

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 |
| Transient recovery time | 300µs | Voltage fall time (I _o nom) | 150ms max |
| Ripple and noise | 50mVpp | 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 |

Specifications are subject to change without notice

Controls and Protections

| | | | | |
|---|----------------------|--------------------------------|-------------|-------------|
| Overload | 110 – 150% | Over voltage protection | VDC | |
| Input Fuse | T2A/250Vac internal* | | Min. | Max. |
| Output Short Circuit | Fold forward | SPD5 | 6 | 6.8 |
| Power ready output (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)

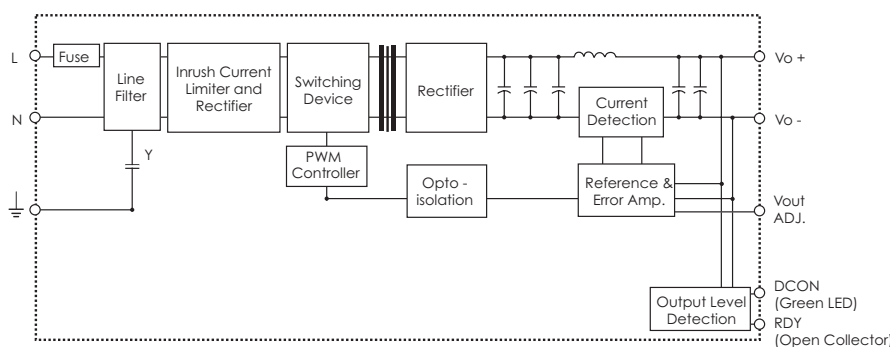
| | | | |
|-------------------------------------|----------------|-----------------------------|----------------------|
| Ambient temperature | -10°C to 71°C | Cooling | Free air convection |
| Derating (>60°C to +71°C) | 2.5%/°C | MTBF (MIL-HDBK-217F) | 500.000h |
| Ambient humidity | 20 ~ 90%RH | Case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

Norms and Standards

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

* fuse not replaceable by user

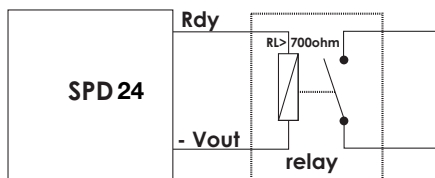
Block diagrams



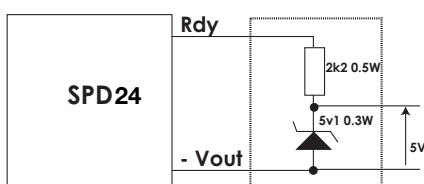
Pin assignment and front controls

| Pin No. | Designation | Description |
|---------|------------------|--|
| 1 | RDY | DC OK, output for relay (only on SPD 24) |
| 3 | + | Positive output terminal |
| 4 | + | Positive output terminal |
| 5 | - | Negative output terminal |
| 6 | - | Negative output terminal |
| 7 | GND | Ground terminal to minimise High frequency emissions |
| 8 | L | Phase input (no polarity with DC input) |
| 9 | N | Neutral input (no polarity with DC input) |
| | Vout ADJ. | Trimmer for fine output voltage adjustment |
| | DC ON | DC output ready LED |

Output Rdy Wiring diagram

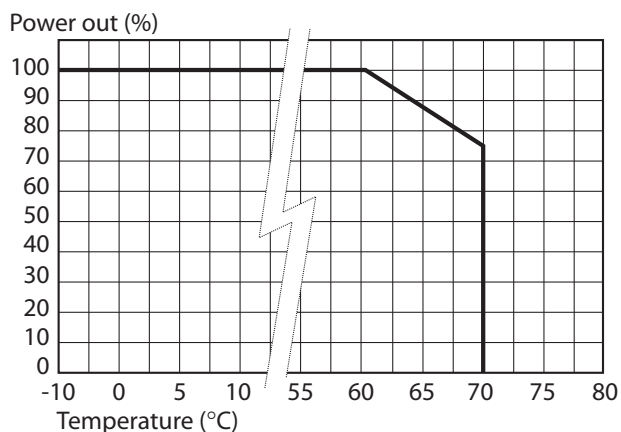


Relay connection diagram

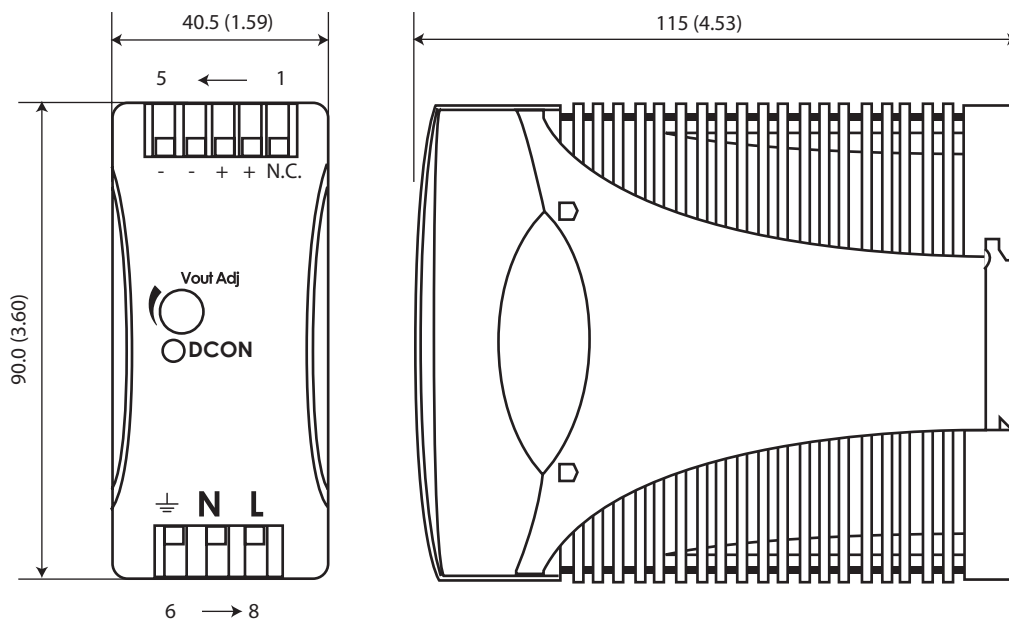


5V signal

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 – 2mm²
 (AWG24-14)
 (use copper conductors only)