Switching Power Supply
Type SPD 30W
DIN rail mounting

- **Universal AC input full range**
- **Installation on DIN rail 7.5 or 15mm**
- **Short circuit protection**
- **Overload protection**
- **Class 2 output**
- **High efficiency**
- **LED indicator for DC power ON**
- **Power Ok output**
- **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 12 30 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

Approvals

Description	Code
Spring connectors	B

Output Performances

MODEL NO.	INPUT VOLTAGE	OUTPUT WATTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT	EFF. (min.)	EFF. (typ.)
Single Output Models						
SPD05	85~264 VAC	30 WATTS	+ 5 VDC	6000 mA	77%	79%
SPD12	85~264 VAC	30 WATTS	+ 12 VDC	2500 mA	82%	84%
SPD24	85~264 VAC	30 WATTS	+ 24 VDC	1250 mA	83%	86%
SPD48	85~264 VAC	30 WATTS	+ 48 VDC	625 mA	83%	86%

Output Data

Line regulation	± 0.5%
Load regulation	±0.5%
Minimum load	0A
Turn on time (full resistive load)	
Vi nom, Io nom	1000ms
Vi nom, Io nom with 3500µF	2000ms
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	30ms
Voltage fall time (I_0**nom Vi nom)**	150ms max

Rated continuous loading	
5V Model	6A @ 5VDC/5.4A @ 5.5VDC
12V Model	2.5A @ 12VDC/2.1A @ 14VDC
24V Model	1.25A @ 24VDC/1.05A @ 28VDC
48V Model	0.625A @ 48VDC/0.54A @ 55VDC
Reverse voltage	
5V Model	VDC 7.5
12V Model	VDC 18
24V Model	VDC 35
48V Model	VDC 63**Capacitor load**
7000µF	
Voltage rise time at full resistive load	150ms
VI nom, Io nom with 3500µF	500ms

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Input Data

Rated input voltage		100 - 240VAC
Voltage range		
	AC	85 - 264VAC
	DC	90 - 375VDC
Rated input current		
(Vi:115VAC, Io nom)		
	Typ.	560mA
	Max.	800mA
Inrush current		
	Vi= 115VAC	20A
	Vi= 230VAC	40A

Power dissipation	
5V Model	8.5W
12V Model	5.6W
24V Model	5.5W
48V Model	4.9W
Frequency range	47-63Hz
Leakage current	
Input-Output	0.25mA
Input-FG	3.5mA

Controls and Protections

Overload		110%~140%
Input fuse		T25A/250VAC internal[1)]
Output short circuit		Fold forward
Power ready output		
(only SPD24)	**On threshold**	≥19.2-19.4VDC
	Off threshold	≤19.1-19.3VDC

1) Fuse not replaceable by user

Over voltage protection	**VDC**	
	Min.	**Max.**
5V Model	6	6.8
12V Model	15	16.5
24V Model	30	33
48V Model	60	66
Internal surge voltage protection	Varistor	

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

Ambient temperature	-40°C to +71°C
Derating (>61°C to +71°C)	2.5%/C
Ambient humidity	20 - 90% RH
Storage	-40°C to +85°C
Protection degree	IP20
Cooling	Free air convection
Pollution degree	2

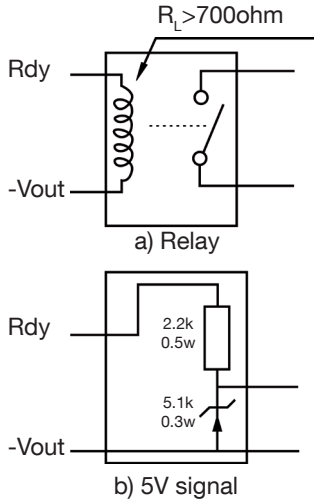
MTB	
5V Model	551000 Hours
12V Model	582000 Hours
24V Model	588000 Hours
48V Model	609000 Hours
Case material	Plastic: PC, UL94-V0
Dimensions LxWxD mm(inch)	90(3.6) x 40.5(1.59) x 114(4.49
Weight	270 g

Norms and Standard

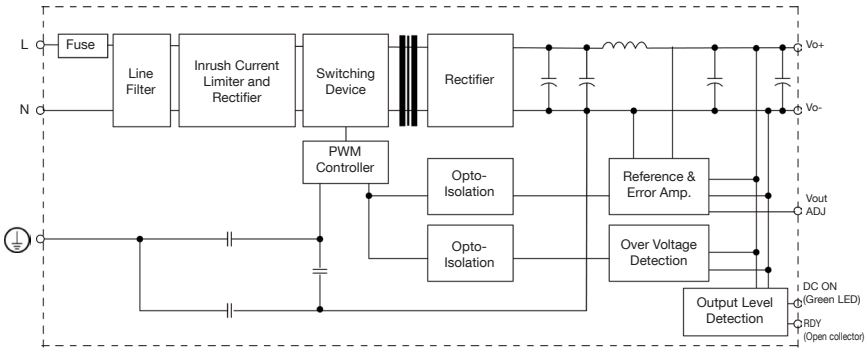
Vibration resistance	meet IEC 60068-2-6 (Mounting by rail: 10-500Hz, 2G, along X, Y, Z each Axis, 60 min for each Axis)
Shock resistance	meet IEC 60068-2-27 (15G,11ms, 3 Axis, 6 faces, 3 times for each face)
UL/cUL	UL508 listed, UL60950-1, UL1310 Class 2 Power (only 5V, 12V w/o Class 2) Recognized, ISA 12.12.01 (Class 1, Division 2, Groups A, B, C and D)
TUV	EN 60950-1, CB scheme EN 61558-1, EN 61558-2-17 (meet EN 60204)

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

Rdy Connection



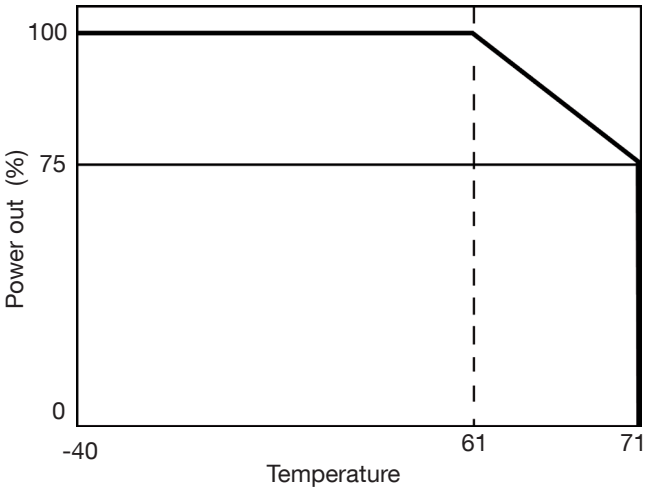
Block Diagram



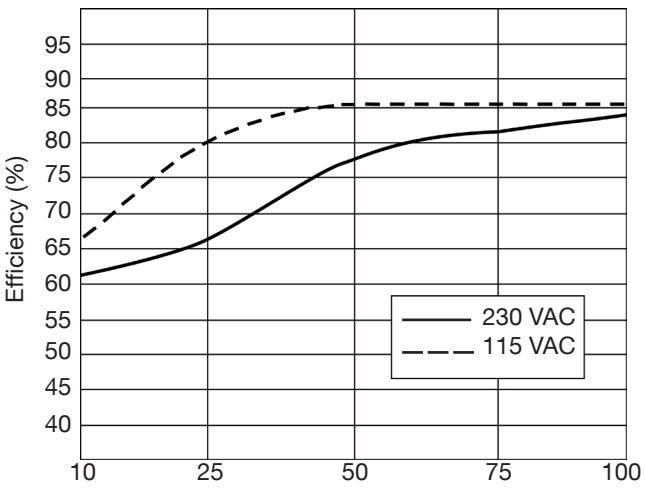
Pin Assignement and Front Controls

Pin No.	Designation	Description
1	RDY	DC OK output for relay (not connect except 24V model)
2	+	Positive output terminal
3	+	Positive output terminal
4	-	Negative output terminal
5	-	Negative output terminal
	⏚	Grounf this terminal to minimize high-frequency emissions
	N	Input terminals (neutral conductor, no polarity at DC input)
	L	Input terminals (phase conductor, no polarity at DC input)
	Vout ADJ	Trimmer-potentiometer for Vout adjustment
	DC ON	Operation indicator LED

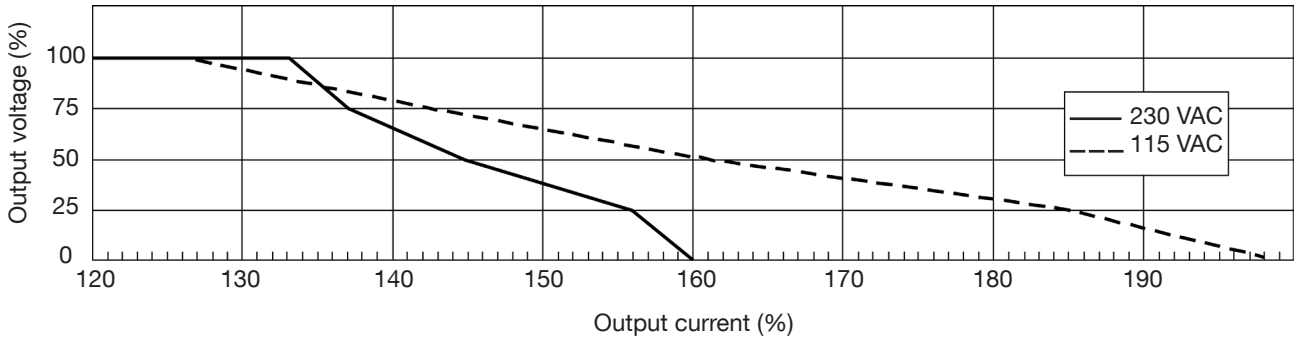
Derating Diagram



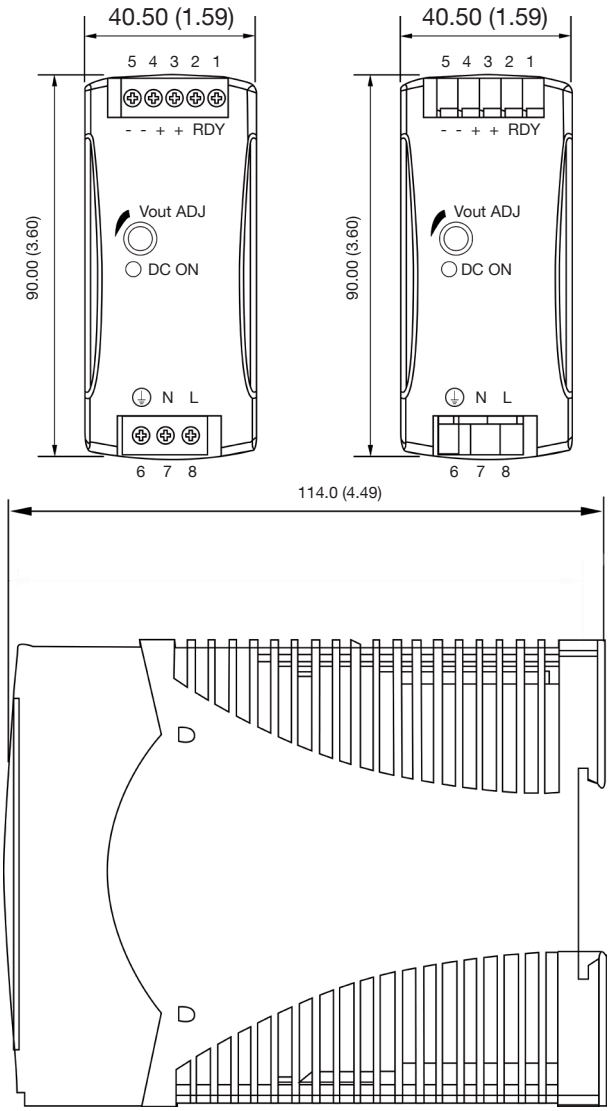
Typ. Efficiency Curve



Typ. Current Limited Curve



Mechanical Drawings mm (inches)



Installation

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