

# Switching Power Supply Type SPD 18W DIN rail mounting



- Universal AC input full range
- Installation on DIN rail 7.5 or 15mm
- Short circuit protection
- Overload protection
- High efficiency
- LED indicator for DC power ON
- LED indication for DC low
- Internal input filter
- CE, TUV approved and cULus Listed

## 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.

## Ordering Key

**SP D 24 18 1 B**

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

Input type: 1= single phase

## Approvals



## Approvals

Description	Code
Spring connectors	B

## Output Performances

MODEL NO.	INPUT VOLTAGE	OUTPUT WATTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT	EFF. (min.)	EFF. (typ.)
<b>Single Output Models</b>						
SPD05	90~264 VAC	15 WATTS	+ 5 VDC	3000 mA	73%	75%
SPD12	90~264 VAC	18 WATTS	+ 12 VDC	1500 mA	75%	77%
SPD15	90~264 VAC	18 WATTS	+ 15 VDC	1200 mA	75%	77%
SPD24	90~264 VAC	18 WATTS	+ 24 VDC	750 mA	75%	77%

## Output Data

Line regulation	± 1%
Load regulation	±2%
Minimum load	0A
Turn on time (full resistive load)	1000ms
Vi nom, Io nom with 3500µF	1500ms
Transient recovery time	2ms
Ripple and noise	50mVpp
Output voltage accuracy	±1%
Temperature coefficient	±0.03%/°C
Hold up time	
Vi= 115VAC	20ms
Vi=230VAC	75ms
Voltage fall time (I <sub>o,nom</sub> Vi nom)	150ms max

Rated continuous loading	
5V Model	3A @ 5VDC/2.6A @ 5.75VDC
12V Model	1.5A @ 12VDC/1.3A @ 13.8VDC
15V Model	1.2A @ 15VDC/1.0A @ 17.25VDC
24V Model	0.75A @ 24VDC/0.6A @ 28.8VDC
Reverse voltage	
5V Model	VDC 7.5
12V Model	VDC 18
15V Model	VDC 22
24V Model	VDC 35
Capacitor load	7000µF
Voltage rise time at full resistive load	500ms
VI nom, Io nom with 7000µF	150ms

## Input Data

<b>Rated input voltage</b>	100 - 240VAC	<b>Power dissipation</b>	
<b>Voltage range</b>		<b>5V Model</b>	5.0W
<b>AC</b>	90 - 264VAC	<b>12V Model</b>	4.65W
<b>DC</b>	120 - 375VDC	<b>15V Model</b>	4.25W
<b>Rated input current</b>		<b>24V Model</b>	4.45W
(Vi:115VAC, Io nom)	335-500mA	<b>Frequency range</b>	47-63Hz
<b>Voltage range</b>		<b>Leakage current</b>	
<b>Vi=115VAC</b>	10A	<b>Input-Output</b>	0.25mA
<b>Vi=230VAC</b>	18A	<b>Input-FG</b>	3.5mA

## Controls and Protection

<b>Overload</b>	110%~140%	<b>Over voltage protection</b>	125 - 145%
<b>Input fuse</b>	T25A/250VAC internal <sup>1)</sup>	<b>Internal surge voltage protection</b>	Varistor
<b>Output short circuit</b>	Hiccup mode		

1) Fuse not replaceable by user

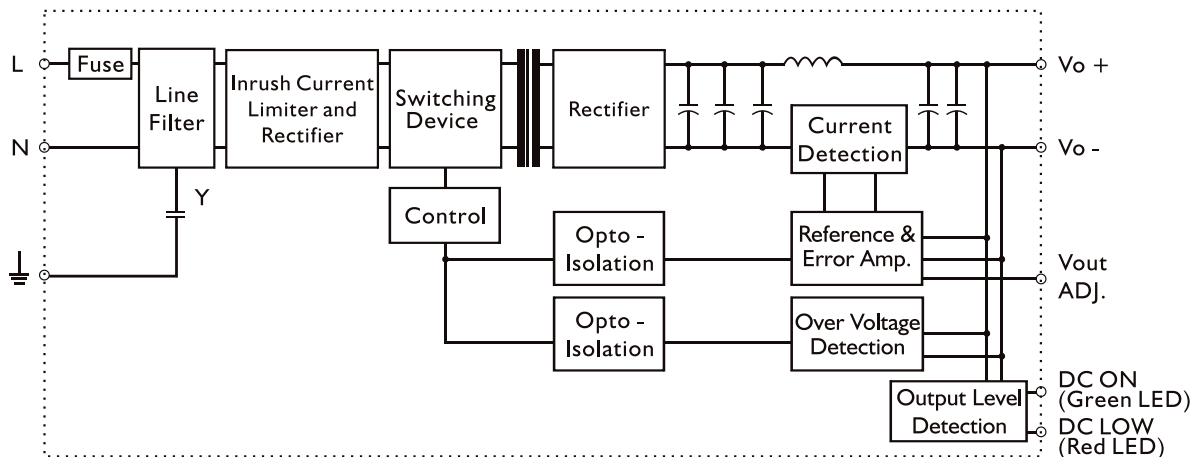
## General Data (@ nominal line, full load, 25°C)

<b>Ambient temperature</b>	-20°C to +71°C	<b>MTB</b>	
<b>Derating (&gt;61°C to +71°C)</b>	2.5%/C	<b>5V Model</b>	795000 Hours
<b>Ambient humidity</b>	20 - 95% RH	<b>12V Model</b>	797000 Hours
<b>Storage</b>	-25°C to +85°C	<b>15V Model</b>	796000 Hours
<b>Protection degree</b>	IP20	<b>24V Model</b>	800000 Hours
<b>Cooling</b>	Free air convection	<b>Case material</b>	Plastic: PC, UL94-V0
<b>Insulation voltage</b>		<b>Pollution degree</b>	2
<b>Input-Output</b>	3.000VAC/4242VDC min	<b>Altitude</b>	2000 m
<b>Input-FG</b>	1.500VAC/2121VDC min	<b>Dimensions LxWxD mm(inch)</b>	90(3.60)x22.5(0.89)x114(4.49)
<b>Insulation resistance I/O</b>	100MΩ min (@ 500VDC)	<b>Weight</b>	150 g


## Norms and Standard

<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-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 (only 5V, 12V w/o Class 2) Recognized, ISA 12.12.01 (Class 1, Division 2, Groups A, B, C and D)		
<b>TUV</b>	EN 60950-1, CB scheme		
<b>CCC</b>	Available upon request		

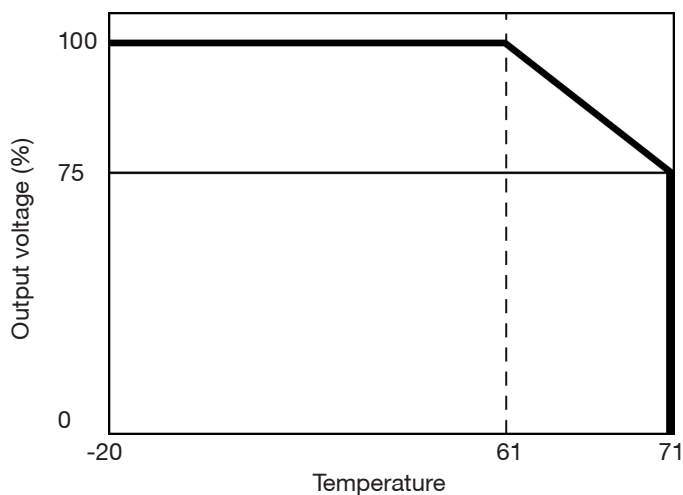
## Block Diagram



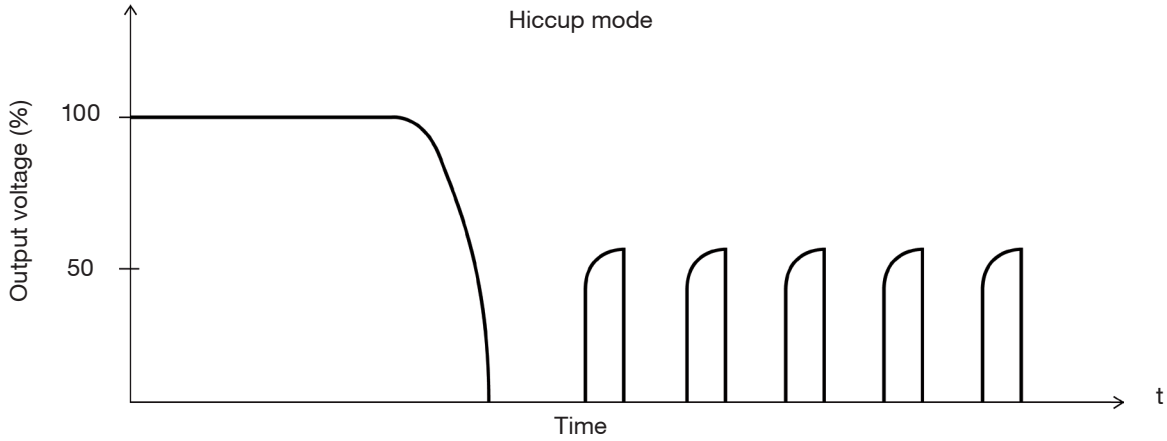
## Pin Assignment and Front Controls

Pin No.	Designation	Description
1	V+	Positive output terminal
2	V-	Negative output terminal
3		Ground this terminal to minimize high-frequency emission
4	N	Input terminals (neutral conductor, no polarity at DC input)
5	L	Input terminals (phase conductor, no polarity at DC input)
	ON	Operation indicator LED
	LO	DC LOW indicator LED
	Vout ADJ.	Trimmer-potentiometer for Vout adjustment

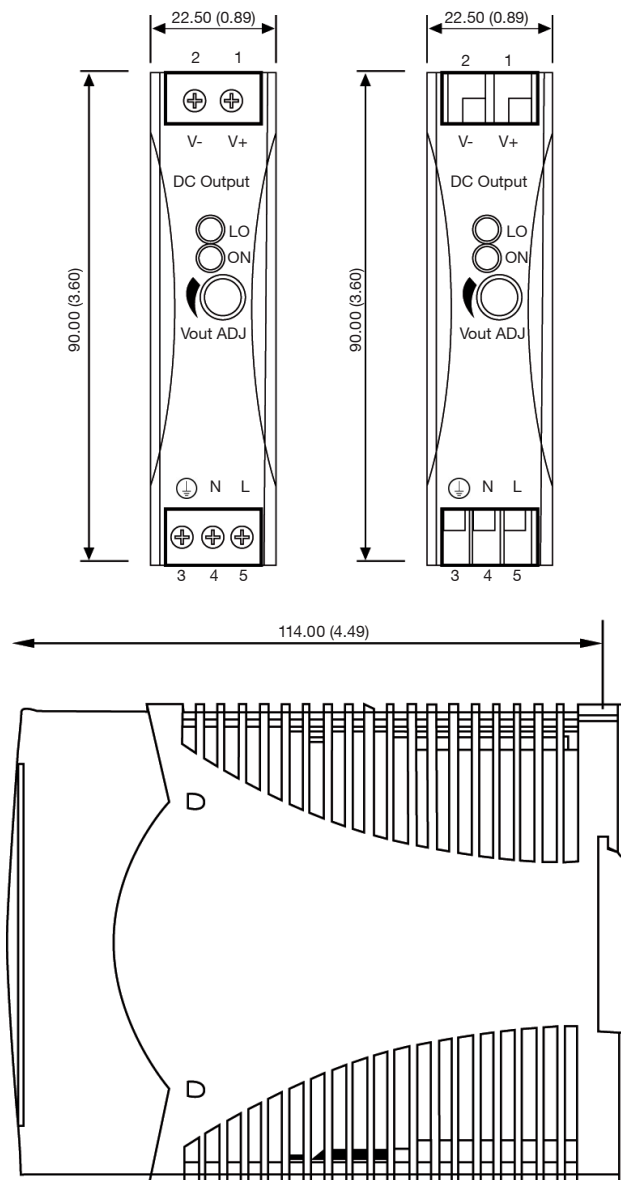
## Derating Diagram



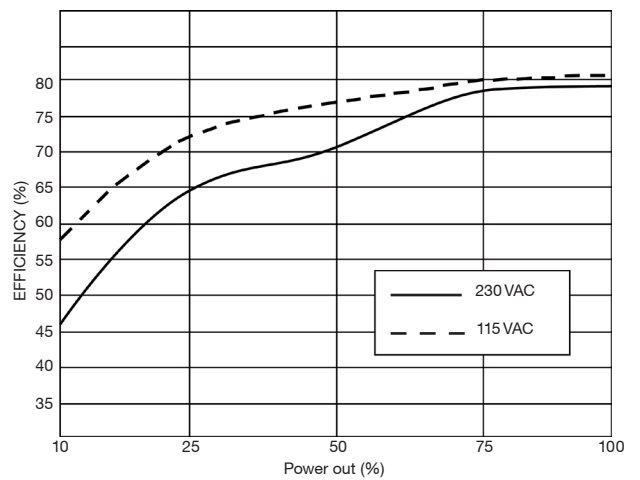
## Typ. Current Limited Curve



## Mechanical Drawings mm (inches)



## Typ. Efficiency Curve



## Installation

### Ventilation and cooling

Normal convection  
 All sides 25mm free space  
 for cooling is recommended

### Connector size range

#### Spring terminal

AWG24-14 (0.2~2mm<sup>2</sup>)  
 flexible/solid cable, 10mm  
 stripping at cable and  
 recommends use copper  
 conductors only, 60/75°C

#### Screw terminal

AWG26-12 (0.2~2.5mm<sup>2</sup>)  
 flexible/solid cable, con nector  
 can withstand torque at max  
 0,56Nm (5 lbs-in). 4~5 mm  
 stripping at cable and recom  
 mends use copper conductors  
 monly, 60/75°C

### Max. torque for terminal

#### Input terminal

0.56Nm (5.0lb-in)

#### Output terminal

0.56Nm (5.0lb-in)

### General tolerance mm(in.)

0.00 (0.00) ÷ 30.00 (1.18)

±0.30 (0.01)

30.00 (1.18) ÷ 120.00 (4.72)

±0.50 (0.02)