

# Switching Power Supply Type SPD 240W DIN rail mounting



- 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 Vi= 115VAC Vi= 230VAC	25ms 30ms
Load regulation		Voltage fall time (I <sub>o</sub> nom)	150ms max
Vi nom, Single mode	± 1	Rated continuous loading	
Io min, Io 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	
Vi nom, Io nom	1000ms	24V Model	35VDC
Vi nom, Io 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%	Vi nom Io nom	150ms
Temperature coefficient	± 0.03%/°C	Vi nom, Io 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

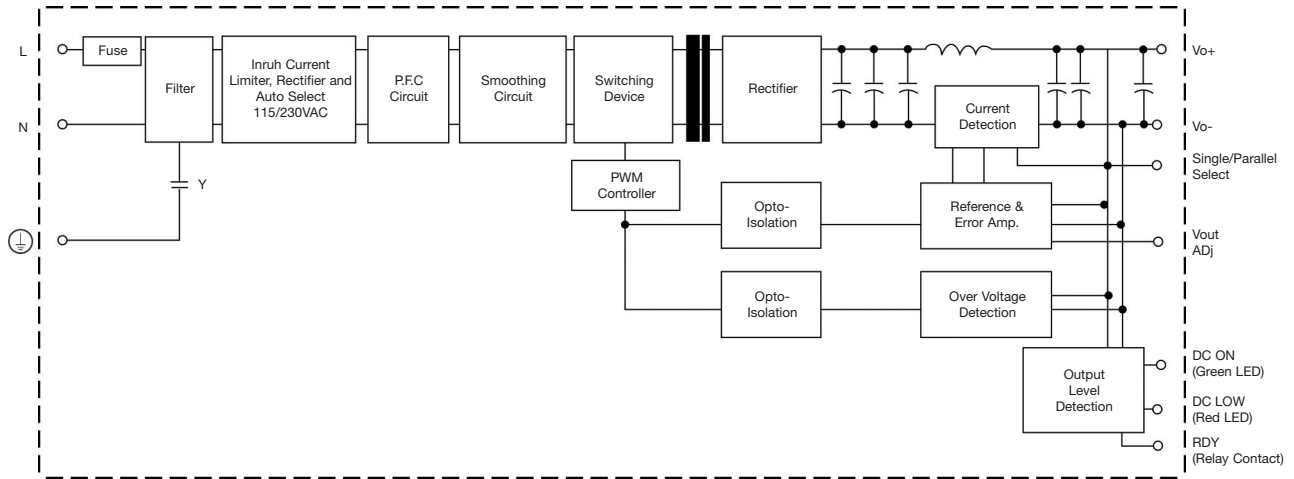
## General Data (@ nominal line, full load, 25°C )

<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		

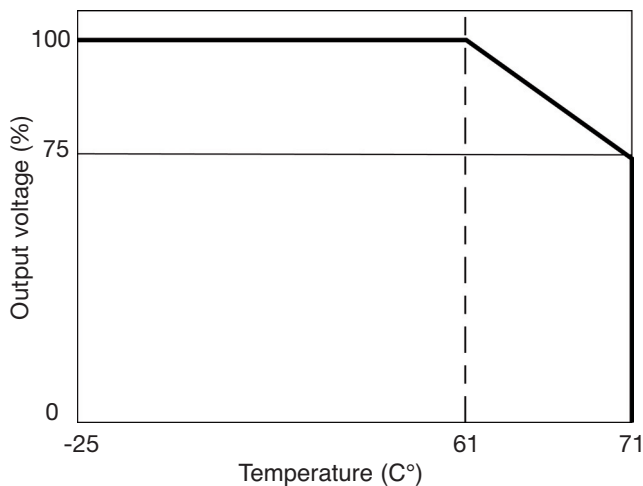
## Block diagrams



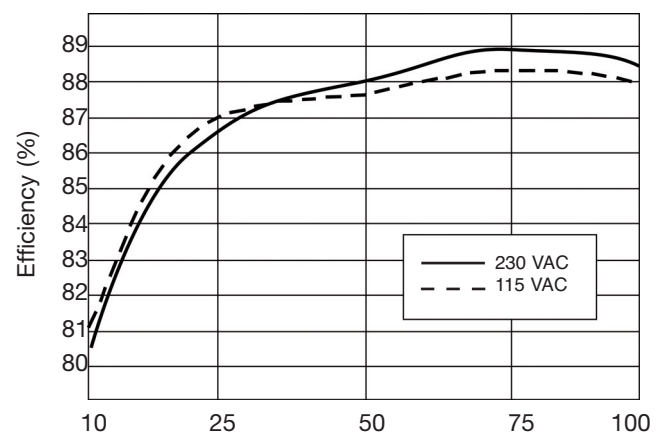
## Pin Assignment and Front Controls

Pin No.	Designation	Description
1	RDY	A Normal open relay 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-frequency 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

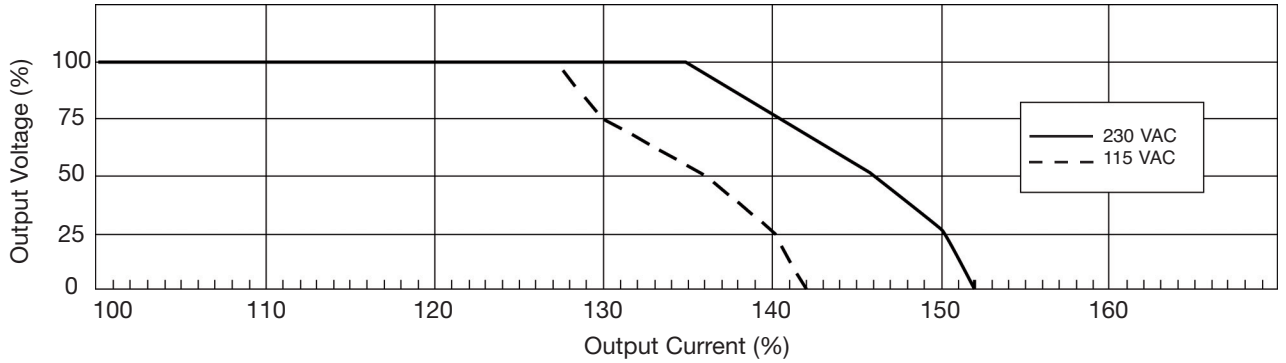
## Derating Diagram



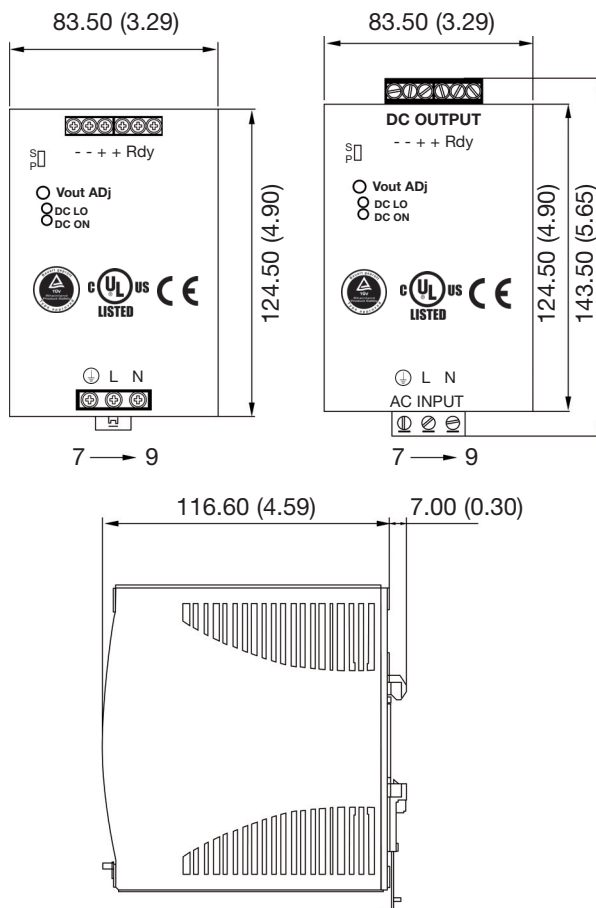
## Typ. Efficiency Curve



## 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)