

# Switching Power Supply

## Type SP D 24-240

### DIN Rail mounting

**CARLO GAVAZZI**



- Universal AC Input Full range
- Installation on DIN Rail 7.5 or 15mm
- Short circuit protection
- PFC as standard
- High efficiency
- Power ready output
- 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.

### 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

### Approvals



### Optional Features

Description	Code
Plug in connectors	B

### Output data

Output nominal voltage	24Vdc*	Transient recovery time	300i s
Current	10A	Ripple and noise	100mVpp
Output voltage range	22.5 to 28.5Vdc	Efficiency typ.	89%
Line regulation	± 0.5%	Output Voltage accuracy	+1% (factory adjusted)
Load regulation		Temperature coefficient	± 0.3%/°C
Non parallel mode	± 1%	Hold up Time Vi = 115Vac	25ms
Parallel mode	± 5%	Hold up time Vi = 230Vac	30ms
DC indicator ON	17.6 – 19.4Vdc	Minimum load	0%
DC indicator LOW	17.6 – 19.4Vdc	Parallel Operation	3 units max.

\* 48Vdc available upon request



## Input data

<b>Rated input voltage</b>	<b>115 – 230 (auto select)</b>	<b>Frequency range</b>	<b>47 – 63Hz</b>
<b>Voltage range</b>		<b>Inrush current</b>	
AC in, 115 selected	<b>93 – 132Vac</b>	$V_i = 115Vac$	<b>30A</b>
AC in, 230 selected	<b>186 – 264Vac</b>	$V_i = 230Vac$	<b>60A</b>
DC in	<b>210 – 370Vdc</b>	<b>P.F.C. 230Vac, I<sub>o</sub> nom.</b>	<b>0.7</b>
<b>Rated Input Current</b>	<b>5.4A / 2.2A</b>		

## Controls and Protections

<b>Input Fuse</b>	<b>T6.3A/250Vac internal</b>	<b>Power ready</b>	
<b>Overvoltage protection</b>	<b>120 – 145%</b>	Threshold at start up	<b>21.1 – 23.1</b>
<b>Output Short circuit</b>	<b>Current limited</b>	Threshold after start up	<b>19.0 – 20.6</b>
<b>Rated overload protection</b>	<b>105 – 145%</b>	Contact rating at 60Vdc insulation	<b>0.3A 500Vdc</b>

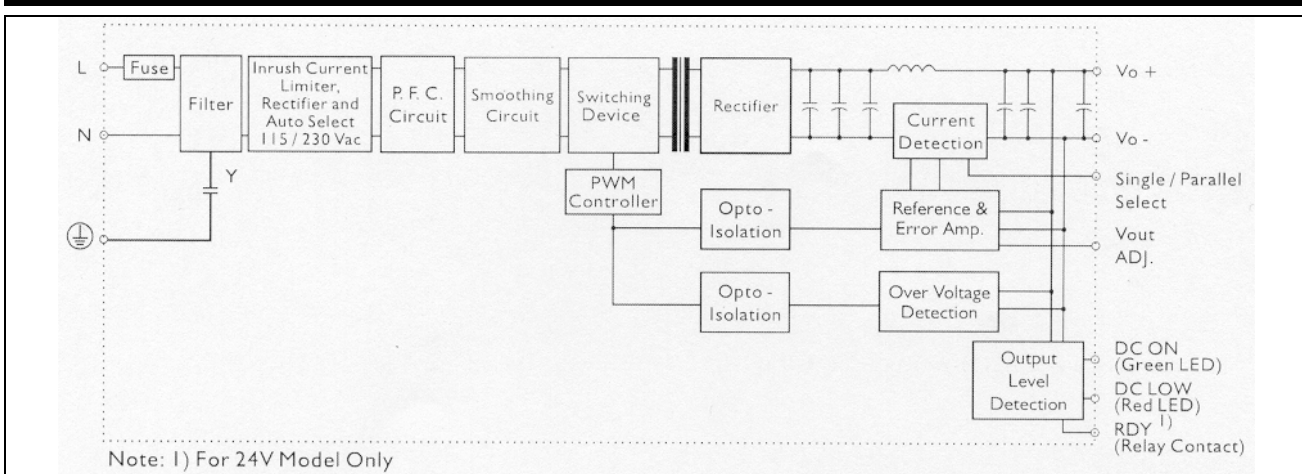
## General data (@ nominal line, full load, 25°C )

<b>Ambient temperature</b>	<b>-10°C to +50°C</b>	<b>Cooling</b>	<b>Free air convection</b>
<b>Case temperature V/I nom</b>	<b>+90°C</b>	<b>Switching frequency</b>	<b>80kHz</b>
<b>Derating (&gt;50°C to +71°C)</b>	<b>1.5%/°C</b>	<b>MTBF (MIL-HDBK-217F)</b>	<b>200.000h</b>
<b>Ambient humidity</b>	<b>2 - 95%RH</b>	<b>Case material</b>	<b>Metal</b>
<b>Storage</b>	<b>-25°C to +85°C</b>	<b>Weight</b>	<b>1000g</b>
<b>Dimensions L x W x D</b>			
Screw terminal type	<b>125 x 83 x 126</b>		
Plug in connectors	<b>142 x 83 x 126</b>		

## Approvals and EMC

<b>Insulation voltage I / O</b>	<b>3.000Vac</b>	<b>CE</b>	<b>EN61000-6-3 EN61000-6-2</b>
<b>Insulation resistance</b>	<b>100Mohm</b>		
<b>UL / cUL</b>	<b>UL508 listed, class 2</b>		
<b>TUV</b>	<b>EN60950</b>		<b>EN61000-4-2 / 4-3/4-4/4-5/4-6/4-11</b>

## Block diagram





## Pin assignement and front controls

Pin No.	Designation	Description
1	<b>RDY</b>	DC OK, relay normally open contact
2		
3	<b>+</b>	Positive output terminal
4	<b>+</b>	Positive output terminal
5	<b>-</b>	Negative output terminal
6	<b>-</b>	Negative output terminal
7	<b>GND</b>	Ground terminal to minimise High frequency emissions
8	<b>L</b>	Phase input ( no polarity with DC input )
9	<b>N</b>	Neutral input ( no polarity with DC input )
	<b>DC ON</b>	Operation LED
	<b>DC LO</b>	LOW DC out LED
	<b>Vout Adj.</b>	Trimmer for fine output voltage adjustment
	<b>S / P</b>	Single parallel selection switch

## Installation

### VENTILATION / COOLING:

- Normal air convection
- 25mm of free space along all sides to allow good cooling

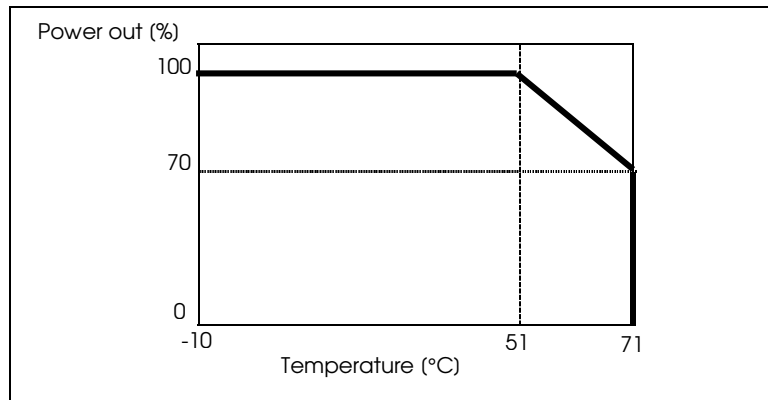
### SCREW CONNECTIONS:

- 10-24AWG Flexible or solid cable. 8mm stripping recommended

### PLUG IN CONNECTORS:

- 10-24AWG Flexible or solid cable. 7mm stripping recommended

## Derating Diagram



## Mechanical Drawings

