

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

## 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

## Approvals



## Optional Features

Description	Code
Plug-in connectors	B

## Output performances

MODEL NO.	INPUT VOLTAGE	OUTPUT WATTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT	EFF. (min.)	EFF. (typ.)
<b>Single Output Models</b>						
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

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

## Controls and Protections

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

<sup>1)</sup> Fuse not replaceable by user

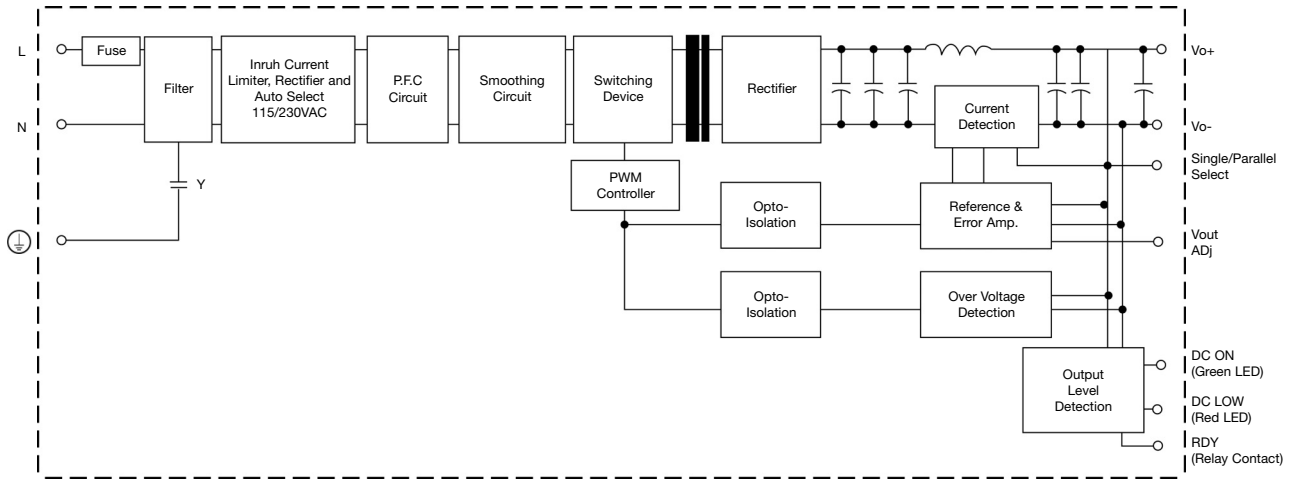
## General Data (@ nominal line, full load, 25°C )

<b>Ambient temperature</b>	-40°C to 71°C	<b>MTBF</b> (Bellcore issue 6 @ 40°C, GB)	
<b>Derating (&gt;61°C to +71°C)</b>	2.5%/°C	<b>24V Model</b>	423000 Hours
<b>Ambient humidity</b>	20 ~ 90%RH	<b>48V Model</b>	437000 Hours
<b>Storage</b>	-40°C to +85°C	<b>Case material</b>	Metal
<b>Protection degree</b>	IP20	<b>Dimensions LxWxD mm(inch)</b>	
<b>Cooling</b>	Free air convection	<b>Screw terminal type</b>	124.5(4.9) x 83.5(3.29) x 123.6(4.87)
<b>Pollution degree</b>	2	<b>Detachable connector type</b>	143.5(5.65) x 83.5(3.29) x 123.6(4.87)
		<b>Weight</b>	1380g


## Norms and Standards

<b>Vibration resistance</b>	meet IEC 60068-2-6 (Mounting by rail: 10-500Hz, 2G, along X, Y, Z each Axis, 60 min for each Axis)	<b>CE</b>	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
<b>Shock resistance</b>	meet IEC 60068-2-27 (15G, 11ms, 3 Axis, 6 faces, 3 times for each face)		
<b>UL / cUL</b>	UL508 listed, UL60950-1, recognized, ISA 12.12.01 (Class1, Division 2, Groups A, B, C and D)		
<b>TUV</b>	EN 60950-1, CB scheme EN 61558-1, EN 61558-2-17 (meet EN 60204)		
<b>CCC</b>	GB4943, GB9254, GB17625.1		

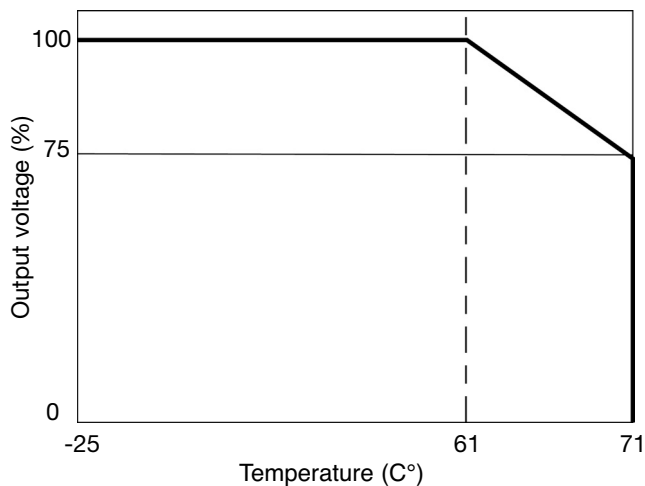
## Block diagrams



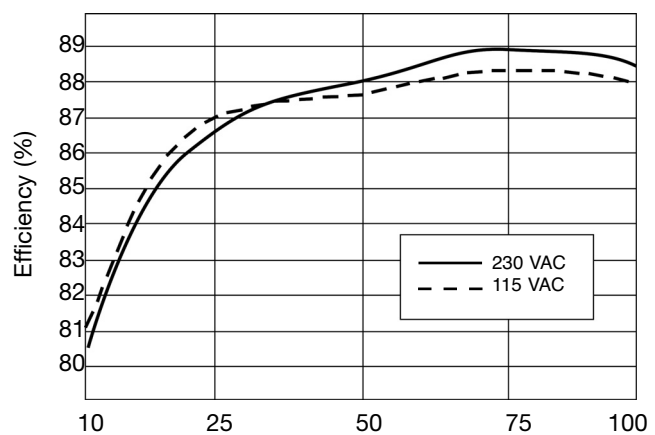
## Pin Assignment and Front Controls

Pin No.	Designation	Description
1	RDY	A Normal open reley 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-frquency 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

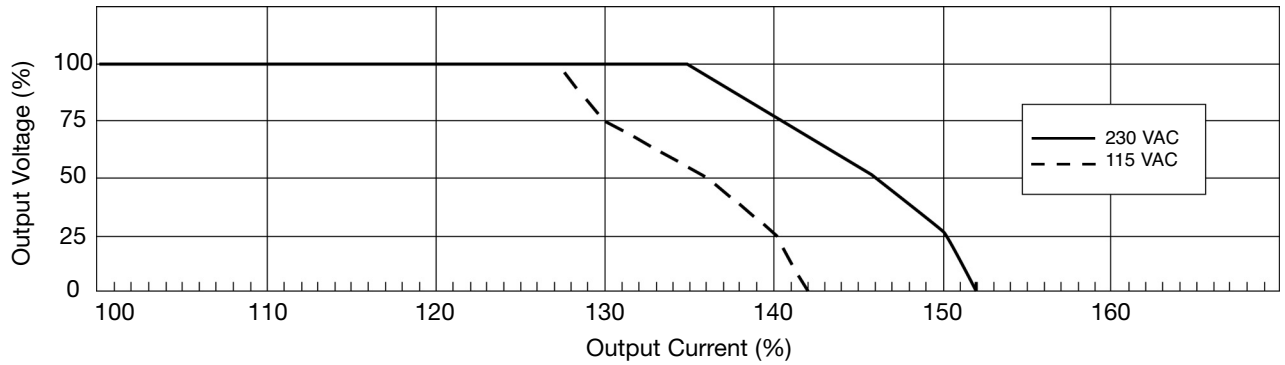
## Derating Diagram



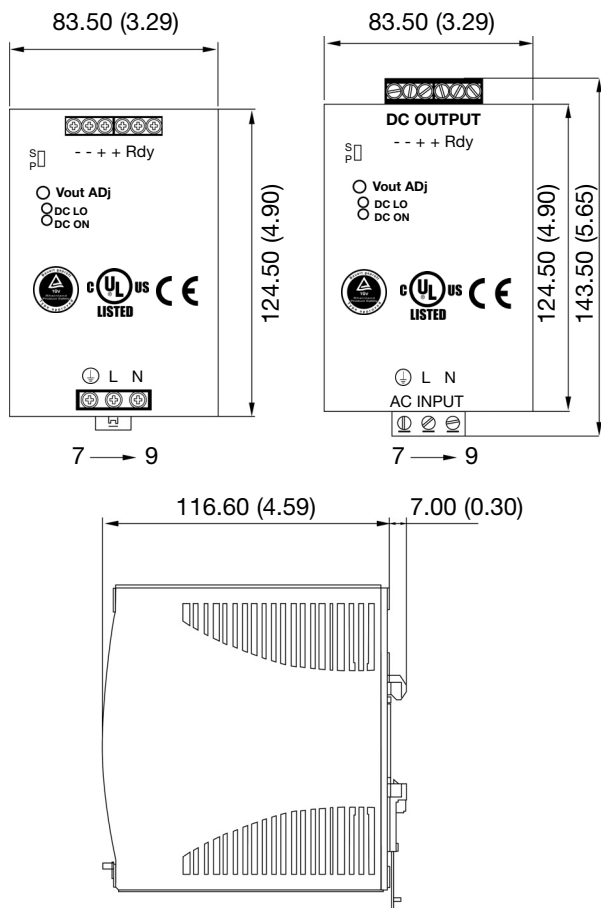
## Typ. Efficiency Curve



## Typ. Current Limited Curve



## Mechanical Drawings mm (inches)



## Installation

<b>Ventilation and cooling</b>	Normal convection All sides 25mm free space for cooling is recommended
<b>Screw connections</b>	10-24AWG flexible or solid cable 8mm stripping recommend
<b>Max. torque for screws terminals</b>	
Input terminals	1.008Nm (9.0lb-in)
Output terminals	0.616Nm (5.5lb-in)
<b>Plug-in connectors</b>	10-24AWG flexible or solid cable 7mm stripping recommend
<b>Max. torque for plug-in terminals</b>	
Input terminals	0.784Nm (7.0lb-in)
Output terminals	0.784Nm (7.0lb-in)

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