

# Switching Power Supply Type SP D 12 120 DIN Rail mounting



- Installation on DIN Rail 7.5 or 15mm
- Short circuit protection
- PFC available
- High efficiency
- 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

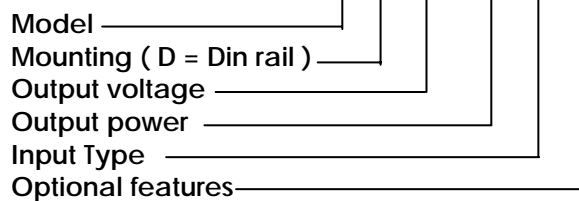
Installation is on a DIN rail and compact dimensions and performance are a must.

## Approvals



## Ordering Key

**SP D 12 120 1 BFP**



Input type : 1= single phase

## Optional Features

| Description            | Code |
|------------------------|------|
| Plug in connectors     | Bxx  |
| With P.F.C.            | xFx  |
| With Parallel function | xxP  |

## Output data

|                        |                 |   |                        |
|------------------------|-----------------|---|------------------------|
| Output nominal voltage | 12Vdc*          | Transient recovery time                       | 300µs                  |
| Current                | 10A             | Ripple and noise                              | 50mVpp                 |
| Output voltage range   | 11.4 to 14.5Vdc | Efficiency typ.                               | 84%                    |
| Line regulation        | ± 0.5%          | Output Voltage accuracy                       | +1% (factory adjusted) |
| Load regulation        |                 | Temperature coefficient                       | ± 0.3%/°C              |
| Non parallel model     | ± 1%            | Hold up Time Vi = 115Vac                      | 25ms                   |
| Parallel model         | ± 5%            | Hold up time Vi = 230Vac                      | 30ms                   |
| DC indicator ON        | 10 – 11Vdc      | Minimum load                                  | 5%                     |
| DC indicator LOW       | 10 – 11.2Vdc    | Parallel Operation<br>( only specific models) | 3 units max.           |

\* 24Vdc and 48Vdc available, see related datasheets

Specifications are subject to change without notice



Vydas International Marketing  
Swan House PBC Lynchborough Rd  
Passfield Hampshire GU30 7SB UK

Tel: 44(0)1428 751822 Fax: 44(0)1428 751833

Email: [info@vydas.co.uk](mailto:info@vydas.co.uk) Web: [www.vydas.co.uk](http://www.vydas.co.uk)



## Input data

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

## Controls and Protections

|                                  |                     |                                    |                      |
|----------------------------------|---------------------|------------------------------------|----------------------|
| <b>Input Fuse</b>                | T4A/250Vac internal | <b>Power ready</b>                 | Not available on 12V |
| <b>Overvoltage protection</b>    | 125 – 145%          | Threshold at start up              |                      |
| <b>Output Short circuit</b>      | Current limit       | Threshold after start up           |                      |
| <b>Rated Overload Protection</b> | 105 – 125%          | Contact rating at 60Vdc insulation |                      |

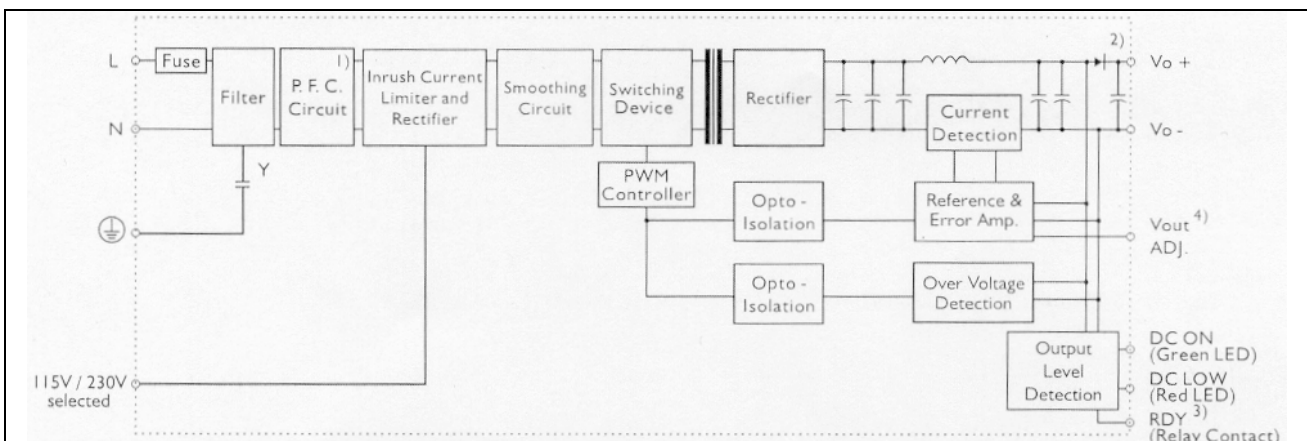
## General data (@ nominal line, full load, 25°C )

|                                     |                |                             |                     |
|-------------------------------------|----------------|-----------------------------|---------------------|
| <b>Ambient temperature</b>          | -10°C to +71°C | <b>Cooling</b>              | Free air convection |
| <b>Case temperature V/I nom</b>     | +90°C          | <b>Switching frequency</b>  | 80kHz               |
| <b>Derating (&gt;60°C to +70°C)</b> | 2.5%/°C        | <b>MTBF (MIL-HDBK-217F)</b> | 200.000h            |
| <b>Ambient humidity</b>             | <95%RH         | <b>Case material</b>        | Metal               |
| <b>Storage</b>                      | -25°C to 85°C  | <b>Dimensions L x W x D</b> | 125 x 63.5 x 126    |
|                                     |                | <b>Weight</b>               |                     |
|                                     |                | Without P.F.C.              | 640g                |
|                                     |                | With P.F.C.                 | 860g                |

## Approvals and EMC

|                                 |                                    |    |                 |
|---------------------------------|------------------------------------|----|-----------------|
| <b>Insulation voltage I / O</b> | 3.000Vac                           | CE | EN50081-1       |
| <b>Insulation resistance</b>    | 100Mohm                            |    | EN50022 Class B |
| <b>UL / cUL</b>                 | UL508 listed, UL60950-1 Recognised |    | EN61000         |
| <b>TUV</b>                      | EN60950                            |    | EN61000-3-2     |
|                                 |                                    |    | EN61000-3-3     |
|                                 |                                    |    | EN50082-1       |
|                                 |                                    |    | EN55024         |

## Block diagram



Specifications are subject to change without notice



## Pin assignement and front controls

| Pin No. | Designation | Description  |
|---------|-------------|--|
| 1       | RDY         | Not connected  |
| 2       | RDY         | Not connected  |
| 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       | Operation LED  |
|         | DC LO       | LOW DC out 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

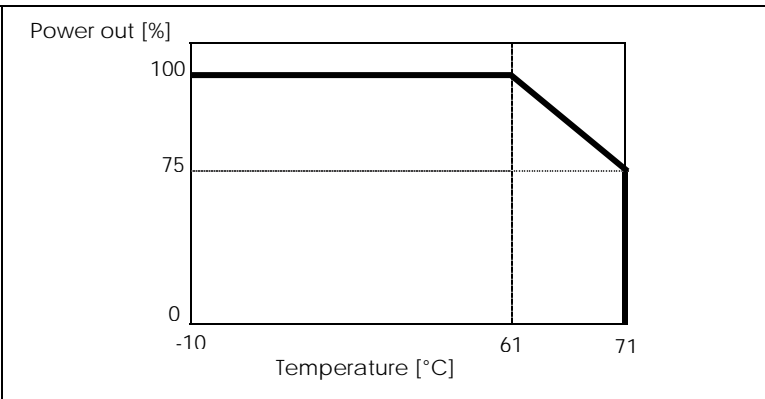
### SCREW CONNECTIONS:

- 10-24AWG Flexible or solid cable. 8mm stripping recommended

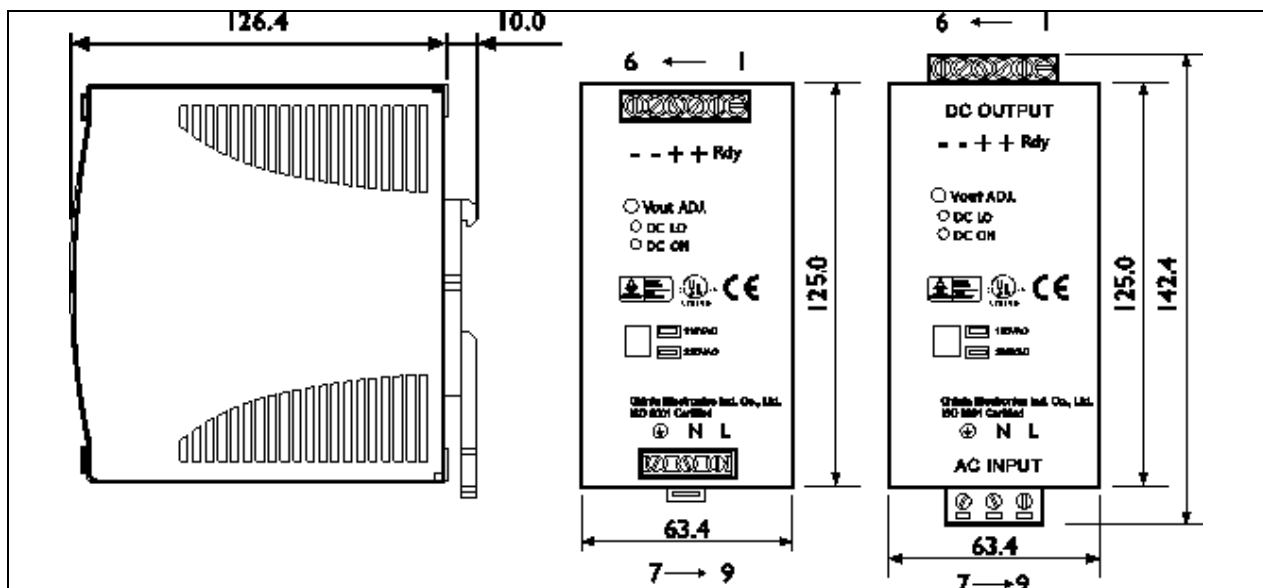
### PLUG IN CONNECTORS:

- 10-24AWG Flexible or solid cable. 7mm stripping recommended

## Derating Diagram



## Mechanical Drawings



Specifications are subject to change without notice