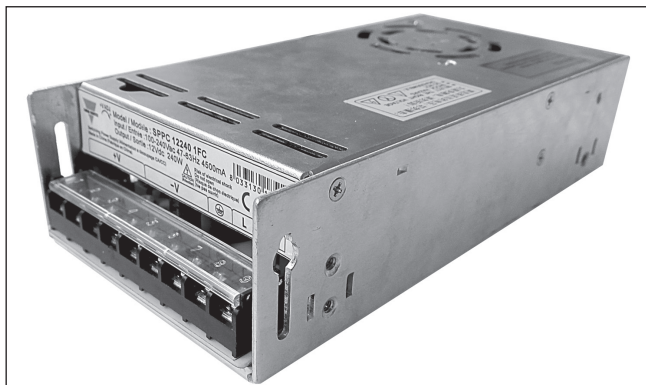


# Switching Power Supply Enclosed Type SPPC 240W Series Single Output

CARLO GAVAZZI



- Built-in active PFC (Power Factor Protection), PF>0.95
- Compact size
- Built-in cooling fan speed control
- Universal AC input
- Withstand 300Vac surge input for 5 sec
- High efficiency, long life and high reliability
- Output protections: SCP/OLP/OPP
- Wide operating ambient temperature (-25°C~70°C)
- Operating altitude up to 5,000m
- 100% full load burn-in test
- PCB both sides with conformal coating
- 105°C long life electrolytic capacitor

## Product Description

Enclosed Switching Power Supply for AC DC and DC DC power requirements. The new SPPC family provides flexible OEM power solutions for industrial control and automation applications,

which in the case of the SPPC 240W ranges from 5V to 48V. All the range carries full certification offering a wide range of universal input and screw terminal connections.

## Ordering Key

**SP PC XX 240 1 F C**

Power supply model \_\_\_\_\_  
 Panel mounted \_\_\_\_\_  
 Output voltage \_\_\_\_\_  
 Output power \_\_\_\_\_  
 Input type (single phase) \_\_\_\_\_  
 Power Factor Correction (PFC) \_\_\_\_\_  
 Compact \_\_\_\_\_

## Approvals



## Output Performances

| MODEL NO.            | INPUT VOLTAGE                 | OUTPUT VOLTAGE | VOLTAGE ADJ | RATED CURRENT | VOLTAGE ACCURACY |
|----------------------|-------------------------------|----------------|-------------|---------------|------------------|
| Single Output Models |                               |                |             |               |                  |
| SPPC 12240 1FC       | 85VAC~264VAC<br>120VDC~370VDC | 12V            | -5%~+10%    | 20 A          | ±1.0%            |
| SPPC 24240 1FC       | 85VAC~264VAC<br>120VDC~370VDC | 24V            | -5%~+10%    | 10 A          | ±1.0%            |

## Output Data

|                        |        |                          |                                 |
|------------------------|--------|--------------------------|---------------------------------|
| Current range          |        | Load regulation          | ± 1.0%                          |
| SPPC 12240 1FC         | 0~20A  | Turn on time             | <2S (230VAC input, Full load)   |
| SPPC 24240 1FC         | 0~10A  | Output voltage accuracy  | ±1.0%                           |
| Ripple and noise *Note |        | Temperature coefficient  | ±0.03%/°C                       |
| SPPC 12240 1FC;        | <150mV | Hold up time             | ≥10mS (230VAC input, Full load) |
| SPPC 24240 1FC         | <200mV | Overshoot and Undershoot | < 5.0%                          |
| Line regulation        | ± 0.5% |                          |                                 |

\* Note: Measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uF & 10uF parallel capacitor.

## Input Data All specifications are at nominal values, full load, 25°C unless otherwise noticed

|                       |                                        |                                      |                                   |
|-----------------------|----------------------------------------|--------------------------------------|-----------------------------------|
| <b>Voltage range</b>  | 85~ 264VAC<br>120 ~ 370VDC             | <b>Leakage current</b>               |                                   |
| <b>Inrush current</b> | <50A@230VAC;<br><30A@115VAC Cold start | <b>Input-Output</b>                  | <0.25mA                           |
| <b>Efficiency</b>     |                                        | <b>Input-PG</b>                      | <1.0mA                            |
| <b>SPPC 12240 1FC</b> | 84%                                    | <b>Frequency range</b>               | 47-63Hz                           |
| <b>SPPC 24240 1FC</b> | 86%                                    | <b>AC current (max.)</b>             | <4.5A                             |
|                       |                                        | <b>PFC (Power Factor Correction)</b> | PF>0.98/115VAC;<br>PF>0.95/230VAC |

## Controls and Protection

|                                   |                                                               |                           |                                                               |
|-----------------------------------|---------------------------------------------------------------|---------------------------|---------------------------------------------------------------|
| <b>Overload (OLP)</b>             | 120%~170% of rated output current, hiccup mode, auto recovery | <b>Over voltage (OVP)</b> | 105%~150% of rated output voltage, hiccup mode, auto recovery |
| <b>Output short circuit (SCP)</b> | Long-term mode, auto recovery.                                |                           |                                                               |

## General Data All specifications are at nominal values, full load, 25°C unless otherwise noticed

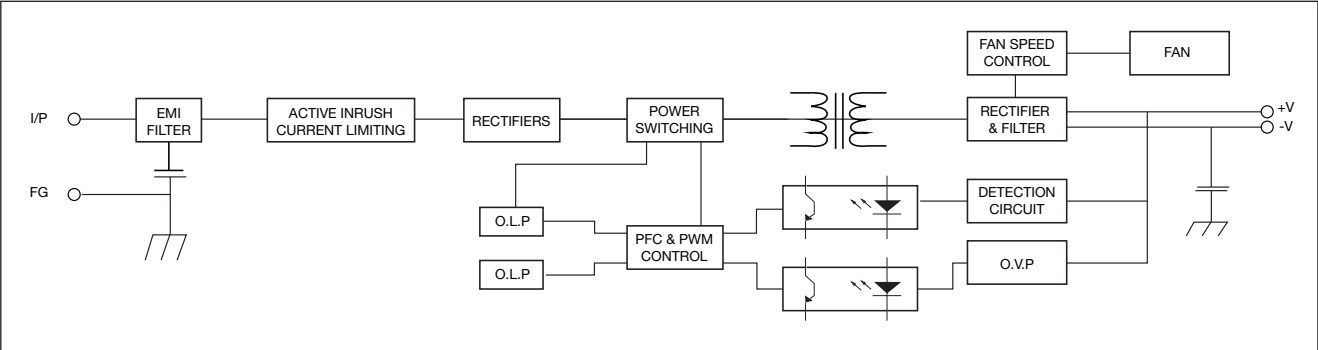
|                                  |                                                                       |                             |                                        |
|----------------------------------|-----------------------------------------------------------------------|-----------------------------|----------------------------------------|
| <b>Ambient temperature</b>       | -25°C to +70°C                                                        | <b>MTBF (MIL-HDBK-217F)</b> | More than 200.000 hrs                  |
| <b>Relative humidity</b>         | 20%~90%RH                                                             | <b>Case material</b>        | Metal                                  |
| <b>Storage</b>                   | -40°C to +85°C                                                        | <b>Dimensions LxWxD</b>     | 199 x 99 x 50 mm                       |
| <b>Cooling</b>                   | Forced air (built-in fan controlled by load and internal temperature) | <b>Packing</b>              | 12 PCS/CTN.<br>G.W: 11.4kgs<br>0.04CBM |
| <b>Insolation resistance I/O</b> | ≥100M ohms                                                            |                             |                                        |

## Norms and Standard

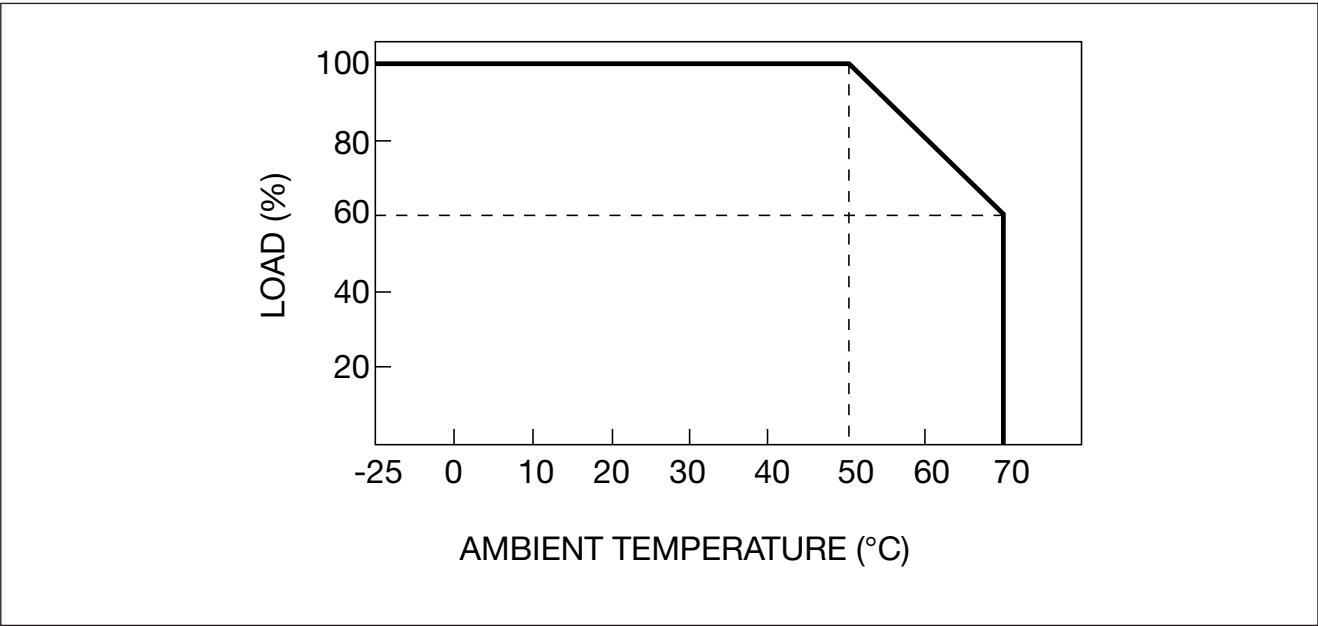
|                          |                                                                                                            |                                     |                                                                             |
|--------------------------|------------------------------------------------------------------------------------------------------------|-------------------------------------|-----------------------------------------------------------------------------|
| <b>Safety standard</b>   | UL60950-1 2 <sup>nd</sup> Ed;<br>IEC 60950-1:2005 (2 <sup>nd</sup> Ed);<br>EN60950-1:2006                  | <b>EMS immunity</b>                 | Compliance to EN61000<br>-4- 2, 3, 4, 5, 6, 8, 11;<br>heavy industry level. |
| <b>Withstand voltage</b> | Primary-Secondary:<br>3.0kVAC;<br>≤10mA. Primary-PG:<br>1.5kVAC;<br>≤10mA. Secondary PG:<br>0.5kVDC; ≤10mA | <b>EMI conduction and radiation</b> | Compliance to EN55022,<br>Class B                                           |
|                          |                                                                                                            | <b>Harmonic current</b>             | Compliance to EN61000-3-<br>2, Class D                                      |



Block Diagram



Derating Curve



The technical drawing illustrates the SMPS cover assembly with the following details:

- Top View:** Shows the overall dimensions of 199mm width and 119mm height. It includes a terminal block on the left with pins labeled +V, +V, +V, -V, -V, L, and N. Callouts 1 through 15 indicate various mounting points and features. A central fan area is labeled "FAN".
- Side View:** Shows the cover's profile with a width of 50mm and a mounting hole offset of 33mm from the top edge.
- Bottom View:** Shows the base of the cover with dimensions 199mm width and 37.5mm height. Callouts 6 through 11 indicate mounting points and features. It also shows "Fixture A (option)" and "Fixture B (option)".
- Cross-sectional View:** Shows the assembly of the "Customer Plate", "SMPS Cover", and "Assemble Screw". The gap between the plate and cover is labeled "L" with the requirement  $L \leq 4\text{mm}$ .