

# Switching Power Supply

## Type SPDM 120W

### DIN Rail Mounting



- Universal AC, DC input range (90Vac~264Vac, 127Vdc~370Vdc)
- High efficiency up to 88%
- Built-in current limiting circuit
- Output protections: OVP/OLP/SCP/OTP
- Wide operating ambient temp (-20°C~70°C)
- LED DC OK indication
- Ultra-slim, 45mm width
- UL, cULus and cURus, CE approved

### Product Description

The Switching power supplies SPDM Series are specially designed to be used in all automation application where the installation is on a DIN rail and compact dimensions and performance are a must. In particular SPDM Series are Power Supplies with

have equal power at smaller size respect to SPD Series. The greater compactness is achieved thanks to the limited energy loss, that automatically generates greater effectiveness. This specific SPDM Series 120W Compact are available 12, 24 and 48VDC Output Voltage.

### Ordering Key

**SP D M 24 120 1**

Model \_\_\_\_\_  
Mounting (D = Din rail) \_\_\_\_\_  
Medium width \_\_\_\_\_  
Output voltage \_\_\_\_\_  
Output power \_\_\_\_\_  
Single phase input type \_\_\_\_\_

### Approvals



### Output Performance

MODEL NO.	Output Voltage (VDC)	Voltage Trim Range (VDC)		Output power (W)	Max. output current (A)	Typical efficiency
SPDM121201	12	12	14	120	10	85%
SPDM241201	24	24	28	120	5	88%
SPDM481201	48	48	56	120	2.5	89%

### Output Data

All specifications are at nominal values, full load, 25°C unless otherwise noted

<b>Ripple &amp; noise</b> 0° ~ 70°C (32° ~ 158°F) Model 12V Model 24V Model 48V 0° ~ -25°C (32° ~ -13°F) Model 12V Model 24V Model 48V		<b>Set-up Time (full load)</b> 230Vac 115Vac <b>Hold up Time (full load)</b> 115Vac 230Vac <b>Temperature Coefficient</b> <b>Overshoot and Undershoot</b> <b>Power boost</b> <b>Parallel function</b>		
	≤120mV ≤120mV ≤240mV		<1.2S <3.0mS ≥10mS ≥20mS ±0.03%/°C <5.0% No No	
<b>Voltage accuracy</b>	±1.0%			
<b>Line regulation</b>	±0.5%			
<b>Load regulation</b>	±1.0%			

## Input Data

<b>Rated input voltage</b>	90Vac~264Vac 127Vdc~370Vdc	<b>Leakage Current (264Vac, 63Hz)</b>	
<b>Frequency range</b>	47Hz-63Hz	Input—output	<0.25mA
<b>AC Current (max.)</b>		Input—PG	<3.5mA
115Vac	<2.7A	<b>PFC</b>	No
230Vac	<1.35A		
<b>Inrush Current (Typical cold start)</b>			
115Vac	20A		
230Vac	35A		

## Control and Protections

<b>Over Load (constant current)</b>		<b>Over temperature</b>	100±5°C , detect on heat sink of power transistor; shut down O/P, re-power on.
Model 12V	10.5 ~ 13A		
Model 24V	5.25 ~ 6.5A		
Model 48V	2.75 ~ 3.25A		
<b>Over voltage (shut down, re-power on)</b>		<b>Short Circuit</b>	Long-term mode, auto recovery
Model 12V	15 ~ 18V		
Model 24V	29 ~ 33V		
Model 48V	58 ~ 63V		

## General Data

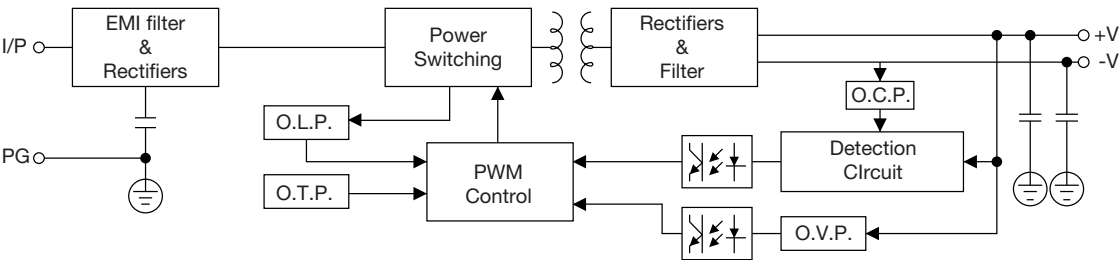
<b>Operating temperature</b>	-20°C ~ +70°C	<b>Cooling method</b>	Free air convection
<b>Ambient humidity</b>		<b>Dimensions HxDxW mm</b>	124x119x45 mm (4.88" x 4.69" x 1.77")
Operating	20% ~ 90%RH No condensing	<b>Weight</b>	625g (1.72lb)
<b>Storage Temperature</b>	-40°C ~ +85°C (-40° ~ 185°F)	<b>Carton</b>	24 units, 15Kg (33.7lb)
<b>MTBF (MIL-HDBK-217F)</b>	More than 500,000Hrs (25°C, Full load)		

## Norms and Standard

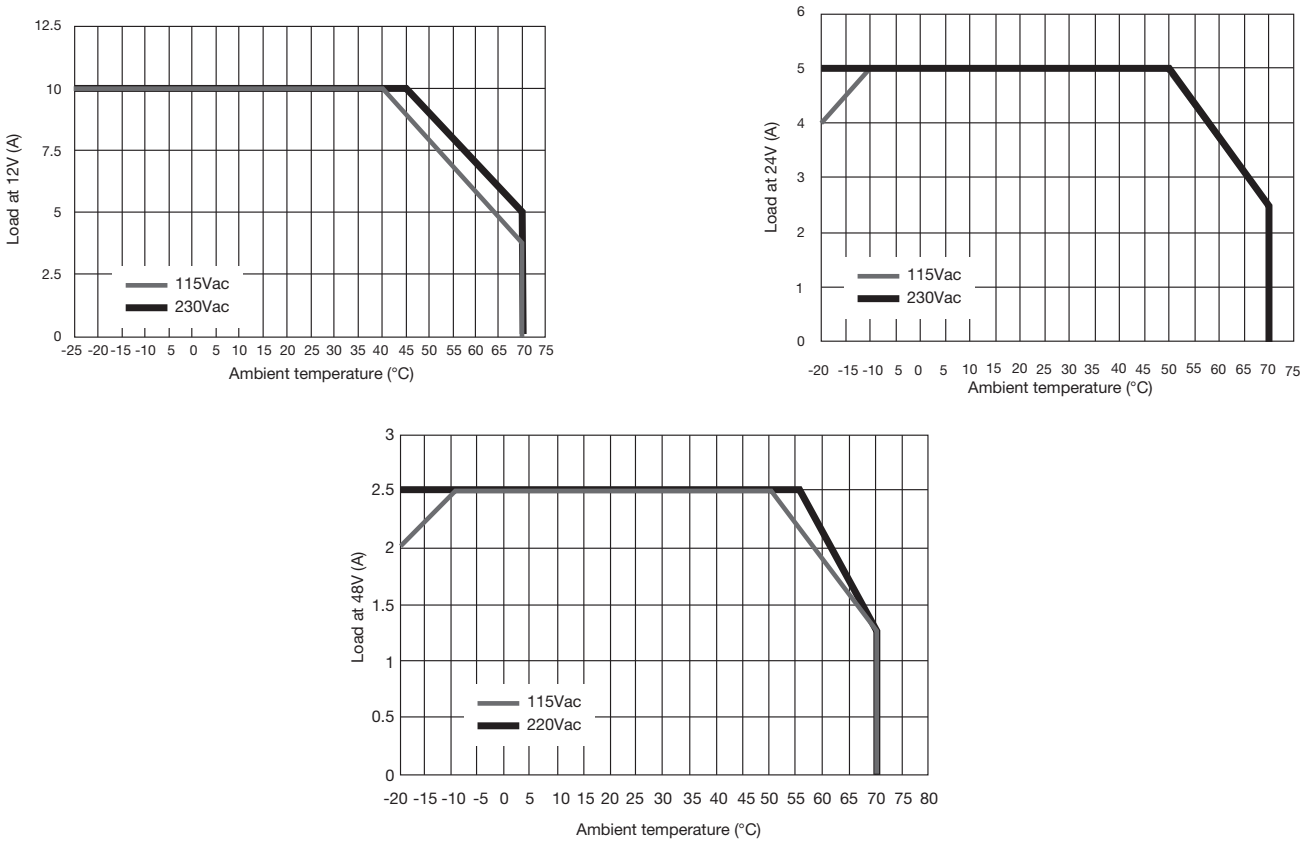
<b>LVD Directive</b>	2014/35/EU	<b>EMC Immunity</b>	EN61000-4-2,3,4,5,6,11; heavy industry level
<b>Withstand Voltage</b>		<b>Safety Standards</b>	EN60950
Primary-Secondary	3.0kVac; 10mA.	<b>UL</b>	
Primary-PG	1.5kVac; 10mA.	<b>cULus</b>	UL508 Listed
Secondary-PG	0.5kVac; 10mA.	<b>cURus</b>	UL60950-1 2nd edition recognized
<b>Isolation Resistance</b>	10M ohms		
<b>EMC emission</b>	EN61000-3-2, CLASS A		



Block Diagram



Derating Curve



Pin Assignment and Front Controls

PIN NO.	Designation	Description	Wire Specs	Recc. torque
1		Ground this terminal to minimize high frequency emissions	20-10AWG	0.5 Nm
2	N	Input terminals (neutral conductor, no polarity with DC input)		
3	L	Input terminals (phase conductor, no polarity with DC input)		
4, 5, 6	V+	Positive output terminal		
7, 8, 9	V-	Negative output terminal		
	Vout Adj.	Trimmer-potentiometer for Vout adjustment		
	DC status	LED indication of power supply output status		



Mechanical Drawing

