

Type Approval Certificate Extension

This is to certify that Certificate No.95/00147(E3) for the undernoted products is extended and renumbered as shown.

This certificate is issued to:

PRODUCER	Littelfuse Selco A/S
PLACE OF PRODUCTION	P.O. Box 113, Betonvej 10 DK-4000 Roskilde Denmark
DESCRIPTION	Electronic supervision and control units for combustion engines, accepting rpm signal from a tacho-relay, a tacho-voltage detector or a pick-up.
TYPE	M1000-24-XX ^(*) C Alarm Enunciators Unit M2000-20-XX ^(*) C Control/Enunciators Unit M2100-20-XX ^(*) Control/Enunciators Unit ^(*) Front protection XX: 00: IP32; 10: IP54 Supply voltage: 12-24V DC \pm 30% (8-32V DC)
APPLICATION	Front panel mounting in marine, offshore and industrial applications in environmental categories ENV1, ENV2, ENV3 and ENV4 environments as defined in LR TA Test Specification No.1:1996 where the test specification is applicable for the actual installation. For location in "Bridge and Deck Zone"
ADDITIONAL TESTS	Low temperature -20°C Radiated Emissions: 1000MHz-2000MHz Immunity to Radiated Radio Frequency Fields: 1000MHz-2000MHz
STANDARD	Manufacturer's specification, IEC 60945
Certificate No.	95/70147(E3)
Issue Date	28 March 2012
Expiry Date	02 November 2015
Sheet	1 of 2

Lloyd's Register EMEA
Strandvejen 104A, DK-2900 Hellerup


Poul Erik Hansen
Copenhagen Design Support Office

OTHER CONDITIONS

This certificate does not include the optional M0700 series cards, M0500 Tacho and M0100 battery backup facilities.
Examination of software aspects is restricted to operations as demonstrated at the performance test.

"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 attached Design Appraisal Document No TA95/70147(E4) and its supplementary Type Approval Terms and Conditions form part of this Certificate.

All other details remain as the previous Certificate No. 95/70147(E3) to which this extension should be attached.

Certificate No.	95/70147(E3)
Issue Date	28 March 2012
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Sheet	2 of 2

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Poul Erik Hansen
Copenhagen Design Support Office



Marine Design Appraisal Document

Lloyd's Register EMEA
Copenhagen Design Support Office
Strandvejen 104A
DK-2900 Hellerup
Denmark

Date
28 March 2012

Please quote this reference number on all future communications
TA/I100219/1200338/PEH

LLOYD'S REGISTER TYPE APPROVAL SYSTEM, 2002

Issued to: Littelfuse SELCO A/S

for: Engine Supervision and Control Units: M1000, M2000, M2100
TYPE APPROVAL CERTIFICATE No. 95/70147(E4)

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

APPROVAL DOCUMENTATION

Request form LR2571	23.03.2012
Littlefuse SELCO E-mail	23.03.2012

Data Sheets

M1000 Process Alarm Monitor	02.10.2008
M1000 RS232 Configuration - Programmer's Manual	02.10.2008
M2000 Engine Controller	29.11.2010
M2000 RS232 Configuration	21.07.2010

TEST REPORTS

DANAK, Test Report No. 197639, Project no. E502468-1; "Supplementary type approval testing of M1000 Alarm Annunciator and M3000 Analog Alarm Annunciator".	04.10.2004
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DANAK, Test Report No. 198611, Project no. A504377-1; "Supplementary type approval testing of Selco modules".	20.12.2006
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FAT Procedure	16.04.2008
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Quality Manual, Doc. Nos. 109-114

Software Quality Plan	15.12.2011
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Also all documentation listed on Design Appraisal Document associated with Type Approval Certificate Nos. 95/70147, 95/70147 (E1), 95/70147 (E2) and 95/70147 (E3).

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.

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

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Denmark

Date
28 March 2012

Please quote the document number on all future communications
TA/1100219/1200338/PEH

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.



Poul Erik Hansen
Senior Surveyor, Electrical Section

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