

Switching Power Supply Type SPD 120W New DIN rail mounting



- Installation on DIN Rail 7.5 or 15mm
- Short circuit protection
- PFC standard
- High efficiency
- Power ready output
- LED indicator for DC power ON
- LED indicator for DC low
- Parallel versions standard
- Compact dimensions
- UL, cUL listed and TUV/CE approved
- Class I Div 2 Groups A, B, C, D 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. Then version features PFC and parallel function as standard.

Ordering Key

SP D 24 120 1 B N

Model _____
 Mounting (D = Din rail) _____
 Output voltage _____
 Output power _____
 Input type _____
 Optional features _____
 New Type _____

Input type: 1= single phase

Approvals



Optional Features

| Description | Code |
|-------------------------|------|
| Standard screw terminal | Nil |
| Plug-in connectors | B |

Output Performances

| Model | Rated output Voltage (VDC) | Output Power (W) | Output Current (A) | Voltage Trim Range | | DC ON LED (VDC) Threshold at start-up | | DC LO LED (VDC) Threshold after startup | | Typical Efficiency |
|----------|----------------------------|------------------|--------------------|--------------------|----------|---------------------------------------|------|---|------|--------------------|
| | | | | Min. VDC | Max. VDC | Min. | Max. | Min. | Max. | |
| SPD12120 | 12 | 120 | 10 | 11.4 | 14.5 | 10 | 11.2 | 10 | 11.2 | 84% |
| SPD24120 | 24 | 120 | 5 | 22.5 | 28.5 | 17.6 | 19.4 | 17.6 | 19.4 | 86% |
| SPD48120 | 48 | 120 | 2.5 | 45.0 | 55.0 | 37.0 | 43.0 | 37.0 | 43.0 | 87% |

Output Data

| | | | |
|-------------------------|--------------------------------|---------------------------|--------------|
| Output voltage accuracy | - 0 +1% max (factory adjusted) | Ripple and noise | 50mVpp |
| Line regulation | ± 0.5% | Vi nom, Io nom BW = 20Mhz | 25ms |
| Load regulation | ± 1% | Hold up Time Vi = 115VAC | 30ms |
| Non parallel mode | ± 5% | Hold up time Vi = 230VAC | 0% |
| Parallel mode | ± 5% | Minimum load | 3 units max. |
| Temp. coefficient | ± 0.03% / °C | Parallel Operation | |
| Transient recovery time | 2ms | | |



Input Data

| | | | |
|---|---|--|---------------------------|
| Rated input voltage | 115/230VAC autoselect | Frequency range | 47- 63 Hz |
| Voltage range AC in, 115 AC in, 230 DC in | 90 - 132VAC 180 - 264VAC 210 - 370VDC | Inrush current Vi= 115VAC Vi= 230VAC | 24A 48A |
| Rated input current | 2.2 / 0.83A | P.F.C. Passive 230VAC lo nom | 0.7 |
| Input current 2.8 / 1.4A max | Vi 90 / 180 VAC | Leakage current Input-Output Input-Fg | 0.25mA Max. 3.5mA Max. |

Controls and Protections

| | | | |
|---|-------------------------------------|--|----------------|
| Input Fuse | T3.15/250VAC internal ¹⁾ | Rated Overload Protection Power ready (only SPD 24) | 110 - 145% |
| Overvoltage Protection Vi nom 0.8 Ionom | 30 - 33VDC | Threshold at start up (contact closed) | 17.6 - 19.4VDC |
| Output Short Circuit | Current limited | Contact rating at 60VDC Insulation | 0.3A 500VDC |

¹⁾ Fuse not replaceable by user

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

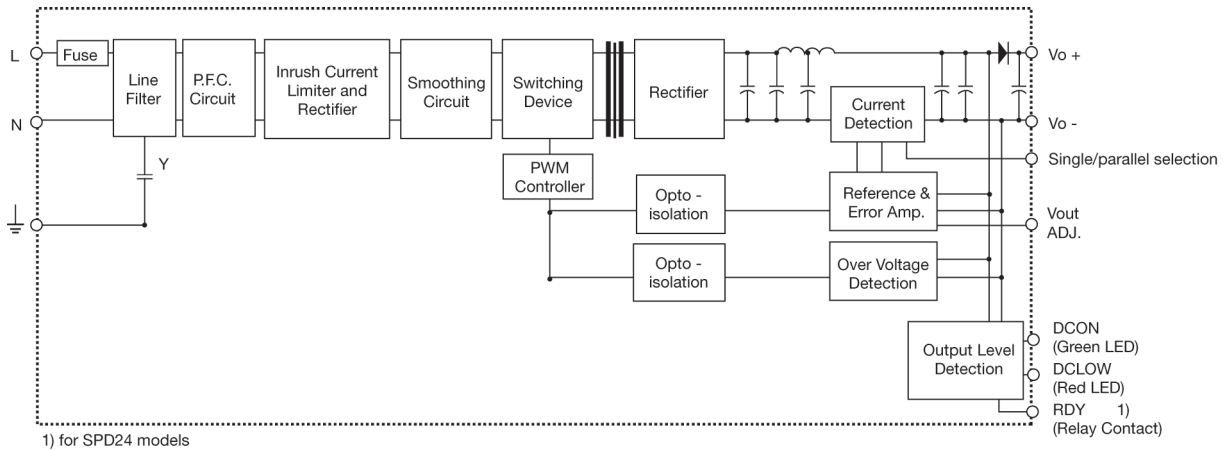
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|-------------------------------------|---------------------|---|--------------------------------------|
| Ambient temperature | -35°C to 71°C | Case material | Metal (powder painted aluminium) |
| Derating (>60°C to +71°C) | 2.5% / °C | Dimensions L x W x D Screw terminal type Detachable connector type | 124.5 x 64 x 126 143.5 x 64 x 126 |
| Ambient humidity | 20 to 95%RH | Weight | 920g |
| Storage temperature | -40°C to +85°C | | |
| Protection degree | IP20 | | |
| Cooling | Free air convection | | |
| Switching frequency | 55kHz | | |
| MTBF (MIL-HDBK-217F) | 450.000h | | |

Approvals and EMC

| | | | |
|---------------------------------|---|-----------|-----------------|
| Insulation voltage I / O | 3.000VAC min | CE | EN50081-1 |
| Insulation resistance | 100MΩ min | | EN55022 class B |
| UL / cUL | UL508 listed, UL60950-1 Recognized | | EN61000-3-2 |
| TUV | EN60950-1 | | EN61000-3-3 |
| ISA | 12.12.01 Class I Div 2 Groups A, B, C, D | | EN61000-6-2 |
| | | | EN61000-6-3 |
| | | | EN55024 |



Block Diagrams



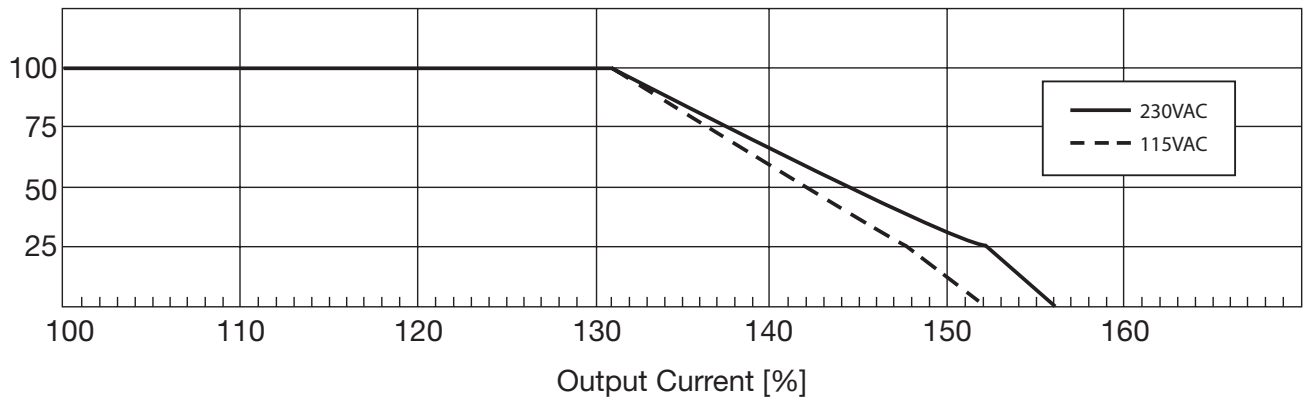
Pin Assignment and Front Controls

| Pin No. | Designation | Description |
|---------|-------------|--|
| 1 | RDY | DC OK, relay normally open contact |
| 2 | RDY | DC OK, relay normally open contact |
| 3 | + | Positive output terminal |
| 4 | + | Positive output terminal |
| 5 | - | Negative output terminal |
| 6 | - | Ground terminal to minimise High frequency emissions |
| 7 | GND | Negative output terminal |
| 8 | L | Phase input (no polarity with DC input) |
| 9 | N | Neutral input (no polarity with DC input) |
| | 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 |

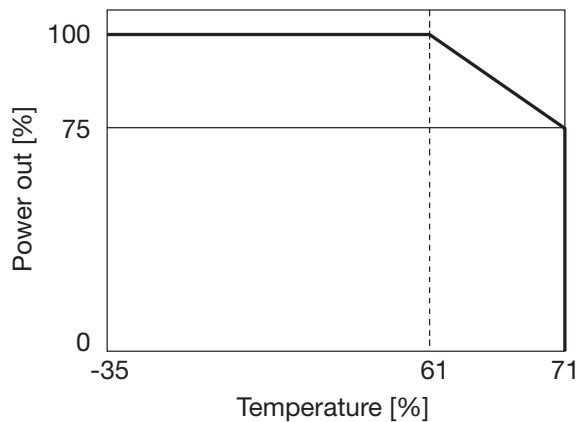
Installation

| | | | |
|---|---|--|---|
| Ventilation and cooling | Normal convection All sides 25mm free space for cooling is recommended | Plug-in connectors | 10-24AWG flexible or solid cable 7mm stripping recommend |
| Screw terminals | 10-24AWG flexible or solid cable 8mm stripping recommend | Max. torque for plug-in terminals | Input terminals Output terminals |
| Max. torque for screws terminals | Input terminals Output terminals | | 0.784Nm (7.0lb-in) 0.784Nm (7.0lb-in) |

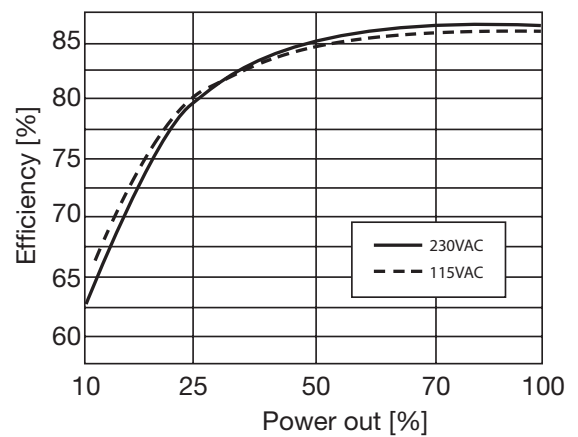
Typ. Current Limited Curve



Derating Diagram



Typ. Efficiency Curve



Mechanical Drawings mm (inches)

