

# Switching Power Supply Type SPD 100W DIN rail mounting

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- Installation on DIN Rail 7.5 or 15mm
- Short circuit protection
- PFC standard
- Power ready output on 24VDC
- LED indicator for DC power ON
- LED indicator for DC low
- Standard parallel function
- Very compact dimensions
- UL, cUL listed and TUV/CE approved
- Class I div2 certification (in progress)

## Product Description

This SPD is the most compact 100W power supply on the market. Relay output for “power ready” parallel function and PFC are included. Performances are unique with high efficiencies and the possibility of being used up to 70°C with a little derating.

## Ordering Key

**SP D 24 100 1**

Model \_\_\_\_\_  
Mounting ( D = Din rail ) \_\_\_\_\_  
Output voltage \_\_\_\_\_  
Output power \_\_\_\_\_  
Input type \_\_\_\_\_

Input type: 1= single phase

## Approvals



## Output Performances

MODEL NO.	INPUT VOLTAGE	OUTPUT WATTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT	EFF. (min.)	EFF. (typ.)
<b>Single Output Models</b>						
<b>SPD12100</b>	90~264 VAC	100.8 WATTS	+12 VDC	8,4 A	82%	84%
<b>SPD24100</b>	90~264 VAC	100.8 WATTS	+24 VDC	4,2 A	84%	86%
<b>SPD48100</b>	90~264 VAC	100.8 WATTS	+48 VDC	2,1 A	86%	88%

## Output Data

<b>Line regulation</b>	± 1%	<b>Voltage fall time (I<sub>0nom</sub>)</b>	150ms max
<b>Load regulation</b>		<b>Rated continuous loading</b>	
Non parallel model	± 1%	12V Model	8.4A @ 12VDC/6.9A @ 14.5VDC
Parallel model	± 5%	24V Model	4.2A @ 24VDC/3.5A @ 28.5VDC
<b>Minimum load</b>	0	48V Model	2.1A @ 48VDC/1.8A @ 56VDC
<b>Turn on time (full resistive load)</b>		<b>Reverse voltage</b>	
Vi nom, Io nom 12V/24V models with 7000µF CAP	1000ms	12V Model	18VDC
Vi nom, Io nom 48V model with 3500µF CAP	2000ms	24V Model	35VDC
<b>Transient recovery time</b>	2ms	48V Model	63VDC
<b>Ripple and noise</b>	50mVpp	<b>Capacitor load</b>	
<b>Output voltage accuracy</b>	± 1%	12V/24V models	7000µF
<b>Temperature coefficient</b>	± 0.03%/°C	48V model	3500µF
<b>Hold up time</b> Vi= 115VAC	15ms	<b>Voltage rise time</b>	
Vi= 230VAC	30ms	Vi nom Io nom	150ms
		Vi nom, Io nom 12V/24V models with 7000µF CAP	500ms
		48V model with 3500µF CAP	500 ms

## Input Data

<b>Rated input voltage</b>	100 - 240VAC		<b>Power dissipation</b> (Vi : 230VAC, Io nom)	<b>12V Model</b>	18.5W
<b>Voltage range</b>	<b>AC</b>	90- 264VAC	<b>Frequency range</b>	<b>24V Model</b>	15W
	<b>DC</b>	120 - 375VDC		<b>48V Model</b>	14W
<b>Rated input current</b> (Vi : 90VAC, Io nom) <b>Typ.</b>	2.4A		<b>Leakage current</b>	<b>Input-Output</b>	0.25mA
<b>Inrush current</b>	<b>Vi= 115VAC</b>	30A		<b>Input-FG</b>	3.5mA
	<b>Vi= 230VAC</b>	60A			

## Controls and Protections

<b>Overload</b>	<b>12V model</b>	14.5V to 17.4V	<b>Over voltage protection</b>	<b>VDC</b>	
	<b>24V model</b>	30.0V to 33.0V		<b>Min.</b>	<b>Max.</b>
	<b>48V model</b>	60.0V to 66.0V		14.5	17.4
<b>Input fuse</b>	T3.15A/250VAC internal <sup>1)</sup>		<b>12V Model</b>	30	33
<b>Output short circuit</b>	Fold forward		<b>24V Model</b>	60	66
<b>Power ready output threshold at start up</b>	≥17.6-19.4VDC		<b>48V Model</b>		
<b>Electrical isolation</b>	500VDC		<b>Internal surge voltage protection</b> (IEC 61000-4-5)	Varistor	
<b>Contact rating at 60VDC</b>	0.3A				

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

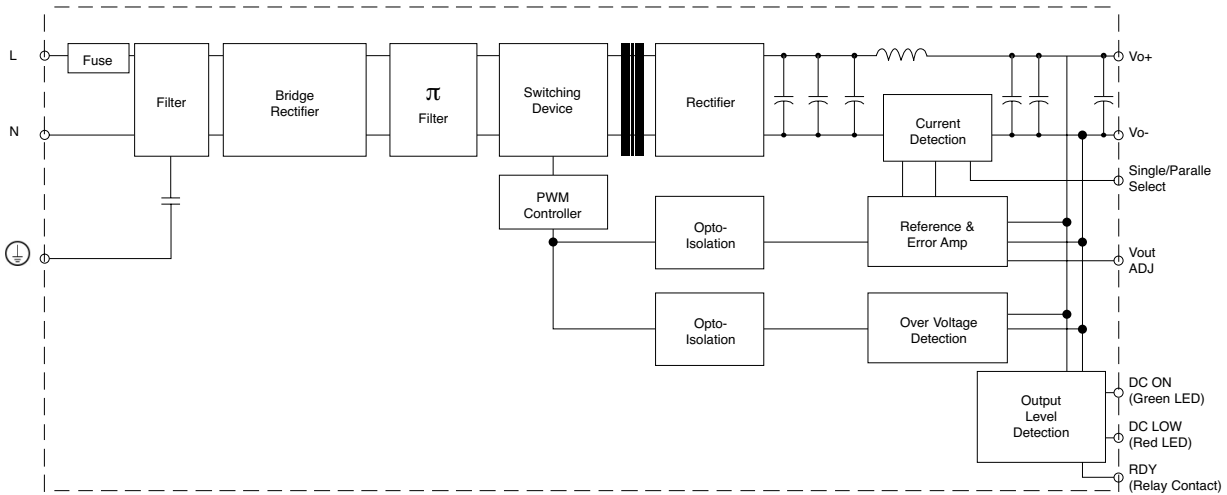
## General Data (@ nominal line, full load, 25°C )

<b>Ambient temperature</b>	-35°C to 71°C	<b>MTBF</b> (Bellcore issue 6 @ 40°C, GB)	<b>12V Model</b>	448000 Hours	
<b>Derating (&gt;61°C to +71°C)</b>	2.5%/°C	<b>Case material</b>	<b>24V Model</b>	456000 Hours	
<b>Ambient humidity</b>	22 ~ 95%RH		<b>48V Model</b>	490000 Hours	
<b>Storage</b>	-40°C to +85°C		<b>Dimensions LxWxD mm(inch)</b>	90(3.6) x 54(2.13) x 114(4.49)	
<b>Protection degree</b>	IP20	<b>Weight</b>	430g		
<b>Cooling</b>	Free air convection				
<b>Pollution degree</b>	2				


## 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, 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-N 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, UL1310 Class 2 Power Recognized		
<b>TUV</b>	EN 60950-1, CB scheme EN 61558-1, EN 61558-2-17 (meet EN 60204)		

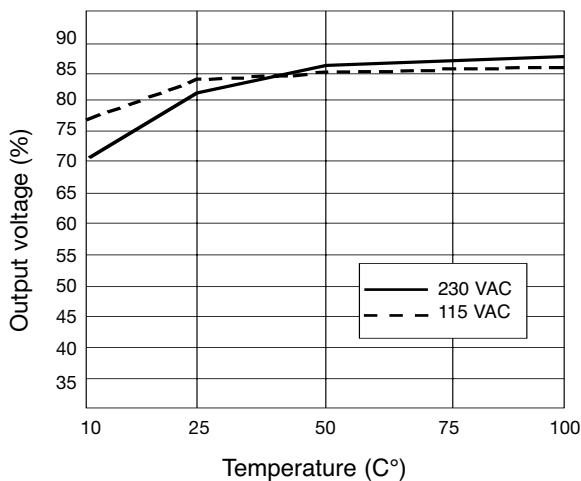
## Block Diagrams



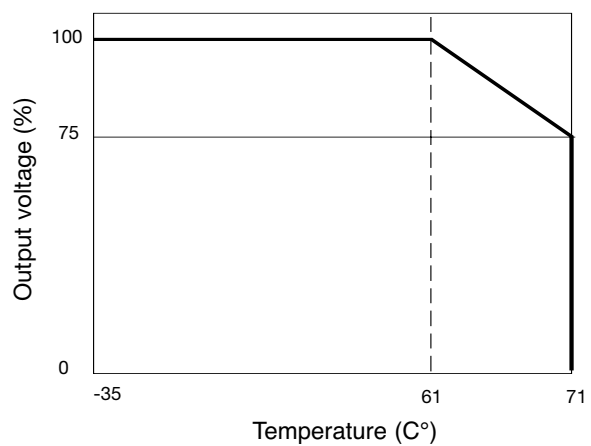
## Pin Assignment and Front Controls

Pin No.	Designation	Description
1	RDY	A normal open relay contact for DC ON level control
2		Never connect
3, 4	V+	Positive output terminal
5, 6	V-	Negative output terminal
7		Ground this terminal to minimize high-frequency emissions
8	N	Input terminals (neutral conductor, no polarity at DC input)
9	L	Input terminals (phase conductor, no polarity at DC input)
	DC ON	Operation indicator LED
	DC LO	DC LOW voltage indicator LED
	Vout ADJ	Trimmer-potentiometer for Vout adjustment

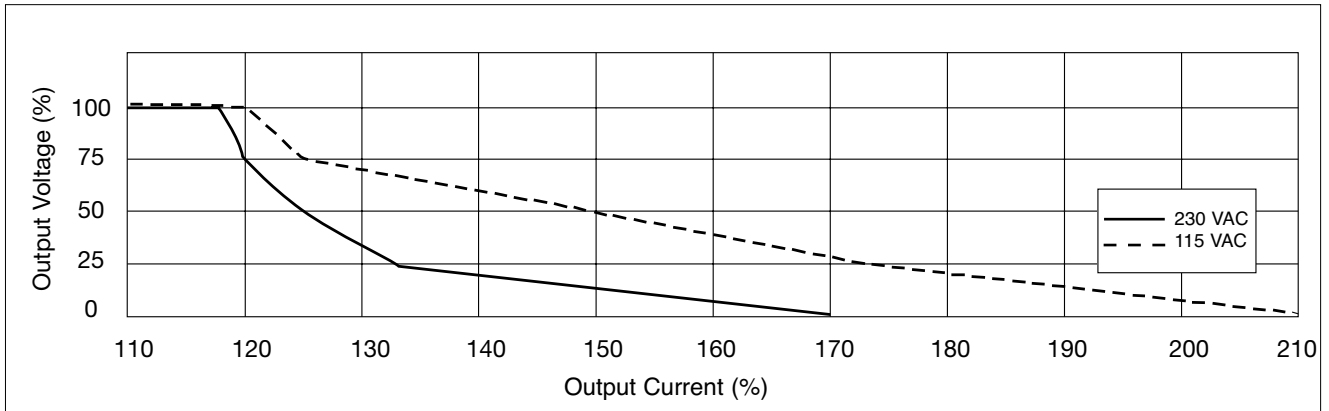
## Typ. Efficiency Curve



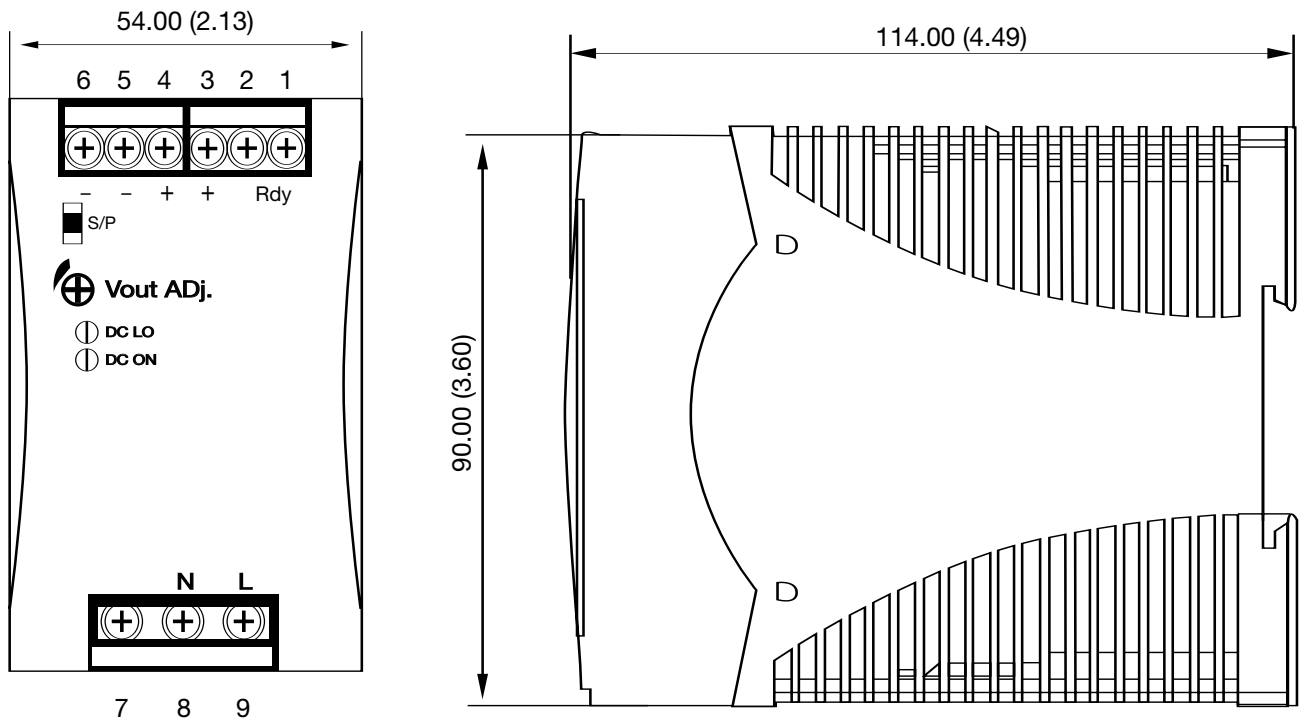
## Derating Diagram



## 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 terminals</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)
<b>Recommended circuit breaker</b>	5A / 6A / 10A B, D characteristics