innovative energies
Global Solutions Personal Focus

Phone: +64 9 835 0700
Fax: +64 9 837 3446
NZ Freephone: 0800 654 668
AU Freephone: 1800 148 494

Email: info@innovative.co.nz

www.innovative.co.nz

User Manual

IEPS5

100W Standalone PSU with battery backup

ISO9001 Certified

Safety

The user is responsible for ensuring that input and output wiring segregation complies with local standards and that in the use of the equipment, access is confined to operators and service personnel. A low resistance earth connection is essential to ensure safety and additionally, satisfactory EMI suppression (see below).

HAZARDOUS VOLTAGES EXIST WITHIN A POWER SUPPLY ENCLOSURE AND ANY REPAIRS MUST BE CARRIED OUT BY A QUALIFIED SERVICEPERSON.

Electrical Strength Tests

Components within the power supply responsible for providing the safety barrier between input and output are constructed to provide electrical isolation as required by the relevant standard. However EMI filtering components could be damaged as result of excessively long high voltage tests between input, output and ground. Please contact our technicians for advice regarding electric strength tests.

Earth Leakage

The EMI suppression circuits causes earth leakage currents which may be to the maximum allowable of 3.5mA.

Ventilation

High operating temperature is a major cause of power supply failures, for example it has been well documented that a 10^{o}C rise in the operating temperature of a component will halve its expected life. Therefore always ensure that there is adequate ventilation for the equipment. Batteries and cooling fans also suffer shortened lifetimes if subjected to high ambient temperatures - both should be included in a routine maintenance schedule to check for signs of reduced efficiency.

Water / Dust

Every effort must be made in the installation to minimise the risk of ingress of water or dust. Water will almost always cause instant failure. The effects of dust are slower in causing failure of electronic equipment but all electrical equipment should be cleaned free of any dust accumulation at regular intervals.

Electromagnetic Interference (EMI)

Switching power supplies and converters inherently generate electrical noise. All wiring should be as short as practicable and segregated from all equipment wiring which is sensitive to EMI. Residual noise can be reduced by looping DC wiring through ferrite cable sleeves. These are most effective as close to the power supply as possible and as many turns of the wire taken through the core (+ and - in the same direction) as the core will accommodate.

Fuse ratings

Check that the wiring and fuses or MCBs match the rating of the PSU or converter. Note that the Innovative Energies *No-Break^{TM} DC* chargers are able to deliver up to 2.5 times the rated current when mains power is on.

Connection polarity

It is critical to check the polarity carefully when connecting DC devices. Some Innovative Energies models have reverse polarity protection (RPP), for example, the *Smartchargers* have electronic (non-destructive) RPP, the *No-Break^{TM} DC* range has an internal fuse which needs to be replaced if the battery is connected in reverse. Usually, however, a reverse polarity connection results in instant destruction of the device, especially if there is a battery involved.

Glossary of terms used in our user manuals

PSU = power supply unit

BCT = battery condition test

ECB = electronic circuit breaker

ELVD = electronic low voltage disconnect

RPP = reverse polarity protection

EMI = electromagnetic interference

SNMP = Simple Network Management Protocol

LAN = local area network

DOD = depth of discharge

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IEPS5

100W Standalone PSU with battery backup

- **Universal input, 90- 264VAC, 127-370VDC**
- **High efficiency switch mode design**
- **Internal battery allows for high peak current draw and back up on mains fail**
- **Internal diode in positive leg to prevent discharge of battery while not in use**
- **12V, 7Ah battery included**
- **Easily removable lid for battery replacement**
- **Single, easy-to-use package**
- **ISO9001 Design management system**

♦ 24 Month Warranty

SPECIFICATIONS All specifications are typical at nominal input, full load and at 20°C unless otherwise stated.

ELECTRICAL

Input voltage	85 - 265V, 50/60Hz
Fusing / Protection	AC input fuse 3A DC battery output MCB 10A PSU: constant current limit Overvoltage protection
Control	ON/OFF switch on front panel Output DC circuit breaker
Isolation	1KV DC input - output / earth
Power	100W
Output voltage	13.8V (mains on)
Current	6.5A continuous (mains on) 16A peak (mains on)
Indicators	Mains on, DC output present
Battery	7Ah sealed lead acid Estimated back up time at 6.5A = 12 to 15 minutes with battery in good condition External batteries, properly fused, may be connected for extra backup time or higher peak currents.

PHYSICAL

AC Input connector	IEC320 socket
DC Connections	Banana plug/screw terminal posts
Enclosure	Steel / powder coated lid
Mounting	Desktop
Cooling	Natural convection
Dimensions	178 x 300 x 78 mm (W x D x H) (including rubber stand-off feet)
Weight (with battery)	5 Kg

STANDARDS

EMI	EN55022:2006 (Class B)
Safety	EC950 / EN60950 / AS/NZS3260 / UL1950

ACCESSORIES SUPPLIED

AC power cord 1.5m with IEC320 socket and NZ/Aust plug

MCB must be closed for battery to be connected. MCB should be tripped when in storage or if not connected to mains power. Briefly connect DC output terminals together to open MCB.

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TERMS OF WARRANTY

Innovative Energies Ltd warrants its power supplies for 24 months (two years) from date of shipment against material and workmanship defects.

Innovative Energies' liability under this warranty is limited to the replacement or repair of the defective product as long as the product has not been damaged through misapplication, negligence, or unauthorized modification or repair.

Thank you for purchasing from Innovative Energies.

We trust your power supply will exceed your expectations and perform for years to follow.

Sincerely,
The Innovative Energies team.

Innovative Energies Limited

Phone:	+64 9 835 0700
Freephone:	0800 654 668 (New Zealand) 1800 148 494 (Australia)
Fax:	+64 9 837 3446
Email:	info@innovative.co.nz
Online:	www.innovative.co.nz
In Person:	1 Heremai Street, Henderson, Auckland, New Zealand
By Post:	PO Box 19-501, Auckland 1746, New Zealand