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# Modular Switching Power Supply Type SPM 1 DIN rail mounting

CARLO GAVAZZI



- Single DIN module
- Universal input 90/264VAC – 120/370VDC
- High efficiency up to 80%
- 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 single DIN module PS is capable of up to 10W of output power. Its high efficiency prevents excess of heat in the installation place.

## Ordering Key

**SPM 1 - 24 1**

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

## Approvals



## Output performances

Model	Input Voltage	Output Power	Output Voltage	Current	Typical Efficiency
SPM1-051	90~264Vac	7.5W	5Vdc	1.50A	74%
SPM1-121	90~264Vac	10W	12Vdc	0.83A	78%
SPM1-151	90~264Vac	10W	15Vdc	0.67A	78%
SPM1-241	90~264Vac	10W	24Vdc	0.42A	80%

## Output data

Line regulation	1% max.	DC ON indicator	Min.	Max.
Load regulation	1%		5V	3Vdc
Output Voltage accuracy	±1%	12V	9Vdc	-
Ripple and Noise	50mV	15V	11Vdc	-
Temperature Coefficient	±0.02%/°C (±0.0112%/°F)	24V	20Vdc	-
Hold up time	Vi = 115Vac	DC LOW indicator	Min.	Max.
			5V and 12V: 10ms	5V
	Vi = 230Vac	12V	8.8Vdc	9.3Vdc
Minimum load	0%	15V	12Vdc	12.5Vdc
Transient recovery time (50% load step changed)	1ms	24V	21.5Vdc	22Vdc



## 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: 10A Max: 15A
Vi= 230Vac	Typ: 20A Max: 30A

\* Not replaceable by user

## Controls and Protections

<b>Input Fuse</b>	T1A/250Vac internal*
<b>Output Short Circuit</b>	Fold forward
<b>Rated Overload Protection</b>	110-160%

## 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>	60g
<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 185°F)		
<b>Dimensions L x W x D mm</b>	91 x 18 x 55.5		
<b>Dimensions L x W x D inches</b>	3.582 x 0.709 x 2.185		

## Approvals

**UL / cUL** file: E258355  
 file: E258395  
 file: E258396

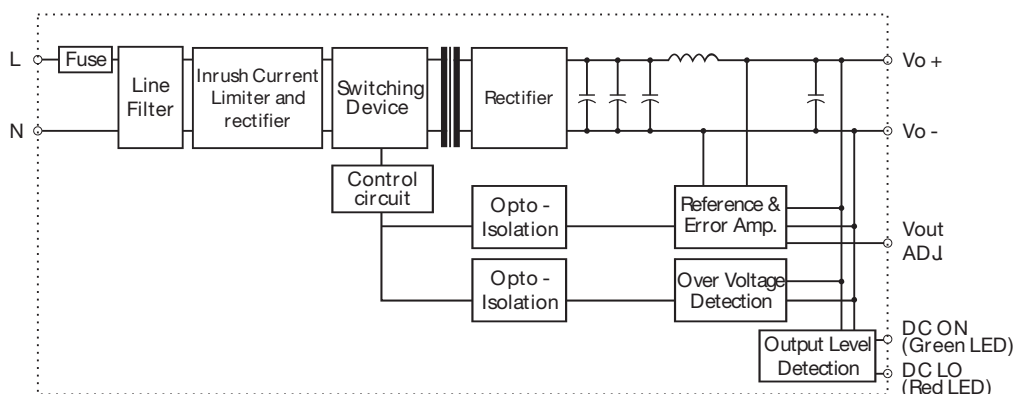
UL508 listed,  
 UL1310 Class 2 power supply,  
 UL60950-1 Recognized

**CE**

**TUV** EN60950-1

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

## Block diagrams



## Pin assignement and front controls

Pin No.	Designation	Description
1	+	Positive output terminal
2	-	Negative output terminal
3	L	Input terminal (phase conductor, no polarity @ DC input)
4	N	Input terminal (neutral conductor, no polarity @ DC input)
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

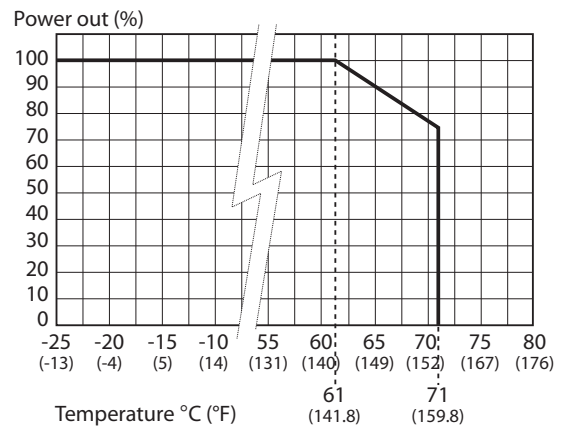
### CONNECTOR SIZE RANGE:

- 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 (mm)

