

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 _{gnom})	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 timeV _i	20ms		

Input data

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

Controls and Protections

Overload	110-135%	Electrical isolation	500VDC	
Input fuse	T3.15A/500VAC internal phase	Contact rating at 60vdc	0.3A	
Output short circuit	Fold forward Delay 3S shut-down. After 30S auto restart	Over voltage protection	VDC	
			Min.	Max.
Continuos		24V Model	30	33
Discontinuos		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

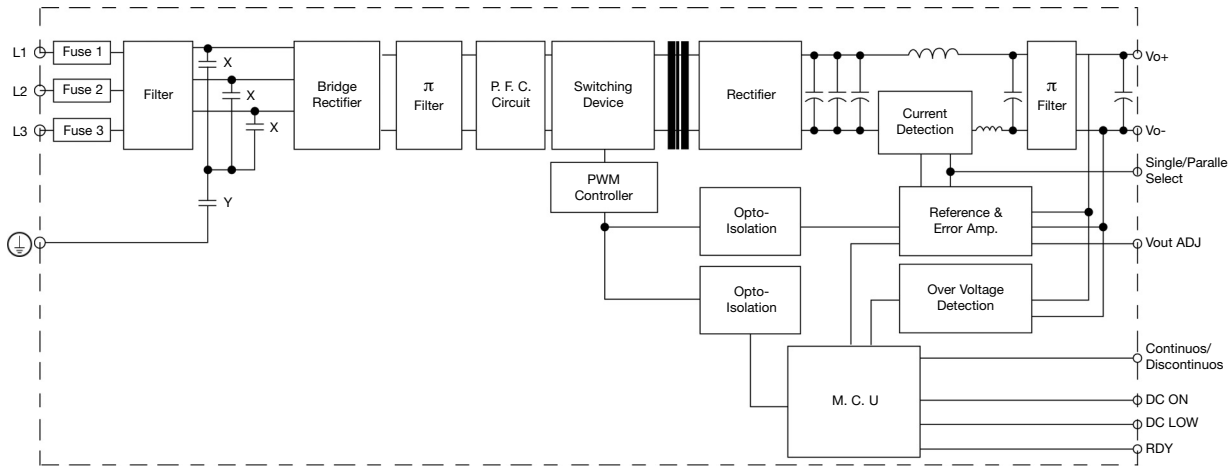
General data (@ nominal line, full load, 25°C)

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	-25°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)		

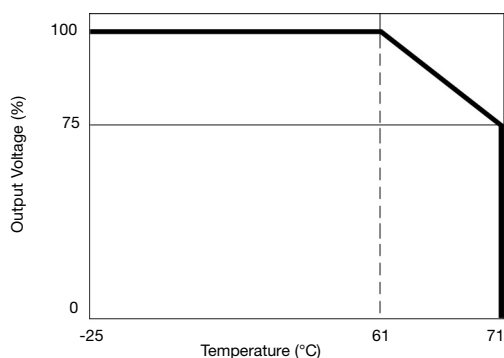
Block diagrams



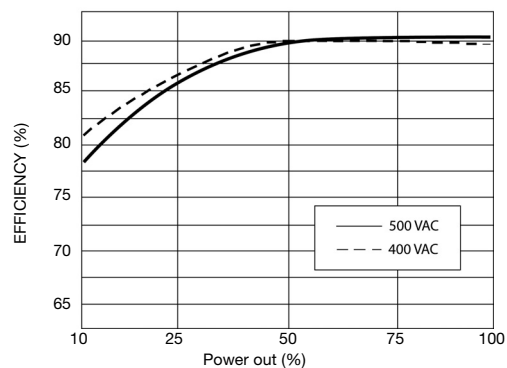
Pin Assignment and Front Controls

Pin No.	Designation	Description
1, 2	V-	Negative output terminal
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

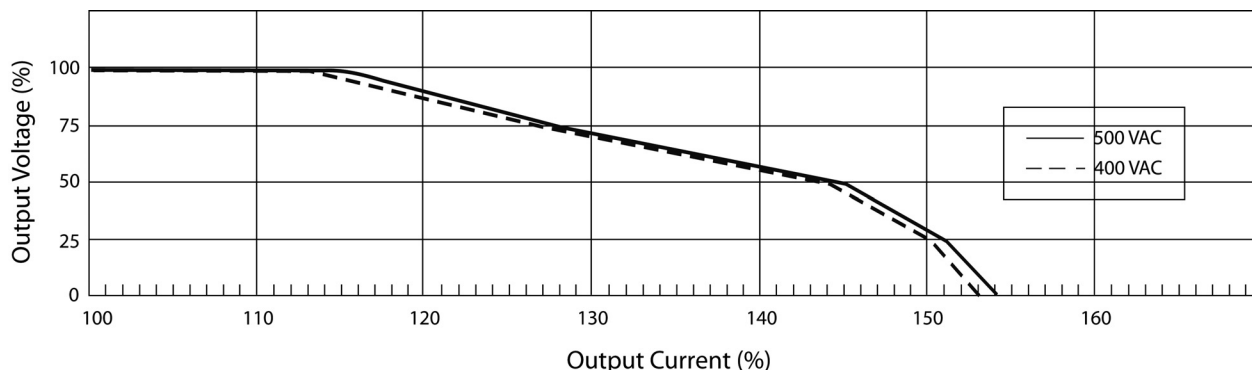
Derating Diagram



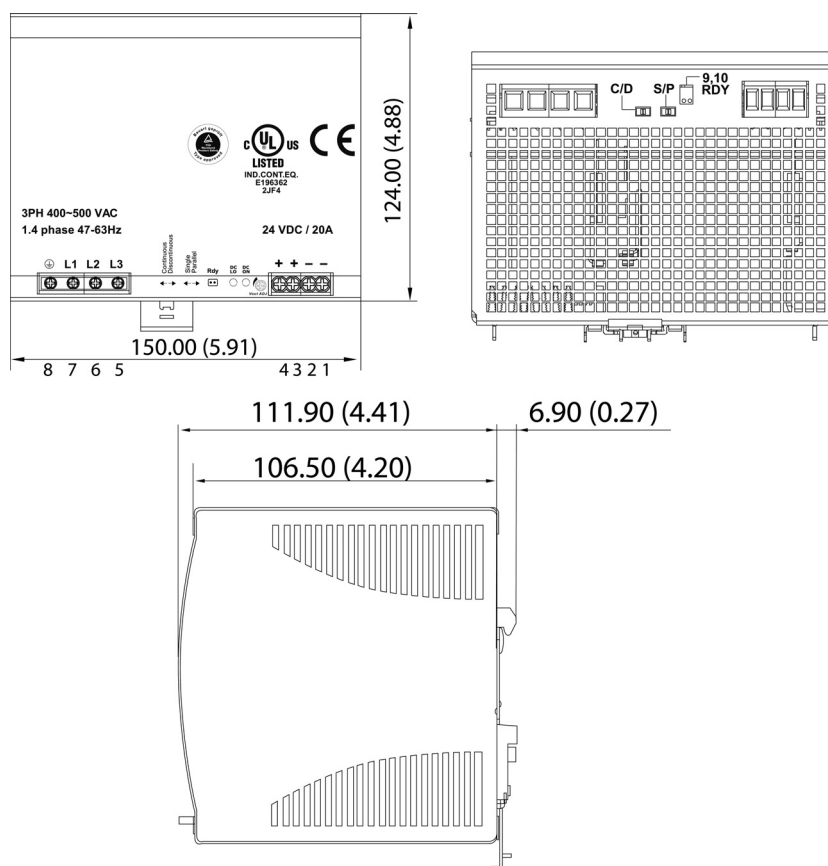
Typ. Efficiency Curve



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)