# Modular Switching Power Supply
# Type SPM 3
# DIN rail mounting


- **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

c UL us LISTED Class 2

## Output performances

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

## 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** | 25ms | |
| | **Vi = 230Vac** | 100ms | |
| **Minimum load** | | 0% | |
| **Voltage trim range** | | **Min.** | **Max.** |
| | **5V** | 5Vdc | 5.5Vdc |
| | **12V** | 12Vdc | 14Vdc |
| | **15V** | 13.5Vdc | 16.5Vdc |
| | **24V** | 24Vdc | 28Vdc |

| | | |
|---|---|---|
| **Transient recovery time** (50% load step changed) | 1ms | |
| **DC ON indicator** | **Min.** | **Max.** |
| **5V** | 3Vdc | - |
| **12V** | 9Vdc | - |
| **15V** | 11Vdc | - |
| **24V** | 20Vdc | - |
| **DC LOW indicator** | **Min.** | **Max.** |
| **5V** | 3.2Vdc | 3.7Vdc |
| **12V** | 8.8Vdc | 9.3Vdc |
| **15V** | 12Vdc | 12.5Vdc |
| **24V** | 21.5Vdc | 22Vdc |

## 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: 20A Max: 25A |
| Vi= 230Vac | Typ: 40A Max: 50A |

* Not replaceable by user

## Controls and Protections

| | |
|---|---|
| **Input Fuse** | T2A/250Vac internal* |
| **Output Short Circuit** | Fold forward |
| **Rated Overload Protection** | 110-150% |

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

| | | |
|---|---|---|
| **Insulation voltage** | | 3.000Vac |
| **Insulation resistance** | | 100MΩ |
| **Ambient temperature** | | -25°C to 71°C (-13°F to 159.8°F) |
| **Derating (>61°C to +71°C)** | | 2.5%/°C (1.4%/°F) |
| **Ambient humidity** | | 90%RH |
| **Storage temperature** | | -25°C to 85°C (-13°F to 185°F) |
| **Dimensions** | **L x W x D mm** | 91 x 52 x 55.5 |
| | **L x W x D inches** | 3.582 x 2.047 x 2.185 |

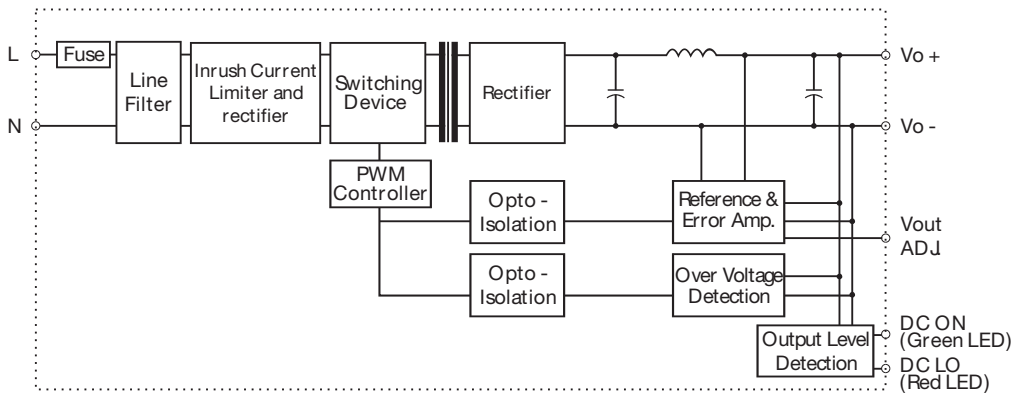
| | |
|---|---|
| **Cooling** | Free air convection |
| **Case material** | Plastic (PC-UL94-V0) |
| **Weight** | 185g |
| **Protection degree** | IP20 |

## Approvals

| | | |
|---|---|---|
| **UL / cUL** | file: E258355<br>file: E258395<br>file: E258396 | UL508 listed,<br>UL1310 Class 2 power supply,<br>UL60950-1 Recognized |
| **TUV** | | EN60950-1 |

| | |
|---|---|
| **CE** | EN61000-6-3,<br>EN55022 class B,<br>EN61000-3-2,<br>EN61000-3-3,<br>EN61000-6-2, EN55024,<br>EN61000-4-2, EN61000-4-3,<br>EN61000-4-4, EN61000-4-5,<br>EN61000-4-6, EN61000-4-8,<br>EN61000-4-11 |

## 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

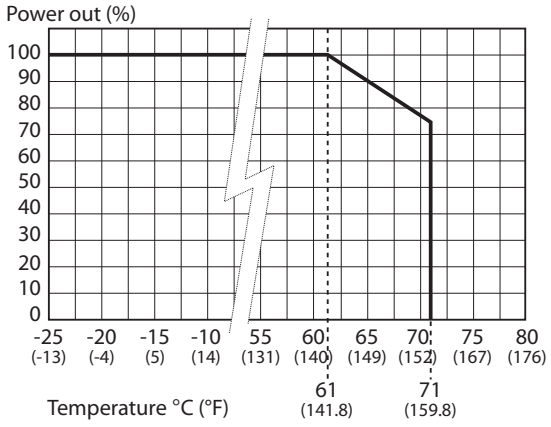
**VENTILATION / COOLING:**
- **Normal air convection**
- **25mm of free space along all sides to allow good cooling**

**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 (mm)