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

Optional Features

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	0
Turn on time (full resistive load) **Vi nom, Io nom** **Vi nom, Io nom** with 3500µF **CAP**	 1000ms 2000ms
Transient recovery time	2ms
Ripple and noise	50mVpp
Output voltage accuracy	± 1%
Temperature coefficient	± 0.03%/°C
Hold up time **Vi= 115VAC** **Vi= 230VAC**	20ms 30ms
Voltage fall time (I_0nom)	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	7.5VDC
12V Model	18VDC
24V Model	35VDC
48V Model	63VDC
Capacitor load	3500µF
Voltage rise time	
Vi nom Io nom	150ms
Vi nom, Io nom with 3500µF **CAP**	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		
(Vi : 230VAC, Io nom)	**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		T2A/250VAC internal[1)]
Output short circuit		Fold forward
Power ready output		
(only SPD 24)	**On threshold**	≥19.2-19.4VDC
	Off threshold	≤19.1-19.3VDC

[1)] Fuse not replaceable by user

		VDC	
Over voltage protection		**Min.**	**Max.**
	5V Model	6	6.8
	12V Model	15	16.5
	24V Model	30	33
	48V Model	60	66
Internal surge voltage protection (IEC 61000-4-5)		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

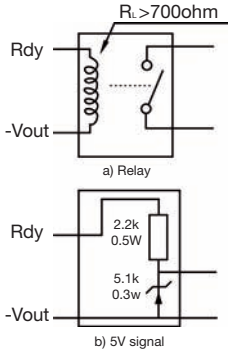
MTBF (Bellcore issue 6 @ 40°C, GB)		
	5V Model	551000 Hours
	12V Model	582000 Hours
	24V Model	588000 Hours
	48V Model	609000 Hours
Case material		Plastic: PC, UL94-V0
Dimensions LxWxD mm(inch)		90(3.6) x 40.5(1.59) x 114(4.49)
Weight		270g

Norms and Standards

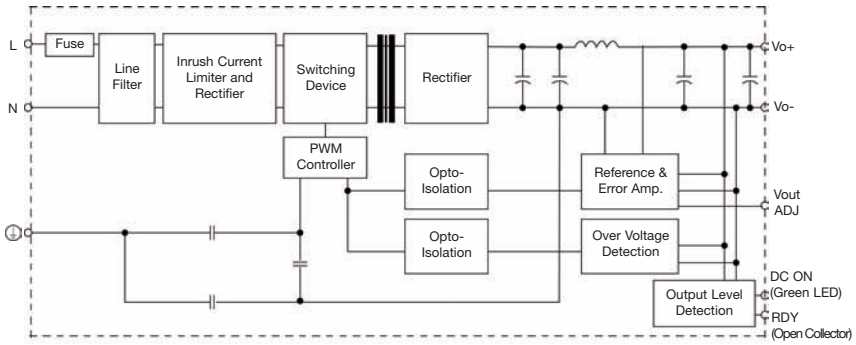
Vibration resistance	meet IEC 60068-2-6 (Mounting by rail: 10-500Hz, 2G, along X, Y, Z each Axis, 60 min for each Axis)
Shock resistance	meet IEC 60068-2-27 (15G, 11ms, 3 Axis, 6 faces, 3 times for each face)
UL / cUL	UL508 listed, UL60950-1, UL1310 Class 2 Power (only 5V, w/o Class 2) Recognized, ISA 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	GB4943, GB9254, GB17625.1

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



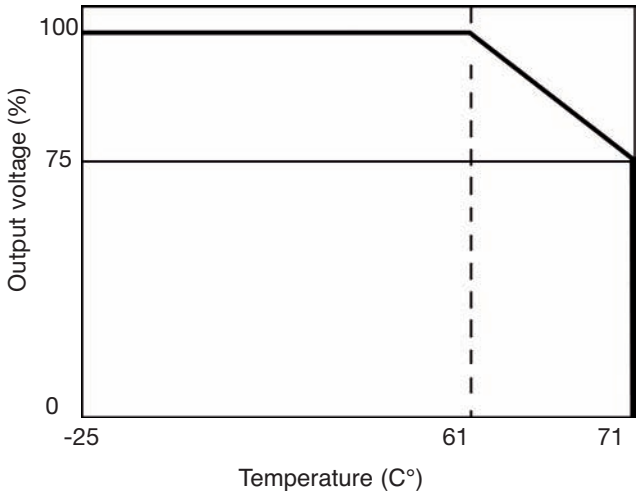
Block Diagrams



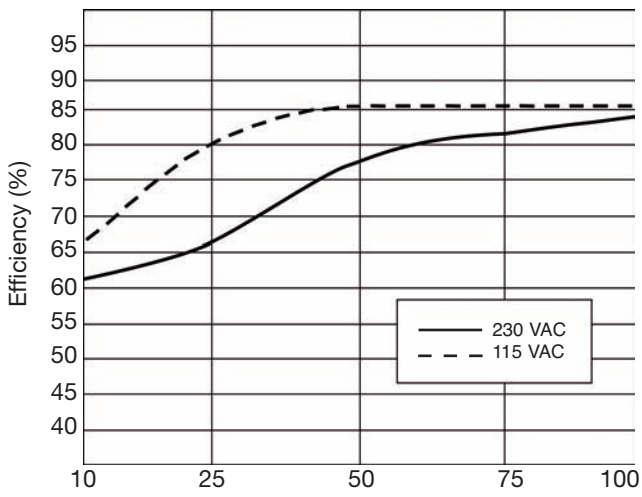
Pin Assignement and Front Controls

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
	⏚	Ground 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

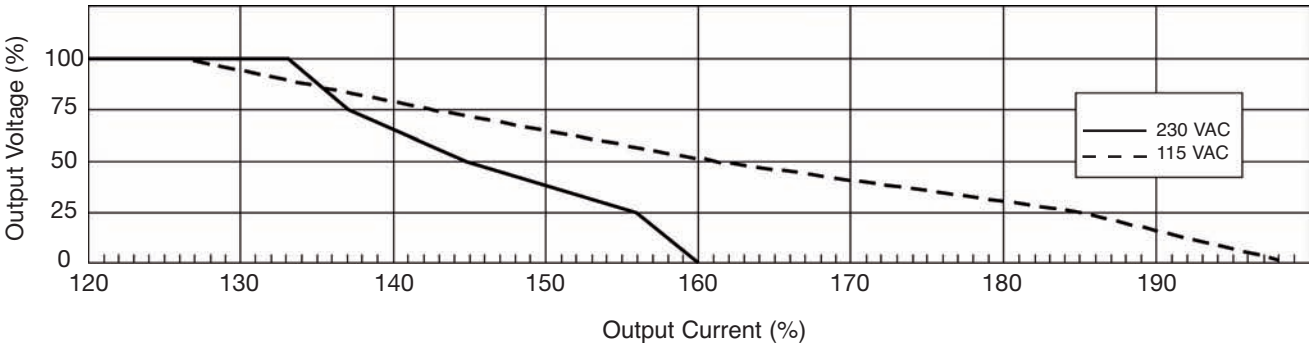
Derating Diagram



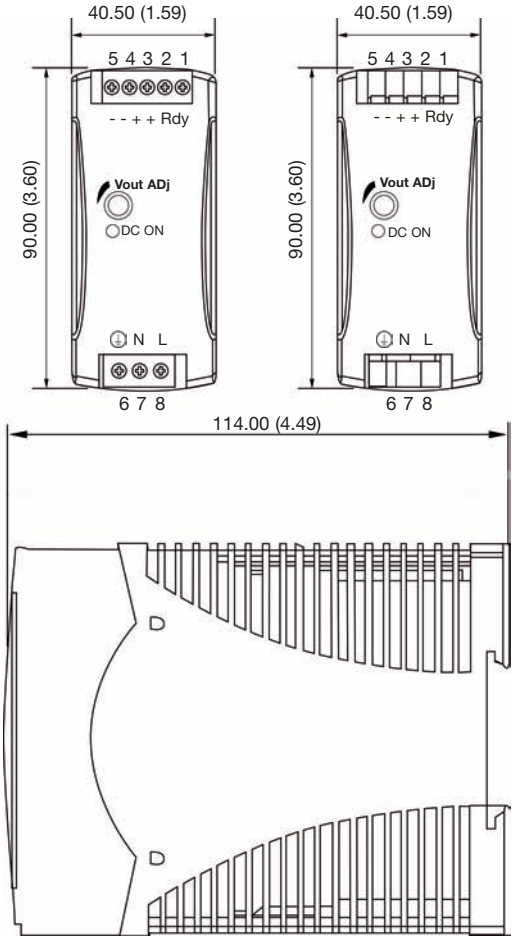
Typ. Efficiency Curve



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, connector can withstand torque at max 0,56Nm (5 lbs-in). 4~5 mm stripping at cable and recommends use copper conductors only, 60/75°C
Max. torque for terminal	
Input terminals	0.56Nm (5.0lb-in)
Output terminals	0.56Nm (5.0lb-in)
General tolerances 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)