

#### GENERAL INFORMATION


**DO NOT** modify the unit without authorisation from Pyroban. **Failure to observe any instructions in this Product Data Sheet may invalidate any certificate or warranty agreement.**

The equipment is intended for use in hazardous areas in accordance with EC directive 94/9 to meet the requirements for equipment category 2G. It is to be installed and maintained to BS EN60079

The starter motor is designed for use on diesel engines up to 6 litres. The unit is a pre-engaged type starter motor which is contained within a fabricated steel and cast iron explosion protected enclosure and is supplied with suitable cables connected via flameproof cable glands for fitting to the vehicle battery and ignition connections.

This equipment is designed for use in normal industrial environments. If extreme conditions are present, corrosion may occur that will affect the safety protection of the unit.

#### TECHNICAL DATA

- Type number FPS24.
- Gas group IIB.
- Temperature class T5.
- Licensed Test House: SIRA Equipment classification  II 2G.
- Certification number: SIRA 01ATEX1267.

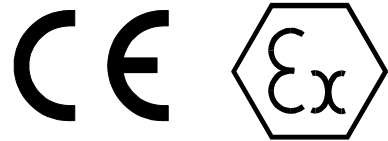
**Please Note: OPEN ONLY IN A NON - HAZARDOUS AREA.**

Normal operating voltage: 12V (DC).

Normal power 2.3kW.

Operating ambient temperature: -20°C to 40°C.

Weight: 15kg.



#### INSTALLATION INSTRUCTIONS

**Under no circumstances should the weight of the starter motor be supported by the cables.**

The starter motor is designed to be fitted to a number of different diesel engines. To achieve this, it should be fitted with an appropriate pinion and adaptor to suit the ring gear and bell housing respectively. The adaptor must be bolted to the bell housing prior to fitting of the starter unit. These items may be ordered separately through customer services quoting the Pyroban vehicle job number.

The unit is supplied with 35mm<sup>2</sup> power cables and a 3 core cable which are to be shortened to the required length. These must be terminated appropriately for example via a suitable cable gland into a flameproof enclosure. The length of the power lead between the starter and the battery has a large effect on the starter output power and should be minimised. When choosing a cable run, fix the cable securely to prevent twisting or pulling and ensure that it is protected from mechanical and heat damage.

Power to the starter should be provided by a suitably protected battery with a minimum rating of 90AH.

The multi-core cable should have the green/yellow core connected to ignition. The brown and blue cables are for test purposes only, and are connected to positive and negative terminals respectively inside the starter unit (refer to electrical diagram). Ends of these cables should be isolated suitably. Ensure that the casing is electrically bonded to the chassis on which it is mounted.

Pyroban recommend that a flameproof alternator and an increased safety battery are used with the starter motor. Available separately from Pyroban.

**Consult Pyroban Customer Service department for further information.**

## OPERATION

WARNING: Continuous cranking for long periods may cause the cable and cable gland to overheat. Outside of normal operation, do not crank continuously for longer than 1½ mins, then allow to cool for ½hour minimum.

## INSPECTION AND MAINTENANCE

The starter contains no user serviceable parts.

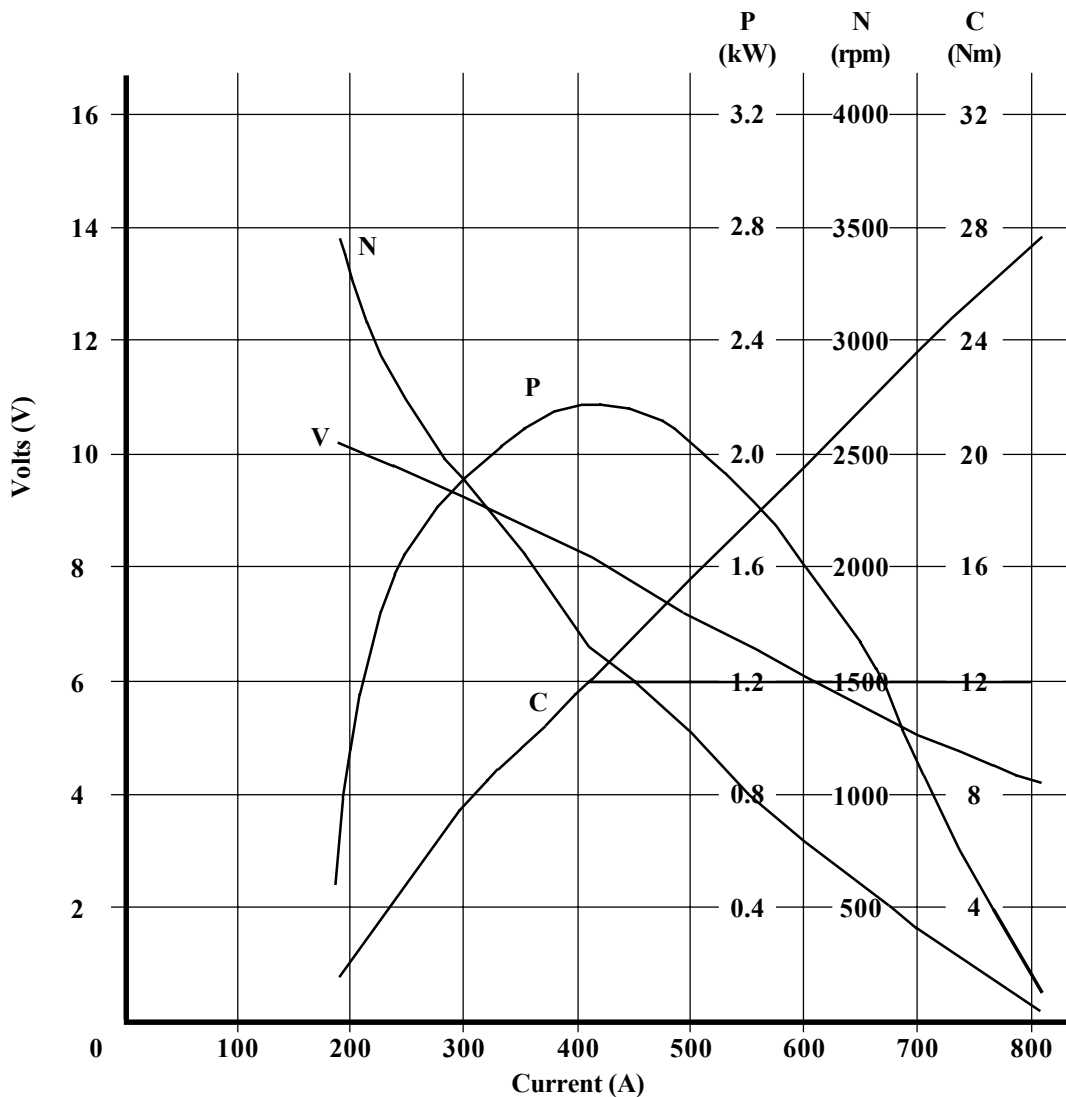
Every 3 months or after 500 hours vehicle operation, whichever is the sooner:

- **MAKE SURE** that the electrical cables and cable glands are in good condition and securely fixed in their original position.
- Should the lid fixings need replacing, the minimum tensile strength of these is 780N/mm<sup>2</sup> (grade 8.8).

Should the unit suffer impact or damage, the casing **must** be checked for permanent deformation. Should flameproof joints be damaged, the unit **must** be sent back to Pyroban for repair or replacement. Should the glands be damaged, they **must** be replaced with a suitable flameproof gland and the entry threads of the casing checked. If in doubt consult a Pyroban Engineer.

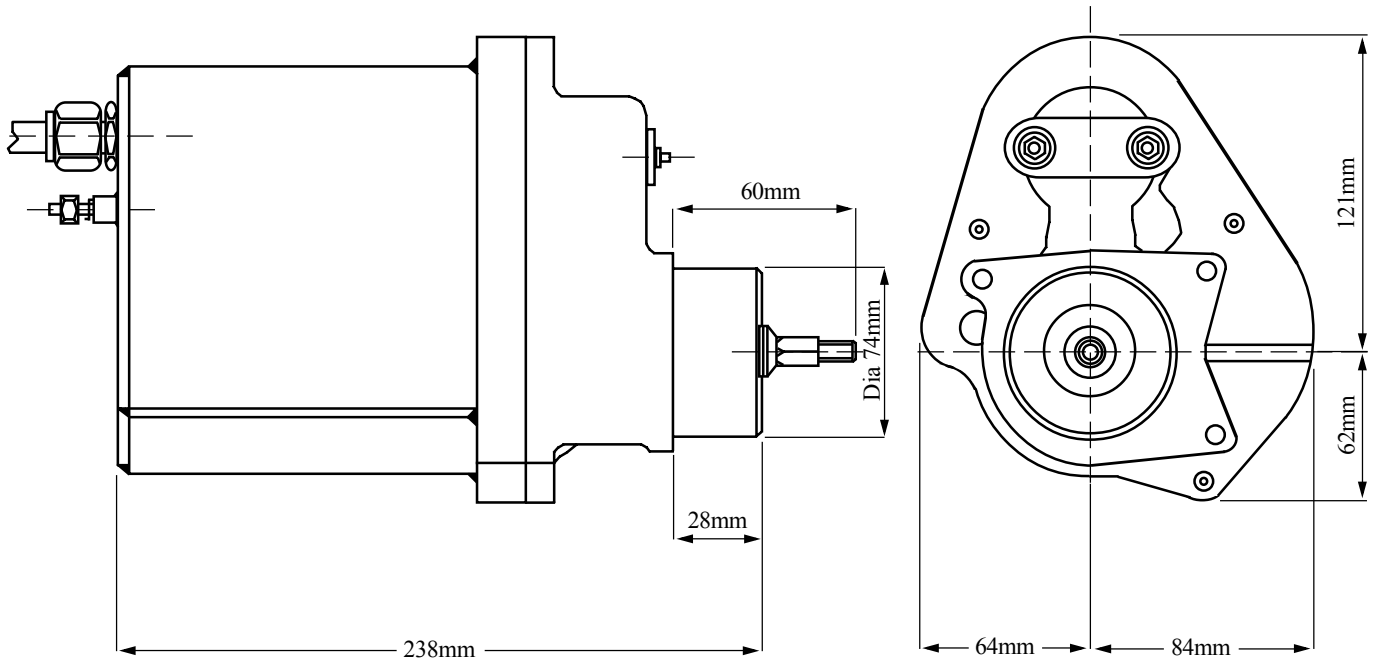
After maintenance and before use the unit **must** be checked and approved by the person in authority.

## PERFORMANCE GRAPH



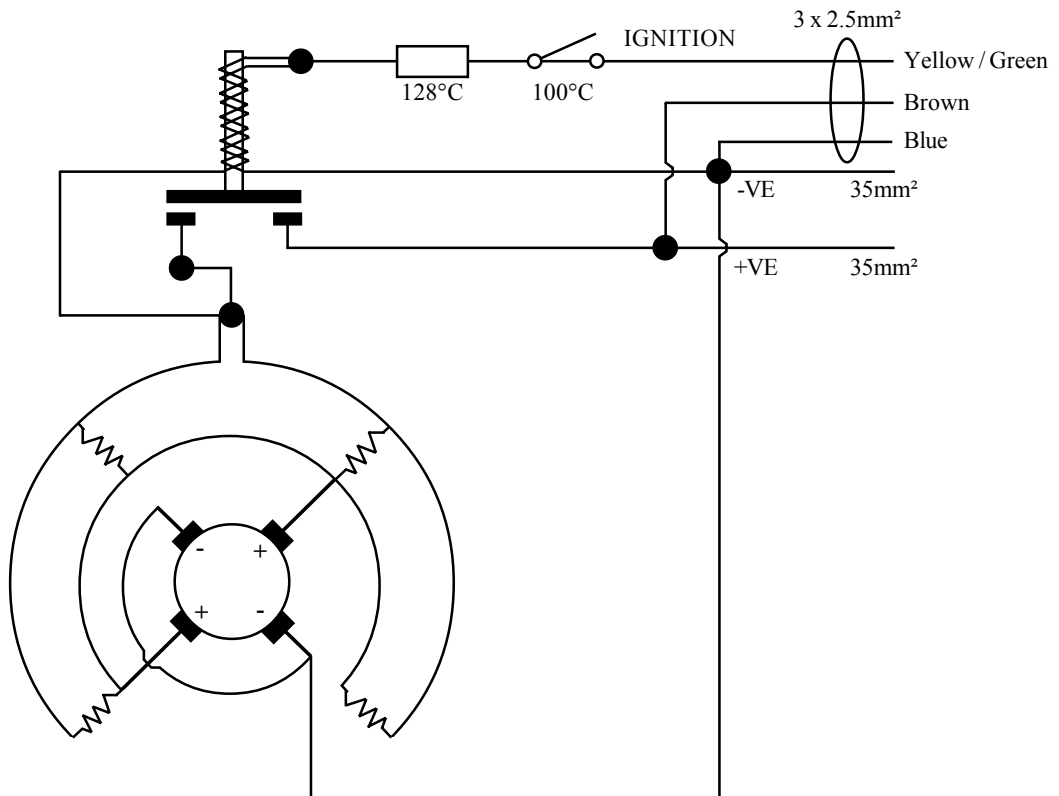
## DIMENSIONS

Starter Motor: FPS24 (Not to scale)



## ELECTRICAL DIAGRAM

Starter Motor: FPS24



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## ORDERING SPARE PARTS

Use only genuine Pyroban parts. Order spares or replacement parts directly from Pyroban quoting the Pyroban Part Number. Note that fitting of incorrect parts may invalidate certification.

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## DECLARATION OF CONFORMITY

We, Pyroban Group Limited, Endeavour Works, Dolphin Road, Shoreham-by-Sea, West Sussex, BN43 6QG, 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 94/9/EC (ATEX) inclusive of subsequent amendments. Compliance with these Directives is established by meeting the technical requirements of the relevant CEN and CENELEC standards.

Name: I. H. Ratcliff  
Position: Technical Director

Signature:

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## 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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