recognized, ISA 12.12.01 (Class 1, Division 2, Groups A, B, C and D)		
TUV	EN 60950-1, CB scheme EN 61558-1, EN 61558-2-17 (meet EN 60204)		

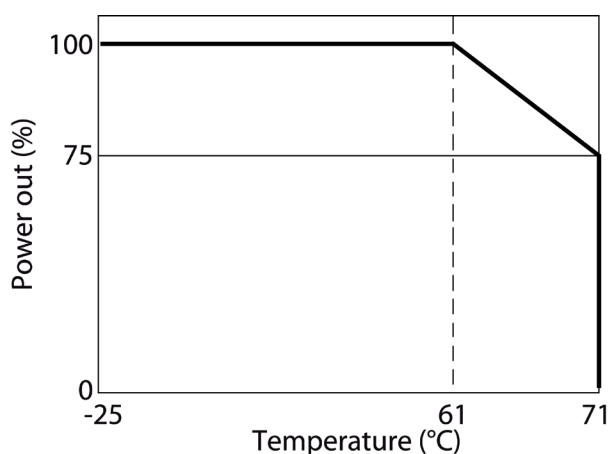
Block Diagram



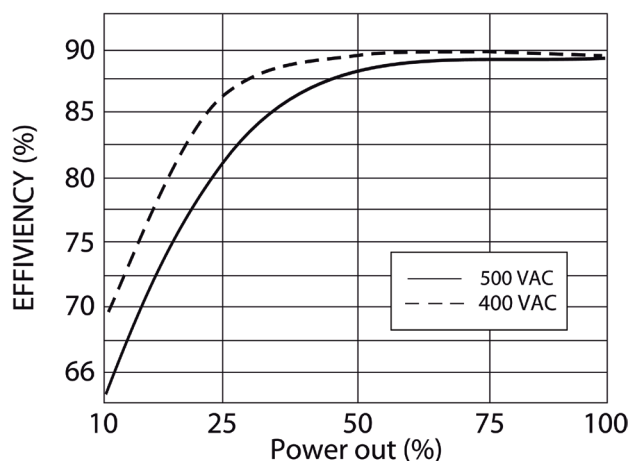
Pin Assignment and Front Controls

Pin No.	Designation	Description
1, 2	V-	Negative output terminal
3, 4	V+	Positive output terminal
5	RDY	A normal open relay contact for DC ON level control
6	RDY	(Never connect except 24V model)
7		Ground this terminal to minimize high-frequency emissions
8	L1	Input terminals
9	L2	Input terminals
10	L3	Input terminals
	DC ON	Operation indicator LED
	DC LO	DC LOW voltage indicator LED
	Vout ADJ	Trimmer-potentiometer for Vout adjustment

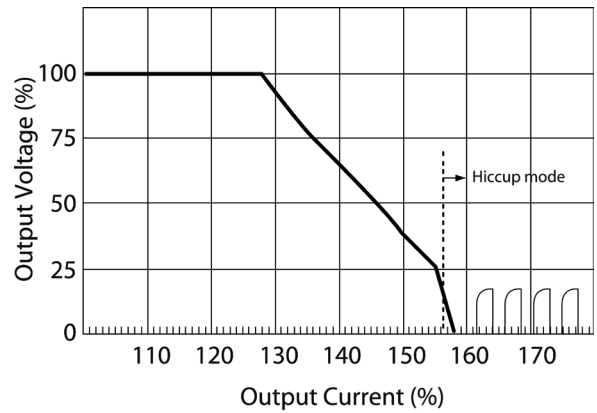
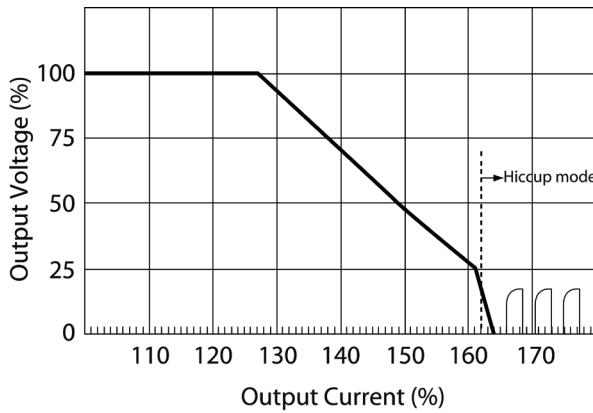
Derating Diagram



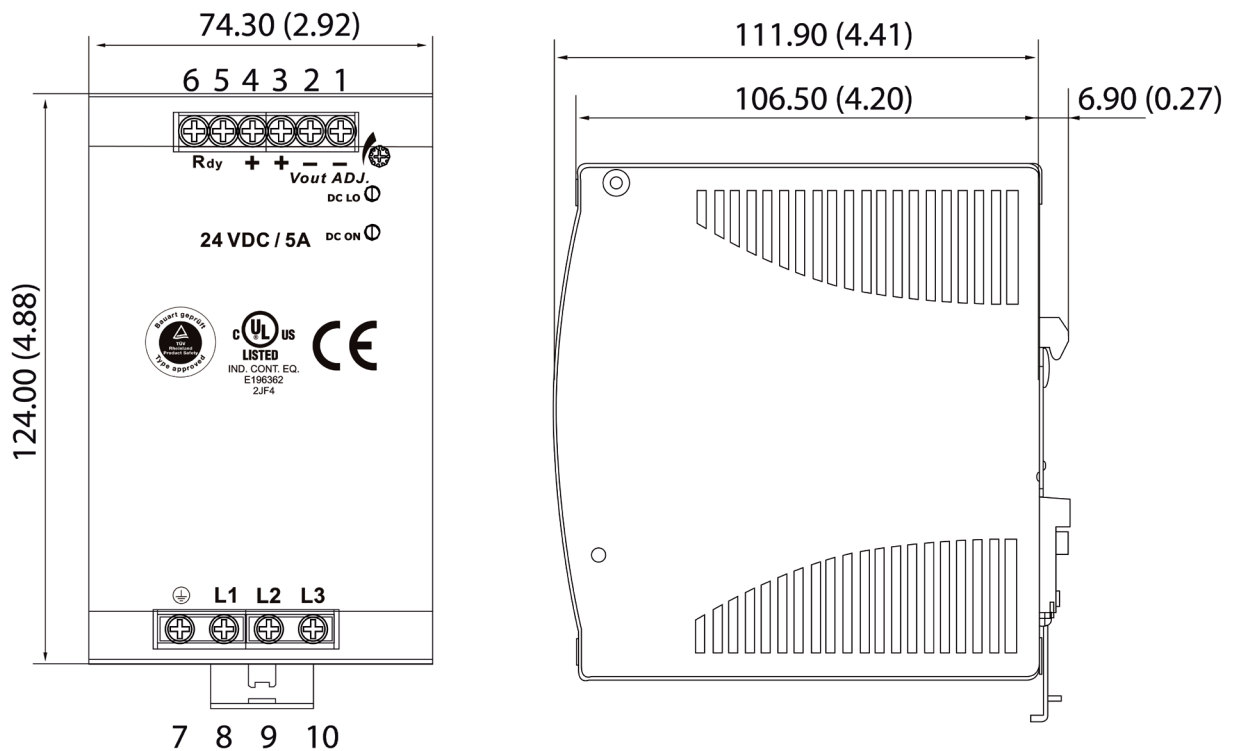
Typ. Efficiency Curve



Typ. Current Limited Curve



Mechanical Drawings mm (inches)



Installation

Ventilation and cooling	Normal convection All sides 25mm free space for cooling is recommended.
Screw connections	10-24AWG flexible or solid cable 8mm stripping recommend.
Max. torque for screws terminals	
Input terminal	1.008Nm (9.0lb-in)
Output terminal	0.616Nm (5.5lb-in)