

# Switching Power Supply Type SPDC 120W Compact DIN Rail Mounting



- Universal AC, DC input range (90Vac~264Vac, 127Vdc~370Vdc)
- Built-in active PFC>0.95
- Efficiency up to 91%
- Output protections: OVP/OLP/SCP/OTP
- Operating ambient temp -25°C ~ 70°C (-13° to 158°F)
- Built-in DC OK relay contact
- Ultra-slim, 32mm width
- UL, cULus, cURus, CE approved

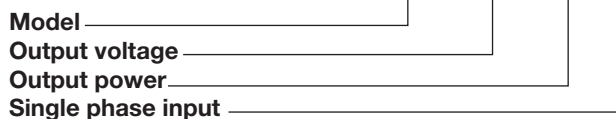
## Product Description

The SPDC Series Switching power supplies are specially designed to be used in all automation application where the installation is on a DIN rail and compact dimensions and high performance are a must. SPDC power supplies have the same power of carlo gavazzi SPD supplies which are double in size. The greater compactness is achieved thanks to the limited energy loss, and

consequent high efficiency. This specific SPDC Series 120W Compact are available with 12VDC or 24VDC Output Voltage. SPDCs can be connected in parallel with another identical unit. A switch is provided on the front panel to select this configuration. They also support the redundant operation 1+1 or n+1 providing they are employed together with redundant module/s.

## Ordering Key

**SPDC 12 120 1**



## Approvals



## Output Performance

MODEL NO.	Output voltage	Voltage trim range (VDC)		Output power (W)	Max. output current (A)	Typical efficiency
SPDC121201	12VDC	12	14	120	10	89.5%
SPDC241201	24VDC	24	28	120	5	91%

## Output Data All specifications are at nominal values, full load, 25°C (77°F) unless otherwise noted

Voltage accuracy	±1.0%	Set-up Time	230VAC	<250ms
Line regulation	±0.5%		100VAC	<500ms
Load regulation	±1.0%	Overshoot and Undershoot		<5.0%
Temp. Coefficient	±0.03%/°C	Minimum load		0%
Ripple & noise		Power boost		≤120% 5s ≥ 120% ≤150% 3s
0 ~ 70°C (32° ~ 158°F)	≤100mV (12V) ≤120mV (24V)	Parallel operation	(Selectable by front switch)	2 units max.
0 ~ -25°C (32° ~ -13°F)	≤200mV (12V) ≤240mV (24V)			
Hold up Time	≥20mS (230Vac input, Full load)			

## Input Data All specifications are at nominal values, full load, 25°C (77°F) unless otherwise noted

<b>Rated input voltage</b>	90Vac~264Vac 127Vdc~370Vdc	<b>Power Factor (typical)</b>	0.99
<b>Voltage range</b>	85Vac~264Vac	100VAC	0.95
<b>AC Current (max.)</b>		230VAC	
100VAC	<1.50A	<b>Leakage Current</b>	<0.25mA
230VAC	<0.65A	Input—output	<3.5mA
<b>Frequency range</b>	47Hz-63Hz	Input—PG	
<b>Inrush Current</b> (Cold start, typical)			
100VAC	<30A		
230VAC	<60A		

## Control and Protections

<b>Over voltage</b>		<b>Over temperature protection</b>	+100°C +/- 5° ( +212°F +/- 9° )
12V	15~18V	(detected on heatsink, shut down, auto-recovery)	
24V	29~33V		
<b>Short Circuit protection</b>	current limit		
<b>Over Load protection</b>			
100%~120%	Constant current limiting 5s		
120%~150%	Constant current limiting 3s		
>150%	Hiccup mode, auto recovery		

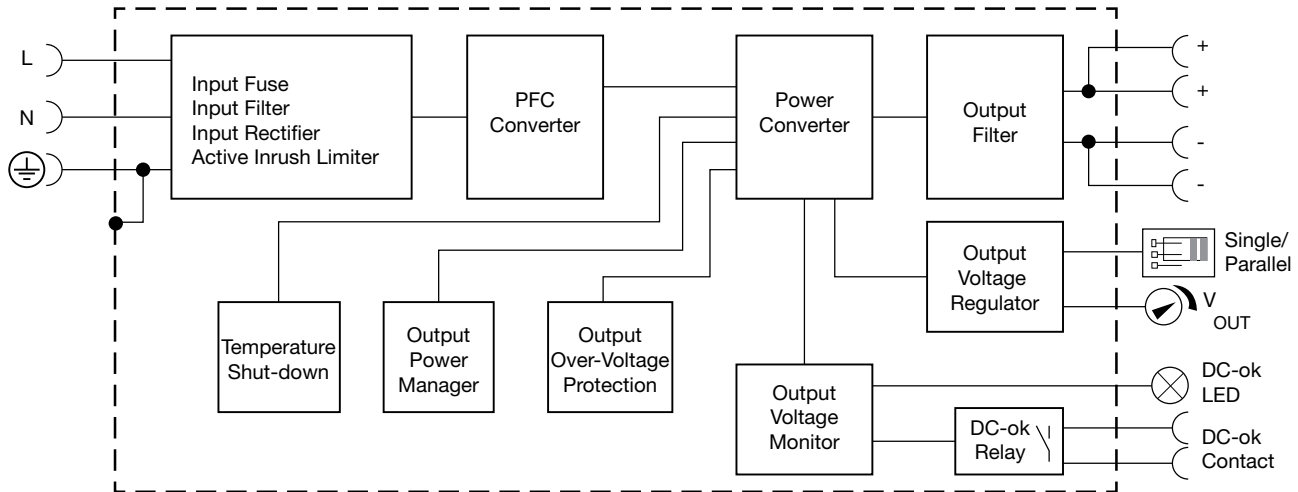
## General Data All specifications are at nominal values, full load, 25°C (77°F) unless otherwise noted

<b>Operating temperature</b>	-25°C~70°C, (-13°F~158°F)	<b>Cooling method</b>	Cooling by free air convection
<b>Derating from 60° to 70°C</b> (140° to 158°F)	See derating diagram	<b>MTBF (MIL-HDBK-217F)</b>	More than 300,000Hrs
<b>Humidity</b>	20%~90%RH No condensing	<b>Case material</b>	Metal, stainless steel
<b>Storage Temperature</b>	-40°C~85°C (-40°F~185°F)	<b>Dimensions HxDxW</b>	124 x 119 x 32 mm (4.88" x 4.7" x 1.26")
<b>Protection degree</b>	IP20	<b>Weight</b>	550g (1,21lb)
		<b>Packing</b>	8pcs/CTN, 12.2Kg, 0.03cbm (26.9lb, 1.06cbft)

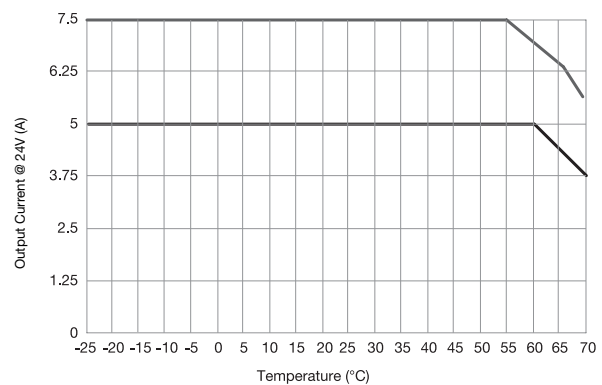
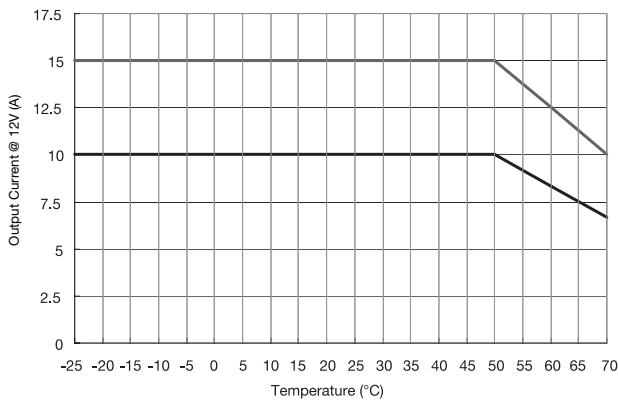
## Approvals and EMC

<b>Insulation Voltage</b>		<b>EMC Emission</b>	EN55022, EN55024, FCC PART 15 Class B
Primary-Secondary	3.0KVAC ≤10mA.	<b>Harmonic Current</b>	EN61000-3-2, CLASS A.
Primary-PG	2.5KVAC ≤10mA.	<b>EMC Immunity</b>	EN61000-4-2, 3, 4, 5, 6, 8, 11; heavy industry level
Secondary-PG	0.5KVAC ≤20mA.		
<b>Insulation Resistance</b>	≥100M ohms	<b>UL</b>	
<b>Safety Standards</b>	EN60950-1	cULus	UL508 Listed
<b>Withstand Voltage</b>		cURus	UL60950-1 2nd edition recognized
Primary-Secondary	3.0KVAC ≤10mA.		
Primary-PG	2.5KVAC ≤10mA.		
Secondary-PG	0.5KVAC ≤20mA.		

## Block Diagram



## Derating Diagram



## Installation

**Ventilation and cooling** Normal convection All sides  
 25mm (1") free space for cooling is recommended

**Max. torque for terminal**  
 Input terminal 1.0Nm  
 Output terminal 0.6Nm

**Terminals cable**

0.2mm<sup>2</sup> to 5mm<sup>2</sup> (AWG24 to AWG10) Stranded or solid 8mm recommended stripping

## Pin Assignment and Front Controls

PIN NO.	Designation	Description
1	L	Input terminals (phase conductor, no polarity with DC input)
2	N	Input terminals (neutral conductor, no polarity with DC input)
3	⊕	Ground this terminal to minimize high frequency emissions
4	DC OK	DC ON relay contact
5	DC OK	DC ON relay contact
7	V+	Positive output terminal
6	V-	Negative output terminal
	Vout Adj.	Trimmer-potentiometer for Vout adjustment
	DC status	LED indication of power supply output status
	Parallel	Switch for single or parallel operation

## Mechanical Drawing All measurements are in mm (Inches)

