



Installation & Operating Manual

iBATT100



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1 Introduction

The iBATT100 is an ATEX and IECEx approved wall mount stainless steel battery enclosure for use in Zone1 and Zone 2 hazardous areas. It is designed to be used in conjunction with the iUPS101 UPS system to provide an uninterruptible power supply. The iBATT100 can also be used independently providing the special conditions for safe use are applied as detailed on the ATEX / IECEx certificate.

When used in conjunction with the Ex 'e' certified charge protection circuit contained within the iUPS101 system, users are permitted to charge the two 12V 150Ah valve regulated lead acid batteries in a hazardous area. These batteries are maintenance free, and thanks to the temperature compensation circuitry within the iUPS101, they are charged within the manufacturers specified parameters regardless of environmental conditions.

2 Safety Information and Notes

2.1 Storage of this Manual

Keep this user manual safe and in the vicinity of the device. All persons who have to work on or with the device should be advised on where the manual is stored.

2.2 List of Notes

The notes supplied in this chapter provide information on the following.

- **Danger / Warning.**
 - Possible hazard to life or health.
- **Caution**
 - Possible damage to property.
- **Important**
 - Possible damage to enclosure, device or associated equipment.
- **Information**
 - Notes on the optimum use of the device

Warning Installation to be by skilled electricians and instructed personnel in accordance with national legislation, including the relevant standards and, where applicable, in accordance with IEC 79.17 on electrical apparatus for explosive atmospheres.

Warning! The iBATT100 must only be operated in Zone 1 and Zone 2 hazardous area. Refer to the ATEX certificate for further information.

Warning! If charging takes place in a hazardous area the charging circuits must meet the requirements of EN60079-0 and EN60079-7.

Warning! Any load connected to the iBATT100 must include a 160A Fuse in the supply line. If the fuse is located in a hazardous area it must be suitably certified.

Warning! If the batteries are to be disconnected in a hazardous area, then an appropriately certified means of isolation must be provided.

Important The batteries must not be subjected to mechanical shock.

Important The technical data indicated on the iBATT100 ATEX rating plate, in this manual and the ATEX certificate must be observed at all times.

Important The ATEX rating label must be fitted at all times, if damaged it must be replaced immediately or the iBATT100 must be removed from service and the hazardous area.

Important Changes in the design and modifications to the equipment are not permitted.

Important The iBATT100 shall be operated as intended and only in an undamaged condition.

Important Only suitably rated loads may be connected to the iBATT100.

Caution This assembly may weigh up to 110Kg, therefore ensure the assembly is mounted using suitable fixtures.

Caution Never operate the iBATT100 unit outside its rated voltage, current & power as indicated in the specification or the safety of the unit may be impaired.

Caution Never exceed the maximum loading of the iBATT100 as stated in the specifications. Adequate protection such as a fuse / breaker must be fitted to connecting equipment to prevent exceeding maximum load.

Important For the installation, maintenance and cleaning of the units, it is absolutely necessary to observe the applicable regulations and provisions concerned with explosion protection (EN60079-0:2009, EN 60079-14:2008) as well as the Accident Prevention Regulations.

Important The iBATT100 must not be stored or operated outside of its rated temperature range as stated on the ATEX certificate.

Important! Only replacement batteries supplied by Extronics may be fitted as there are safety related tests that need to be performed on each battery.

3 Installation and Set-to-work

3.1 Installation

The iBATT100 enclosure is supplied with two 12V 150Ah VRLA batteries.

The iBATT100 is a wall mount enclosure, and only permitted to be mounted in a vertical orientation – see fig 3.0.

The enclosure weighs approximately 20Kg, and each of the batteries weigh 46Kg so the appropriate health and safety requirements for lifting equipment must be taken to ensure safe installation.

Important! If replacing the batteries, only FEAM 12FLB540 12V 150Ah Batteries are permitted to be fitted in the iBATT100 enclosure.

Correct Vertical Installation:

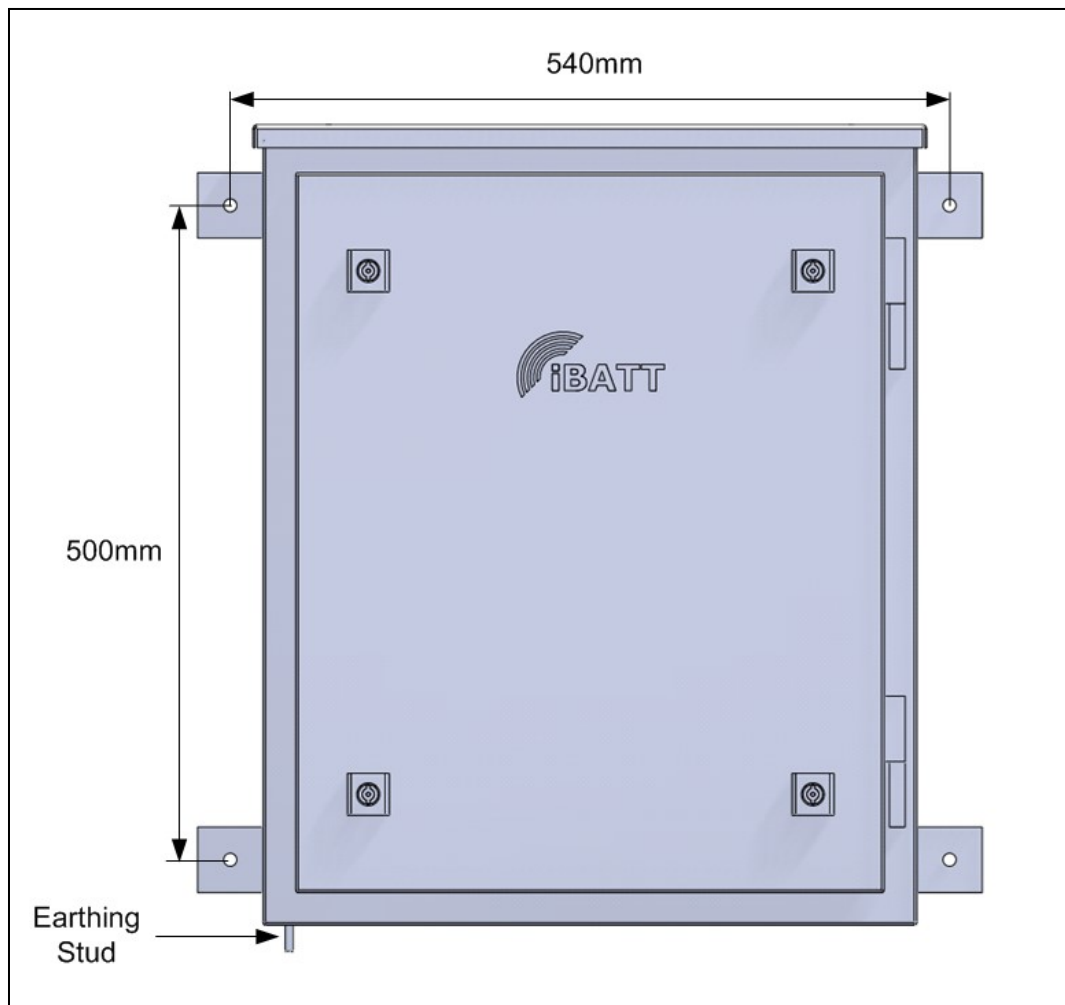


Fig 3.0

3.2 Fitting the Batteries

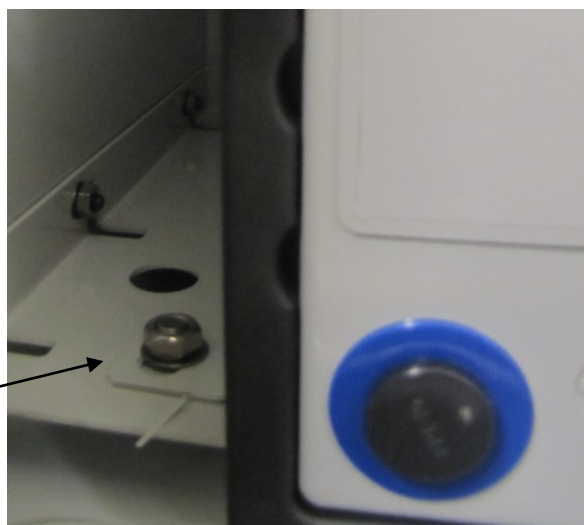
Once the enclosure is mounted, the batteries need to be installed and connected as per the diagrams below before the unit can be powered up.

Warning! AT ALL TIMES TAKE GREAT CARE NOT TO SHORT THE LEAD ACID BATTERY TERMINALS, OR SUBJECT THE BATTERIES TO ANY MECHANICAL SHOCK.

Place the batteries into the enclosure as shown in the diagram below, and fit the battery retaining bracket and associated nuts and washers to secure the batteries:



Battery Retaining Bracket



Nut
+Washer

3.2 Fitting the Cables

Warning! Installation to be by skilled electricians and instructed personnel in accordance with national legislation, including the relevant standards and, where applicable, in accordance with IEC 79.17 on electrical apparatus for explosive atmospheres.

Note It is recommended the battery is installed with an appropriately certified isolator to allow easy disconnection from any connected load such as the iUPS101.

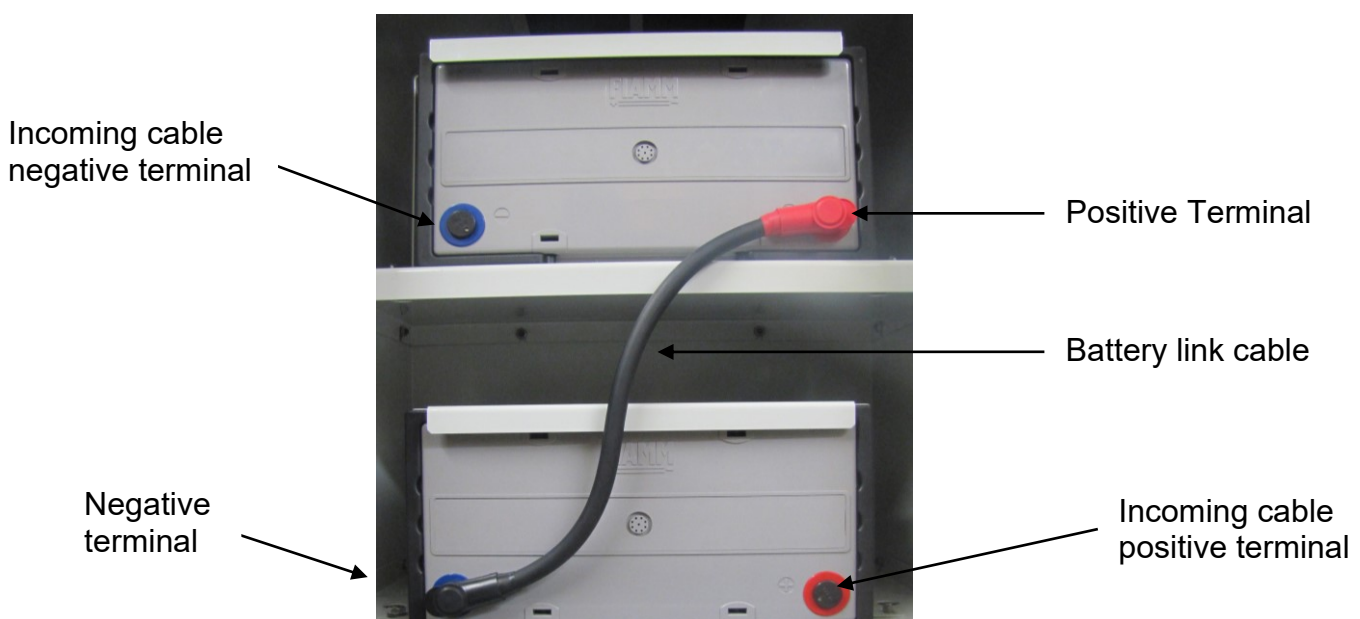
Entries to the enclosure for cable glands are threaded type. Any Entries that are not used must be blanked off with a suitably certified Ex 'e' blanking plug.

If the batteries are to be disconnected in a hazardous area, then an appropriately certified means of isolation must be provided. It is recommended the battery is installed with an appropriately certified isolator to allow easy disconnection from any connected load such as the iUPS101.

The iBATT100 is supplied with:

- 1x Battery link cable
- 4x M8 bolt and spring washer parts
- 4x Terminal insulating boots

Connections are made directly to the batteries as shown below. The cables should be secured using M8 bolts and a spring washer to prevent loosening during service.



3.3 Setting to work

The iBATT100 is designed to be used in association with the iUPS101 Zone 1 UPS system, as this provides a certified control circuit for safe charging of the batteries. Once all cables are connected correctly and inspected the enclosure door should be closed and locked ready for normal operation.

Important!	Ensure the door is secure, correct cable glands are fitted and the unit device correctly wired and earthed.
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Important!	Ensure that the door gasket is clean and undamaged before closing the door.
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4 Intended Purpose Usage

Important Before setting the units to work, read the technical documentation carefully.

Important The latest version of the technical documentation or the corresponding technical supplements is valid in each case.

The iBATT100 is built using modern components and is extremely reliable in operation; however it must only be used for its intended purpose. Please note that the intended purpose also includes compliance with the instructions issued by the manufacturer for installation, setting up and service.

Any other use is regarded as conflicting with the intended purpose. The manufacturer is not liable for any subsequent damage resulting from such inadmissible use. The user bears the sole risk in such cases.

4.1 Transportation and Storage

All iBATT100 devices must be so transported and stored that they are not subjected to any excessive mechanical stresses.

Important For shipping and storage it is imperative that the battery manufacturer's instructions are observed.

4.2 Authorized Persons

Only persons trained for the purpose are authorized to handle the iBATT100; they must be familiar with the unit and must be aware of the regulation and provisions required for explosion protection as well as the relevant accident prevention regulations.

4.3 Cleaning and Maintenance

The iBATT100 has two ventilation filters fitted to prevent the ingress of dust and water. These filters should be inspected periodically, and replaced / cleaned as necessary.

4.4 Safety Precautions

Important For the installation, maintenance and cleaning of the units, it is absolutely necessary to observe the applicable regulations and provisions concerned with explosion protection (EN 50014, EN 60079-14:2003) as well as the Accident Prevention Regulations.

4.5 Cleaning and Maintenance Intervals

The cleaning intervals depend on the environment where the system is installed.

4.6 Aggressive substances and environments

The iBATT100 is not designed to come into contact with aggressive substances or environments, please be aware that additional protection may be required.

4.7 Exposure to external stresses

The iBATT100 is not designed to be subjected to excessive stresses e.g. vibration, heat, impact. Additional protection is required to protect against these external stresses.

The iBATT100 will require additional protection if it is installed in a location where it may be subjected to damage.

4.8 Lead Acid Batteries

Important! Only replacement batteries supplied by Extronics may be fitted as there are safety related tests that need to be performed on each battery.

The rechargeable valve regulated lead acid batteries contained within the iBATT100 have an operational life of up to 10 years dependant on charge/discharge cycles and ambient temperature conditions. Replacement batteries may only be fitted in the field by the customer under safe area conditions and by skilled electricians who are appropriately certified. Please note it is essential that this work is carried out by a competent person and care must be taken not to short the +/- terminals of the batteries.

5 Technical Data




5.1 Specification

Input Voltage	24Vdc (18-36Vdc)
Output Voltage	24Vdc (18-36Vdc)
Maximum Discharge Current	160A
Maximum Charge Current	40A
Enclosure Material	316 Stainless Steel
Weight	Approximately 110 Kg
Enclosure Ingress Protection	IP45*
Environmental	-20°C to +55°C
Certification	Ex II 2G Ex e IIC T6 Gb

*ATEX ingress protection is IP43 as the filter material may degrade over long periods of time if not inspected. Providing regular inspection and replacement of this filter material is carried out, then the enclosure protection will remain as IP45

6 Certification

6.1 Certification Label

		iBATT100 Date: xx/xx/xxxx Serial # 123456	
 2804			
-20°C ≤ Ta ≤ +55°C		IP43 II 2 G Ex e IIC T6 Gb Baseefa11ATEX0191X IECEX BAS11.0097X	
RATED VOLTAGE 24V	RATED CURRENT 160A	CELL CAPACITY 150Ah	
CELL TYPE: FIAMM 12FLB540P		NUMBER OF CELLS: 12	
WARNING - REFER TO THE INSTRUCTION MANUAL FOR BATTERY CHARGING			
Extronics Ltd, 1 Dalton Way, Midpoint 18, Middlewich, Cheshire CW10 0HU Tel: +44 (0)845 277 500 Fax +44 (0)845 277 4000 E-Mail Info@extronics.com Web: www.extronics.com			

6.2 EU Declaration of Conformity



EU Declaration of Conformity

Extronics Ltd, 1 Dalton Way, Midpoint 18, Middlewich, Cheshire CW10 0HU, UK

Equipment Type:

iBATT100

Directive 2014/34/EU Equipment and protective systems intended for use in potentially explosive atmospheres (ATEX).

EC type Examination Certificate	Baseefa11ATEX0191X
Provisions of Directive fulfilled by the equipment	Ex II 2 G Ex e IIC T6 Gb
Notified Body for EC Type Examination	Baseefa, Rockhead Bus. Park, SK17 9RZ
Notified Body for production	ExVeritas 2804, Denmark

is in conformity with the following standards or other nominative documents

EN60079-0:2006	Electrical apparatus for potentially explosive gas atmospheres – General requirements (A review against EN60079-0:2012 + A11:2013 shows no significant changes relevant to this equipment, so EN60079-0:2006 continues to represent 'state of the art').
EN60079-7:2007	Electrical apparatus for explosive gas atmospheres – Increased safety 'e' (A review against EN60079-7:2015 shows no significant changes relevant to this equipment, so EN60079-7:2007 continues to represent 'state of the art').

On behalf of Extronics Ltd, I declare that, on the date the equipment accompanied by this declaration is placed on the market, the equipment conforms with all technical and regulatory requirements of the above listed directives.

Signed

Nick Eardley
Senior Project Engineer
Date: 04/09/2020

332013(4)

1 Dalton Way, Midpoint 18, Middlewich
Cheshire CW10 0HU, United Kingdom

Tel: +44 (0)845 277 5000
Fax: +44 (0)845 277 4000

Email: info@extronics.com
Web: www.extronics.com

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