Switching Power Supply
Type SPD 120W
DIN rail mounting

- **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.

Approvals

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

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 Power (W)	Output Current (A)	Voltage Trim Range[1] (VDC)		DC ON LED (VDC) Thereshold at startup		DC LO LED (VDC) Thereshold after startup		Typical Efficiency
				Min.	Max.	Min.	Max.	Min.	Max.	
SPD12	12	120	10	11.4	14.5	10	11	10	11.2	84%
SPD24	24	120	5	22.5	30	21	22	20.5	22.5	86%
SPD48	48	120	2.5	45	55	42	44	41	45	87%

[1] N.A. on parallel model. Output voltage is fixed in house, cannot be trimmed by user.

Output data

Output voltage accuracy	± 1% max
Line regulation	± 0.5%
Load regulation Non parallel model Parallel model	 ± 1% ± 5%
Temp. coefficient	± 0.3% / °C
Transient recovery time	300µs
Ripple and noise	50mVpp

Ouput Voltage accuracy	+1% (factory adjusted)
Temperature coefficient	± 0.3%/°C
Hold up Time Vi = 115VAC **Hold up time Vi = 230VAC**	25ms 30ms
Minimum load	5%
Parallel Operation (only specific models)	3 units max.

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Input data

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

Controls and Protections

Input Fuse	T4A/250VAC internal[2)]	**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 500VDC

[2)] Fuse not replaceable by user

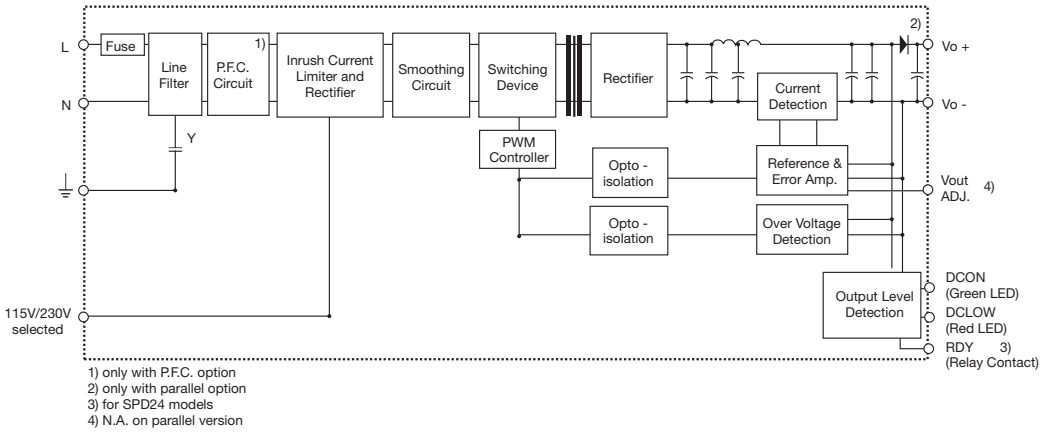
General data (@ nominal line, full load, 25°C)

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

Approvals and EMC

Insulation voltage I / O	3.000VAC min	**CE**	EN50081-1 EN55022 class B EN61000-3-2 EN61000-3-3 EN50082-1 EN55024
Insulation resistance	100MΩ min		
UL / cUL	UL508 listed, UL60950-1, Recognized		
TUV	EN60950		

Block diagrams



1) only with P.F.C. option
2) only with parallel option
3) for SPD24 models
4) N.A. on parallel version

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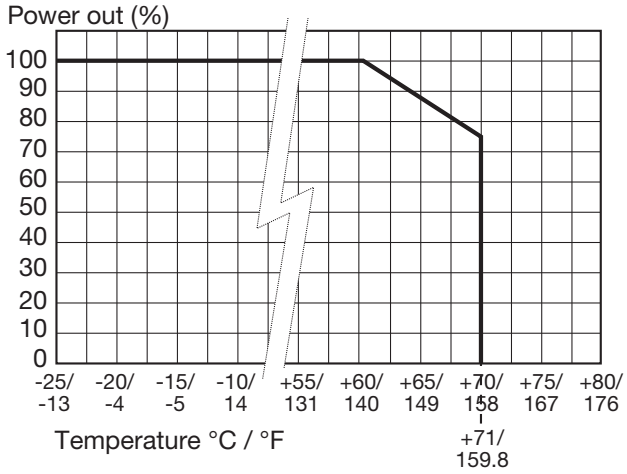
Pin assignement and front controls

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 and cooling	Normal convection All sides 25mm free space for cooling is recommended
Screw terminals	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 terminals	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)

Derating Diagram



Mechanical Drawings mm (inches)