

Modular Switching Power Supply Type SPM 3 DIN Rail Mounting

CARLO GAVAZZI



- Single DIN module
- Universal input 90/264VAC – 120/370VDC
- High efficiency up to 83%
- Short circuit protection
- Overload protection
- Internal input filter
- LOW voltage LED indicator
- UL Class 2 Output

Product Description

SPM Modular switching power supplies are specifically designed in order to satisfy both the Automation and the Building automation application requirements. The three DIN modules PS is capable of up to 30W of output power. Its high efficiency prevents excess of heat in the installation place.

Ordering Key

SPM 3 - 24 1

Series _____
Number of DIN modules _____
Output Voltage _____
Phases (only single phase) _____

Approvals



Class 2

Output Performances

Model	Input Voltage VAC	Output Power (W)	Output Voltage VDC	Current (A)	Typical Efficiency
SPM3-051	90~264	15	5	3.0	74%
SPM3-121	90~264	25	12	2.1	82%
SPM3-151	90~264	30	15	2.0	83%
SPM3-241	90~264	30	24	1.3	83%

Output Data

Line regulation	1% max.		Transient recovery time (50% load step changed)	1ms	
Load regulation	1%		DC ON indicator	Min.	Max.
Output Voltage accuracy	±1%		5V Model	3VDC	-
Ripple and Noise	50mV		12V Model	9VDC	-
Temperature Coefficient	±0.02%/°C (±0.0112%/°F)		15V Model	11VDC	-
Hold up time			24V Model	20VDC	-
Vi = 115VAC	25ms		DC LOW indicator	Min.	Max.
Vi = 230VAC	100ms		5V Model	3.2VDC	3.7VDC
Minimum load	0%		12V Model	8.8VDC	9.3VDC
Voltage trim range	Min.	Max.	15V Model	12VDC	12.5VDC
5V Model	5VDC	5.5VDC	24V Model	21.5VDC	22VDC
12V Model	12VDC	14VDC	Short circuit alarm	Beep sound	
15V Model	13.5VDC	16.5VDC			
24V Model	24VDC	28VDC			

Input Data

Rated input voltage	100/240VAC
Voltage range AC in DC in	90 - 264 VAC 120 - 370 VDC
Line frequency	47 - 63Hz
Inrush current Vi= 115VAC Vi= 230VAC	Typ: 20A Max: 25A Typ: 40A Max: 50A

¹⁾ Fuse not replaceable by user

Controls and Protections

Input Fuse	T2A/250VAC internal ¹⁾
Output Short Circuit	Fold forward
Rated Overload Protection	110-150%

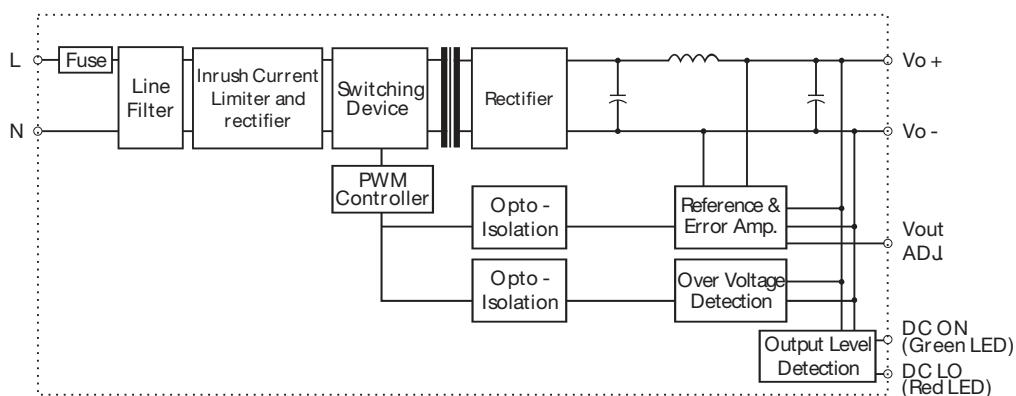
General Data (@ nominal line, full load, 25°C)

Insulation voltage	3.000VAC	Cooling	Free air convection
Insulation resistance	100MΩ	Case material	Plastic (PC-UL94-V0)
Ambient temperature	-25°C to 71°C (-13°F to 159.8°F)	MTBF	
Derating (>61°C to +71°C)	2.5%/°C (1.4%/°F)	SPM3-051	737000
Ambient humidity	90%RH	SPM3-121	735000
Storage temperature	-25°C to 85°C (-13°F to 185°F)	SPM3-151	779000
Dimensions		SPM3-241	778000
L x W x D mm	91 x 52 x 55.5	Weight	185g
L x W x D inches	3.582 x 2.047 x 2.185	Protection degree	IP20

Approvals

UL / cUL file: E258355 file: E258395	UL508 listed, UL1310 Class 2 power supply, file: E258396 UL60950-1 Recognized	CE	EN61000-6-3, EN55022 class B, EN61000-3-2, EN61000-3-3, EN61000-6-2, EN55024, EN61000-4-2, EN61000-4-3, EN61000-4-4, EN61000-4-5, EN61000-4-6, EN61000-4-8, EN61000-4-11
TUV	EN60950-1		

Block Diagrams





Pin Assignment and Front Controls

Pin No.	Designation	Description
1	+	Positive output terminal
2	+	Positive output terminal
3	-	Negative output terminal
4	-	Negative output terminal
5	L	Input terminal (phase conductor, no polarity @ DC input)
6	N	Input terminal (neutral conductor, no polarity @ DC input)
P1	Vout Adj.	Trimmer-potentiometer for Vout adjustment
LED1	DC ON	Operation indicator LED
LED2	DC LO	DC LOW indicator LED

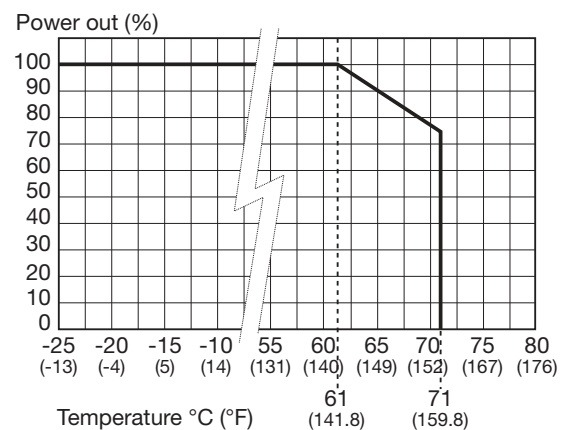
Installation

Ventilation and cooling	Normal convection. All sides 25mm free space for cooling is recommended
Screw terminals	24-12 AWG flexible or solid cable (user copper conductors only)
Max. torque for terminals	0.56Nm (5.0lb-in)
Input terminals	0.56Nm (5.0lb-in)
Output terminals	0.56Nm (5.0lb-in)

Construction

Easy snap-on mounting onto the DIN-Rail (TS35/7.5 or TS35/15), unit sits safely and firmly on the rail; no tools required even to remove.

Derating Diagram



Mechanical Drawings (mm)

