



THE DATASHEET OF SPD482401



Switching Power Supply Type SPD 240W 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
- LED indicator for DC power ON
- LED indicator for DC low
- Parallel connection feature
- Compact dimensions
- UL, cUL listed and TUV/CE approved

Product Description

The Switching power supplies and compact dimensions and performance are a must. SPD series are specially designed to be used in all automation application where the installation is on a DIN rail

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 performances

| MODEL NO. | INPUT VOLTAGE | OUTPUT WATTAGE | OUTPUT VOLTAGE | OUTPUT CURRENT | EFF. (min.) | EFF. (typ.) |
|-----------------------------|---------------|----------------|----------------|----------------|-------------|-------------|
| Single Output Models | | | | | | |
| SPD24 | 115~230 VAC | 240 WATTS | + 24 VDC | 10 A | 87% | 89% |
| SPD48 | 115~230 VAC | 240 WATTS | +48 VDC | 5 A | 88% | 90% |

Output data

| | | | |
|--------------------------------------|------------|---|----------------------------|
| Line regulation | ± 0.5% | Hold up time $V_i = 115VAC$ $V_i = 230VAC$ | 25ms 30ms |
| Load regulation | | Voltage fall time ($I_{O\text{nom}}$) | 150ms max |
| V_i nom, Single mode | ± 1 | Rated continuous loading | |
| I_o min, I_o nom parallel mode | ± 5 | 24V Model | 10A @ 24VDC/8.4A @ 28.5VDC |
| Minimum load | 0 | 48V Model | 5A @ 48VDC/4.2A @ 56VDC |
| Turn on time (full resistive load) | | Reverse voltage | |
| V_i nom, I_o nom | 1000ms | 24V Model | 35VDC |
| V_i nom, I_o nom with 7000µF CAP | 1500ms | 48V Model | 63VDC |
| Transient recovery time | 2ms | Capacitor load | 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 |

Input data

| | | | | | |
|----------------------------|-------------------|--------------|--------------------------|------------------|-----|
| Rated input voltage | 115 - 230 | | Power dissipation | | |
| Voltage range | | | (Vi : 230VAC, Io nom) | 24V Model | 35W |
| | AC in 115V | 90 - 132VAC | | 48V Model | 32W |
| | AC in 230V | 180 - 264VDC | Frequency range | 47- 63Hz | |
| | DC in | 210 - 375VDC | Leakage current | | |
| Rated input current | | | Input-Output | 0.25mA | |
| (Vi : 115VAC, Io nom) | Typ. | 4.4/1.6mA | Input-FG | 3.5mA | |
| | Max. | 5.4/2.2mA | | | |
| Inrush current | | | | | |
| | Vi= 115VAC | 30A | | | |
| | Vi= 230VAC | 60A | | | |

Controls and Protections

| | | | |
|---|------------------------------------|--|----------|
| Overload | 120 – 140% | Over voltage protection | 125-140% |
| Input fuse | T6.3/250VAC internal ¹⁾ | Internal surge voltage protection | Varistor |
| Output short circuit | Fold forward | (IEC 61000-4-5) | |
| Power ready output (only SPD 24) | | | |
| Threshold voltages | 17.6 - 19.4VDC | | |

¹⁾ Fuse not replaceable by user

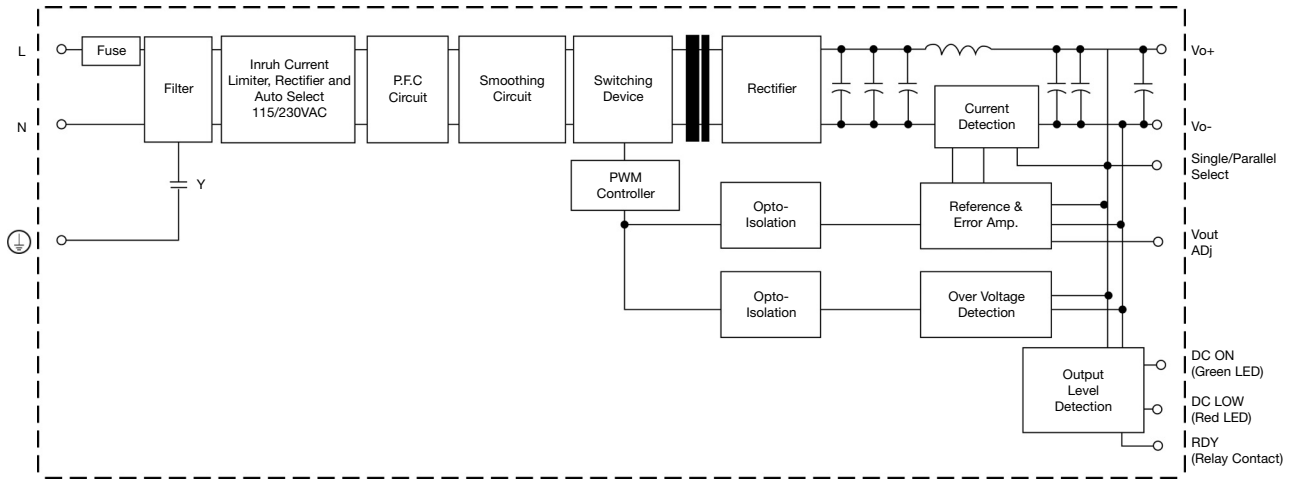
General Data (@ nominal line, full load, 25°C)

| | | | |
|-------------------------------------|---------------------|---|--|
| Ambient temperature | -40°C to 71°C | MTBF (Bellcore issue 6 @ 40°C, GB) | |
| Derating (>61°C to +71°C) | 2.5%/°C | 24V Model | 423000 Hours |
| Ambient humidity | 20 ~ 90%RH | 48V Model | 437000 Hours |
| Storage | -40°C to +85°C | Case material | Metal |
| Protection degree | IP20 | Dimensions LxWxD mm(inch) | |
| Cooling | Free air convection | Screw terminal type | 124.5(4.9) x 83.5(3.29) x 123.6(4.87) |
| Pollution degree | 2 | Detachable connector type | 143.5(5.65) x 83.5(3.29) x 123.6(4.87) |
| | | Weight | 1380g |


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) | CE | EN 61000-6-3, EN 55022 Class B, EN 61000-3-2 ClassD, 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 |
| Shock resistance | meet IEC 60068-2-27 (15G, 11ms, 3 Axis, 6 faces, 3 times for each face) | | |
| UL / cUL | UL508 listed, UL60950-1, recognized, ISA 12.12.01 (Class1, Division 2, Groups A, B, C and D) | | |
| TUV | EN 60950-1, CB scheme EN 61558-1, EN 61558-2-17 (meet EN 60204) | | |
| CCC | GB4943, GB9254, GB17625.1 | | |

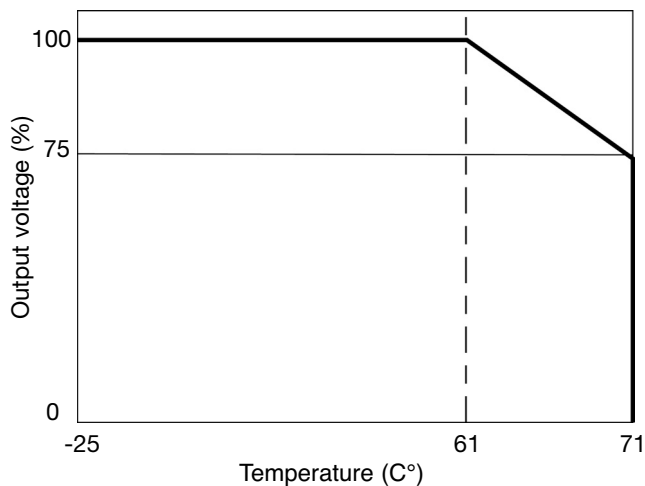
Block diagrams



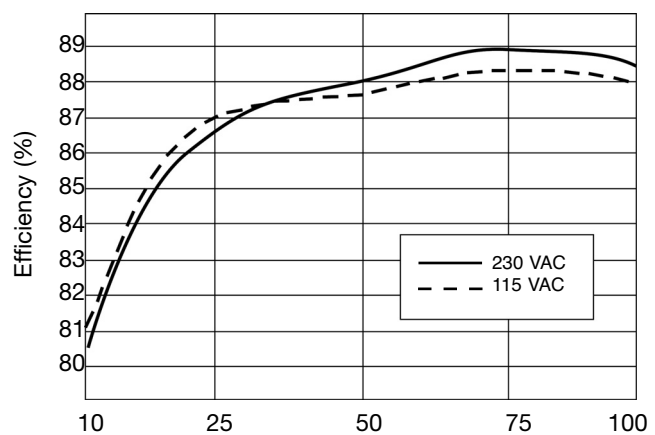
Pin Assignment and Front Controls

| Pin No. | Designation | Description |
|---------|---|--|
| 1 | RDY | A Normal open reley contact for DC ON level control |
| 2 | | (Never connect except 24V model) |
| 3, 4 | V+ | Positive output terminal |
| 5, 6 | V- | Negative output terminal |
| 7 |  | Ground this terminal to minimize high-frquency emission |
| 8 | L | Input terminals (phase conductor, no polarity at DC input) |
| 9 | N | Input terminals (neutral conductor, no polarity at DC input) |
| | DC ON | Operation indicator LED |
| | Vout ADJ | Trimmer-potentiometer for Vout adjustment |
| | S/P | Single/Parallel select switch |

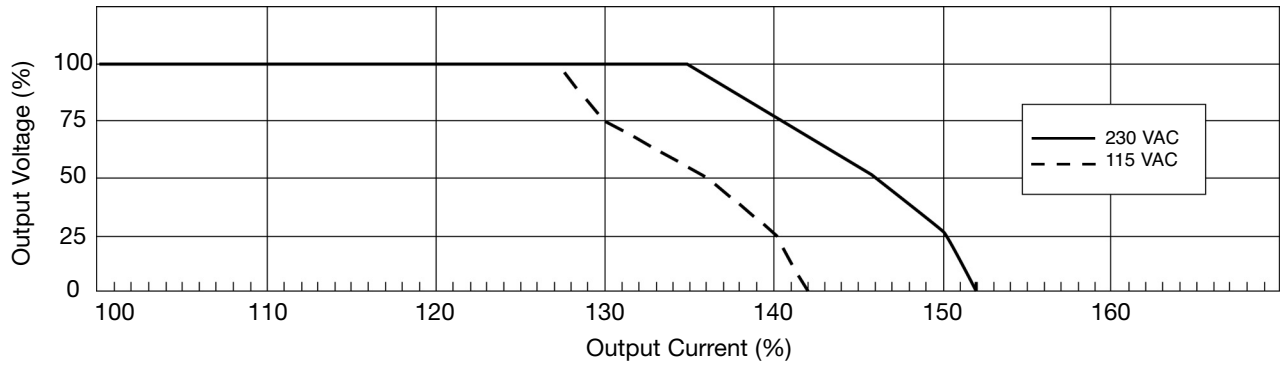
Derating Diagram



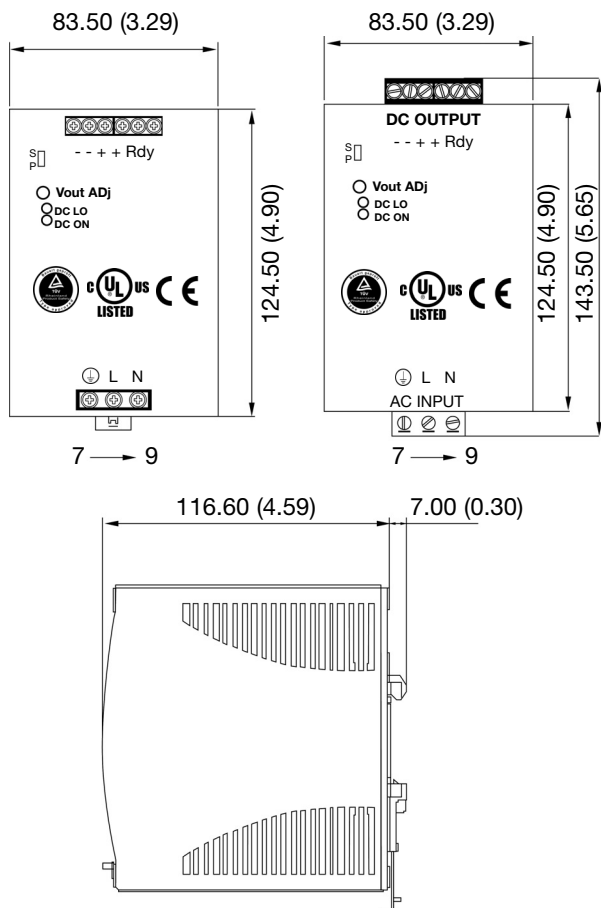
Typ. Efficiency Curve



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) |
| Plug-in connectors | 10-24AWG flexible or solid cable 7mm stripping recommend |
| Max. torque for plug-in terminals | |
| Input terminals | 0.784Nm (7.0lb-in) |
| Output terminals | 0.784Nm (7.0lb-in) |

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