

Switching Power Supply Type SPD 240W DIN rail mounting

CARLO GAVAZZI



- Universal AC input full range
- Installation on DIN rail 7.5 or 15mm
- Short circuit protection
- PFC as standard
- High efficiency
- Power ready output
- LED indicator for DC power ON
- LED indicator for DC low
- Parallel connection feature
- Compact dimensions
- UL, cUL listed and TUV/CE approved

Product Description

The Switching power supplies SPD series are specially designed to be used in all automation application where the installation is on a DIN rail and compact dimensions and performance are a must.

Approvals



UL US
Class I, Div 2

UL US
UL 60950-1

Ordering Key

SP D 24 240 1 B

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

Input type: 1= single phase

Optional Features

Description	Code
Plug-in connectors	B

Output performances

MODEL NO.	INPUT VOLTAGE	OUTPUT WATTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT	EFF. (min.)	EFF. (typ.)
Single Output Models						
SPD24	115~230 VAC	240 WATTS	+ 24 VDC	10 A	87%	89%
SPD48	115~230 VAC	240 WATTS	+48 VDC	5 A	88%	90%

Output data

Line regulation	± 0.5%	Hold up time $V_i = 115VAC$ $V_i = 230VAC$	25ms 30ms
Load regulation		Voltage fall time ($I_{O\text{nom}}$)	150ms max
V_i nom, Single mode	± 1	Rated continuous loading	
I_o min, I_o nom parallel mode	± 5	24V Model	10A @ 24VDC/8.4A @ 28.5VDC
Minimum load	0	48V Model	5A @ 48VDC/4.2A @ 56VDC
Turn on time (full resistive load)		Reverse voltage	
V_i nom, I_o nom	1000ms	24V Model	35VDC
V_i nom, I_o nom with 7000µF CAP	1500ms	48V Model	63VDC
Transient recovery time	2ms	Capacitor load	7000µF
Ripple and noise	100mVpp	Voltage rise time	
Output voltage accuracy	± 1%	V_i nom I_o nom	150ms
Temperature coefficient	± 0.03%/°C	V_i nom, I_o nom with 7000µF CAP	500ms

Input data

Rated input voltage		115 - 230	Power dissipation (Vi : 230VAC, Io nom)		24V Model 48V Model	35W 32W	
Voltage range		AC in 115V AC in 230V DC in	90 - 132VAC 180 - 264VDC 210 - 375VDC	Frequency range		47- 63Hz	
Rated input current (Vi : 115VAC, Io nom)		Typ. Max.	4.4/1.6mA 5.4/2.2mA	Leakage current		Input-Output Input-FG	0.25mA 3.5mA
Inrush current		Vi= 115VAC Vi= 230VAC	30A 60A				

Controls and Protections

Overload	120 - 140%	Over voltage protection	125-140%
Input fuse	T6.3/250VAC internal ¹⁾	Internal surge voltage protection (IEC 61000-4-5)	Varistor
Output short circuit	Fold forward		
Power ready output (only SPD 24)			
Threshold voltages	17.6 - 19.4VDC		

¹⁾ Fuse not replaceable by user

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

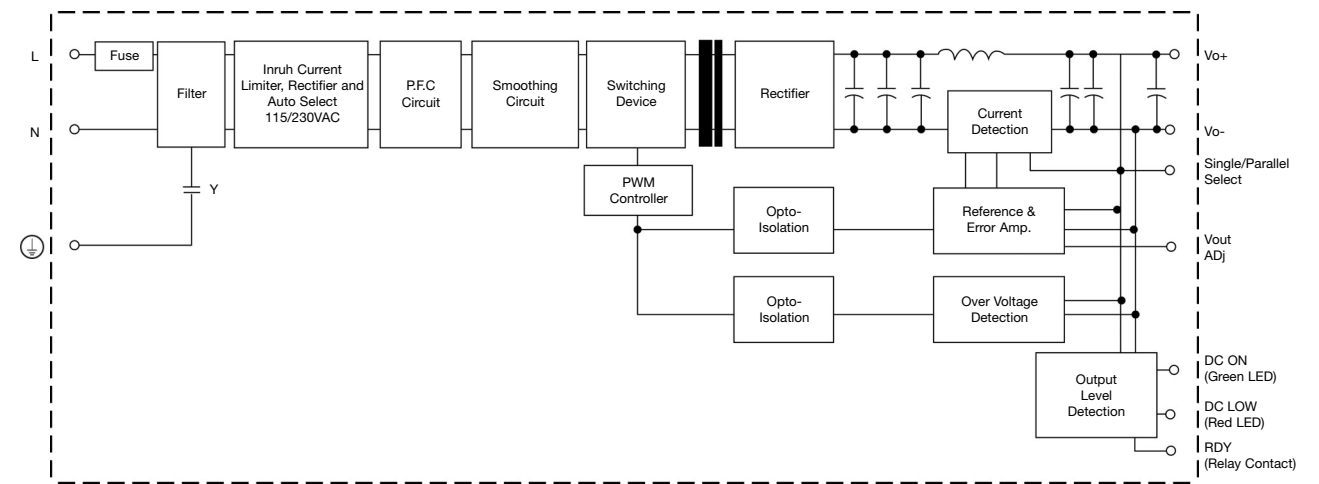
Ambient temperature	-40°C to 71°C	MTBF (Bellcore issue 6 @ 40°C, GB)	24V Model 48V Model	423000 Hours 437000 Hours
Derating (>61°C to +71°C)	2.5%/°C	Case material		Metal
Ambient humidity	20 ~ 90%RH	Dimensions LxWxD mm(inch)		124.5(4.9) x 83.5(3.29) x 123.6(4.87)
Storage	-40°C to +85°C	Screw terminal type		143.5(5.65) x 83.5(3.29) x 123.6(4.87)
Protection degree	IP20	Detachable connector type		
Cooling	Free air convection	Weight		1380g
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)	CE	EN 61000-6-3, EN 55022 Class B, EN 61000-3-2 ClassD, 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 L- 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
Shock resistance	meet IEC 60068-2-27 (15G, 11ms, 3 Axis, 6 faces, 3 times for each face)		
UL / cUL	UL508 listed, UL60950-1, recognized, ISA 12.12.01 (Class1, Division 2, Groups A, B, C and D)		
TUV	EN 60950-1, CB scheme EN 61558-1, EN 61558-2-17 (meet EN 60204)		
CCC	GB4943, GB9254, GB17625.1		



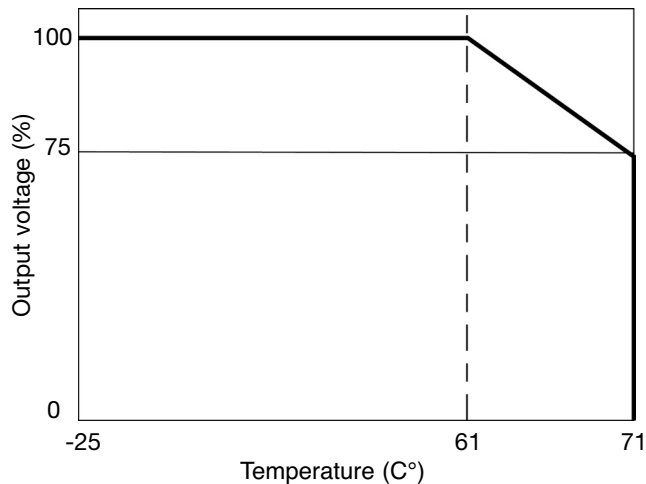
Block diagrams



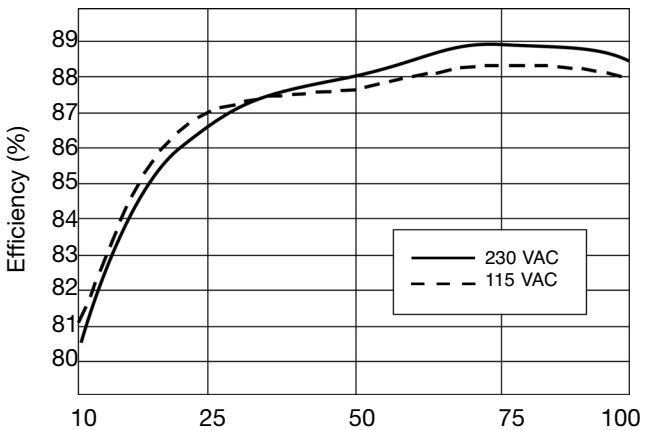
Pin Assignment and Front Controls

Pin No.	Designation	Description
1	RDY	A Normal open realay contact for DC ON level control
2		(Never connect except 24V model)
3, 4	V+	Positive output terminal
5, 6	V-	Negative output terminal
7		Ground this terminal to minimize high-frequncy emission
8	L	Input terminals (phase conductor, no polarity at DC input)
9	N	Input terminals (neutral conductor, no polarity at DC input)
	DC ON	Operation indicator LED
	Vout ADJ	Trimmer-potentiometer for Vout adjustment
	S/P	Single/Parallel select switch

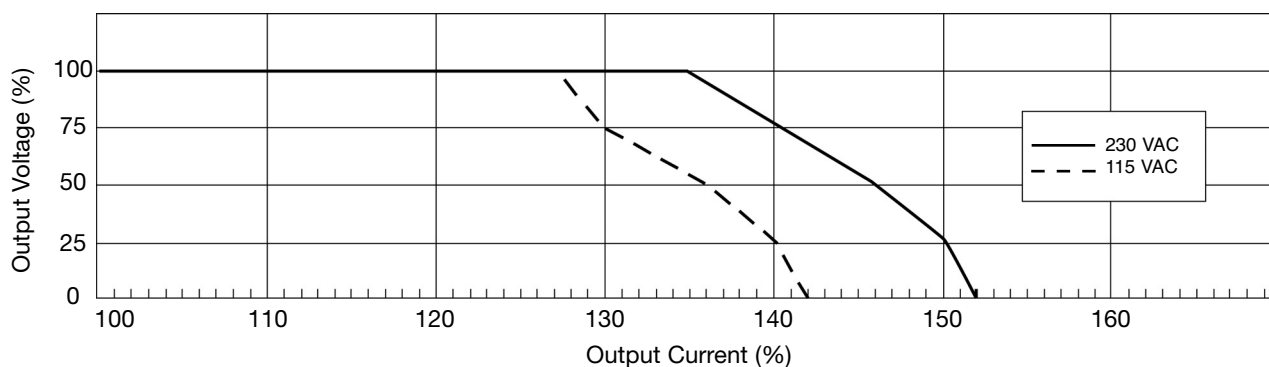
Derating Diagram



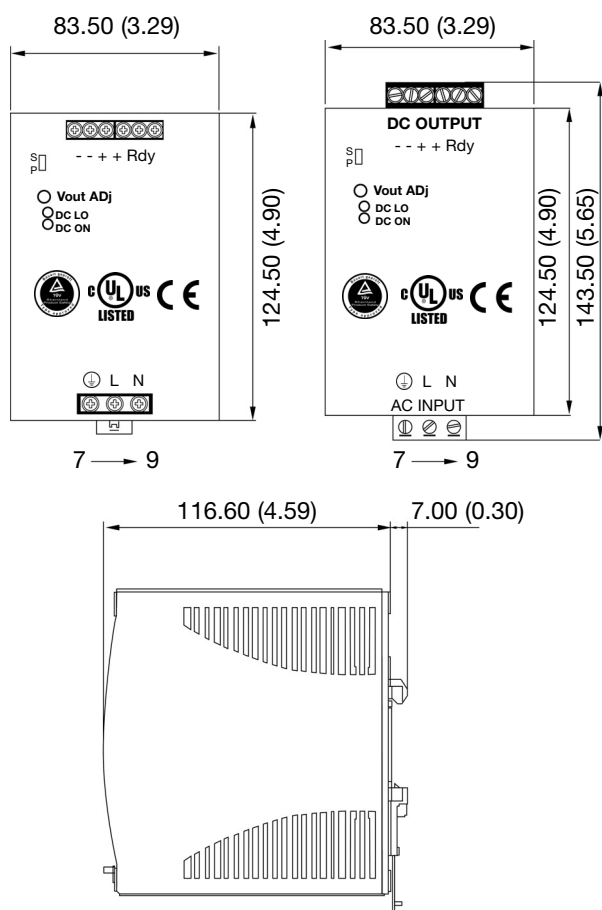
Typ. Efficiency Curve



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 terminals	1.008Nm (9.0lb-in)
Output terminals	0.616Nm (5.5lb-in)
Plug-in connectors	10-24AWG flexible or solid cable 7mm stripping recommend
Max. torque for plug-in terminals	
Input terminals	0.784Nm (7.0lb-in)
Output terminals	0.784Nm (7.0lb-in)