Switching Power Supply
Type SPD 240W 3 phases
DIN rail mounting

- **Universal AC 3 phases input full range**
- **Installation on DIN rail 7.5 or 15mm**
- **PFC as standard**
- **High efficiency up to 90%**
- **Power ready output**
- **Parallel connection feature**
- **Compact dimensions**
- **UL, cUL listed and TUV/CE**

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 24 240 3

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

Input type: 3 = three phase (or single phase 400/500VAC[3])

Approvals

Output Performances

MODEL NO.	INPUT VOLTAGE	OUTPUT WATTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT	EFF. (min.)	EFF. (typ.)
Single Output Models						
SPD24	3ø 480 VAC	240 WATTS	+24 VDC	10 A	85%	90%
SPD48	3ø 480 VAC	240 WATTS	+48 VDC	5 A	89%	91%

1) When powered with three phases input; with biphase input value is in the brackets.
2) When S/P switch is set to parallel, it is not possible to trim output voltage.

Output Data

Line regulation	± 1%
Load regulation	
Single mode	±1%
Parallel mode	±5%
Minimum load	0A
Turn on time (full resistive load)	
Vi nom, Io nom	1000ms
Vi nom, Io nom 12V model	
with 7000 µF **CAP**	1500ms
Transient recovery time	2ms
Ripple and noise	100mVpp
Output voltage accuracy	±1%
Temperature coefficient	±0.03%/°C
Hold up time Vi	20ms
Voltage fall time (I_0nom)	150ms max

Rated continuous loading	
24V Model	10A @ 24VDC/8.2A @ 28.5VDC
48V Model	5A @ 48VDC/4.2A @ 56VDC
Reverse voltage	
12V Model	35VDC
24V Model	63VDC
Capacitor load	
Vi nom Io nom 24V model	7000µF
Voltage rise time	
Vi nom Io nom	150ms
Vi nom, Io nom	
12V model with 7000µF **CAP**	500ms

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Input Data

Rated input voltage		400 - 500VAC
Voltage range		
AC		340 - 575VAC MAX *
DC		480 - 820VDC MAX *
Input curren		
(Vi: 400VAC / 500VAC, Io nom)	**Typ.**	0.65A / 0.55A
Rated input current		
(Vi: 340VAC, Io nom)	**Max.**	0.85A
Inrush current		
Vi nom, Io nom	**Typ.**	20A
	Max.	25A

Inrush current time	
Vi nom, Io nom	4 ~ 6 ms
Power dissipation	
12V Model	20W
24V Model	16W
Frequency range	47-63Hz
Leakage current	
Input-Output	0.25mA
Input-FG	3.5mA

***not suitable for 600 V applications**

Controls and Protections

Input fuse	2A/600VAC internal/Phase
Output short circuit	Hiccup mode
Power ready output	
(only 24V model) **on threshold**	≥17.6-19.4VDC
Electrical isolation	500VDC
Contact rating at 60VDC	0.3A

1) Fuse not replaceable by user

Over voltage protection	**VDC**	
	Min.	**Max.**
24V Model	30	33
48V Model	60	68
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	-25°C to +85°C
Protection degree	IP20
Cooling	Free air convection
Pollution degree	2

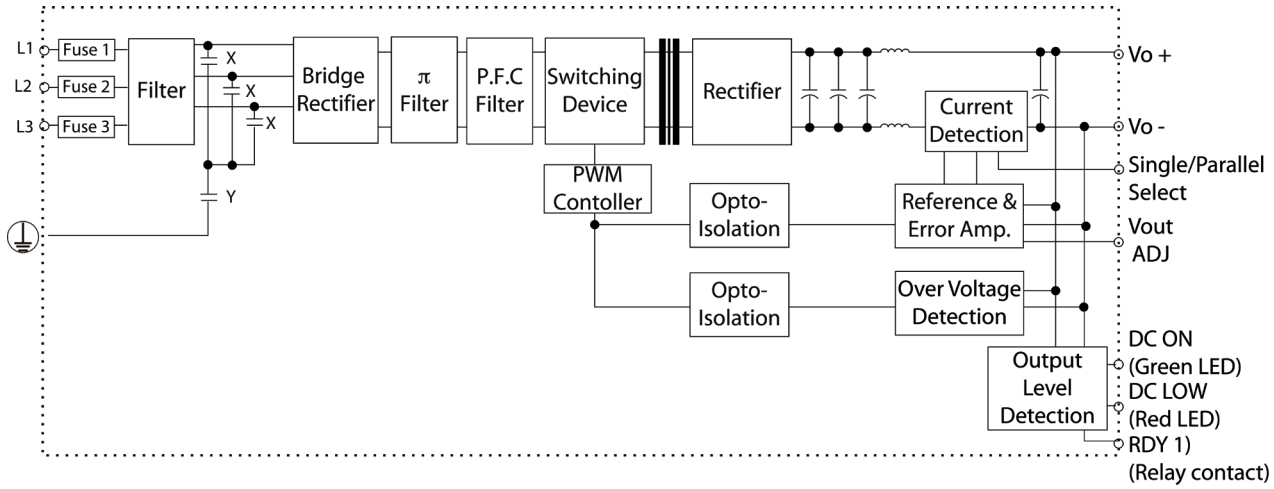
MTB (Bellcore issue 6 @ 40°C, GB)	
24V Model	488000 Hours
48V Model	519000 Hours
Case material	Metal
Dimensions LxWxD mm(inch)	124 (4.88) x 89 (3.5) x 118.8 (4.68)
Weight	1100 g

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 (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)

CQC	GB4943.1-2011, GB9254-2008, GB17625.1-2012
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 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

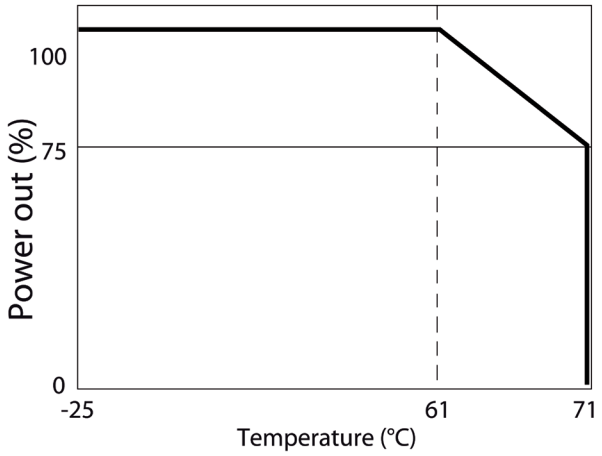
Block Diagram



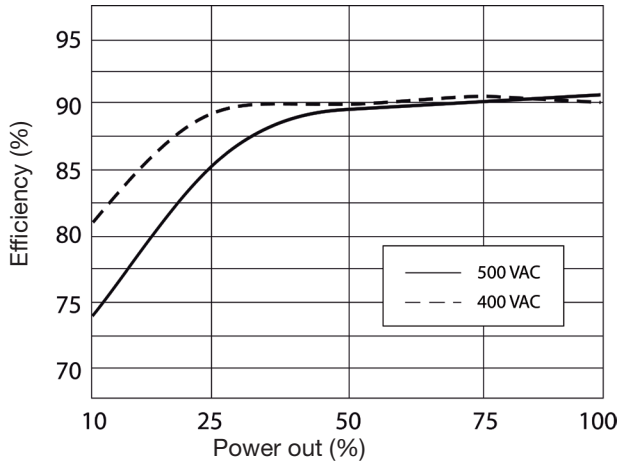
Pin Assignement and Front Controls

Pin No.	Designation	Description
1, 2	V-	Negative output terminal
3, 4	V+	Positive output terminal
5	L3	Input terminals
6	L2	Input terminals
7	L1	Input terminals
8	⏚	Grounf this terminal to minimize high-frequency emissions
9	RDY	A normal open relay contact for DC ON level control
10	RDY	(Never connect except 24V model)
	DC ON	Operation indicator LED
	DC LO	DC LOW voltage indicator LED
	Vout ADJ	Trimmer-potentiometer for Vout adjustment
	S/P	Single / Parallel select switch

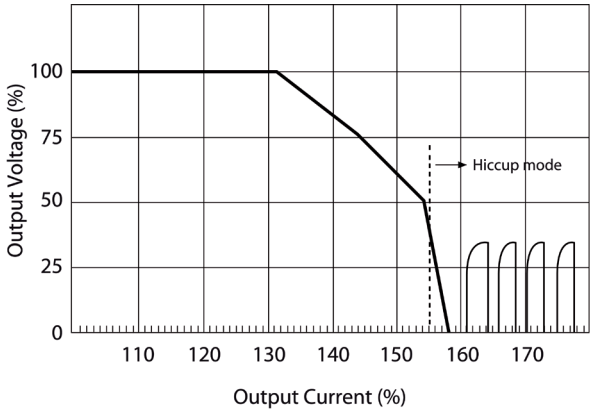
Derating Diagram

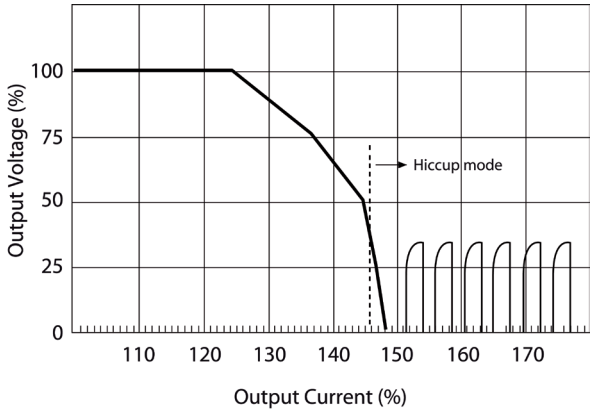


Typ. Efficiency Curve

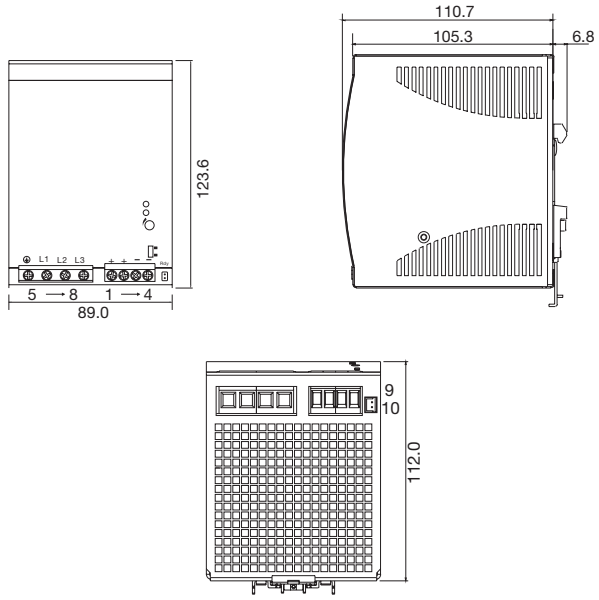


Typ. Current Limited Curve





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 terminal	1.008Nm (9.0lb-in)
Output terminal	0.616Nm (5.5lb-in)