

Switching Power Supply

Type SPDM 30

DIN Rail Mounting

CARLO GAVAZZI



- Universal input 85~264Vac
- Short circuit protection
- Internal input filter
- High efficiency up to 86%
- High average efficiency meets ErP 2009/125/EC
- Low standby power consumption
- 3 years warranty

Product Description

The Switching power supplies SPDM 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. In particular the SPDM Series power supplies are significantly smaller than the

standard power supplies of the same power. The greater compactness is achieved thanks to limited energy loss, that automatically generates greater effectiveness. This specific SPDM Series 30W Power supplies are available with 12VDC or 24VDC Output Voltage, with spring or screw terminals.

Ordering Key

SP D M 12 30 1 B

Model _____
 Mounting (D = Din rail) _____
 Medium Width _____
 Output voltage _____
 Size _____
 Input type _____
 Spring terminal (Nil= Screw terminal) _____

Approvals



Output Performance

Model NO.	Output voltage	Output wattage	Output current	Eff. (Min.)	Eff. (Typ.)	Eff. (avg)
SPDM1230	+12VDC	24 Watt	2A	83%	85%	83%
SPDM2430	+24VDC	30 Watt	1.25A	84%	86%	85%

Output Data

All specifications are at nominal values, full load, 25°C (77°F) unless otherwise noted

Ripple & noise		Hold up time	
Vi nom, lo nom, BW=20MHz	100mV	Vi: 115/230VAC, lo nom	20 / 50ms
Minimum load Vi nom	0%	Transient recovery time	
Voltage accuracy		Vi nom 1~0.5 lo nom	2ms
lo nom, lo max	+1%	Power back immunity	
Line regulation		Vi nom, lo nom	
Vi nom, Vi min. ... Vi max.	±1%	1 second 12V	22VDC
Load regulation		24V	35VDC
Vi nom, lo min. ... lo nom.	±1%	Capacitor load	
Voltage trim range		Vi nom, lo nom	3500µF
Vi nom,		DC ON indicator threshold	
0.8 lo nom 12V	11.4 ~ 15.6V	at start up (Green LED)	
24V	22.5 ~ 28.5V	Vi nom, lo nom 12V	9.6 ~ 10.8VDC
Rated continuous loading		24V	19.2 ~ 21.6VDC
Vi nom 12V	2A@12VDC/1.6A@15VDC	Efficiency	
24V	1.25A@24VDC/1A@28.5VDC	Vi nom, lo nom Po / Pi	Up to 86%, see model list and typ efficiency curve
Turn on time			
Vi nom, lo nom	1000ms		

Input Data All specifications are at nominal values, full load, 25°C (77°F) unless otherwise noted

Rated input voltage lo nom	100VAC min 240VAC max	Leakage current	
Voltage range		Input-Output	0.25mA
AC in	85 ~ 264VAC	Input-FG	3.5mA
DC in	120 ~ 375VDC	Rated input current	
Line frequency		Vi: 85VAC, lo nom	800 mA
Vi nom, lo nom	47 - 63Hz	Power dissipation	
AC Current (max.)		Vi: 230VAC, lo nom 12V	4.9W
Vi: 115VAC	335mA	24V	5.7W
Vi: 230VAC	210mA	Standby power consumption	
Inrush current		Vi nom, IO=0A	0.3W
Vi: 115/230VAC, lo nom	20/40A		

Controls and Protections All specifications are at nominal values, full load, 25°C (77°F) unless otherwise noted

Over load		Output short circuit	Hiccup mode
Vi nom (see typ current limited curve)	140%	Input fuse	T2A / 250VAC internal
Over voltage		Internal surge voltage protection	
Vi nom, 0.8 lo nom (auto recovery)		IEC 61000-4-5	Varistor
12V	16.2 ~ 18VDC	Degree of protection	IP20
24V	28.8 ~ 32.4VDC		

General Data All specifications are at nominal values, full load, 25°C (77°F) unless otherwise noted

Operating temperature		Switching frequency	
Operating at Vi nom	-25 ~ +71°C (-13 ~ 159.8°F)	Vi nom, lo nom	65KHz
Ambient humidity		Insulation voltage	
Vi nom, lo nom	20 ~ 95% RH	Input - Output	3000 / 4242VAC / VDC
Storage temperature		Input - FG	1500 / 2121VAC / VDC
Non operational	-40 ~ +85°C (-40 ~ 185°F)	Output - FG	500 / 710VAC / VDC
MTBF		Insulation resistance	
Bellcore issue 6@40°C, GB		Input - Output, @500VDC	100MΩ
12V	721000 Hours	Derating (see diagram)	
24V	764000 Hours	Vi nom, from +51°C (123°F)	2.5%/°K
Cooling method	Free air convection	Temperature coefficient	
Dimensions HxDxW	90 x 100 x 22.5mm (3.54" x 3.937" x 0.885")	Vi nom, lo min	±0.03%/°K
Weight	140g (0.308lb)	Altitude during operation	
Packing		EN60950-1	5000m AMSL (16,400ft)
Single	150g (0.633lb)	Pollution degree	2
Carton	56pcs 10kg (22.04lb) 2.16CUFT	Case material	Plastic



Norms and Standard All specifications are at nominal values, full load, 25°C (77°F) unless otherwise noted

UL / cUL	UL508 Listed	Vibration resistance	Meets IEC 60068-2-6 Mounting on rail: 10-500 Hz, 2G, along X, Y, Z each Axis, 60 min for each Axis)
UL1310	Class 2 (pending)	Shock resistance	Meets IEC 60068-2-27 (15G, 11ms, 3Axis, 6Faces, 3 times for each Face)
cTUVus	UL60950-1		
TUV	EN60950-1		
CE	EN61000-6-3, EN55022 Class B, EN61000-3-2, EN61000-3-3 EN61000-6-2, EN55024, EN61000-4-2 Level 4, EN61000-4-3 Level 3, EN61000-4-4 Level 4, EN61000-4-5 L-N Level 3.L/N- FG Level 4, EN61000-4-6 Level 3, EN61000-4-8 Level 4, EN691000-4-11, ENV 50204 Level 2, EN61204-3		

Block Diagram

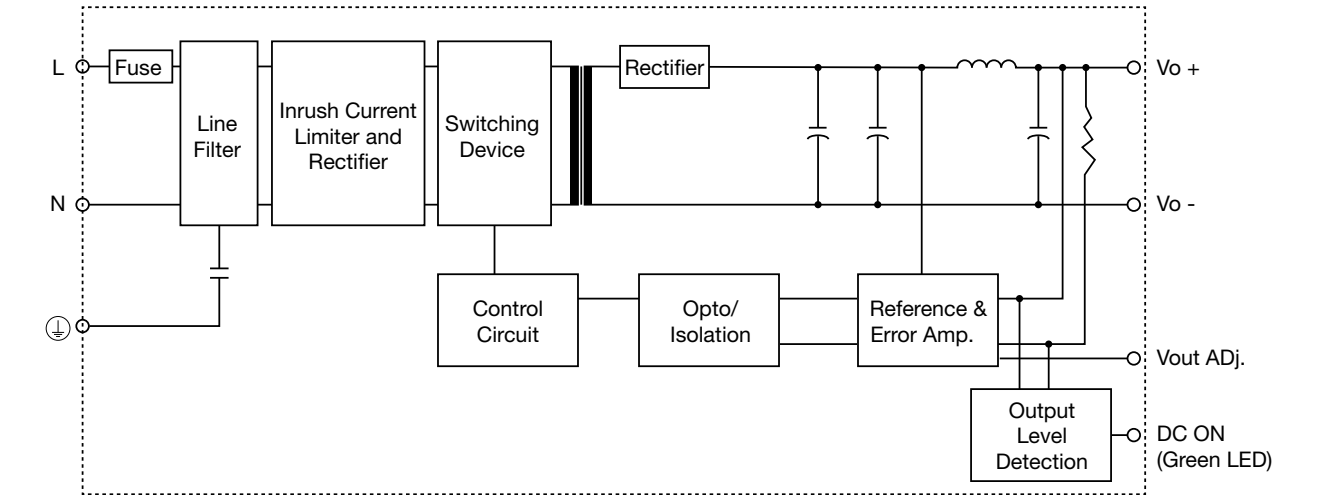
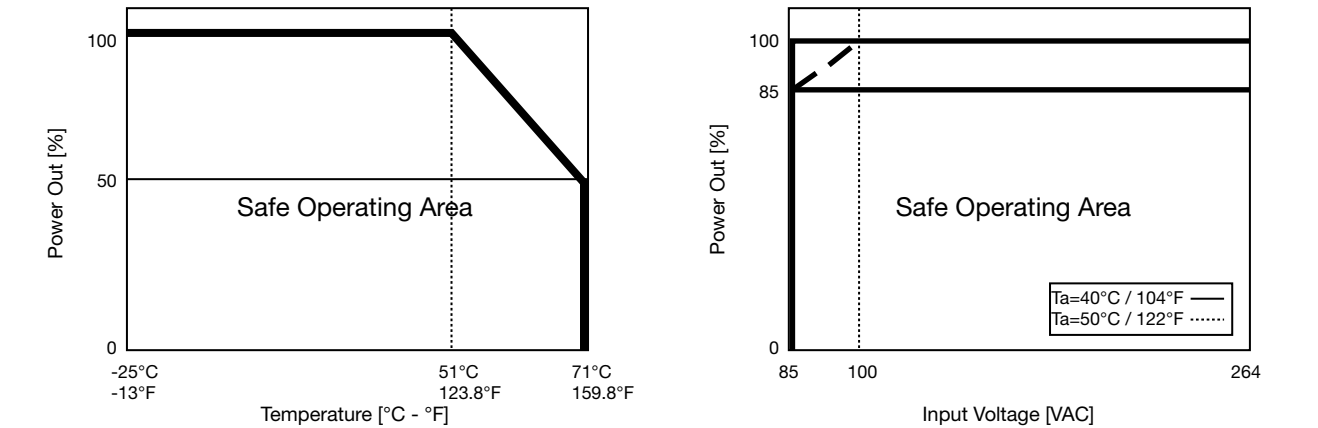
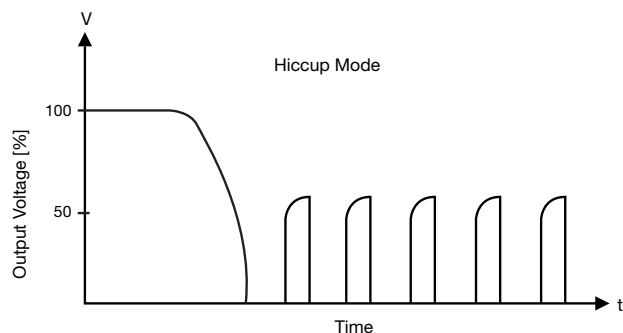


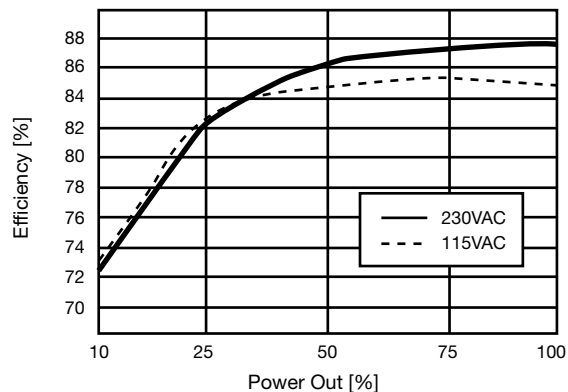
Diagram Curve



Typ. Current Limited Curve



Typ. Efficiency Curve



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 emissions
4	N	Input terminals (neutral conductor, no polarity with DC input)
5	L	Input terminals (phase conductor, no polarity with DC input)
	DC ON	Operation indicator LED
	Vout Adj.	Trimmer-potentiometer for Vout adjustment

Mechanical Drawings mm (inches)

