

Switching Power Supply

Type SPD 18W

DIN rail mounting

CARLO GAVAZZI



- Universal AC input full range
- Installation on DIN rail 7.5 or 15mm
- Short circuit protection
- Overload protection
- High efficiency
- LED indicator for DC power ON
- LED indication for DC low
- Internal input filter
- CE, TUV approved and cULus Listed

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 18 1 B

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

Input type: 1= single phase

Approvals



Approvals

Description	Code
Spring connectors	B

Output Performances

MODEL NO.	INPUT VOLTAGE	OUTPUT WATTAGE	OUTPUT VOLTAGE	OUTPUT CURRENT	EFF. (min.)	EFF. (typ.)
Single Output Models						
SPD05	90~264 VAC	15 WATTS	+ 5 VDC	3000 mA	73%	75%
SPD12	90~264 VAC	18 WATTS	+ 12 VDC	1500 mA	75%	77%
SPD15	90~264 VAC	18 WATTS	+ 15 VDC	1200 mA	75%	77%
SPD24	90~264 VAC	18 WATTS	+ 24 VDC	750 mA	75%	77%

Output Data

Line regulation	± 1%
Load regulation	±2%
Minimum load	0A
Turn on time (full resistive load)	1000ms
Vi nom, Io nom with 3500µF	1500ms
Transient recovery time	2ms
Ripple and noise	50mVpp
Output voltage accuracy	±1%
Temperature coefficient	±0.03%/°C
Hold up time	
Vi= 115VAC	20ms
Vi=230VAC	75ms
Voltage fall time (I _o nom Vi nom)	150ms max

Rated continuous loading	
5V Model	3A @ 5VDC/2.6A @ 5.75VDC
12V Model	1.5A @ 12VDC/1.3A @ 13.8VDC
15V Model	1.2A @ 15VDC/1.0A @ 17.25VDC
24V Model	0.75A @ 24VDC/0.6A @ 28.8VDC
Reverse voltage	
5V Model	VDC 7.5
12V Model	VDC 18
15V Model	VDC 22
24V Model	VDC 35
Capacitor load	7000µF
Voltage rise time at full resistive load	500ms
VI nom, Io nom with 7000µF	150ms

Input Data

Rated input voltage	100 - 240VAC	Power dissipation	
Voltage range		5V Model	5.0W
AC	90 - 264VAC	12V Model	4.65W
DC	120 - 375VDC	15V Model	4.25W
Rated input current		24V Model	4.45W
(Vi:115VAC, Io nom)	335-500mA	Frequency range	47-63Hz
Voltage range		Leakage current	
Vi=115VAC	10A	Input-Output	0.25mA
Vi=230VAC	18A	Input-FG	3.5mA

Controls and Protection

Overload	110%~140%	Over voltage protection	125 - 145%
Input fuse	T25A/250VAC internal ¹⁾	Internal surge voltage protection	Varistor
Output short circuit	Hiccup mode		

1) Fuse not replaceable by user

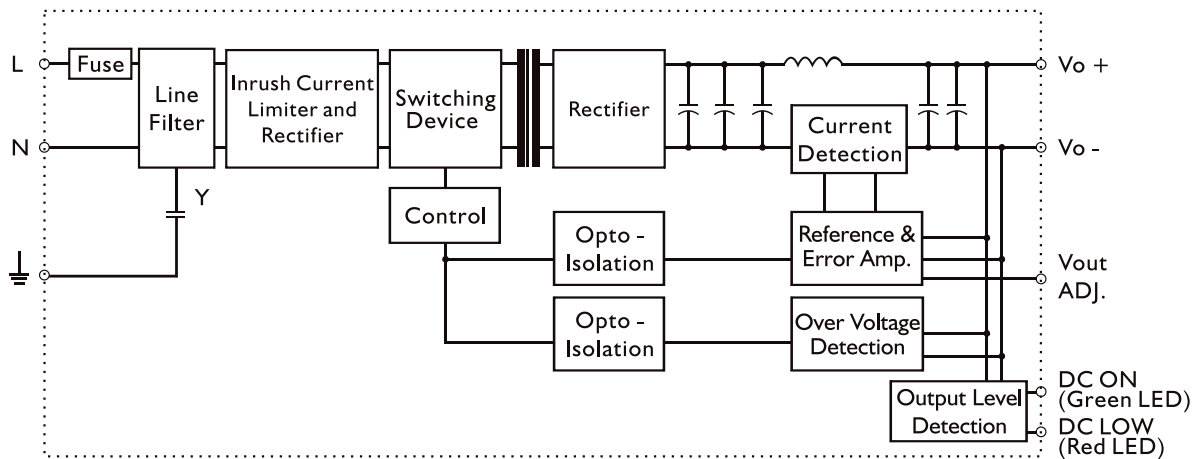
General Data (@ nominal line, full load, 25°C)

Ambient temperature	-20°C to +71°C	MTB	
Derating (>61°C to +71°C)	2.5%/C	5V Model	795000 Hours
Ambient humidity	20 - 95% RH	12V Model	797000 Hours
Storage	-25°C to +85°C	15V Model	796000 Hours
Protection degree	IP20	24V Model	800000 Hours
Cooling	Free air convection	Case material	Plastic: PC, UL94-V0
Insulation voltage		Pollution degree	2
Input-Output	3.000VAC/4242VDC min	Altitude	2000 m
Input-FG	1.500VAC/2121VDC min	Dimensions LxWxD mm(inch)	90(3.60)x22.5(0.89)x114(4.49)
Insulation resistance I/O	100MΩ min (@ 500VDC)	Weight	150 g

Norms and Standard

Vibration resistance	meet IEC 60068-2-6 (Mounting by rail: 10-500Hz, 2G, along X, Y, Z each Axis, 60 min for each Axis)	CE	EN 61000-6-3, EN 55022 Class B, EN 61000-3-2, EN 61000-3-3, EN 61000-6-2, EN 55024, EN 61000-4-2 Level 4, EN 61000-4-3 Level 3, EN 61000-4-4 Level 4, EN 61000-4-5 L-Level 3, L/N-FG Level 4, EN 61000-4-6 Level 3, EN 61000-4-8 Level 4, EN 61000-4-11, ENV 50204 Level 2, EN 61204-3
Shock resistance	meet IEC 60068-2-27 (15G, 11ms, 3 Axis, 6 faces, 3 times for each face)		
UL/cUL	UL508 listed, UL60950-1, UL1310 Class 2 Power (only 5V, 12V w/o Class 2) Recognized, ISA 12.12.01 (Class 1, Division 2, Groups A, B, C and D)		
TUV	EN 60950-1, CB scheme		
CCC	Available upon request		

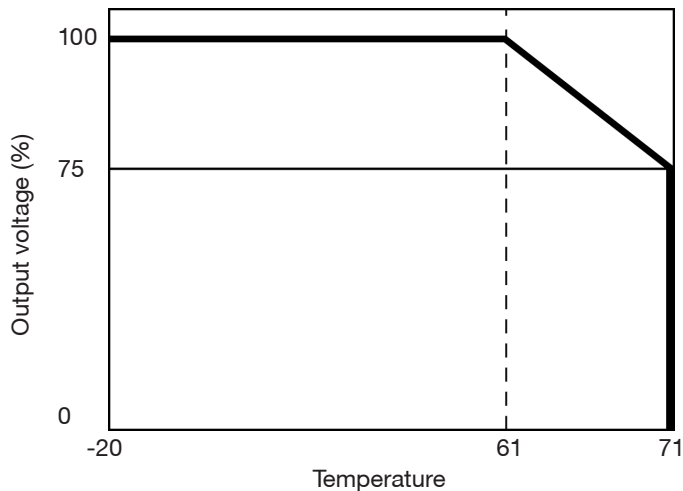
Block Diagram



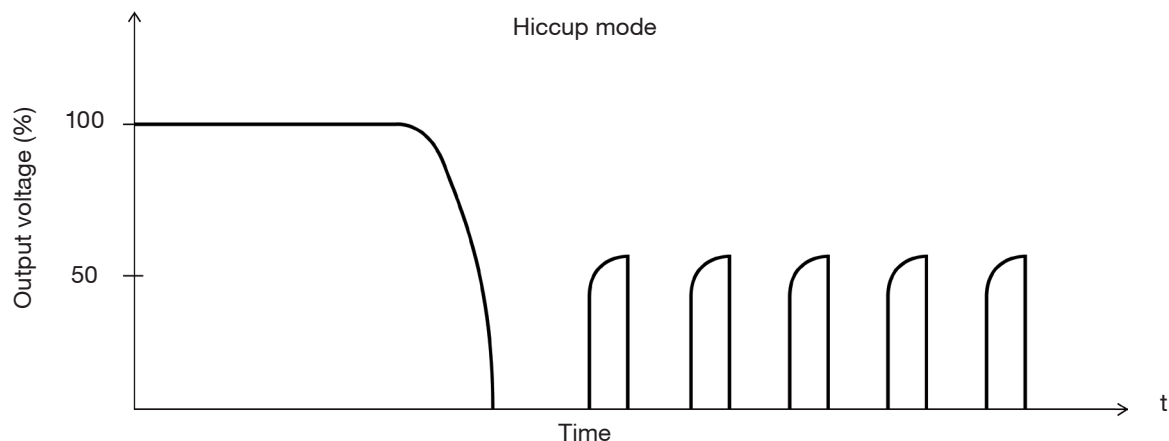
Pin Assignment and Front Controls

Pin No.	Designation	Description
1	V+	Positive output terminal
2	V-	Negative output terminal
3		Ground this terminal to minimize high-frequency emission
4	N	Input terminals (neutral conductor, no polarity at DC input)
5	L	Input terminals (phase conductor, no polarity at DC input)
	ON	Operation indicator LED
	LO	DC LOW indicator LED
	Vout ADJ.	Trimmer-potentiometer for Vout adjustment

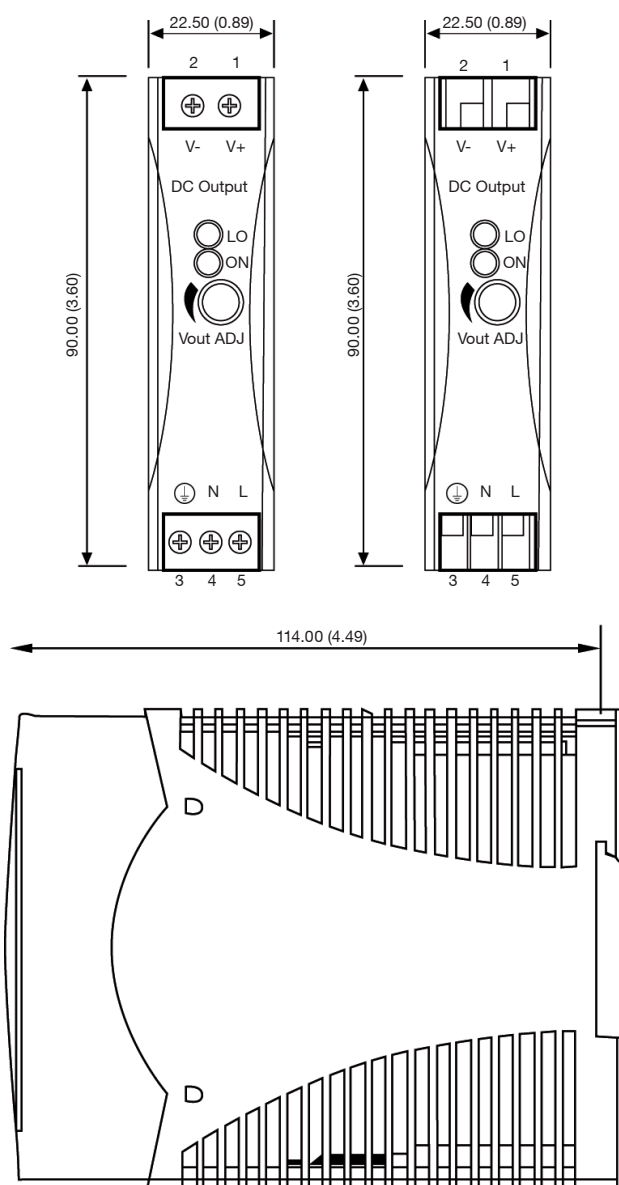
Derating Diagram



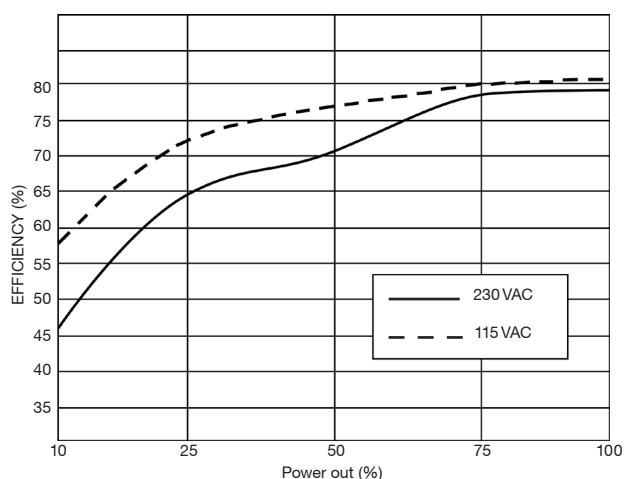
Typ. Current Limited Curve



Mechanical Drawings mm (inches)



Typ. Efficiency Curve



Installation

Ventilation and cooling

Normal convection
All sides 25mm free space
for cooling is recommended

Connector size range Spring terminal

AWG24-14 (0.2~2mm²)
flexible/solid cable, 10mm
stripping at cable and
recommends use copper
conductors only, 60/75°C

Screw terminal

AWG26-12 (0.2~2.5mm²)
flexible/solid cable, con nector
can withstand torque at max
0.56Nm (5 lbs-in). 4~5 mm
stripping at cable and recom
mends use copper conductors
monly, 60/75°C

Max. torque for terminal

Input terminal 0.56Nm (5.0lb-in)
Output terminal 0.56Nm (5.0lb-in)

General tolerance mm(in.)

0.00 (0.00) ÷ 30.00 (1.18) ±0.30 (0.01)
30.00 (1.18) ÷ 120.00 (4.72) ±0.50 (0.02)