



Propeller-shaft Earthing and Potential Monitoring

A necessity for sea-going vessels!

Propeller-shaft Earthing Is Essential For Sea-going Vessels

The WHY and HOW

■ WHY

A turning propeller-shaft on a ship becomes electrically insulated from the hull by the lubricating oil film in the metal bearings or through the use of non-metallic bearing materials.

Between the propeller and the hull an electrical potential (Leclanché element) is formed, causing return currents passing through the gear-box. In order to supply cathodic protection to both propeller and shaft it is essential to maintain the shaft electrically bonded to the hull so that the potential will be as good as nil.

Apart from above the propeller is also a current collector under the influence of the ships cathodic protection system, whether it is an impressed current or a sacrificial anode system.

In order to prevent the possible heavy currents to run through the bearing and gear-box and so causing pitting in these units, it is essential that the bonding device represents a very low ohmic resistance.

■ HOW

The earthing-device consists of a copper slipring (75 mm in width) with in the centre a silver-track inlay on which run 2 off silver/graphite brushes (80% Ag) fitted in a balanced brushholder with brush-pressure setting.

The wide slipring (tightly fitted around the shaft by 2 off heavy duty stainless steel bandings) in combination with the 2 off almost pure silver brushes (contact surface > 312,5 mm²/brush) electrically in parallel, assures the necessary very low ohmic resistance as required for forcing most of the currents to run through the shaft-earthing-device i.s.o. bearings and gear-box.

Optionally a shaft-potential monitoring-device can be used for permanently checking the proper operation of the earthing assembly.

For additional information required, please don't hesitate to contact:

ALTHERIS bv
Scheveningseweg 15
2517 KS Den Haag

Phone: +31 (0)70 3924421
Fax : +31 (0)70 3644249
Email : sales@altheris.nl



ALTHERIS bv

Scheveningseweg 15
2517 KS DEN HAAG
The Netherlands

☎ +31 (0)70 3924421

☎ +31 (0)70 3644249

Offices in : Benelux | Germany | France | UK | Italy | USA

🌐 www.altheris.com

✉ sales@altheris.nl

LEADERS IN SENSORS & HEAVY DUTY JOYSTICKS

ALTHERIS
SENSORS & CONTROLS