

Type Approval Certificate

This is to certify that the undernoted product(s) has/have been tested with satisfactory results in accordance with the relevant requirements of the LR Type Approval System.

This certificate is issued to:

PRODUCER	SELCO A/S
PLACE OF PRODUCTION	P.O.Box 113 Betonvej 10 DK-4000 Roskilde Denmark
DESCRIPTION	Engine Controller for monitoring/control of marine diesel engines, driving e.g. propulsion, emergency/harbour/auxiliary generators, pumps and compressors. Interfaces: inputs for 9 DI, 8 AI, 12 DO (relay) and one comm. link CAN J1939. Screen based HMI and hard wired LED matrix for alarm presentation.
TYPE	M2500
APPLICATION	Marine, offshore and industrial use where the environmental categories ENV2, ENV3 and ENV4 as specified in the LR Type Approval Test Specification No.1:2002 where the specification is satisfactory for the intended operation in "General Power Distribution Zone".
STANDARD	Manufacturer's standard
ADDITIONAL TESTS	Low Temperature test to -15°C for 16 hrs Compass safe distance to IEC 60945:2002, sec 11.2, Min distance 46cm (5.4°/H); 28cm (18°/H) Ingress Protection to IP 2X Power Supply from 24V battery
COMMENTS	Test of software is limited to the function tests carried out to verify correct operation during Type Approval testing. When used in LR Classed vessels, a separate shut-down unit shall be installed

Certificate No.	10/70017
Issue Date	24 June 2010
Expiry Date	23 June 2015
Sheet	1 of 2

Lloyd's Register EMEA
Strandvejen 104A_DK 2900, Hellerup


Poul Erik Hansen
Copenhagen Design Support Centre

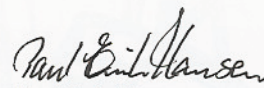
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"This Certificate is not valid for equipment, the design, ratings or operating parameters of which have been varied from the specimen tested. The manufacturer should notify Lloyd's Register EMEA of any modification or changes to the equipment in order to obtain a valid certificate."

The Design Appraisal Document No.TA10/70017 and its supplementary Type Approval Terms and Conditions form part of this Certificate.

Certificate No.	10/70017
Issue Date	24 June 2010
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Marine Design Appraisal Document

Lloyd's Register EMEA
Copenhagen Plan Approval Centre
Strandvejen 104A, DK-2900 Hellerup
Phone: +45 3296 1800
Facsimile: +45 3296 1881

Date
20 May 2010

Quote this reference on all future communications
TA/1091465/1000115/PEH

LLOYD'S REGISTER'S TYPE APPROVAL SYSTEM, 2002

Issued to: SELCO A/S Denmark
for: Type M2500 Engine Control and Monitoring
TYPE APPROVAL CERTIFICATE No. 10/70017

The under-noted documents have been reviewed for compliance with the requirements of Lloyd's Register's Type Approval System 2002 and are a supplement to the Certificate.

APPROVAL DOCUMENTATION:

SELCO A/S e-mail, SELCO ref. LABR	25.01.2010
LR Request Form	15.08.2008
SELCO A/S Data Sheet on M2500 Engine Controller	No date
SELCO A/S Installation Manual	
SELCO A/S Operation Manual	
ISO 9001:2008 cert no DNKFRC8000512A	29.05.2009

APPROVAL REPORTS:

DANAK-1910664, Project no: A506392, Type Approval testing of M2500 Engine Controller M2500	15.10.2009
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Compass Safe distance: 46cmm at 0.094 μ T and 28cm at 0.313 μ T

M2500 Function Test


Poul Erik Hansen

Senior Surveyor, Electrical Section

Supplementary Type Approval Terms and Conditions

Type Approval certifies that a representative sample of the product(s) referred to herein has/have been found to meet the applicable design criteria for the use specified herein. It does not mean or imply approval for any other use, nor approval of any product(s) designed or manufactured otherwise than in strict conformity with the said representative sample.

Type Approval is based on the understanding that the manufacturer's recommendations and instructions and any relevant requirements of the Rules and Regulations are complied with.

Type Approval does not eliminate the need for normal inspection and survey procedures required by the Rules and Regulations.

Lloyd's Register EMEA reserves the right to cancel or withdraw this Type Approval Certificate in accordance with the LR Type Approval System Procedure.

FINAL ACCEPTANCE OF ACTUAL ITEM(S) DEPEND(S) ON SATISFACTORY SURVEY AND TESTING

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Part 2
Protective Devices (Part 2)

Producer/Licence No.	Item Description	Technical Details	Category/Additional Tests	Remarks	Cert. No.
SELCO A/S Betonvej 10 DK-4000 Roskilde Denmark	Control Monitor and Alarm unit for marine diesel engines driving, propulsion, em./aux generators, pumps or compressors TYPE: M2500	Power supply: 2 x 24Vdc from Battery Inputs: configurable: 9 DI and 8 AI with loop monitoring. Outputs: 12 DO-relay One com link type CAN J1939 LED Screen with means for display of analogue instruments and HMI plus hardwired alarm indication in LED matrix.	ENV1, ENV2, ENV3 and ENV4 (2002) in "General Power Distribution Zone".	Expires: 23 June 2015 A separate shut-down unit will be required if used on engines onboard LR Classed vessels. The display does not replace the requirements for local instruments as specified in the LR Rules.	10/70017