

# Switching Power Supply Type SPD 60W DIN rail mounting

CARLO GAVAZZI



- Universal AC input full range
- Installation on DIN rail 7.5 or 15mm
- Short circuit protection
- Overload protection
- Class 2 output
- High efficiency
- LED indicator for DC power ON
- Power Ok output
- CE, TUV approved and cULus Listed

## 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 60 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
Spring connectors	B

## Output performances

Model	Output Voltage (VDC)	Output Current (A)	Output Power (W)	Voltage Trim Range		DC on LED (VDC Min.)	Typical Efficiency
				Min. VDC	Max. VDC		
SPD05	5	10	50	5	5.5	4	79%
SPD12	12	5	60	12	14	9.6	86%
SPD24	24	2.5	60	24	28	19.2	89%
SPD48	48	1.25	60	48	55	37	89%

## Output data

Line regulation	± 0.5%	Output Voltage accuracy	± 2%
Load regulation	± 0.5%	Temperature coefficient	± 0.02%/°C
Minimum load	0	Hold up Time Vi = 115Vac	20ms
Turn on time (full resistive load)	1.0s max	Hold up time Vi = 230Vac	30ms
Ripple and noise	50mVpp	Voltage fall time (I <sub>o</sub> nom)	150ms max
		Voltage rise time at full resistive load	150ms max

## Input data

Rated input voltage	100 - 240	Frequency range	47- 63 Hz
Voltage range		Inrush current	
AC	85 - 264 Vac	Vi= 115Vac	30A
DC	90 - 375 Vdc	Vi= 230Vac	60A

## Controls and Protections

<b>Overload</b>	110 – 150%	<b>Over voltage protection</b>	<b>VDC</b>	
<b>Input Fuse</b>	T2A/250Vac internal*		<b>Min.</b>	<b>Max.</b>
<b>Output Short Circuit</b>	Fold forward	SPD5	6	6.8
<b>Power ready output</b> (only SPD 24)		SPD12	15	16.5
On threshold	$\geq 20V \pm 1V$	SPD24	30	33
Off threshold	$\leq 19.2V \pm 1V$	SPD48	60	66

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

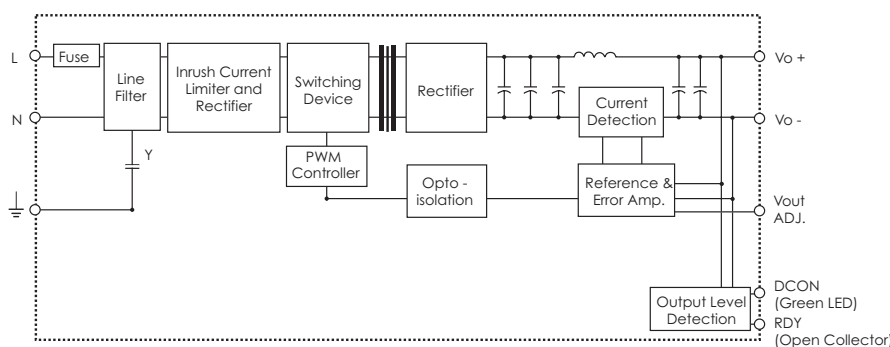
<b>Ambient temperature</b>	-10°C to 71°C	<b>Cooling</b>	Free air convection
<b>Derating (&gt;60°C to +71°C)</b>	2.5%/°C	<b>MTBF (MIL-HDBK-217F)</b>	500.000h
<b>Ambient humidity</b>	20 ~ 90%RH	<b>Case material</b>	Plastic: PC, UL94-V0
<b>Storage</b>	-25°C to +85°C	<b>Dimensions L x W x D</b>	90 x 40.5 x 115
<b>Protection degree</b>	IP20	<b>Weight</b>	360g

## Norms and Standards

<b>Insulation voltage I / O</b>	3.000Vac min	<b>CE</b>	EN61000-6-3 - EN55022 Class B EN61000-3-2 - EN61000-3-3 EN61000-6-2 - EN550241 EN61000-4-2 - EN61000-4-3 EN61000-4-4 - EN61000-4-5 EN61000-4-6 - EN61000-4-8 EN61000-4-11
<b>Insulation resistance</b>	100Mohm min		
<b>UL / cUL</b>	UL508 listed, UL1950, UL1310 Class 2 (5V without class 2) Recognised		
<b>TUV</b>	EN60950		

\* fuse not replaceable by user

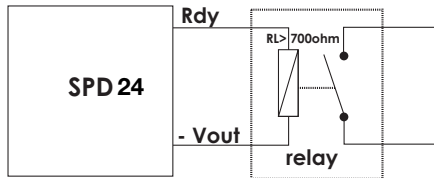
## Block diagrams



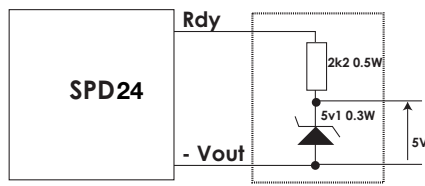
## Pin assignment and front controls

Pin No.	Designation	Description
1	<b>RDY</b>	DC OK, output for relay (only on SPD 24)
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>Vout ADJ.</b>	Trimmer for fine output voltage adjustment
	<b>DC ON</b>	DC output ready LED

## Output Rdy Wiring diagram

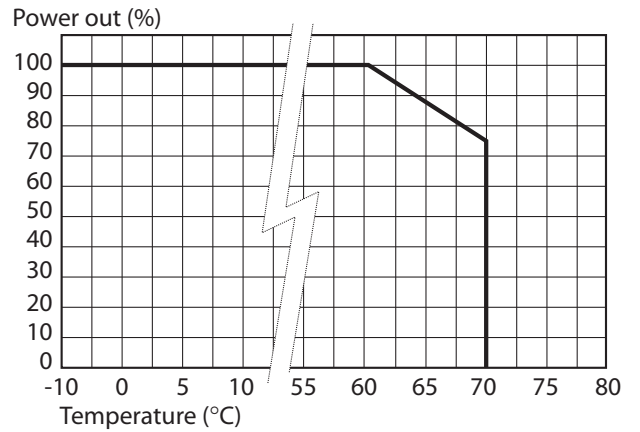


Relay connection diagram

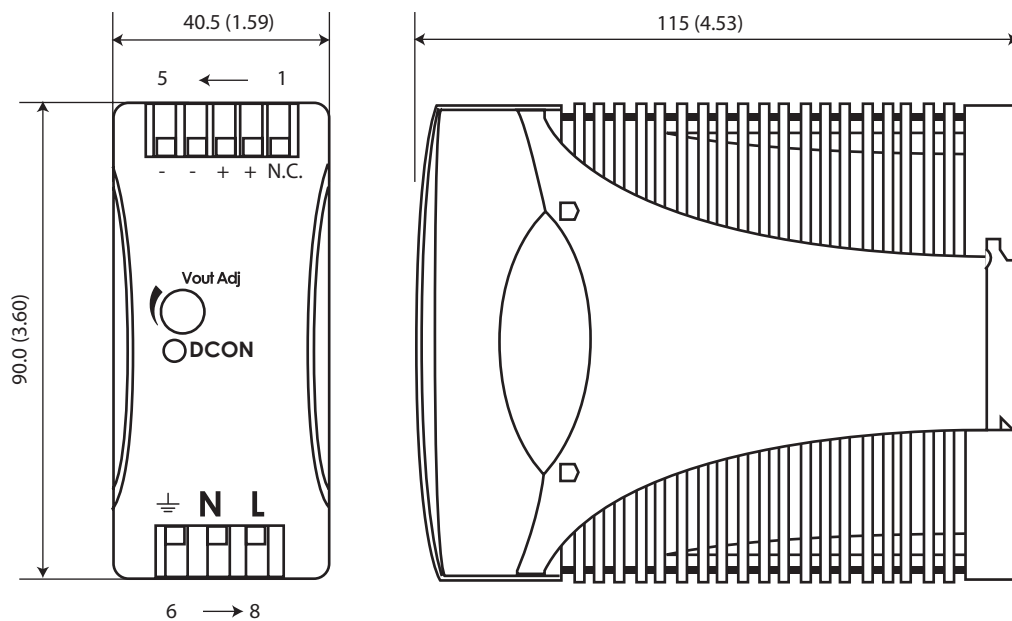


5V signal

## Derating Diagram



## Mechanical Drawings



## Installation

### Ventilation and cooling

Normal convection  
 All sides 25mm free space  
 for cooling is recommended

### Connector size range

Solid: 0.2 – 2mm<sup>2</sup>  
 (AWG24-14)  
 (use copper conductors only)