Switching Power Supply
Type SPD 10W
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**
- **Power Ok output**
- **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 10 1 B

- **Model**
- **Mounting (D = Din rail)**
- **Output voltage**
- **Output power**
- **Input Type**
- **Optional features**

Input type: 1= single phase

Approvals

Class I, Div 2 — UL 1310 — UL 60950-1

Output Performances

MODEL NO.	INPUT VOLTAGE	OUTPUT WATTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT	EFF. (min.)	EFF. (typ.)	EFF. (avg.)
Single Output Models							
SPD05	90~264 VAC	10 WATTS	+ 5 VDC	2000 mA	71%	83%	69%
SPD12	90~264 VAC	10 WATTS	+ 12 VDC	840 mA	73%	86%	72%
SPD24	90~264 VAC	10 WATTS	+ 15 VDC	670 mA	74%	87%	72%
SPD48	90~264 VAC	10 WATTS	+ 24 VDC	420 mA	74%	87%	72%

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	25ms
Vi=230VAC	100ms
Voltage fall time (I_0**nom Vi nom)**	150ms max

Rated continuous loading	
5V Model	2A @ 5VDC/1.7A @ 5.75VDC
12V Model	0.84A@12VDC/0.72A@13.8VDC
15V Model	0.67A @ 15VDC/0.58A @ 17.25VDC
24V Model	0.42A @ 24VDC/0.34A @ 28.8VDC
Reverse voltage	
5V Model	VDC 7.5
12V Model	VDC 18
15V Model	VDC 22
24V Model	VDC 35
Capacitor load	3500µF
Voltage rise time at full resistive load	500ms
VI nom, Io nom with 3500µF	150ms

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Input Data

Rated input voltage		100 - 240VAC
Voltage range		
	AC	90 - 265VAC
	DC	120 - 375VDC
Rated input current		
(Vi:115VAC, Io nom)	**Typ.**	200mA
	Max.	300mA
Voltage range		
	Vi=115VAC	10A
	Vi=230VAC	18A

Power dissipation	
5V Model	4.0W
12V Model	3.4W
15V Model	3.3W
24V Model	2.8W
Frequency range	47-63Hz
Leakage current	
Input-Output	0.25mA
Input-FG	3.5mA

Controls and Protection

Overload	110%~145%
Input fuse	T25A/250VAC internal[1)]
Output short circuit	Hiccup mode

Over voltage protection	125 - 145%
Internal surge voltage protection	Varistor

1) Fuse not replaceable by user

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

Ambient temperature	-20°C to +71°C
Derating (>61°C to +71°C)	2.5%/C
Ambient humidity	20 - 95% RH
Storage	-25°C to +85°C
Protection degree	IP20
Cooling	Free air convection
Insulation voltage	
Input-Output	3.000VAC/4242VDC min
Input-FG	1.500VAC/2121VDC min
Insulation resistance I/O	100MΩ min (@ 500VDC)

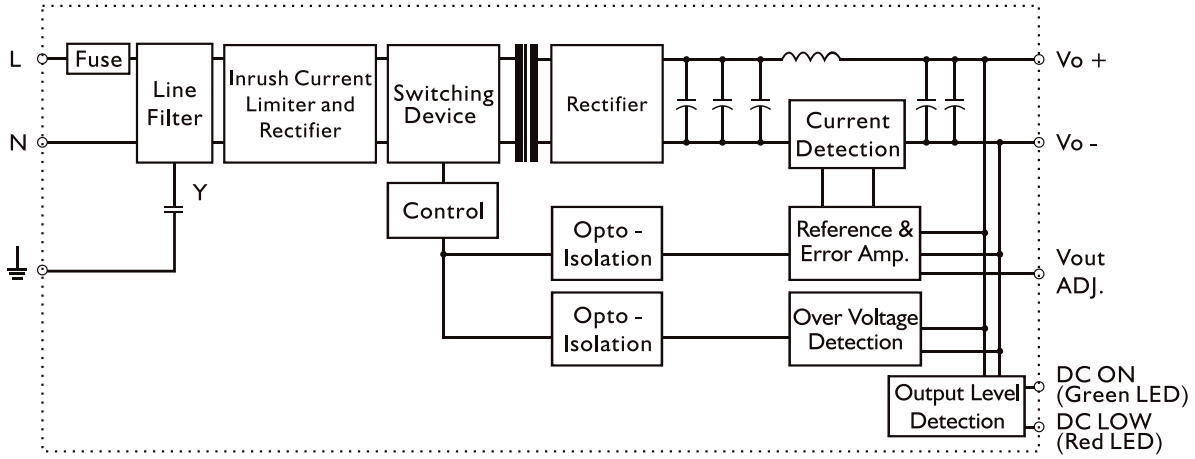
MTB	
5V Model	801000 Hours
12V Model	803000 Hours
15V Model	805000 Hours
24V Model	808000 Hours
Case material	Plastic: PC, UL94-V0
Pollution degree	2
Altitude	2000 m
Dimensions LxWxD mm(inch)	90(3.60)x22.5(0.89)x114(4.49)
Weight	120 g

Norms and Standard

Vibration resistance	meet IEC 60068-2-6 (Mounting by rail: 10-500Hz, 2G, along X, Y, Z each Axis, 60 min for each Axis)
Shock resistance	meet IEC 60068-2-27 (15G,11ms, 3 Axis, 6 faces, 3 times for each face)
UL/cUL	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)
TUV	EN 60950-1, CB scheme
CCC	Available upon request

CE	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

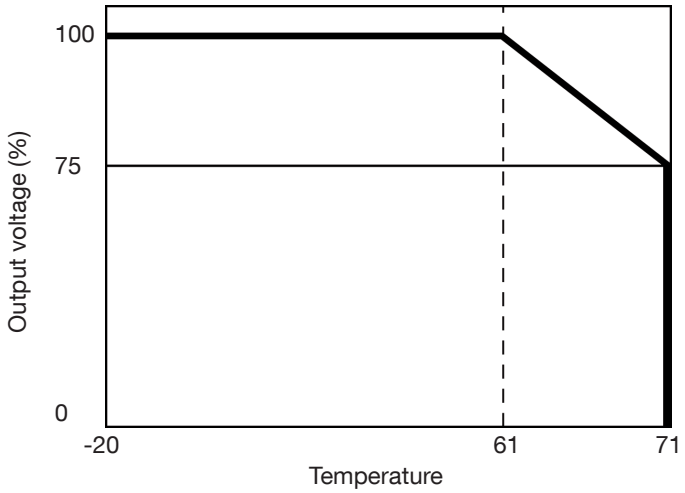
Block Diagram



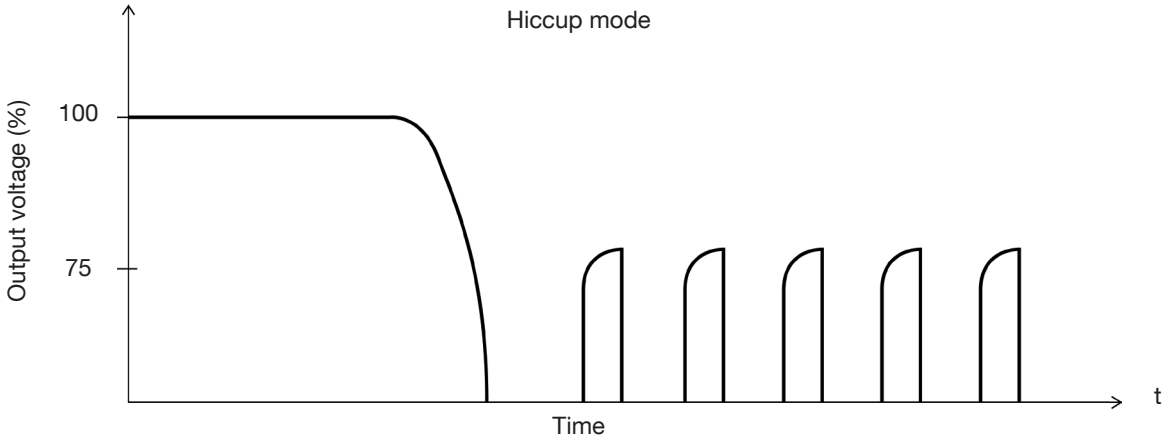
Pin Assignement and Front Controls

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

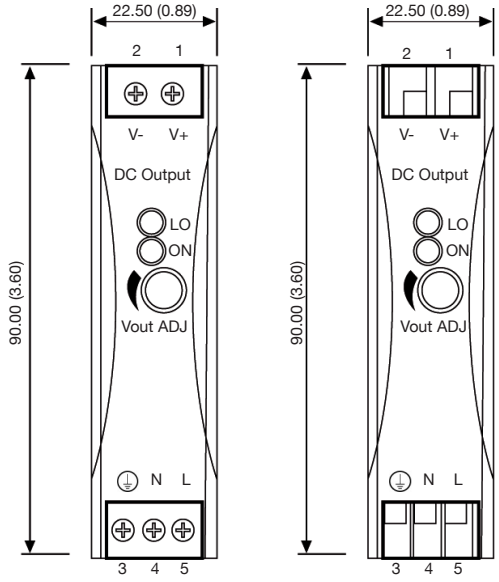
Derating Diagram

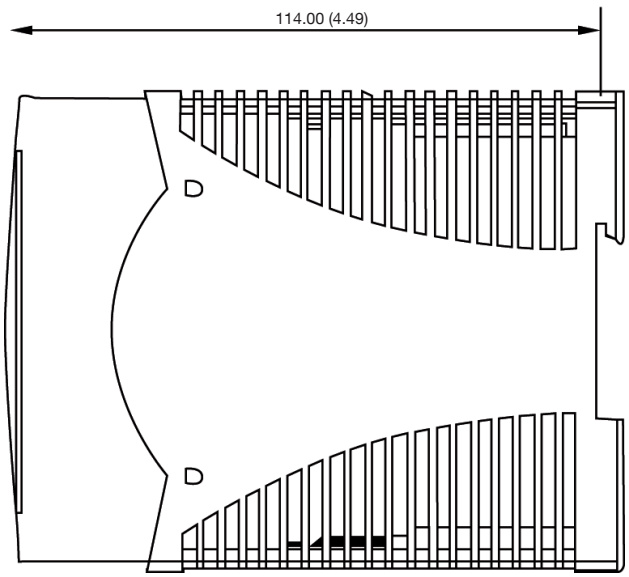


Typ. Current Limited Curve

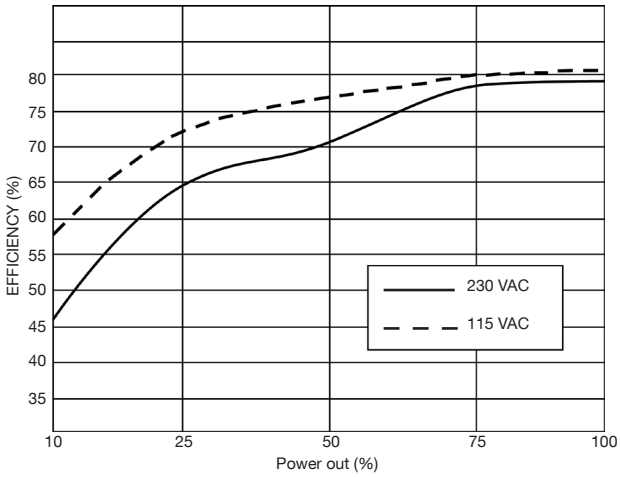


Mechanical Drawings mm (inches)





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 (0.2~2mm²) flexible/solid cable, 10mm stripping at cable and recommends use copper conductors only, 60/75°C
Screw terminal	AWG26-12 (0.2~2.5mm²) 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 tollerance 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)

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