

DESCRIPTION

ESB batteries are designed for use in hazardous areas (ATEX directive 2014/34/EU & UK Regulation UKSI 2016 No.1107) and are mechanically protected by a robust painted steel casing (ESB75 only is available with a stainless casing). The ESB50 and ESB75 units are suited for high current engine cranking applications. The ESB55 battery is a deep cycle battery. The units may be used for either "gas" or "gas and dust" applications by selecting the part numbers below:

TECHNICAL DATA

IEC/CENELEC Marking	Ex ec IIC T4 Gb (IP23)		
ATEX Marking	⊕ II 2 G (Gas use) or ⊕ II 2 G D (Gas & Dust use)		
Ambient Temperature	-20°C to +48°C		
Certificate Numbers	SIRA 06ATEX3313X, IECEx SIR 06.0089X & CSAE 21UKEX03580X		
Type	ESB75	ESB55	ESB50
Output (6 Cells)	12V/75AH/975CCA	12V/55AH/765CCA	12V/50AH/815CCA
Weight	30 Kg	23 kg	21 kg
Part Number (Gas use only)	300810374*	300810339/55	300810339

WARNING: DO NOT OPEN WHEN AN EXPLOSIVE ATMOSPHERE MAY BE PRESENT.

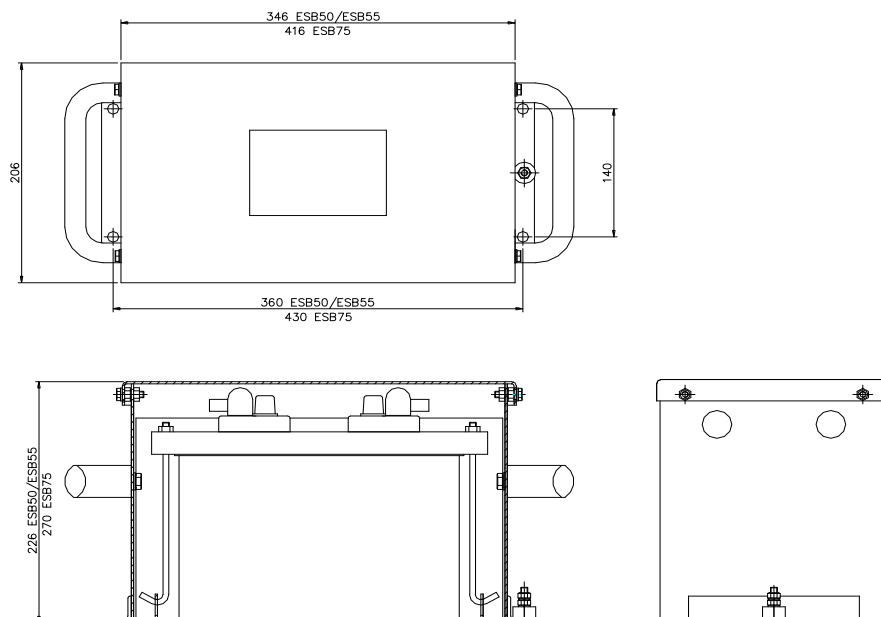
When using /D part numbers, this product is protected for use in both gas and dust atmospheres and carries the additional marking code: Ex tb IIIC T100°C Db

Part Number (Gas & Dust Use)	300810374/D	300810339/55/D	300810339/D
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To prevent the battery overheating, a maximum continuous cranking time of 3 minutes is allowed, after which time, the battery should be left 30 minutes to cool.

*300810374/S can be specified where a 316 grade stainless casing is required.

DIMENSIONS



INSTALLATION

The equipment must be installed and maintained in accordance with BS EN 60079-14 and 17. Failure to observe any instructions in this data sheet may invalidate any warranty agreement.

Remove any protective film from the product.

Plastic blanking plugs are used for transportation only. All plastic blanking plugs will need to be removed from the product and replaced with suitable ATEX/IECEx glands and/or blanking plugs.

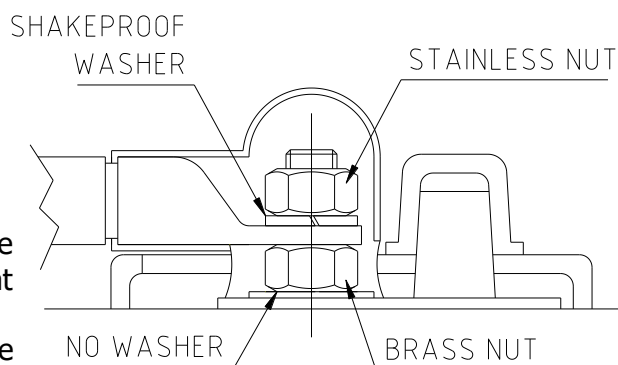
Fix the battery with 4 off M10 screws via the mounting holes at the base of the case.

The enclosure should be earthed to chassis via the stainless M6 stud assembly at the base of the outer case. Check for continuity after mounting.

Choose supply cables suitable for operating currents and temperatures. On high current applications such as electric starter motors, lead lengths have a large effect on output power. A large cross-section conductor (e.g. 50mm²) should be used and the length minimised.

Only copper tube hydraulically crimped terminals are to be used and connected to the battery threaded terminals.

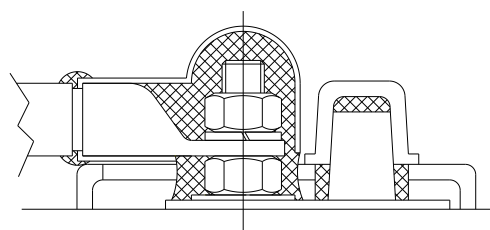
Mount the crimp connector as shown. Ensure the lower brass nut is fitted and tightened down prior to mounting the connector (The brass nut is essential for good conductivity).



Cranking currents to the batteries should be limited to 500A for example by use of a fuse.

When installing the cables and battery connections, ensure the terminals are fitted with the insulators provided so that no conductive parts are exposed. The minimum allowable clearance between the terminal or bare supply cable to the battery casing is 35mm.

For dust applications, if a battery is replaced, the rubber boot covering the terminal must be replaced and filled completely with Loctite 598 so that the conductors are completely sealed (replacement boot part numbers 300994155).



Dust versions only - Fill hatched area to completely insulate.

After installing batteries, it is essential that the cables are fixed locally to prevent pulling or twisting of the cable by using a suitable clamp. The cables should also be protected from mechanical damage by the use of a guard or conduit. Alternatively, armoured cable may be used.

BATTERY CHARGING

Charging of the Pyroban ESB battery in hazardous areas must take into consideration over-charging faults. The charging circuit must be such that under any single fault, the following parameters are not exceeded:

Alternator Charging: Output must not exceed 15V

Charging with Battery charger: Max output 15V, 10A*

Any charging system that is installed within the potential explosive atmosphere must be certified as compliant with IEC 60079:0 and any appropriate sub-standard. If relevant, the charging circuit shall be separated from any other voltage source(s). The separation shall satisfy table 1 of IEC 60079-7:2006.

**Rapid recharging is acceptable if the charge voltage is limited to 15.6V. ESB55 & ESB75 Batteries may also be Cyclic or series charged with a maximum of 14.7V. Stop charging if the battery exceeds 50°C*

MAINTENANCE

This should be carried out in a safe area.

Every 12 months or 1500 hours operation whichever sooner:

- ▪ Check that the supply cables are in good condition and fixed in their original position.
- ▪ Check that the cable glands are tight.
- ▪ Check that the mounting fixings are tight.
- Inspect the unit for mechanical damage, contact Pyroban Customer services for advice on repair or replacement.

The internal battery is not serviceable - do not attempt to fill with water or acid.

HEALTH AND SAFETY

Acid Hazard

The battery is an Absorbed Glass Mat type and acid will not normally leak, even from a cracked case. In the event of contact of acid with skin, immediately drench in clean water and remove any contaminated clothing. Wash eyes under running water for a minimum of 10 minutes and seek medical attention.

Electrical Energy

Burns may occur from the heating of tools and conductive objects in contact with live conductors. Rapid discharging can cause gaseous fumes leading to explosions.

Isolate the battery where possible prior to working on electric circuits. Exercise caution when working with metallic tools or conductors to prevent short circuits and arcing.

For burns cool the area with water, apply a sterile dressing and seek medical attention if necessary.

Emission of Gasses

Hydrogen and oxygen are emitted during charging and can cause an explosive concentration. Install in a ventilated area. Avoid exposing batteries to ignition sources such as sparks and lit cigarettes.

Weight

All ESB batteries are heavy and awkward to handle. Do not lift beyond your ability. Consider a risk assessment or use a suitable lifting device to avoid personal injury.

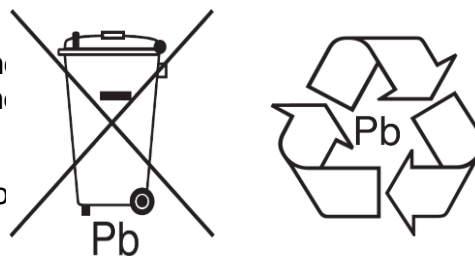
Handling

Always wear proper eye, face and hand protection when working with battery. Never lean over battery while boosting, testing, or charging.

Disposal

Batteries contain acid and lead compounds, should not be burnt and must be disposed of in accordance with the environmental regulations.

Batteries may alternatively be returned to Pyroban for disposal.



STORAGE

Store fully charged upright in a cool, dry and ventilated place. Check every few months to make sure the open circuit terminal voltage has not dropped below 12.4 volts. Recharge if necessary.

ORDERING SPARE PARTS

Genuine Pyroban parts should be ordered to ensure certification is not invalidated.

The internal battery unit may only be replaced by the following specially tested parts:

ESB75: Pyroban part number 300994502/S

ESB55: Pyroban part number 300994516/S

ESB50: Pyroban part number 300994501/S

To replace batteries, first isolate the supply. Remove the battery lid and retaining bar. Take care not to short the battery terminals when removing connections. Replace wiring and insulators in their original positions with no live conductors exposed.

For batteries in dust environments, note the additional requirements in the installation section.

DECLARATION OF CONFORMITY

We, Pyroban Limited, 23 Dolphin Road, Shoreham-by Sea, Sussex, BN43 6PB, UK, declare that the component mentioned in this data sheet has been designed and manufactured in accordance with the essential health and safety requirements of Directive 2014/34/EU (ATEX) and UK regulation UKSI 2016 No.1107 inclusive of subsequent amendments. Compliance with these is established by meeting the technical requirements of the relevant CEN, CENELEC and designated standards.



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Engineering & QHSE Manager

OTHER INFORMATION

Nothing contained in this brochure is intended to extend any warranty or representation, expressed or implied, regarding the products described herein. Any such warranties or other terms and conditions of sale of products shall be in accordance with Pyroban's standard terms and conditions of sale for such products, which are available upon request. Specifications and machinery may be altered without notice at any time.

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