

Switching Power Supply Type SPD 480W 3 phases DIN rail mounting

CARLO GAVAZZI



- Universal AC 3 phases input full range
- Can also be used as single phase 480VAC
- Installation on DIN rail 7.5 or 15mm
- PFC as standard
- High efficiency up to 91%
- 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 24 480 3

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

Input type: 3 = three phase
(or single phase 400/500VAC³⁾)

Approvals



Output performances

MODEL NO.	INPUT VOLTAGE	OUTPUT WATTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT	EFF. (min.)	EFF. (typ.)
Single Output Models						
SPD24	3ø 340~575 VAC	480 WATTS	+ 24 VDC	20 A	88%	90%
SPD48	3ø 340~575 VAC	480 WATTS	+ 48 VDC	10 A	89%	91%

Output data

Line regulation	± 1%	Voltage fall time ($I_{O\text{nom}}$)	150ms max
Load regulation		Rated continuous loading	
Single mode	± 1%	24V Model	20A @ 24VDC/16.8A @ 28.5VDC
Parallel mode	± 5%	48V Model	10A @ 48VDC/8.5A @ 56VDC
Minimum load	0	Reverse voltage	
Turn on time (full resistive load)		24V Model	35VDC
V_i nom, I_o nom	1000ms	48V Model	63VDC
V_i nom, I_o nom with 7000µF CAP	1500ms	Capacitor load	
Transient recovery time	2ms	V_i nom I_o nom 24V model	7000µF
Ripple and noise	100mVpp	Voltage rise time	
Output voltage accuracy	± 1%	V_i nom I_o nom	150ms
Temperature coefficient	± 0.03%/°C	V_i nom, I_o nom with 7000µF CAP	500ms
Hold up time V_i	20ms		

Input data

Rated input voltage	400 - 500VAC	Power dissipation	
Voltage range		24V Model	58W
AC	340 - 575VAC	48V Model	55W
DC	480 - 820VDC	Frequency range	47 - 63Hz
Rated input current (Vi : 400VAC, Io nom)		Leakage current	
Typ.	1.1A	Input-Output	0.25mA
Max.	1.4A	Input-FG	3.5mA
Inrush current			
Vi= 115VAC	20A		

Controls and Protections

Overload	110-135%	Electrical isolation Contact rating at 60vdc Over voltage protection	500VDC 0.3A	
Input fuse	T3.15A/500VAC internal phase		VDC	
Output short circuit			Min.	Max.
Continuos	Fold forward	24V Model	30	33
Discontinuos	Delay 3S shut-down. After 30S auto restart	48V Model	60	68
Power ready output (only 24V model)	On threshold	Internal surge voltage protection (IEC 61000-4-5)	Varistor	
	≥17.6 -19.4VDC			

¹⁾ Fuse not replaceable by user

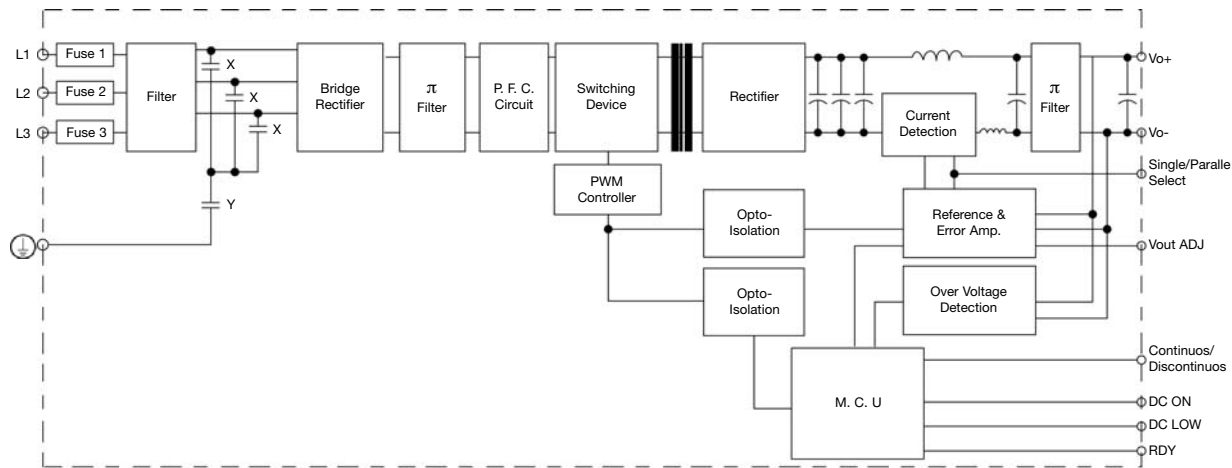
General data (@ nominal line, full load, 25°C)

Ambient temperature	-30°C to 71°C	MTBF (Bellcore issue 6 @ 40°C, GB)	
Derating (>61°C to +71°C)	2.5%/°C	24V Model	411000 Hours
Ambient humidity	20 ~ 90%RH	48V Model	423000 Hours
Storage	-40°C to +85°C	Case material	Metal
Protection degree	IP20	Dimensions LxWxD mm(inch)	124(4.88) x 150(5.91) x 118.8(4.68)
Cooling	Free air convection	Weight	1720g
Pollution degree	2		

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)	CCC	GB4943, GB9254, GB17625.1
Shock resistance	meet IEC 60068-2-27 (15G, 11ms, 3 Axis, 6 faces, 3 times for each face)	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
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)		

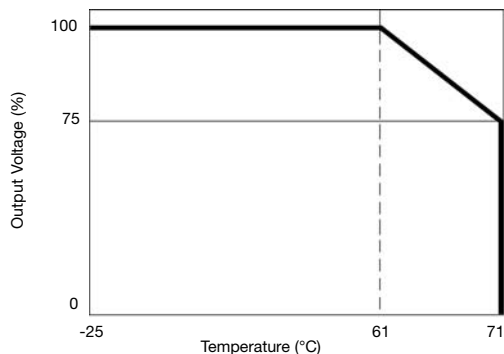
Block diagrams



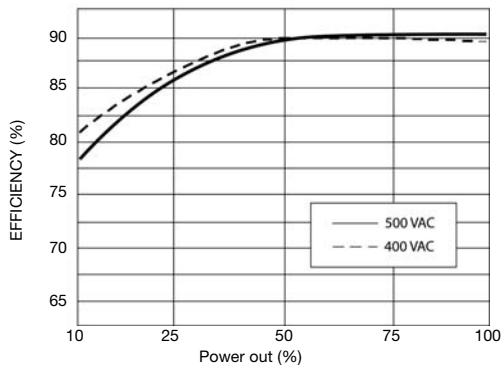
Pin Assignment and Front Controls

Pin No.	Designation	Description
1, 2	V-	Negative output teminal
3, 4	V+	Positive output terminal
5	L3	Input terminals
6	L2	Input terminals
7	L1	Input terminals
8		Input terminal (neutral conductor, no polarity at DC input)
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
	C/D	Continuos / Discontinuos

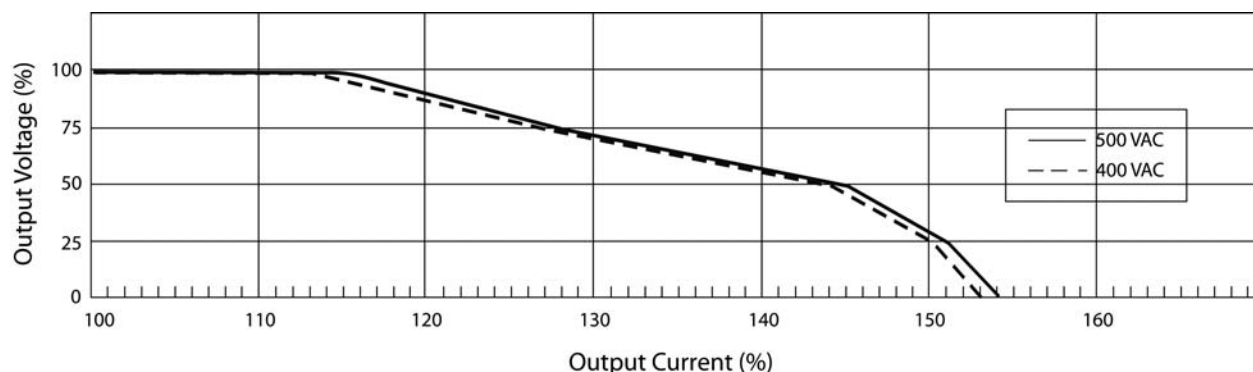
Derating Diagram



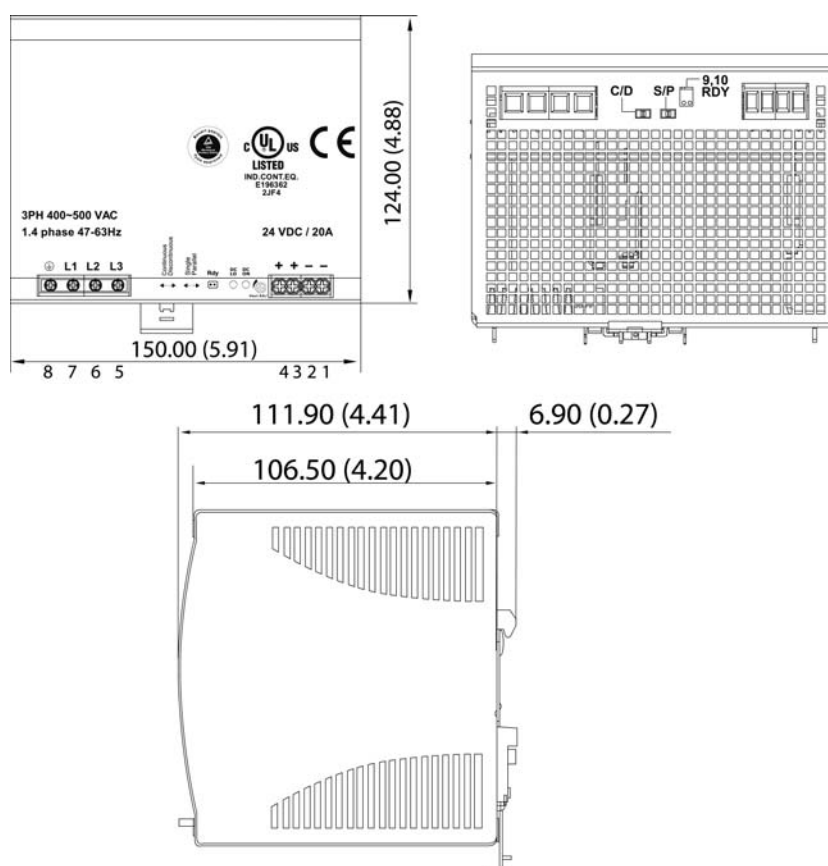
Typ. Efficiency Curve



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)

Mouser Electronics

Authorized Distributor

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