

Modular Switching Power Supply

Type SPM 5

DIN rail mounting

CARLO GAVAZZI



- Single DIN module
- Universal input 90/264VAC – 120/370VDC
- High efficiency up to 89%
- Short circuit protection
- Overload protection
- Internal input filter
- LOW voltage LED indicator
- UL Class 2 Output (only 91W version)

Product Description

SPM Modular switching power supplies are specifically designed in order to satisfy both the Automation and the Building automation application requirements. The five DIN modules PS is capable of up to 10W of output power. Its high efficiency prevents excess of heat in the installation place.

Ordering Key

SPM 5 - 24 1

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

Approvals



* only SPM5-241S

Output performances

Model	Input Voltage	Output Power	Output Voltage	Current	Typical Efficiency
SPM5-051	90~264Vac	60W	5Vdc	12.0A	80%
SPM5-121	90~264Vac	72W	12Vdc	6.0A	86%
SPM5-151	90~264Vac	75W	15Vdc	5.0A	86%
SPM5-241	90~264Vac	100W	24Vdc	4.2A	89%
SPM5-241S	90~264Vac	91W	24Vdc	3.8A	89%

Output data

Line regulation	1% max.	
Load regulation	1%	
Output Voltage accuracy	±1%	
Ripple and Noise	50mV	
Temperature Coefficient	±0.02%/°C (±0.0112/°F)	
Hold up time	Vi = 115Vac	5V & 12V: 16ms
	Vi = 230Vac	15V & 24V: 10ms
Minimum load	0%	
Voltage trim range	Min.	Max.
5V	5Vdc	5.5Vdc
12V	12Vdc	14Vdc
15V	13.5Vdc	16.5Vdc
24V & 24V S	24Vdc	28Vdc

Transient recovery time (50% load step changed)	1ms	
DC ON indicator	Min.	Max.
5V	3Vdc	-
12V	9Vdc	-
15V	13Vdc	-
24V & 24V S	18Vdc	-
DC LOW indicator	Min.	Max.
5V	3.2Vdc	3.7Vdc
12V	8.8Vdc	9.3Vdc
15V	12Vdc	12.5Vdc
24V & 24V S	18Vdc	19Vdc



Input data

Rated input voltage	100/240VAC
Voltage range	
AC in	90 - 264 Vac
DC in	120 - 370 Vdc
Line frequency	47 - 63Hz
Inrush current	
Vi= 115Vac	Typ: 25A Max: 30A
Vi= 230Vac	Typ: 40A Max: 60A

* Not replaceable by user

Controls and Protections

Input Fuse	T2A/250Vac internal*
Output Short Circuit	Fold forward
Rated Overload Protection	
5V, 12V, 15V & 24V	110-150%
24V S	102-108%

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

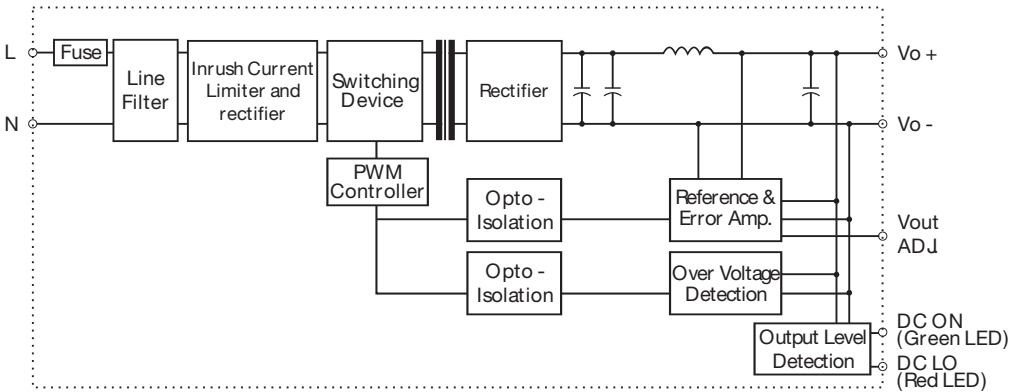
Insulation voltage	3.000Vac	Cooling	Free air convection
Insulation resistance	100MΩ	Case material	Plastic (PC-UL94-V0)
Ambient temperature	-25°C to 71°C (-13°F to 159.8°F)	Weight	320g
Derating (>61°C to +71°C)*	2.5%/°C (1.4%/°F)	Protection degree	IP20
Ambient humidity	90%RH		
Storage temperature	-25°C to +85°C (-13°F to 195°F)		
Dimensions L x W x D mm	91 x 90.0 x 55.5		
L x W x D inches	3.582 x 3.543 x 2.185		

SPM5-051 derating starts from 56°C (132.8°F)

Approvals

UL / cUL	file: E258355 file: E258395 file: E258396	UL508 listed, UL1310 Class 2 power supply, (only 24V S model), 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 assignement 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 LOW	DC LOW indicator LED

Installation

VENTILATION / COOLING:

- Normal air convection
- 25mm of free space along all sides to allow good cooling

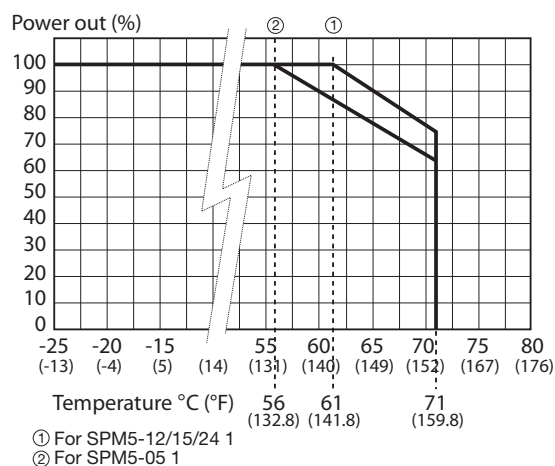
CONNECTOR SIZE RANGE:

- Solid: 0.2-2.0,mm² (AWG24-14)
(user copper conductors only)

Construction

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

Derating Diagram



Mechanical Drawings

