

Switching Power Supply Type SPDM 50 DIN Rail Mounting

CARLO GAVAZZI



- Universal input 85~264Vac
- Short circuit protection
- Internal input filter
- High efficiency up to 87%
- 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 50W Power supplies are available with 12VDC or 24VDC Output Voltage, with spring or screw terminals.

Ordering Key

SP D M 12 50 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)
SPDM1250	+12VDC	48 Watt	4A	84%	86%	87%
SPDM2450	+24VDC	50 Watt	2.1A	85%	87%	87%

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

Ripple & noise Vi nom, lo nom, BW=20MHz	100mV	Hold up time Vi: 115/230VAC, lo nom	20 / 50ms
Minimum load Vi nom	0%	Transient recovery time Vi nom 1~0.5 lo nom	2ms
Voltage accuracy lo nom, lo max	+1%	Power back immunity Vi nom, lo nom	1 second 12V 22VDC 24V 35VDC
Line regulation Vi nom, Vi min. ... Vi max.	±1%	Capacitor load Vi nom, lo nom	3500µF
Load regulation Vi nom, lo min. ... lo nom.	±1%	DC ON indicator threshold at start up (Green LED)	12V 9.6 ~ 10.8VDC 24V 19.2 ~ 21.6VDC
Voltage trim range 0.8 lo nom 12V 11.4 ~ 15.6V 24V 22.5 ~ 28.5V		Efficiency Vi nom, lo nom Po / Pi	Up to 87%, see model list and typ efficiency curve
Rated continuous loading Vi nom 12V 4A@12VDC/1.6A@15VDC 24V 2.1A@24VDC/1A@28.5VDC			
Turn on time Vi nom, lo nom 1000ms Vi nom, lo nom with 3500 µF CAP 1500ms			

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 (max.)	
Line frequency		Vi: 85VAC, lo nom	1400 mA
Vi nom, lo nom	47 / 63Hz	Power dissipation	
AC Current (typ.)		Vi: 230VAC, lo nom 12V	8.0W
Vi: 115VAC	1000mA	24V	8.8W
Vi: 230VAC	500mA	Standby power consumption	
Inrush current		Vi nom, IO=0A	0.3W
Vi: 115/230VAC, lo nom	30 / 60A		

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)	150%	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	556000 Hours	Derating (see diagram)	
24V	580000 Hours	Vi nom, from +51°C (123°F)	2.5%/°K
Cooling method	Free air convection	Temperature coefficient	
Dimensions HxDxW		Vi nom, lo min	±0.03%/°K
	90 x 100 x 30mm (3.54" x 3.937" x 1.181")	Altitude during operation	
Weight	200g (0.441lb)	EN60950-1	5000m AMSL (16,400ft)
Packing		Pollution degree	2
Single	220g (0,485lb)	Case material	Plastic
Carton	48pcs 12kg (26.45lb) 2.16CUFT		



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)		
cTUVus	UL60950-1	Shock resistance	Meets IEC 60068-2-27 (15G, 11ms, 3Axis, 6Faces, 3 times for each Face)
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

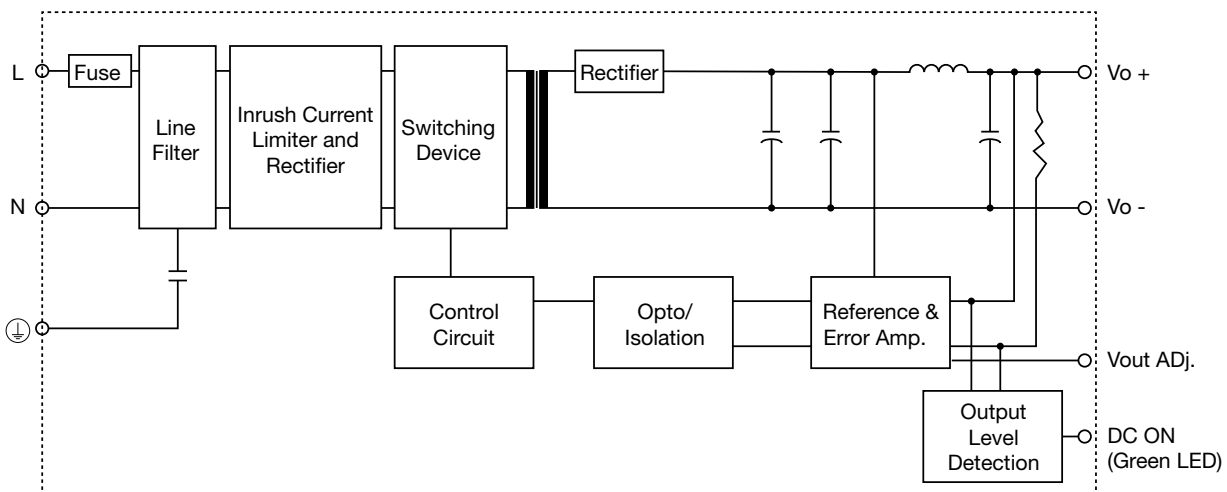
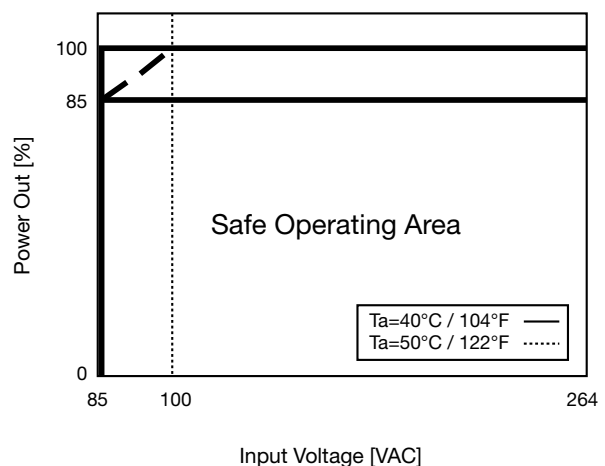
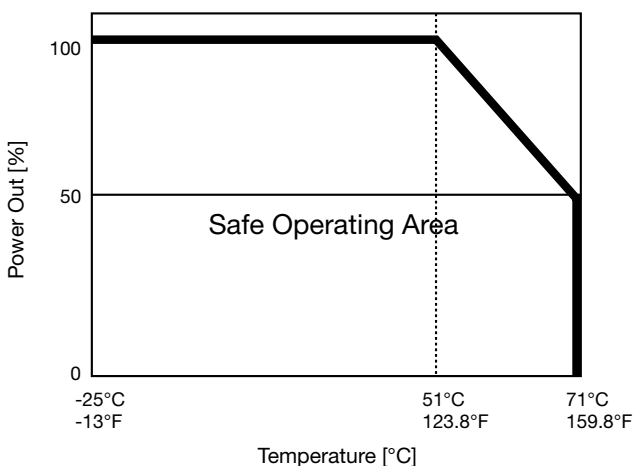
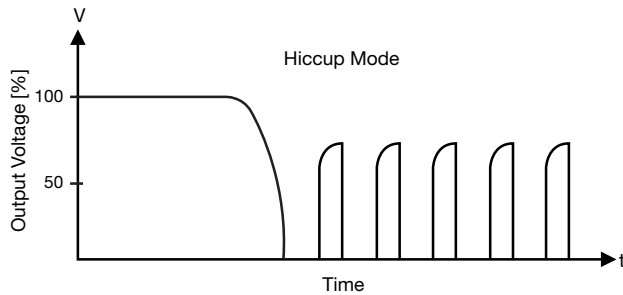


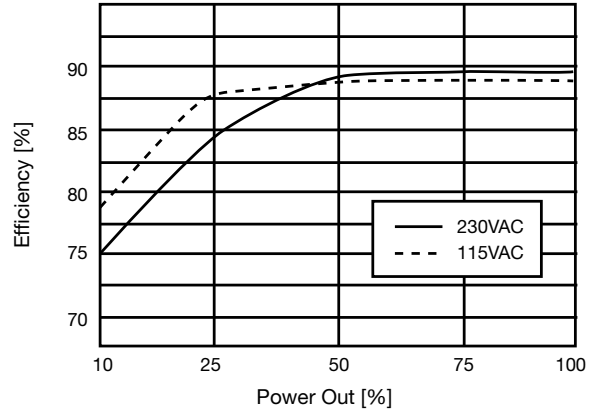
Diagram Curve



Typ. Current Limited Curve



Typ. Efficiency Curve



Pin Assignment and Front Controls

PIN NO.	Designation	Description
1, 2	V+	Positive output terminal
3, 4	V-	Negative output terminal
5	⊕	Ground this terminal to minimize high frequency emissions
6	N	Input terminals (neutral conductor, no polarity with DC input)
7	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)

