TYPE APPROVAL CERTIFICATE
No. **ELE008724XG**

This is to certify that the product below is found to be in compliance with the applicable requirement of the RINA type approval system.

Description	**Control, safety and monitoring system for Diesel engines**
Type	**400 Series**
Applicant	**AUTO-MASKIN A/S** **Hvamsvingen 22 N-2013 Skjetten** **Norway**
Manufacturer	**AUTO-MASKIN A/S**
Place of manufacture	**Hvamsvingen 22 N-2013 Skjetten** **Norway**
Reference standards	**- Rules for the Classification of Ships- Part C - Machinery, Systems and fire protection - Ch.3 ; Sect. 6 ; Tab. 1 .**

Issued in **HAMBURG** on **February 22, 2024**. *This Certificate is valid until* **February 21, 2029**

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This certificate consists of this page and 1 enclosure

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TYPE APPROVAL CERTIFICATE
No. **ELE008724XG**
Enclosure - Page 1 of 1
400 Series

Product description

The **400 series** are components for control, monitoring and safety systems of internal combustion engines.

Type	Description	FW
DCU 408	Engine control unit without user interface: 8x DI, 4x AI 4-20mA, 4x AI PT100, 1x pickup, Fixed functional inputs, Fixed- and configurable outputs, Dual J1939 interfaces, Ethernet &Modbus	2.x
DCU 408E	Engine control unit without user interface: 8x DI, 4x AI 4-20mA, 4x AI PT100, 1x pickup, Fixed functional inputs, Fixed- and configurable outputs, Dual J1939 interfaces, Ethernet &Modbus	3.x
DCU 410	Engine control unit: 8x DI, 4x AI 4-20mA, 4x AI PT100, 1x pickup, Fixed functional inputs, Fixed- and configurable outputs, Dual J1939 interfaces, Ethernet & Modbus	2.x
DCU410E	Engine control unit: 8x DI, 4x AI 4-20mA, 4x AI PT100, 1x pickup, Fixed functional inputs, Fixed- and configurable outputs, Dual J1939 interfaces, Ethernet & Modbus	3.x
RIO 410	Expansion I/O unit: 4x DI, 9x AI 4-20mA, 8x AI PT100, 2x AI K-type, 1x AI 0-5V, 2x DO, 2x CO	1.x
RP 410	Remote panel: up to 8 DCU's, 4x DI, 4x CO, 2x RS232, 1x RJ45 Modbus/Ethernet/TCP, 8.4" touch screen, 1x USB Port, Configurable templates, IP56 (front)	2.x
RP410E	Remote Panel: up to 8 DCU's, 4x DI, 4x CO, 2x RS232, 1x RJ45 Modbus/Ethernet/TCP, 8.4" touch screen, 1x USB Port, Configurable templates, IP56 (front)	3.x
RP 480i	Remote Panel: up to 8 DCU's, RJ45 Ehternet, 3x USB-A Port, 12.1" touch screen, IP56 (front)	3.x
RPS	Redundant power selector. 2x 24V DC In, 1x 24V DC Out, 2x alarm PRI_OK & SEC_OK, IP4X.	-
SDU 404	Safety unit: 4x DI, 1x pickup, wire break detection, LED indication, Overspeed test function, Power supply monitoring, Local acknowledge/ reset button	1.x
SDU 410	Safety unit: 8x DI, 2x pickup, wire break detection, LED indication, Overspeed test function, Power supply monitoring, Local acknowledge/ reset button	1.x
SDU 420	Safety Unit: 12x DI, 3 AI, 1x pickup, wire break detection, LED indication, Overspeed test function, Power supply monitoring, Local acknowledge/reset button	1.x

Documents:

Manual: - 1100269 dated June 10, 2015;
Quick installation guide: - 1000653 November 29, 2017; 1100274 November 30, 2017; 1100275 Rev. 4 dated April 2018;
- 1100406 November 30, 2017; 1100419 March 26, 2018; 1100426 March 26, 2018; 1100651 March 26, 2018; P/N 1500668 dated 20 January 2022, P/N 1500159 dated 21 January 2022

Test Reports:

DNV: - 2007-3495 Rev. 4 dated 18/06/2008
NEMKO: - 91130/8 Ver. 2 dated 4/4/2006, E21169.02 dated 2021-09-08, E21093.00 dated 2021-05-21,
SP Technical Research Institute of Sweden: - 4P01832E2 dated 23/04/2014; 4P01832E3 dated 25/04/2014;
- 4P02266-A dated 30/04/2014; 5P02252-E dated 2015-03-25; 5P06927 dated 2015-10-16;
RISE: 9P06118 rev B dated 2019-12-09, 9P04380 dated 2019-10-22, P113225 dated 2022-01-18, P111935 rev B dated 2021-11-25, 2P03725 dated 2020-11-25

Remarks:

- The products fulfill **EC-Code: 3a3**.
- The equipment fulfill the EMC requirements for installation in power distribution zone.
- System configuration is to be such that: + Engine Safety System is to be independent from other systems; relevant sensors are to be additional to the ones used for monitoring and control purposes.
  + The engine is to be controlled locally, when a failure on the engine remote control system is occurring.
  + Local monitoring of essential parameters necessary for a safe local control of the engine is to be provided (even in case of remote monitoring system failure).
- In case of major software modification detailed information and suitable documents are to be submitted to the Society.
- Drawings of each system configuration is to be sent for approval before installation on board.
- This certificate annuls and replaces the previous one N° ELE337018XG.

HAMBURG February 22, 2024

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