

Switching Power Supply Type SPD 90W DIN rail mounting

CARLO GAVAZZI



- 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
- Model specific to meet UL 1310 class 2
- 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. This version is specifically developed to meet UL1310 class 2.

Ordering Key

SP D 24 90 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
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) Thershold at startup		DC LO LED (VDC) Thershold after startup		Typical Efficiency
				Min. VDC	Max. VDC	Min.	Max.	Min.	Max.	
SPD2490	24	92	3.8	22.5	24.5	17.6	19.4	17.0	19.4	85%

Output data

Output voltage accuracy	-0 +1% max (factory adjusted)	Transient recovery time	300µs
Line regulation	± 0.5%	Ripple and noise	50mVpp
Load regulation		Hold up Time Vi = 115VAC	25ms
Non parallel model	± 1%	Hold up time Vi = 230VAC	30ms
Parallel model	± 5%	Minimum load	0%
Temp. coefficient	± 0.3% / °C	Parallel Operation	No

Input data

Rated input voltage	115/230 autoselect	Rated input current	2.0 / 0.8A
Voltage range		Frequency range	47- 63 Hz
AC in, 115	90 - 132VAC	Inrush current	
AC in, 230	186 - 264VAC	Vi = 115VAC	24A
DC in	210 - 370VDC	Vi = 230VAC	48A
		P.F.C.	0.7

Controls and Protections

Input Fuse	T3.15/250VAC internal ¹⁾	Rated Overload Protection	102 - 108%
Overvoltage Protection	102 - 106%	Power ready	17.6 - 19.4
Output Short Circuit	Current limited	Threshold at start up (contact closed)	0.3A
Rated Overload Protection	110 - 145%	Contact rating at 60VDC Insulation	500VDC

¹⁾ Fuse not replaceable by user

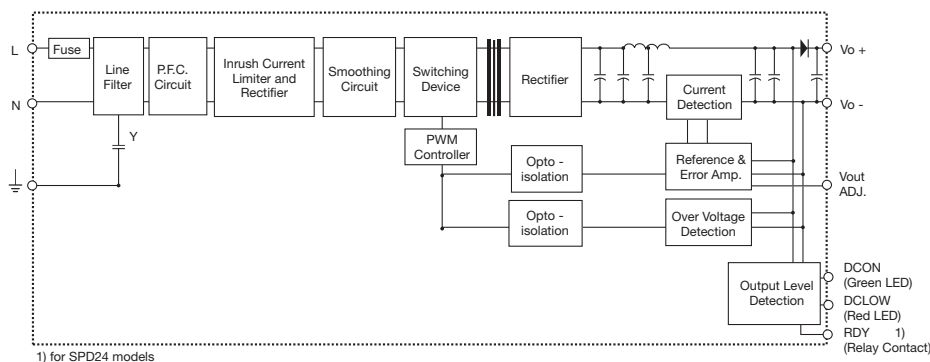
General data (@ nominal line, full load, 25°C)

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	Weight	920g
Cooling	Free air convection		

Approvals and EMC

Insulation voltage I / O	3.000VAC min	CE	EN50081-1 EN55022 class B EN61000-3-2 EN61000-3-3 EN61000-6-2 EN61000-6-3 EN55024
Insulation resistance	100MΩ min		
UL / cUL	UL508 listed, UL60950-1 Recognized UL1310 class 2		
TUV	EN60950-1		

Block diagrams



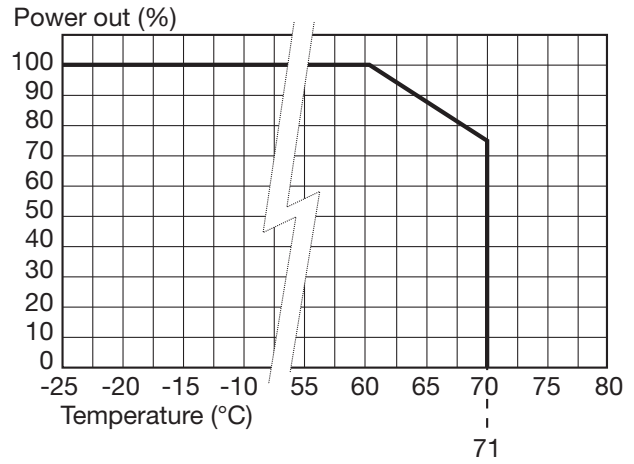
Pin assignment and front controls

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	-	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

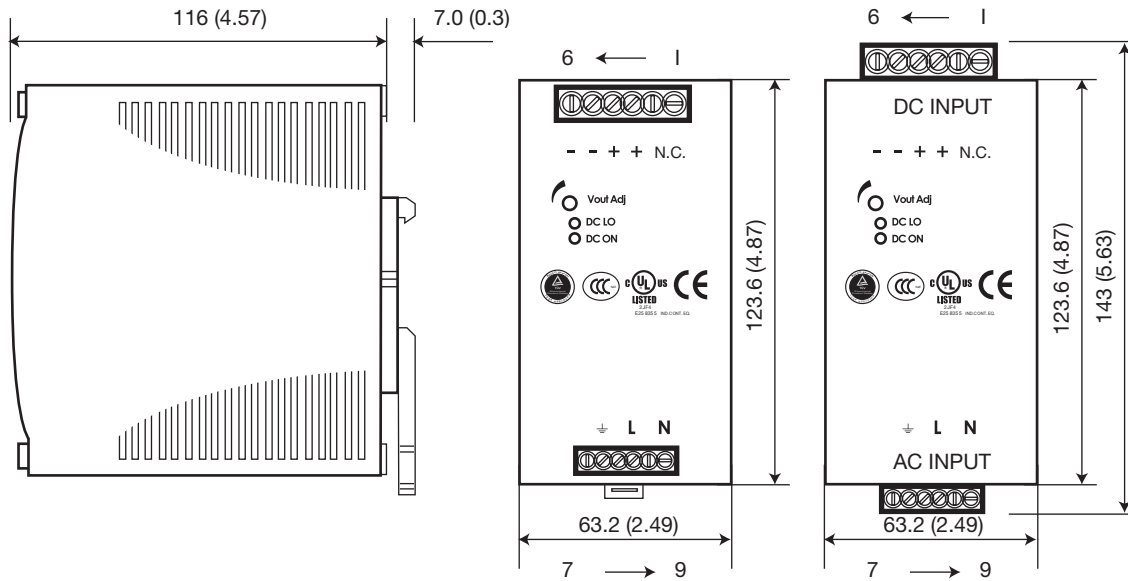
Installation

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 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)

Derating Diagram



Mechanical Drawings mm (inches)



Sense

Switch

Control

Safety

Fieldbus

SPD Switching Power Supplies

CARLO GAVAZZI presents a new range of power supplies especially designed for the automation market. The wide range of supply voltages and DC output voltages/power provide a multitude of choices for all low power electrical or electronic devices commonly used in automatic machinery. Components such as sensors, electromechanical relays, contactors, solid state relays, timers, temperature controllers, PLCs, process controllers, DC motors, solenoids, displays, etc. now have a reliable power source.



Space Optimization



Diagnostic Warning



User Friendly



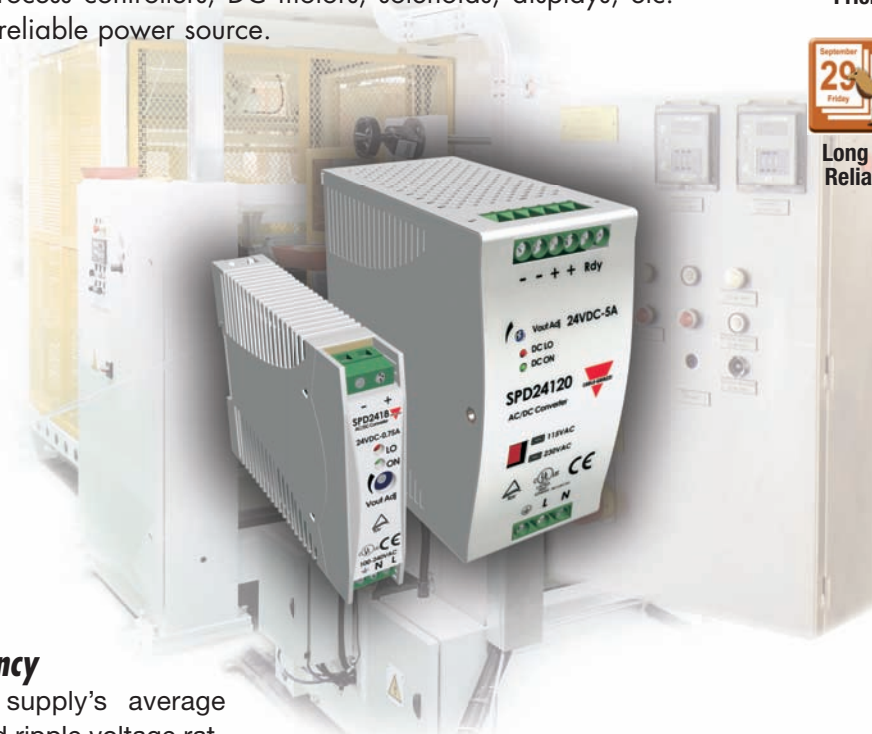
Minimizing Energy Cost



Long Term Reliability



Long Term Reliability



High Efficiency

The power supply's average efficiency and ripple voltage ratings are comparable or better than most power supplies on the market.

Product Range

	5V	12V	15V	24V	48V
SPD 5-10-18W	■	■	■	■	
SPD 30-60W	■	■		■	■
SPD 120W		■		■	■
SPD 240-480W				■	■

Adjustable Output

All models provide a front potentiometer in order to adjust the output voltage. This useful feature can provide a voltage surplus when line voltage losses cause low voltages to the load.

Parallel Connection

Parallel connection is a standard feature with the 240W and 480W versions, and optional on the 120W version.

Visual and Electrical Indications

Models up to 18W are equipped with two front LEDs, which provide a visual indication of the 'Power Out' enabled and 'Low Voltage' on the output. All other sizes are equipped with an LED indication and also with an output 'Power Ready' signal. This signal could be used by other electronic devices or to power an alarm (this feature is only available on 24VDC output versions).

Power Factor Correction (PFC)

The PFC function is a standard feature on the 240W and 480W models and available upon request on the 120W model.

Approvals and Warranty

All SPD Power Supplies are approved according to UL, cUL, TÜV and CE safety standards: UL class 2 recognized and Class B for the emissions according to European standards. They are also RoHS compliant. All models feature a Two Year Warranty.

