

# Switching Power Supply Type SPD 120W DIN rail mounting

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- Installation on DIN Rail 7.5 or 15mm
- Short circuit protection
- PFC available
- High efficiency
- Power ready output
- LED indicator for DC power ON
- LED indicator for DC low
- Parallel versions available
- 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 24 120 1 BFP**

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     | Bxx  |
| With P.F.C.            | xFx  |
| With Parallel function | xxP  |

## Output performances

| Model | Rated output Voltage (VDC) | Output Current (A) | Voltage Trim Range <sup>1)</sup> |          | DC on LED (VDC) |      | DC low LED (VDC) |      | Typical Efficiency |
|-------|----------------------------|--------------------|----------------------------------|----------|-----------------|------|------------------|------|--------------------|
|       |                            |                    | Min. VDC                         | Max. VDC | Min.            | Max. | Min.             | Max. |                    |
| SPD12 | 12                         | 10                 | 11.4                             | 14.5     | 10              | 11   | 10               | 11.2 | 84%                |
| SPD24 | 24                         | 5                  | 22.5                             | 30       | 21              | 22   | 20.5             | 22.5 | 86%                |
| SPD48 | 48                         | 2.5                | 45                               | 55       | 42              | 44   | 41               | 45   | 87%                |

## Output data

|                         |             |                                           |                        |
|-------------------------|-------------|-------------------------------------------|------------------------|
| Output voltage accuracy | ± 1% max    | Output Voltage accuracy                   | +1% (factory adjusted) |
| Line regulation         | ± 0.5%      | Temperature coefficient                   | ± 0.3%/°C              |
| Load regulation         |             | Hold up Time Vi = 115Vac                  | 25ms                   |
| Non parallel model      | ± 1%        | Hold up time Vi = 230Vac                  | 30ms                   |
| Parallel model          | ± 5%        | Minimum load                              | 5%                     |
| Temp. coefficient       | ± 0.3% / °C | Parallel Operation (only specific models) | 3 units max.           |
| Transient recovery time | 300µs       |                                           |                        |
| Ripple and noise        | 50mVpp      |                                           |                        |

<sup>1)</sup>N.A. on parallel model. Output voltage is fixed in house, cannot be trimmed by user.

Specifications are subject to change without notice



Input data

|                                 |                    |                   |           |
|---------------------------------|--------------------|-------------------|-----------|
| Rated input voltage             | 115/230 selectable | Frequency range   | 47- 63 Hz |
| Voltage range                   |                    | Inrush current    |           |
| AC in, 115 selected             | 93 - 132 Vac       | Vi= 115Vac        | 24A       |
| AC in, 230 selected             | 186 - 264 Vac      | Vi= 230Vac        | 48A       |
| DC in, <i>only 230 selected</i> | 210 - 370 Vdc      | P.F.C. (optional) | 0.7       |

Controls and Protections

|                           |                      |                                         |                |
|---------------------------|----------------------|-----------------------------------------|----------------|
| Input Fuse                | T4A/250Vac internal* | Power ready (only SPD 24)               |                |
| Overvoltage Protection    | 125 – 145%           | Threshold at start up (contact closed)  | 21.1-23.1      |
| Output Short Circuit      | Current limited      | Threshold after start up (contact open) | 20.6-19.0      |
| Rated Overload Protection | 105-125%             | Contact rating at 60Vdc insulation      | 0.3A<br>500Vdc |

\* Not replaceable by user.

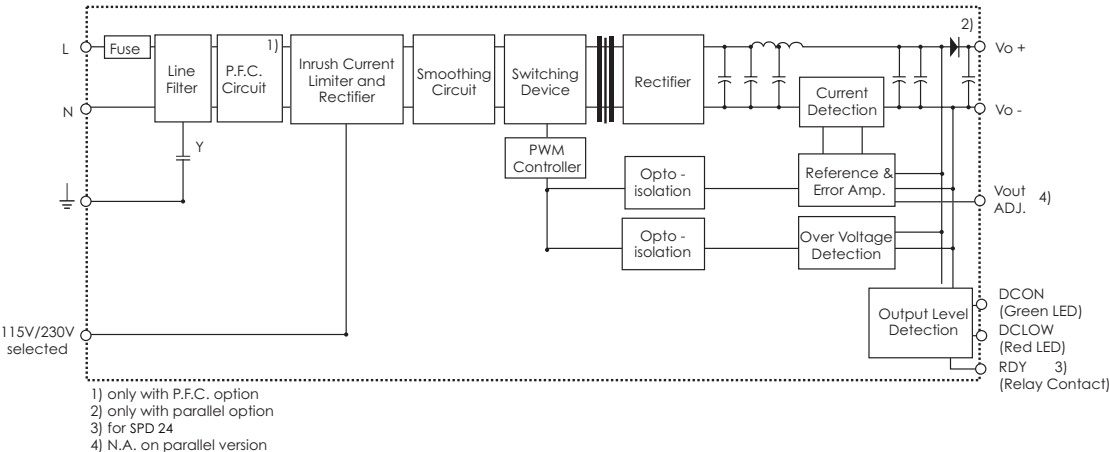
General data (@ nominal line, full load, 25°C )

|                           |                |                      |                                  |
|---------------------------|----------------|----------------------|----------------------------------|
| Ambient temperature       | -10°C to 71°C  | Cooling              | Free air convection              |
| Derating (>60°C to +71°C) | 2.5% / °C      | Switching frequency  | 80kHz                            |
| Ambient humidity          | 20 to 95%RH    | MTBF (MIL-HDBK-217F) | 480.000h                         |
| Storage                   | -25°C to +85°C | Case material        | Metal (powder painted aluminium) |
| Protection degree         | IP20           | Dimensions L x W x D | 125 x 63.5 x 126                 |
|                           |                | Without P.F.C.       | 640g                             |
|                           |                | With P.F.C.          | 860g                             |

Approvals and EMC

|                          |                                     |    |                 |
|--------------------------|-------------------------------------|----|-----------------|
| Insulation voltage I / O | 3.000Vac min                        | CE | EN50081-1       |
| Insulation resistance    | 100Mohm min                         |    | EN55022 class B |
| UL / cUL                 | UL508 listed, UL60950-1, Recognised |    | EN61000-3-2     |
| TUV                      | EN60950                             |    | EN61000-3-3     |
|                          |                                     |    | EN50082-1       |
|                          |                                     |    | EN55024         |

Block diagrams



## Pin assignement and front controls

| Pin No. | Designation       | Description                                          |
|---------|-------------------|------------------------------------------------------|
| 1       | RDY (only SPD 24) | DC OK, relay normally open contact                   |
| 2       | RDY (only SPD 24) | DC OK, relay normally open contact                   |
| 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 )          |
|         | DC ON             | DC output ready LED                                  |
|         | DC LO             | DC low indicator LED                                 |
|         | Vout ADJ.         | Trimmer for fine output voltage adjustment           |
|         | 115/230           | Input voltage selection switch                       |

## Installation

### VENTILATION / COOLING:

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

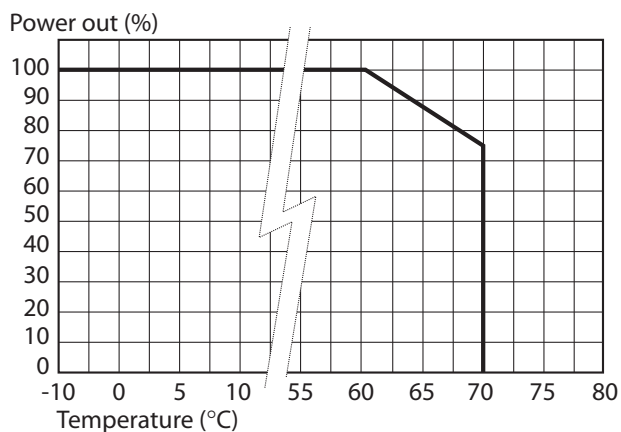
### SCREW CONNECTIONS:

- 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

