ECS-100

100W DC UNINTERRUPTIBLE POWER SUPPLY

GENERAL FEATURES:

Battery cut off when battery low
Battery constant current charging
4 Selectable current charging levels
Step mains to battery without voltage dips
Supply fail alarm
Battery low alarm
Battery not included

	12Vdc output	24Vdc output	48Vdc output
90 ... 264Vac input	ECS-100-5173	ECS-100-5177	ECS-100-5179

Specifications are subject to change without notice. These products are not intended for use as critical components in life support or nuclear systems.

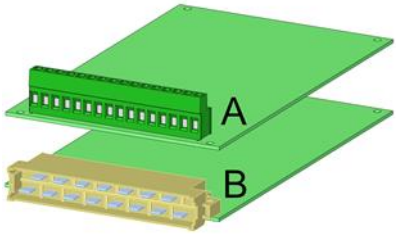
INPUT	
Input voltage	90 … 264Vac
Mains frequency range	47 … 63Hz
Inrush current	<32A
OUTPUT	
Output voltage range	-0, +20%Von
Line regulation	<0,2%
Ripple	< 50 mVpp
Charging current tolerance	<10%
ENVIRONMENTAL	
Storage temperature	-25ºC … 80ºC
Operating temperature	-25 … 50ºC (Po=nom)
	-25 … 70ºC (Po=nom/2)
Maximum Relative humidity	95% with no condensation
MTBF	500.000h @ 40°C according to IEC61709
EMC	
Emission	EN61000-6-4, EN 50212-4
Immunity	EN61000-2-2, EN 50212-4
SAFETY	
Safety	EN60950-1, EN62368-1
Input - Output	3000Vac 50Hz 1 min
Input - Earth	1500Vac 50Hz 1 min
Output - Earth	1500Vac 0Hz 1 min
MECHANICAL	
Weigh	560g
Size	100 x 160 x 45 mm
CONTROL	
Supply fail alarm	Mains failure, overload or power supply fault
Battery low alarm	Discharge, ageing or short-circuit
Alarms	Relay contacts
Maximum switching voltage:	120Vac / 24Vdc
Maximum switching power:	100VA / 24W
Maximum switching current:	1A
Minimum switching value:	1mA @ 1V
PROTECTIONS	
Against overloads and short-circuits	Current limiting
Battery protection against deep discharges	Battery cut off
Battery protection against overloads	By fuse
Against Input over-currents	Input fuse

ORDERING CODES

Part Number		Output			Battery		Charging current selection			
	Nominal Voltage [V]	Maximum Rectifier Power [W]	Maximum Rectifier Current [A]	Maximum Battery Current [A]	Floating Voltage [V]	Cut off Voltage [V]	I1 [A]	I2 [A]	I3 Factory setting [A]	I4 [A]
ECS-100-5173	12	100	7.35	12	13.6	10	1.0	1.2	2.4	4.8
ECS-100-5177	24	100	3.68	6	27.2	20	0.5	0.6	1.2	2.4
ECS-100-5179	48	100	1.84	3	54.4	40	0.22	0.3	0.6	1.2

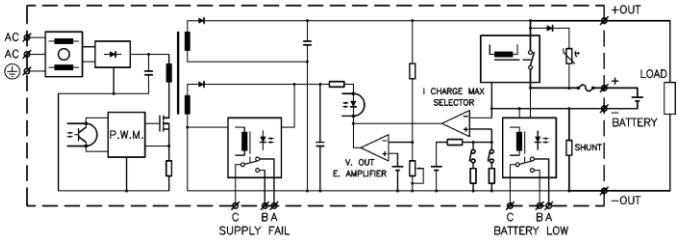
ECS–100–517_–_

- **A** Terminal blocks
- **B** DIN41612H15
- Model number

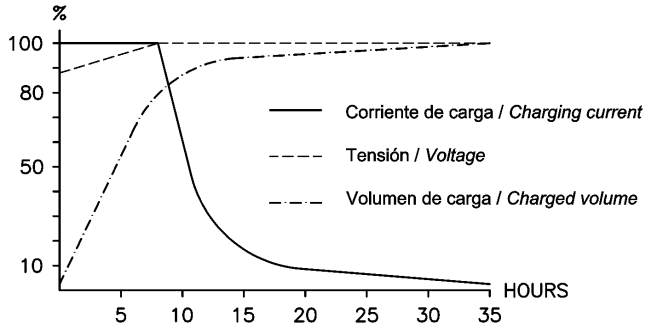


Accessories must be ordered in a separated order line

BLOCKS DIAGRAM



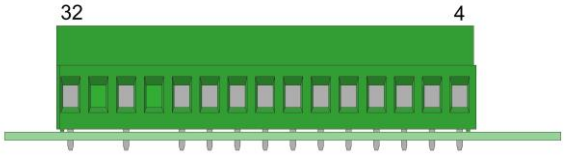
CHARGING CHARACTERISTIC



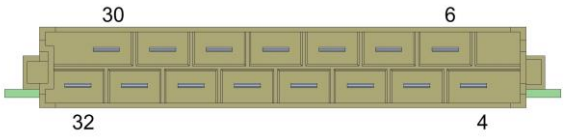
Batería	*Battery*	Plomo / *Lead*
V Carga	*V Charge*	2.28V/cel
I Carga	*I charge*	0.1C
Temperatura	*Temperature*	20°C

CONNEXIONS

REGLETA DE BORNES / *TERMINAL BLOCKS - Max. 12A / Terminal*



CONECTOR / *CONNECTOR DIN 41612 H15 - Max. 12A* / Terminal



Pin out	
+Output	6
-Output	8
+Battery	4
-Battery	16
Supply fail A	10
Supply fail B	12
Supply fail C	14
Battery low A	18
Battery low B	20
Battery low C	22
Ground (PE)	24
Neutral	28
Line	32

DESCRIPTION

This series consists of three models of a power supply-charger which, in the presence of mains voltage, supplies regulated voltage, while at the same time charging the battery in a controlled way. The range is ideal for charging lead-acid batteries of 12V, 24V, and 48V with capacities of up to 48Ah, 24Ah, and 12Ah respectively.

The device comprises a switched-mode power supply and a charging current limiter circuit, which provides for constant-voltage battery charging with limited charging current. It also incorporates an alarm circuitry which acts independently, when mains or power supply failure or a low battery condition occurs. The alarm outputs are the switched, potential-free contacts of relays.

Mains operation

When the mains supply is on, the output current is obtained directly from the power supply. The maximum battery charging current can be selected by the user by means of DIL-switch (see figure). The maximum battery charging current will be equal to the set current or equal to the rated current less the output current; the floating voltage will be equal to the output voltage.

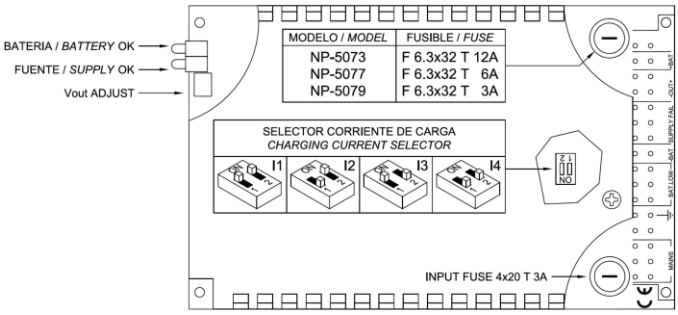
The system allows the temporary supply of an output current higher than the rated current. The average of this additional current, which is obtained from the battery, should not exceed the charging current as, otherwise, the battery would finally discharge.

If the power supply has no output, due to a mains voltage outage or to a failure in the power supply, the supply failure alarm will be triggered.

Operation without mains supply

When there is no mains supply, the battery comes, uninterruptedly, into operation and the output current is obtained from the battery. The output voltage will then depend on the battery discharge curve.

If the battery runs flat, the low battery alarm will be triggered. It will be disconnected from the output by way of a relay to prevent a deep discharge of the battery. When the mains supply returns, the UPS may take several minutes to supply the established battery charging current. During this time, the battery is charged with a small current until the low battery status is overcome. At that moment, the low battery alarm is reset, the relay closes, and the battery starts to charge normally.



INSTALLATION

Make the connections according to the pin out table.

If the battery charging current required is different from the factory set, this can be changed using a small screwdriver through the groove on the cover (see figure).

To make a quick check of the state of the battery, we recommend stopping the power supply because if this is running, the low battery alarm would not be triggered.

For safety reasons it is required:

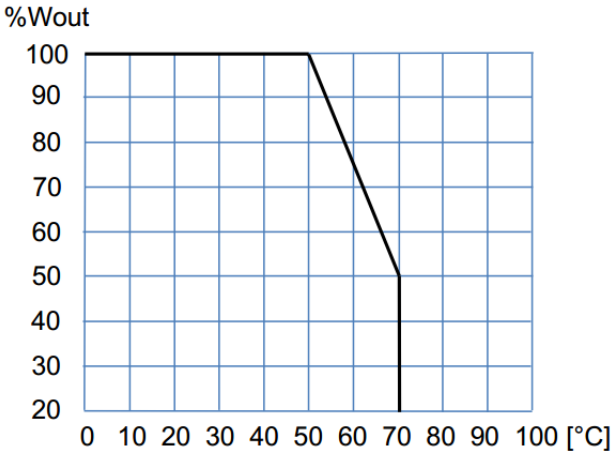
To incorporate an easily accessible means of disconnecting from the mains supply.

Upon replacing the mains fuse, make sure one of the same rating is used and with the power supply disconnected from the mains.

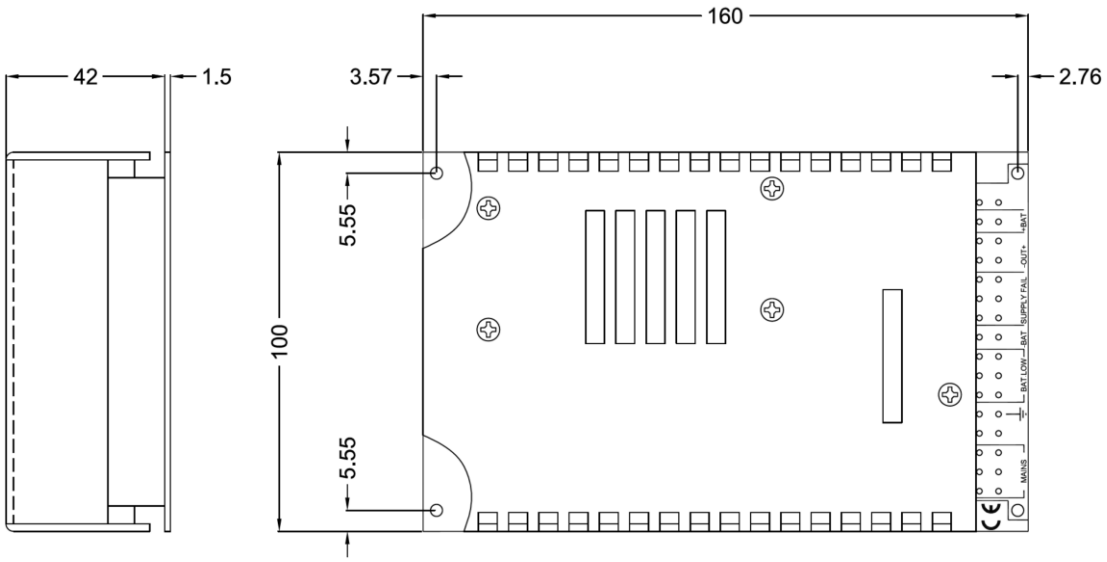
To provide the equipment with a protective enclosure, in compliance with the Electrical Safety Regulations and Directives in the country where it is installed.

To use a mains connection cable with a cross section of at least 0.75mm².

POWER DERATING vs AMBIENT TEMP.



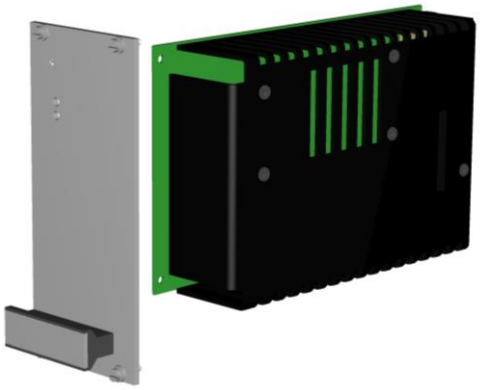
DIMENSIONS



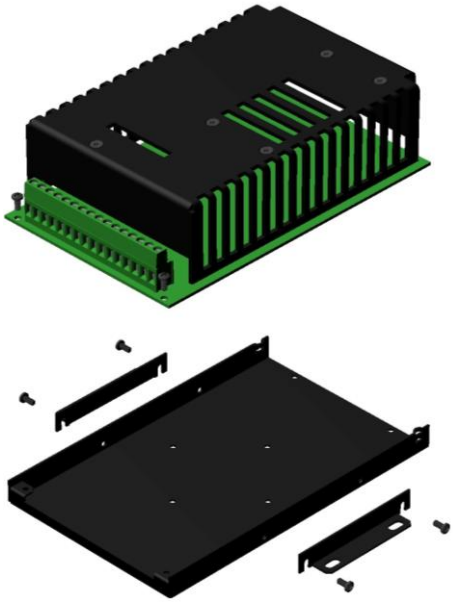
ACCESSORIES

ACCESSORIES	CODE
Rack 19” frontal panel (3U 9TE)	NP-9197
Mounting base	NP-9124
Din rail clip for mounting base	NP-9135

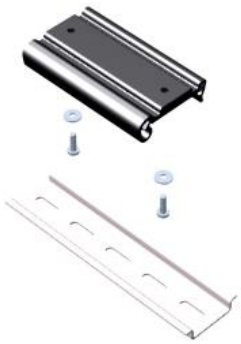
NP-9197



NP-9124



NP-9135



EU, UKCA DECLARATION OF CONFORMITY

The undersigned, representing the following:

Manufacturer: PREMIUM, S. A.,
Address: C/ DolorsAleu 19-21, 08908 L'Hospitalet de Llobregat, SPAIN

herewith declares that the product:

Type: DC UPS
Models: **ECS-100-5173... 5179**

is in conformity with the provisions of the following EU directive(s):

2014/35/EU SI 2016 No 1101	Low voltage / The electrical equipment (safety) regulations
2014/30/EU SI 2016 No 1091	EMC / Electromagnetic compatibility regulations
2015/863/EU SI 2012 No. 3032	RoHS / Restriction of the use of certain hazardous substances in electrical and electronic equipment

and that standards and/or technical specifications referenced below have been applied:

EN 60950-1: 2006 + A1: 2010 + A2: 2013	Safety. Information technology equipment
EN 62368-1: 2020	Safety. Audio/video, information and communication technology equipment
EN IEC 61000-6-4: 2019	Generic emission standard
EN IEC 61000-6-2: 2019	Generic immunity standard
EN 50121-4: 2016	Railway applications. Emission and immunity of the signalling and telecommunications apparatus

CE marking year: **2006**; UKCA marking year: **2021**

Notes:

For the fulfillment of this declaration the product must be used only for the aim that has been conceived, considering the limitations established in the instructions manual or datasheet.

L'Hospitalet de Llobregat, 12-04-2022

Albert Sole
Technical Director

PREMIUM S.A. is an ISO9001 and ISO14001 certified company by **Bureau Veritas**