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**

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 conseguent 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

- **Model**
- **Output voltage**
- **Output power**
- **Single phase input**

Approvals

CE

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%
Line regulation	±0.5%
Load regulation	±1.0%
Temp. Coefficient	±0.03%/°C
Ripple & noise	
0 ~ 70°C (32° ~ 158°F)	≤100mV (12V) ≤120mV (24V)
0 ~ -25°C (32° ~ -13°F)	≤200mV (12V) ≤240mV (24V)
Hold up Time	≥20mS (230Vac input, Full load)

Set-up Time	
230VAC	<250ms
100VAC	<500ms
Overshoot and Undershoot	<5.0%
Minimum load	0%
Power boost	≤120% 5s ≥ 120% ≤150% 3s
Parallel operation (Selectable by front switch)	2 units max.

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

Rated input voltage	90Vac~264Vac 127Vdc~370Vdc
Voltage range	85Vac~264Vac
AC Current (max.)	
100VAC	<1.50A
230VAC	<0.65A
Frequency range	47Hz-63Hz
Inrush Current (Cold start, typical)	
100VAC	<30A
230VAC	<60A

Power Factor (typical)	
100VAC	0.99
230VAC	0.95
Leakage Current	
Input—output	<0.25mA
Input—PG	<3.5mA

Control and Protections

Over voltage	
12V	15~18V
24V	29~33V
Short Circuit protection	current limit
Over Load protection	
100%~120%	Constant current limiting 5s
120%~150%	Constant current limiting 3s
>150%	Hiccup mode, auto recovery

Over temperature protection (detected on heatsink, shut down, auto-recovery)	+100°C +/- 5° (+212°F +/- 9°)

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

Operating temperature	-25°C~70°C, (-13°F~158°F)
Derating from 60° to 70°C (140° to 158°F)	See derating diagram
Humidity	20%~90%RH No condensing
Storage Temperature	-40°C~85°C (-40°F~185°F)
Protection degree	IP20

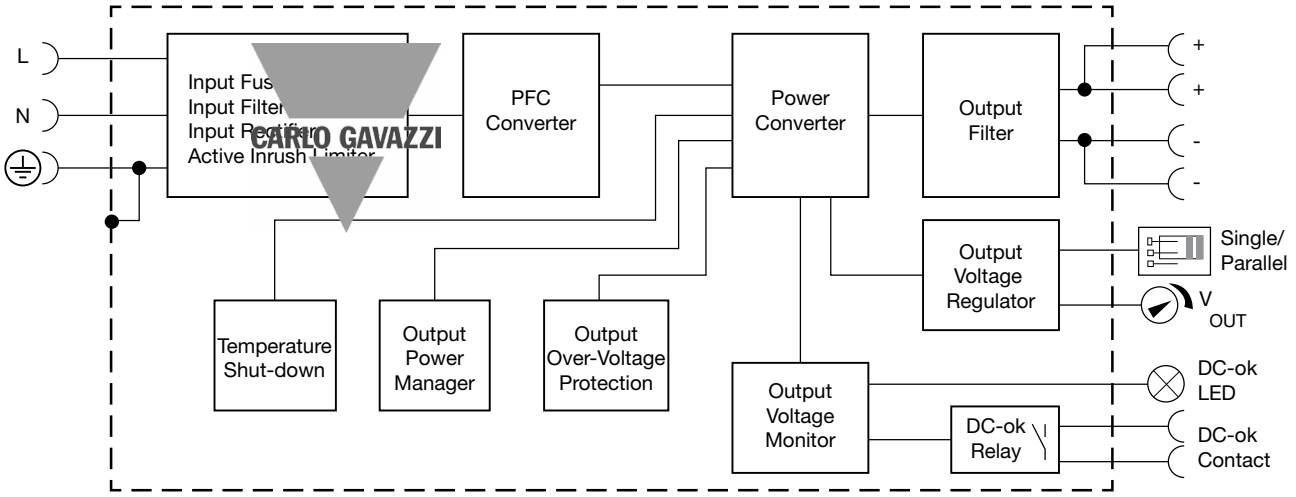
Cooling method	Cooling by free air convection
MTBF (MIL-HDBK-217F)	More than 300,000Hrs
Case material	Metal, stainless steel
Dimensions HxDxW	124 x 119 x 32 mm (4.88” x 4.7” x 1.26”)
Weight	550g (1,21lb)
Packing	8pcs/CTN,12.2Kg, 0.03cbm (26.9lb, 1.06cbft)

Approvals and EMC

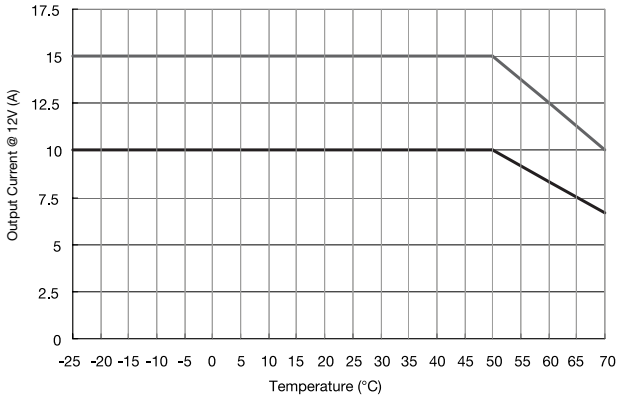
Insulation Voltage	
Primary-Secondary	3.0KVAC ≤10mA.
Primary-PG	2.5KVAC ≤10mA.
Secondary-PG	0.5KVAC ≤20mA.
Insulation Resistance	≥100M ohms
Safety Standards	EN60950-1
Withstand Voltage	
Primary-Secondary	3.0KVAC ≤10mA.
Primary-PG	2.5KVAC ≤10mA.
Secondary-PG	0.5KVAC ≤20mA.

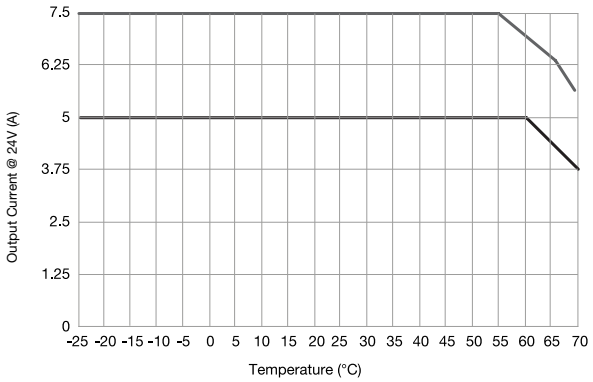
EMC Emission	EN55022, EN55024, FCC PART 15 Class B
Harmonic Current	EN61000-3-2, CLASS A.
EMC Immunity	EN61000-4-2, 3, 4, 5, 6, 8, 11; heavy industry level

Block Diagram



Derating Diagram





Installation

Ventilation and cooling	Normal convection All sides 25mm (1”) free space for cooling is recommended	**Terminals cable**	0.2mm² to 5mm² (AWG24 to AWG10) Stranded or solid 8mm recommended stripping
Max. torque for terminal			
Input terminal	1.0Nm		
Output terminal	0.6Nm		

Pin Assignement 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)