



AC-DC
Single output 240W
switching power supply



MADE IN ITALY

General Features

- Input voltage 99 to 264 Vac or 99 to 350 Vdc
- EMI filter on input according EN55022 class A and transient protection by tranzorb (14 Joules)
- Power factor close to 1 thanks to the presence of a PFC circuit
- Internal fuse on the input
- Overload and short circuits protection, even if continuously
- Internal decoupling diode on the output; both anode and cathode available on output terminals.
- Power good signal monitoring the output voltage in tolerance.
- Output voltage adjust by frontal multi turns trimmer
- Output voltage is floating respect to the case
- Optional kit for DIN bar mountin
- 100% test and burn-in (reports available on request)
- No load operation allowed
- Two years warranty

Standard models

Modello	Tensione d'uscita e corrente massima	
	Volt	Ampere
512S D	12	15
515S D	15	12
524S D	24	10
528S D	28	8.5
548S D	48	5
556S D	56	4.3
510S D	100	2.2

Electromagnetic compatibility

- EN50081-2; EN50082-2 (CE industrial environment)
- EN 61000-4-5 level 4 (surge)
- EN 61000-3-2 class D (harmonic current emissions)

Safety

- EN 60950 (CEI 74-2)

Case protection

- IP20

Flammability class

- UL 94 V2

MTBF

- 180000 hours according to MIL-STD 217-D

Electrical input specifications

<ul style="list-style-type: none"> • Input voltage • Input current • Harmonic distortion of input current • Power factor (W/VA) • Leakage current • Input line fuse rating • EMI filter • Inrush current • Transients suppressor rating 	110 - 240 Vac $\pm 10\%$ 47-400Hz or 99 to 350 Vdc without commutation (extended range) 3 A at 110 Vac/dc - 1.2 A a 230 Vac 3% (typ.) 0.99 $\leq 3\text{mA}$ at 240 Vac/50 Hz An internal fuse T 6.3A 250V (5x20 mm) on the Line according to EN55022 ClassA 35 A ($V_{in}=230\text{Vac}$) 14 joule 350Vdc / 470 Vp
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Output specifications

Model	V nom (V)	Vadj	I max (A)	Efficiency	Output stability	
					Line regulation ($\pm 15\%$)	Load regulation (20-100%)
512S D	12	$\pm 5\%$ (trimmer)	15	>80% tip.	$\pm 0.5\%$	$\pm 1\%$
515S D	15		12	>80% tip.	$\pm 0.5\%$	$\pm 1\%$
524S D	24		10	>85% tip.	$\pm 0.5\%$	$\pm 1\%$
528S D	28		8.5	>85% tip.	$\pm 0.5\%$	$\pm 1\%$
548S D	48		5	>85% tip.	$\pm 0.5\%$	$\pm 1\%$
556S D	56		4.3	>85% tip.	$\pm 0.5\%$	$\pm 1\%$
510S D	110		2.2	>85% tip.	$\pm 0.5\%$	$\pm 1\%$

<ul style="list-style-type: none"> • Output power rating • Switching frequency • Transient recovery time • Output stability in immunity tests • Ripple (0 - 2MHz) • Spikes (2 - 20MHz) • Hold-up time (230Vac) • Rise time at power on • Overvoltages <p>Signals</p> <ul style="list-style-type: none"> • PG <p>Protections</p> <ul style="list-style-type: none"> • Overload and short circuits • Overvoltages 	240 W 70 KHz typical $\leq 1\text{ms}$ for 50% load variation; V_{out} stays within 2% $\leq 5\%$ for radiated and conducted noise $\leq 1\%$ of output $\leq 2\%$ of output $> 60\text{ms}@I_{max}$; $> 100\text{ms}@60\%I_{max}$ 2 sec typ. None Power good signal. Switching floating contact (NC/NA) monitoring the output intolerance. Relè rating: 1A, 60Vdc Continuously Transil and electronic protection
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Electric strength and insulation resistance

Input to output	Input to case	Output to case
$> 100\text{ MOhm}$ (500Vdc for 1')		

Electric strength

Input to output	Input to case	Output to case
3000Vrms for 1'	2500Vrms for 1'	2500Vrms for 1'

Environment

Operating temperature

-10 to 55°C ambient; derate the output power at 2.5% for °C from 55 °C to 70°C

Relative humidity

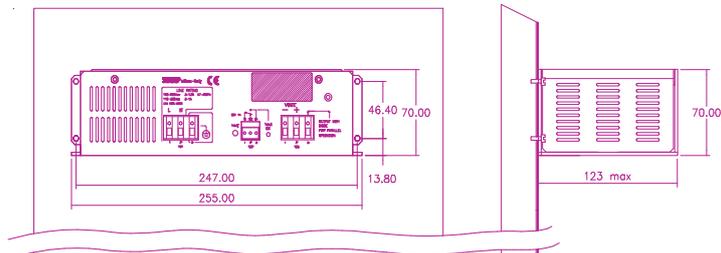
up to 93% non condensing

Storage temperature

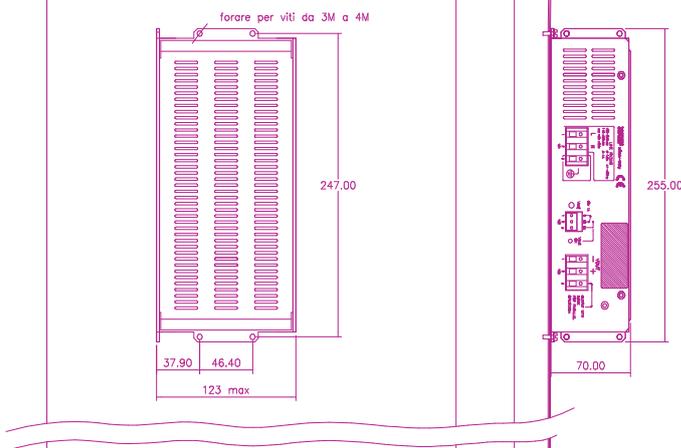
-40 to +85 °C

Sizes, punching holes and suggested mounting positions

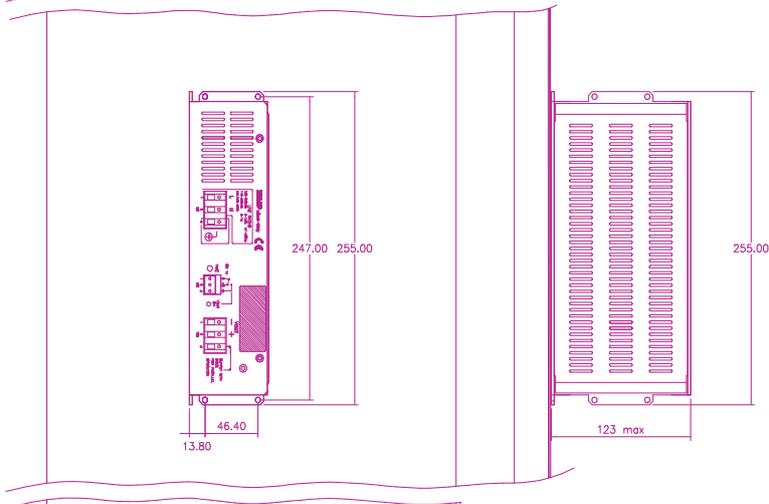
Punching holes for horizontal balcony like mounting



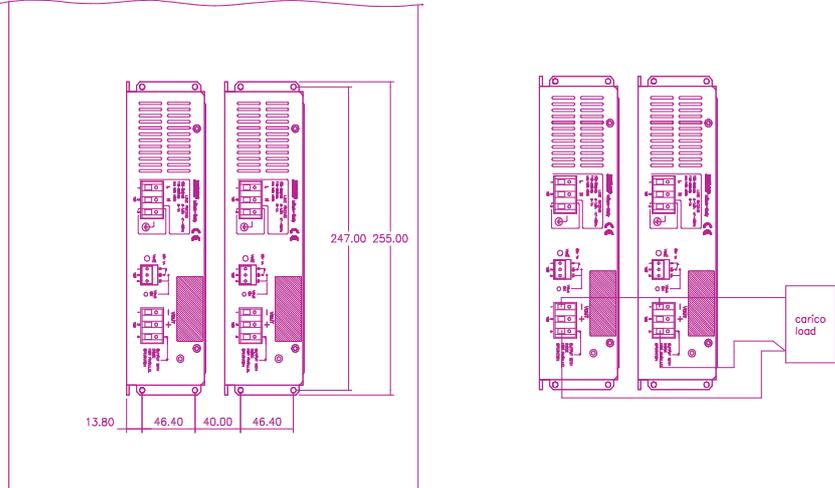
Punching holes for plant mounting



Punching holes for vertical balcony like mounting



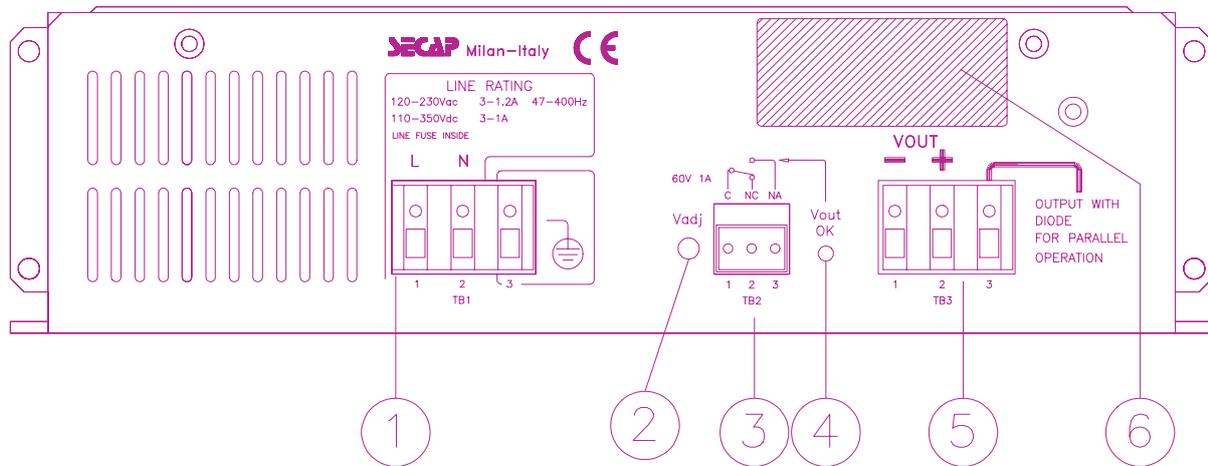
Balcon like fixing for two modules in redundant configuration



Suggested mounting positions

The balcon-like fitting showed on the upper and lower figures allows easy electrical connections as well as the control of proper power supply operation by the “power good” led. The vertical mounting, however, if done vertically on a metallic surface, as showed on the central figure, is to be preferred to get the goal of optimum thermal exchange.

Connections



Description

- | | | |
|---|-----------------------------|--|
| 1 Ingressi | TB1-1:
TB1-2:
TB1-3: | Line (protected by internal fuse)
Neutral
Protective earth |
| 2 Vadj | | Trimmer to adjust the output voltage; the voltage is increased turning it clockwise. |
| 3 Terminals of the relay monitoring the output voltage state | | TB2-1 is connected to TB2-3 when the output voltage is in tolerance; TB2-1 is connected to TB2-2 when the output voltage is out of tolerance.
Terminals rating: 1A, 60V. The terminals are insulated both from ground and the output. |
| 4 Led di Power Good | | Led indicating the output voltage state; it is ON when the output voltage is in tolerance. |
| 5 Outputs | TB3-1
TB3-2

TB3-3 | Output voltage negative
Output voltage positive; the output voltage regulation is accomplished at this point
Decoupling diode cathode; the anode is connected to TB3-2. |

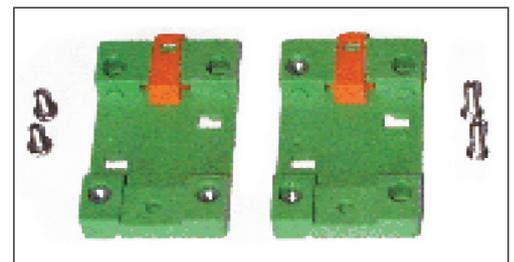
6 Model identifying label

Decoupling diode

A decoupling diode connected in series to the output is provided inside the power supply. Both its anode (TB3-2) and its cathode (TB3-3) are available at output terminals. The control circuit regulates the voltage on the anode, so the voltage drop of the diode (about 0.6V) isn't recovered. Use TB3-2 output in all the applications where a precise output voltage is requested. Use TB3-3 output for parallel or redundant operation of two or more units, thus taking advantage of the internal decoupling diode.

Optional accessories

DIN DIN bar mounting kit.
Mounting can be done horizontally
(referred to powersupply longer side).



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