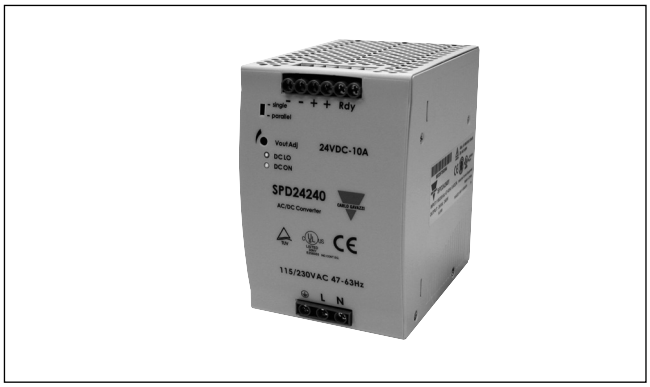
Switching Power Supply
Type SPD 240W
DIN rail mounting



- **Universal AC input full range**
- **Installation on DIN rail 7.5 or 15mm**
- **Short circuit protection**
- **PFC as standard**
- **High efficiency**
- **Power ready output**
- **LED indicator for DC power ON**
- **LED indicator for DC low**
- **Parallel connection feature**
- **Compact dimensions**
- **UL, cUL listed and TUV/CE 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.

Approvals

Class I, Div 2 UL 60950-1

Ordering Key

SP D 24 240 1 B

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

Input type: 1= single phase

Optional Features

Description	Code
Plug-in connectors	B

Output performances

MODEL NO.	INPUT VOLTAGE	OUTPUT WATTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT	EFF. (min.)	EFF. (typ.)
Single Output Models						
SPD24	115~230 VAC	240 WATTS	+ 24 VDC	10 A	87%	89%
SPD48	115~230 VAC	240 WATTS	+48 VDC	5 A	88%	90%

Output data

Line regulation	± 0.5%
Load regulation	
Vi nom, Single mode	± 1
Io min, Io nom parallel mode	± 5
Minimum load	0
Turn on time (full resistive load)	
Vi nom, Io nom	1000ms
Vi nom, Io nom with 7000µF **CAP**	1500ms
Transient recovery time	2ms
Ripple and noise	100mVpp
Output voltage accuracy	± 1%
Temperature coefficient	± 0.03%/°C

Hold up time Vi= 115VAC	25ms
Vi= 230VAC	30ms
Voltage fall time (I_0nom)	150ms max
Rated continuous loading	
24V Model	10A @ 24VDC/8.4A @ 28.5VDC
48V Model	5A @ 48VDC/4.2A @ 56VDC
Reverse voltage	
24V Model	35VDC
48V Model	63VDC
Capacitor load	7000µF
Voltage rise time	
Vi nom Io nom	150ms
Vi nom, Io nom with 7000µF **CAP**	500ms

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Input data

Rated input voltage		115 - 230
Voltage range		
	AC in 115V	90 - 132VAC
	AC in 230V	180 - 264VDC
	DC in	210 - 375VDC
Rated input current		
(Vi : 115VAC, Io nom)	**Typ.**	4.4/1.6mA
	Max.	5.4/2.2mA
Inrush current		
	Vi= 115VAC	30A
	Vi= 230VAC	60A

Power dissipation		
(Vi : 230VAC, Io nom)	**24V Model**	35W
	48V Model	32W
Frequency range		47- 63Hz
Leakage current		
	Input-Output	0.25mA
	Input-FG	3.5mA

Controls and Protections

Overload	120 – 140%
Input fuse	T6.3/250VAC internal[1)]
Output short circuit	Fold forward
Power ready output (only SPD 24) **Threshold voltages**	17.6 - 19.4VDC

[1)] Fuse not replaceable by user

Over voltage protection	125-140%
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

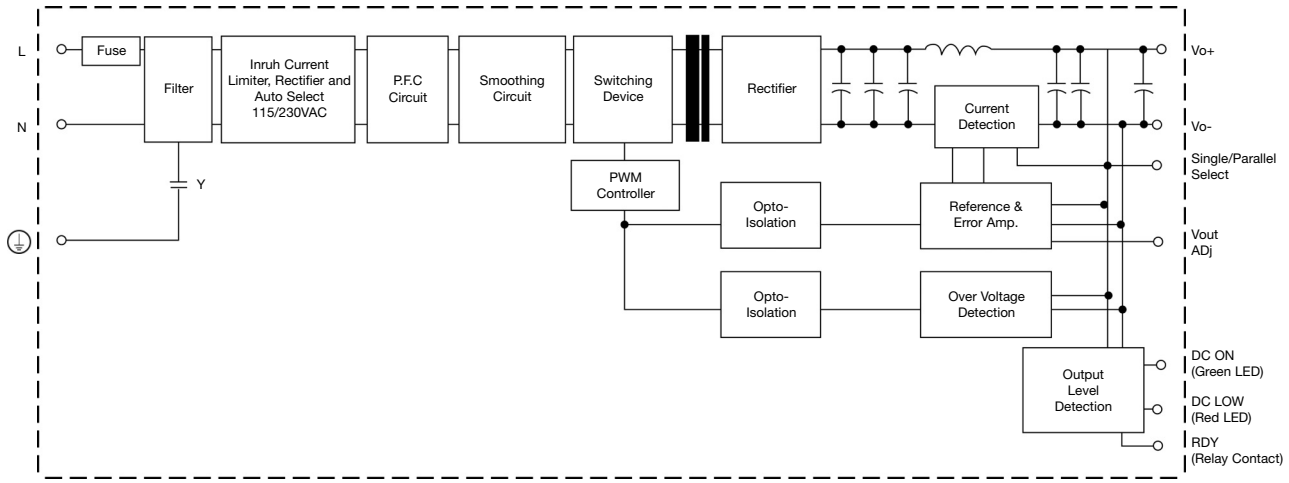
MTBF (Bellcore issue 6 @ 40°C, GB)		
	24V Model	423000 Hours
	48V Model	437000 Hours
Case material		Metal
Dimensions LxWxD mm(inch)		
Screw terminal type		124.5(4.9) x 83.5(3.29) x 123.6(4.87)
Detachable connector type		143.5(5.65) x 83.5(3.29) x 123.6(4.87)
Weight		1380g

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, recognized, ISA 12.12.01 (Class1, 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 ClassD, 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

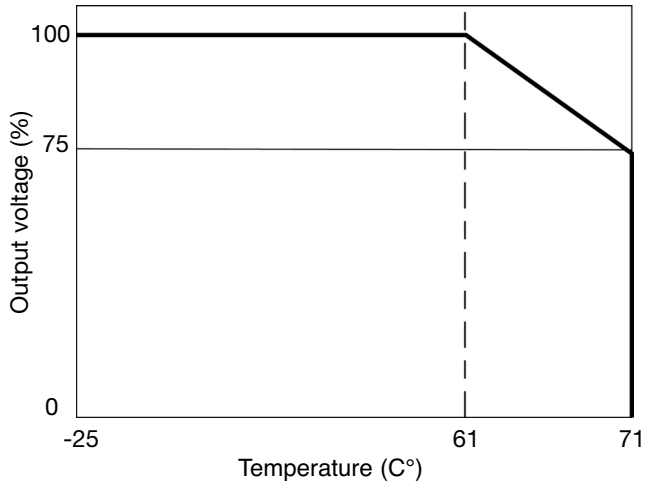
Block diagrams



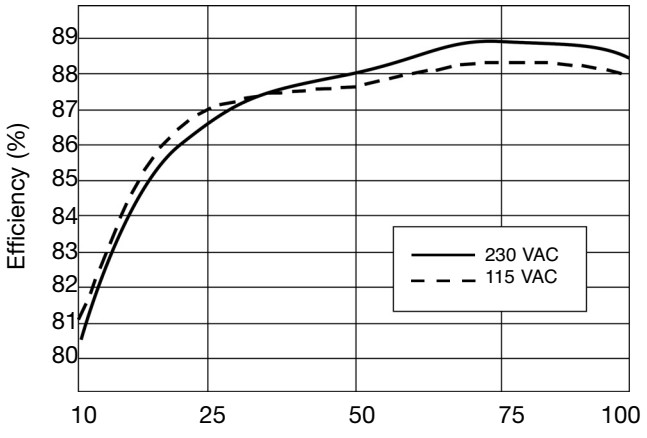
Pin Assignement and Front Controls

Pin No.	Designation	Description
1	**RDY**	A Normal open realay contact for DC ON level control
2		(Never connect except 24V model)
3, 4	**V+**	Positive output terminal
5, 6	**V-**	Negative output terminal
7	⏚	Ground this terminal to minimize high-frquency emission
8	**L**	Input terminals (phase conductor, no polarity at DC input)
9	**N**	Input terminals (neutral conductor, no polarity at DC input)
	DC ON	Operation indicator LED
	Vout ADJ	Trimmer-potentiometer for Vout adjustment
	S/P	Single/Parallel select switch

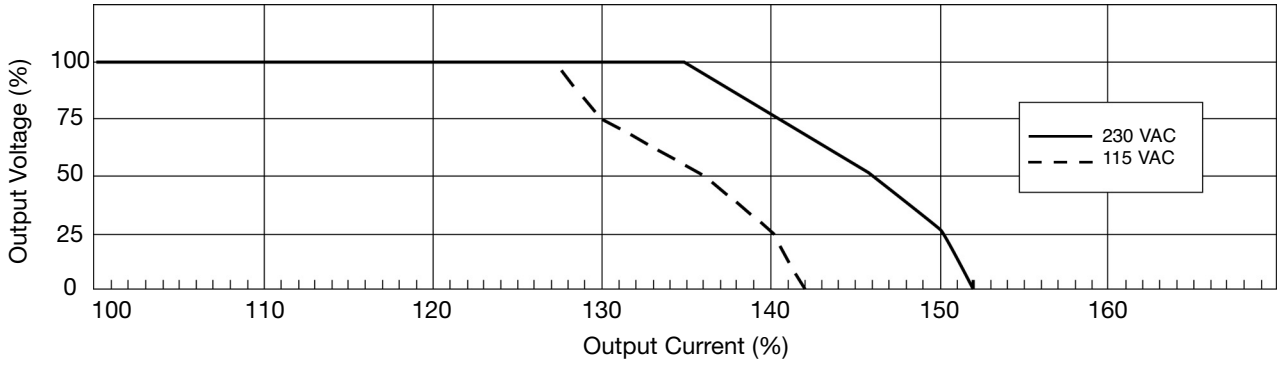
Derating Diagram



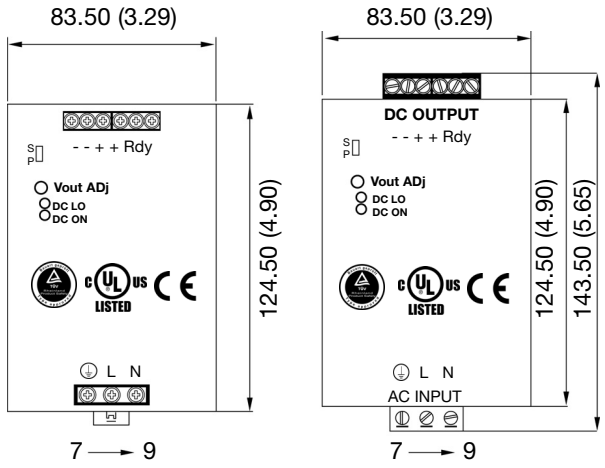
Typ. Efficiency Curve

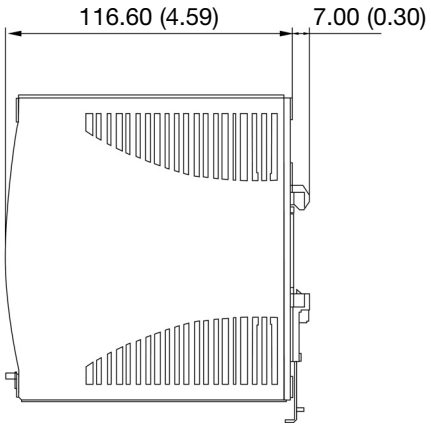


Typ. Current Limited Curve



Mechanical Drawings mm (inches)





Installation

Ventilation and cooling	Normal convection All sides 25mm free space for cooling is recommended
Screw connections	10-24AWG flexible or solid cable 8mm stripping recommend
Max. torque for screws terminals	
Input terminals	1.008Nm (9.0lb-in)
Output terminals	0.616Nm (5.5lb-in)
Plug-in connectors	10-24AWG flexible or solid cable 7mm stripping recommend
Max. torque for plug-in terminals	
Input terminals	0.784Nm (7.0lb-in)
Output terminals	0.784Nm (7.0lb-in)