



NIPPON KAIJI KYOKAI

Certificate

Certificate No. TA11644M

OF APPROVAL FOR AUTOMATIC DEVICES AND EQUIPMENT

Manufacturer:	Littelfuse Selco A/S
Place of Manufacturing:	Betonvej 10 DK-4000 Roskilde Denmark
Product description:	Alarm Annunciator / Controller / Emergency Controller for diesel engines
Model:	M1000 / M2000 / M2100 / M0500
Approval No.:	99A102
Specification & documents:	As shown on the attached sheet (-1/2)
Testing items & approval conditions:	As shown on the attached sheet (-2/2)

THIS IS TO CERTIFY that the above mentioned model of the product has been type approved in accordance with the requirements specified in Chapter 1, Part 7 of Guidance for the approval and type approval of materials and equipment for marine use and relevant Society's Rules.

This certificate is valid until 18 January 2016.

Issued at Tokyo on 19 January 2011.

T. Narisawa
General Manager
Machinery Department

Note: The manufacturer, if desired, is requested to apply to the Society for renewal prior to the expiration date.

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Attached sheet - 1/2 to Certificate No. TA11644M

Specification & reference documents:

1. Ratings:

Power Supply:

M1000, M2000, M2100: DC 12 / 24 / 48V or 110V

M0500: DC 12 / 24V or 48V

2. Equipment:

M1000: Alarm Annunciator

M2000: Engine Controller

M2100: Emergency Controller

M0500: Thaco Voltage Detector

3. Documents and test report etc.:

M1000

M2000

M2100

M1020.SCH-1(1/2), (2/2)

M1011-C

M0595-63E

M0500 Data Sheet (M0595-63E)

M0500 Manual (M0500-5X-21)

M1000 Data Sheet (M1095-111UK)

M1000 RS232 Configuration Manual (Revision: 02.10.2008)

DELTA Test Report (DANAK-197639)

Factory Acceptance Test Procedure (26-05-2011)

Supplementary type approval testing (DANAK-198611)

Firmware revision M1000

LOG M2000

M2000 RS232 Configuration Manual (Revision: 21-07-2010)

M2000 Data Sheet (M2095-94UK)

LOG M2100

M2100 Data Sheet (M2195-62E)

Quality Manual

Software Quality Plan

Flame retardant material declaration

NIPPON KAIJI KYOKAI

Attached sheet - 2/2 to Certificate No. TA11644M

Testing items & approval conditions:

1. Testing items:

(Applied testing items are marked with X.)

ENVIRONMENTAL TESTS		Mark
External examination		X
Operation test and performance test		X
Electric power supply failure test		X
Power supply fluctuation test	Electric	X
	Pneumatic and Hydraulic	--
Insulation resistance test		X
High voltage test		X
Pressure test (Pneumatic and Hydraulic)		--
Dry heat test (Temperature 70°C × 24 hours)		X
Damp heat test (Temperature 70°C, Humidity 95%, 24 hours, 2 cycles)		X
Vibration test (Acceleration ±4.0G × 2.0 hours)		X
Inclination test		X
Cold test (Temperature -27°C × 23 hours)		X
Salt mist test		--
Electrostatic discharge immunity test		X
Radiated radio frequency immunity test		X
Conducted low frequency immunity test		X
Conducted high frequency immunity test		X
Burst / Fast transient immunity test		X
Surge immunity test		X
Radiated emission test		X
Conducted emission test		X
Flame retardant test		--

2. Approved condition:

The product is not allowed to be installed on open deck.

-- The end --