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# 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 400/500VAC<sup>3)</sup>)

## Approvals



## Output performances

Model	Rated output Voltage (VDC)	Output Power (W)	Output Current (A) <sup>1)</sup>	Voltage Trim Range <sup>1)</sup>		DC OK Threshold at startup (VDC)		DC low LED Threshold after startup(VDC)		Typical Efficiency
				Min. VDC	Max. VDC	Min.	Max.	Min.	Max.	
SPD24			20 (15)	22.5	28.5	17.6	19.4	17.6	19.4	90%
SPD48			10 (7.5)	47.0	56.0	37.0	43.0	37.0	43.0	91%

<sup>1)</sup> When powered with three phases input; with biphas input value is in the brackets.

<sup>2)</sup> When S/P switch is set to parallel, it is not possible to trim output voltage.

## Output data

Line regulation	± 1%	Temperature Coefficient	+0.02% / °C
Load regulation		Hold up time Vi = 230Vac	20ms
Non parallel mode	± 1%	Minimum load	0%
Parallel mode	± 5%	Parallel Operation (only with S/P switch on "P" position)	2 units max.
Output Voltage accuracy	from 0 to +1% (factory adjusted)		
Ripple and Noise	100mV		

## Input data

Rated input voltage	400/500VAC	Frequency range	47- 63 Hz
Voltage range		Inrush current	15A
AC in	340 - 575VAC <sup>3)</sup>	P.F.C. Vi= 500VAC, Io nom.	0.7
DC in	480 - 820VDC		
Rated input current (380/500)	1.4A / 1.0A		

<sup>3)</sup> Biphas or triphase input (biphase can be: L1 L2, L2 L3 or L1 L3.  
 Note: when used as biphas, the maximum output power is 75% of rated power.

## Controls and Protections

<b>Input Fuse</b>	3.15A/250VAC internal/phase <sup>4)</sup>	<b>Power ready output</b> (only SPD 24)	
<b>Overvoltage Protection</b> SPD24 SPD48	30 – 33VDC 60 – 68VDC	Threshold voltages Contact rating at 60Vdc insulation	17.6 - 19.4VDC 0.3A 500VDC
<b>Output Short Circuit</b> Continuous Discontinuous	Current limit Delay 3s shut-down, after 30s Auto-restart	<b>Overtemperature</b>	100 - 110°C (shutdown with auto-restart when temperature is back to normal)
<b>Rated Overload Protection</b>	115 - 135%		

<sup>4)</sup> Not replaceable by user.

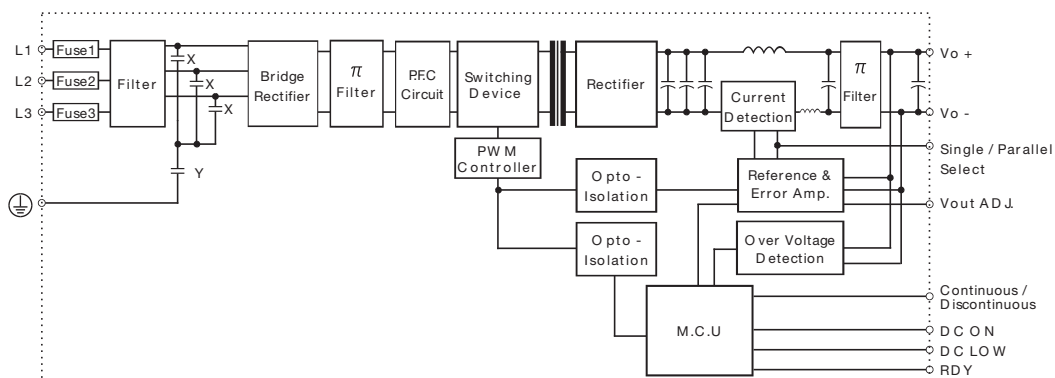
## General data (@ nominal line, full load, 25°C )

<b>Ambient temperature</b>	-25°C to 71°C	<b>Cooling</b>	Free air convection
<b>Derating (&gt;61°C to +71°C)</b>	2.5%/°C	<b>MTBF (MIL-HDBK-217F)</b>	n.a.
<b>Ambient humidity</b>	20 - 95%RH	<b>Case material</b>	Metal (powder painted aluminium)
<b>Storage</b>	-25°C to +95°C	<b>Weight</b>	1750g / 61.73oz
<b>Dimensions L x W x D</b> Screw terminal type	124 x 150 x 118 mm 1.88 x 5.91 x 4.65 inches	<b>Protection degree</b>	IP20

## Approvals and EMC

<b>Insulation voltage I/O</b>	3.000VAC	<b>CE</b>	EN61000-6-3 EN55022 class B EN61000-3-2 EN61000-3-3 EN61000-6-2 EN55024
<b>Insulation resistance I/O @ 500VDC</b>	100MΩ		
<b>UL / cUL</b>	UL508 listed, UL60950-1, Recognized		
<b>TUV</b>	EN60950-1		

## Block diagrams





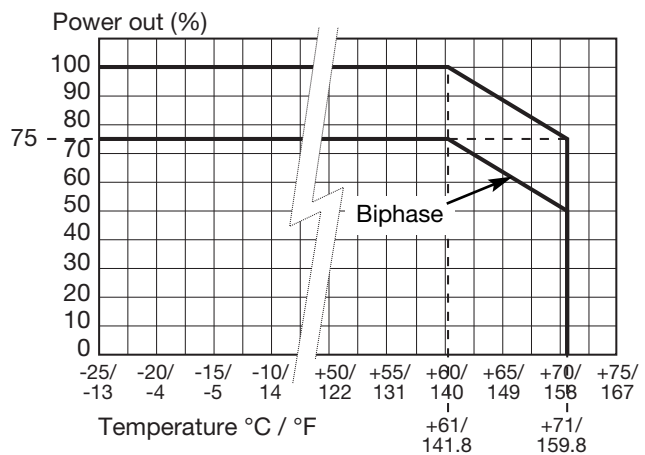
## Pin assignement and front controls

Pin No.	Designation	Description
1	+	Positive output terminal
2	+	Positive output terminal
3	-	Negative output terminal
4	-	Negative output terminal
5	GND	Ground terminal to minimise High frequency emissions
6	L1	Input terminals
7	L2	Input terminals
8	L3	Input terminals
9	RDY	A normal open relay contact for DC ON level control
10	RDY	A normal open relay contact for DC ON level control
	DC ON	DC output ready LED
	DC LO	DC low indicator LED
	Vout ADJ.	Trimmer for fine output voltage adjustment
	S/P	Single / parallel selection switch
	C/D	Continuous / Discontinuous

## Installation

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

## Derating Diagram



## Mechanical Drawings mm/inches

