

NL 08/07 November 2007

To: Owners and operators of vessels equipped with Svanehøj cargo pumping systems

**Type: All deepwell cargo pumps
All ballast pumps**

Subject: Insulation monitoring and fault finding.



Hamworthy Svanehøj A/S has got some very promising results in using the new DEIF SIM-Q Insulation monitoring Instrument.

When having many frequency converters onboard a ship the capacitance will go higher and higher when connecting more and more frequency converters. This means that the capacitance will not be the same level all the time, because frequency converters will be connected and disconnected when operating the ship.

The great new idea is that the SIM-Q continuously finds the correct point to measure the insulation level, when having different capacitance levels.

We have seen insulation levels rising from below 1Mohm up to 10Mohm – just by changing from a “standard instrument” to the new DEIF SIM-Q.

Based on patented technology, DEIF has developed an insulation monitor which combines the best from the analogue and digital worlds.

A well-known issue is that DC voltages from defective frequency converters can cause severe damage or erroneous measurement on analogue insulation monitors.

Moreover, the first generations of digital insulation monitors have had difficulties in meeting user requirements for very short response time in connection with detection of faults.

However, with the SIM-Q DEIF have combined the best from two worlds – compensation for DC voltages of up to 1,000V and immediate response when running in 'fault-finding-mode'. The SIM-Q can be delivered with customised scale indication of the fault range specific to customer requirements.



The SIM-Q insulation monitor instantly detects faults and thus minimises the impact on ship operation.



NEWSLETTER Service Department

Ideal for applications with frequency converters

Based on patent pending technology, the SIM-Q combines the accuracy of digital insulation monitoring principles with the speed of traditional ohmic measuring. DEIF have utilised the experience gained from having manufactured insulation monitors for many years to invent an insulation monitor that eliminates the shortcomings of traditional designs; sensitivity to uneven stray capacitance, risk of damage caused by high network DC voltages (imposed by faulty frequency converters), etc.

Application

The SIM-Q is used for supervision of the insulation resistance between an insulated voltage distribution network and an earth/safety cable. The monitor is applicable with single phase and 3-phase networks with/without neutral for voltages up to 690V AC.

Alarm relay

The SIM-Q is equipped with a relay output with adjustable set point. By means of a built-in switch, the relay can be configured to either NE (normally energised) or ND (normally deenergised).

Automatic offset adjustment

The SIM-Q performs an automatic offset adjustment in order to eliminate the possible effects of uneven stray capacitance and DC voltages imposed on the network by faulty frequency converters. When the offset adjustment has been performed, a traditional insulation measurement is carried out by imposing a DC voltage on the network.
Leakage capacitance up to 500 µF.

For more information about the SIM-Q see www.deif.com or contact DEIF directly.

In case you have any questions in connection with the above subject or in general, please do not hesitate to contact the service department of Hamworthy Svanehøj A/S or one of our service centres.

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