

# Switching Power Supply Type SPD 120W New DIN rail mounting



- Installation on DIN Rail 7.5 or 15mm
- Short circuit protection
- PFC standard
- High efficiency
- Power ready output
- LED indicator for DC power ON
- LED indicator for DC low
- Parallel versions standard
- Compact dimensions
- UL, cUL listed and TUV/CE approved
- Class I Div 2 Groups A, B, C, D 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. Then version features PFC and parallel function as standard.

## Ordering Key

**SP D 24 120 1 B N**

Model \_\_\_\_\_  
 Mounting ( D = Din rail ) \_\_\_\_\_  
 Output voltage \_\_\_\_\_  
 Output power \_\_\_\_\_  
 Input type \_\_\_\_\_  
 Optional features \_\_\_\_\_  
 New Type \_\_\_\_\_

Input type: 1= single phase

## Approvals



## Optional Features

Description	Code
Standard screw terminal	Nil
Plug-in connectors	B

## Output Performances

Model	Rated output Voltage (VDC)	Output Power (W)	Output Current (A)	Voltage Trim Range		DC ON LED (VDC) Threshold at start-up		DC LO LED (VDC) Threshold after startup		Typical Efficiency
				Min. VDC	Max. VDC	Min.	Max.	Min.	Max.	
SPD12120	12	120	10	11.4	14.5	10	11.2	10	11.2	84%
SPD24120	24	120	5	22.5	28.5	17.6	19.4	17.6	19.4	86%
SPD48120	48	120	2.5	45.0	55.0	37.0	43.0	37.0	43.0	87%

## Output Data

Output voltage accuracy	- 0 +1% max (factory adjusted)	Ripple and noise	50mVpp
Line regulation	± 0.5%	Vi nom, Io nom BW = 20Mhz	25ms
Load regulation	± 1%	Hold up Time Vi = 115VAC	30ms
Non parallel mode	± 5%	Hold up time Vi = 230VAC	0%
Parallel mode	± 5%	Minimum load	3 units max.
Temp. coefficient	± 0.03% / °C	Parallel Operation	
Transient recovery time	2ms		

## Input Data

<b>Rated input voltage</b>	115/230VAC autoselect	<b>Frequency range</b>	47- 63 Hz
<b>Voltage range</b> AC in, 115 AC in, 230 DC in	90 - 132VAC 180 - 264VAC 210 - 370VDC	<b>Inrush current</b> Vi= 115VAC Vi= 230VAC	24A 48A
<b>Rated input current</b>	2.2 / 0.83A	<b>P.F.C.</b> Passive 230VAC lo nom	0.7
<b>Input current</b>  2.8 / 1.4A max	Vi 90 / 180 VAC	<b>Leakage current</b> Input-Output Input-Fg	0.25mA Max. 3.5mA Max.

## Controls and Protections

<b>Input Fuse</b>	T3.15/250VAC internal <sup>1)</sup>	<b>Rated Overload Protection Power ready (only SPD 24)</b>	110 - 145%
<b>Overvoltage Protection</b> Vi nom 0.8 Ionom	30 - 33VDC	Threshold at start up (contact closed)	17.6 - 19.4VDC
<b>Output Short Circuit</b>	Current limited	Contact rating at 60VDC Insulation	0.3A 500VDC

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

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

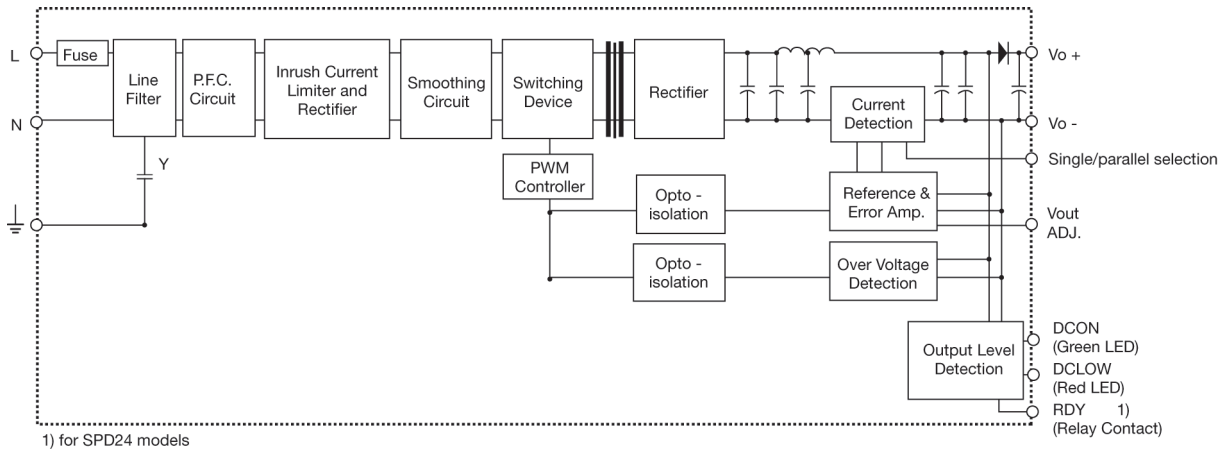
<b>Ambient temperature</b>	-35°C to 71°C	<b>Case material</b>	Metal (powder painted aluminium)
<b>Derating (&gt;60°C to +71°C)</b>	2.5% / °C	<b>Dimensions L x W x D</b> Screw terminal type Detachable connector type	124.5 x 64 x 126 143.5 x 64 x 126
<b>Ambient humidity</b>	20 to 95%RH	<b>Weight</b>	920g
<b>Storage temperature</b>	-40°C to +85°C		
<b>Protection degree</b>	IP20		
<b>Cooling</b>	Free air convection		
<b>Switching frequency</b>	55kHz		
<b>MTBF (MIL-HDBK-217F)</b>	450.000h		

## Approvals and EMC

<b>Insulation voltage I / O</b>	3.000VAC min	<b>CE</b>	EN50081-1 EN55022 class B EN61000-3-2 EN61000-3-3 EN61000-6-2 EN61000-6-3 EN55024
<b>Insulation resistance</b>	100MΩ min		
<b>UL / cUL</b>	UL508 listed, UL60950-1 Recognized		
<b>TUV</b>	EN60950-1		
<b>ISA</b>	12.12.01 Class I Div 2 Groups A, B, C, D		



## Block Diagrams



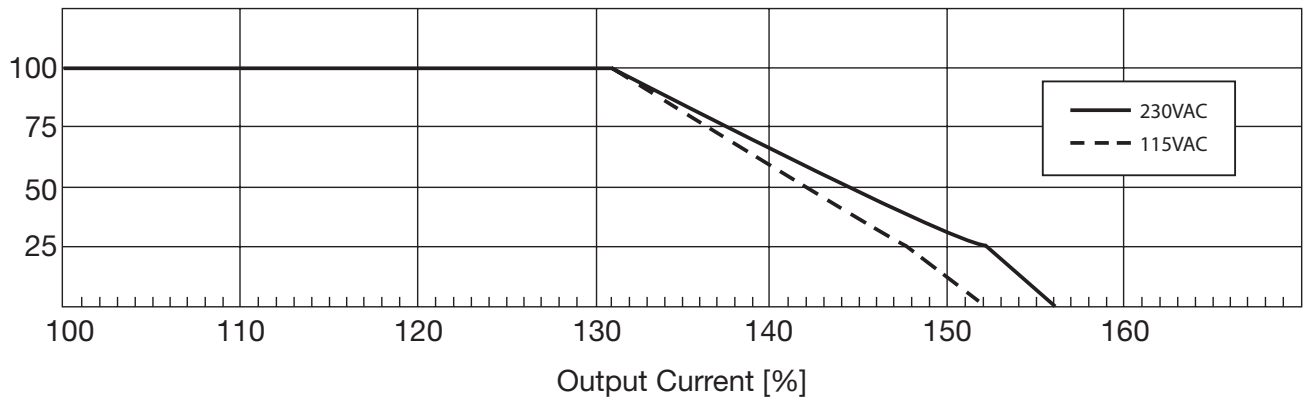
## Pin Assignment and Front Controls

Pin No.	Designation	Description
1	RDY	DC OK, relay normally open contact
2	RDY	DC OK, relay normally open contact
3	+	Positive output terminal
4	+	Positive output terminal
5	-	Negative output terminal
6	-	Ground terminal to minimise High frequency emissions
7	GND	Negative output terminal
8	L	Phase input ( no polarity with DC input )
9	N	Neutral input ( no polarity with DC input )
	DC ON	DC output ready LED
	DC LO	DC low indicator LED
	Vout ADJ.	Trimmer for fine output voltage adjustment
	S/P	Single/parallel selection switch

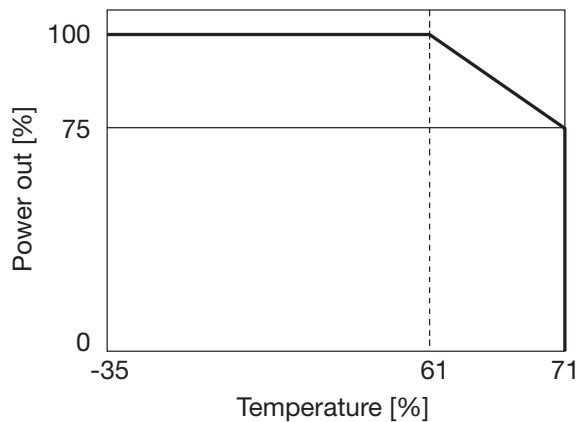
## Installation

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

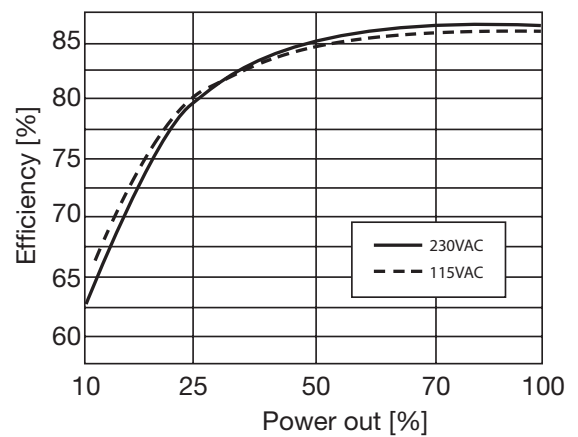
## Typ. Current Limited Curve



## Derating Diagram



## Typ. Efficiency Curve



## Mechanical Drawings mm (inches)

