

# 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 15V & 24V: 10ms	
	Vi = 230Vac	60ms	
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

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

\* Not replaceable by user

## Controls and Protections

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

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

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

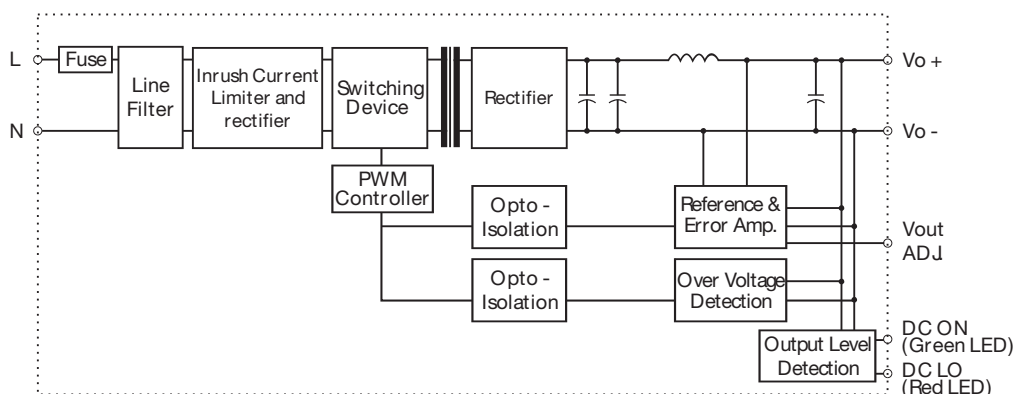
SPM5-051 derating starts from 56°C (132.8°F)

## Approvals

<b>UL / cUL</b>	file: E258355 file: E258395 file: E258396	UL508 listed, UL1310 Class 2 power supply, (only 24V S model), UL60950-1 Recognized
<b>TUV</b>		EN60950-1

<b>CE</b>	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
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## 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

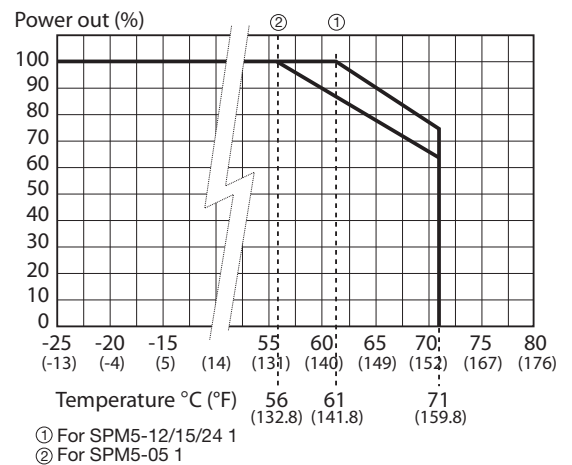
### CONNECTOR SIZE RANGE:

- Solid: 0.2-2.0,mm<sup>2</sup> (AWG24-14)  
(user copper conductors only)

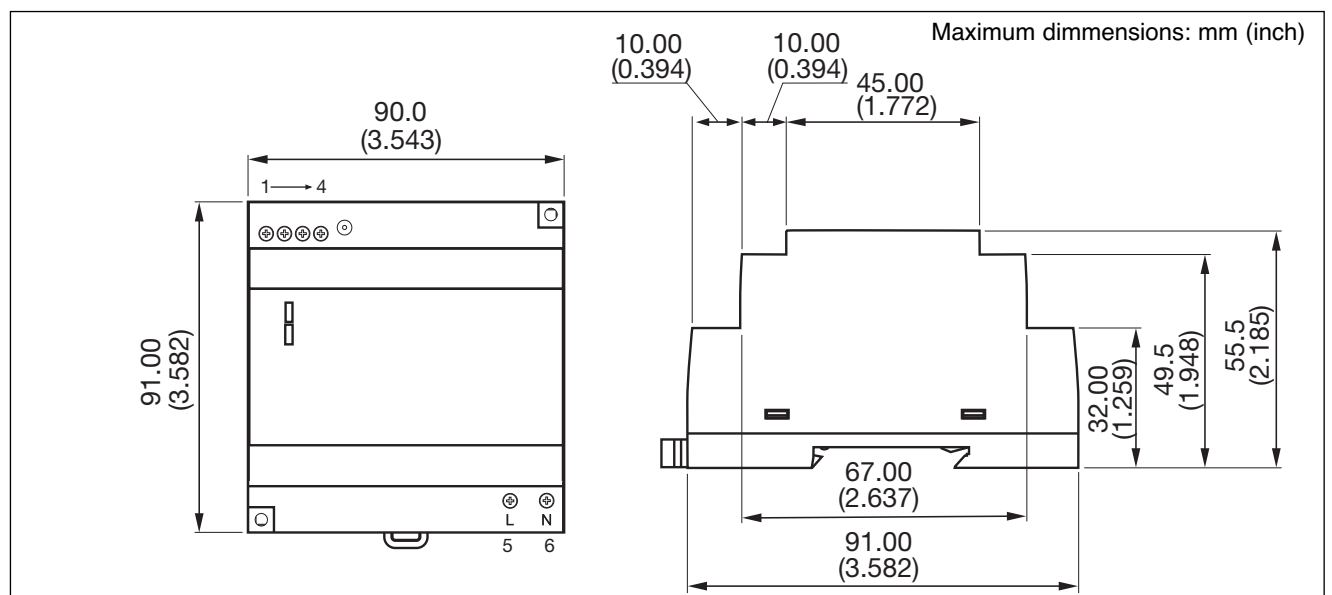
## Construction

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



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