

# TYPE APPROVAL CERTIFICATE

Certificate No: **TAA000004Z**Revision No:

Inis is to ce	rtity:	
That the Safety	Unit for Rotating Machinery	
with type design <b>M2600</b>	ation(s)	
Issued to	nS	
	ælland, Denmark	
is found to comp DNV GL rules		units, and high speed and light craft
Application	:	
Product(s) app	roved by this certificate is/are accep	oted for installation on all vessels classed by DNV.
Location classe Temperature Humidity Vibration EMC Enclosure	B B A B	the Rules to be provided upon installation on board.
	on <b>2021-06-28</b> s valid until <b>2023-06-27</b> . n: <b>Denmark CMC</b>	for <b>DNV</b>
Approval Engine	er: Krzysztof Aleksander Jankowsk	
		Jan Tore Grimsrud
		Head of Section

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This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid. The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.

Job Id: **262.1-018573-2** Certificate No: **TAA000004Z** 

Revision No: 1

## **Product description**

The M2600 Shutdown Unit installed as primary or backup protection device of marine diesel engines. The M2600 design is based entirely on discreet logic. All inputs and outputs of the M2600 have corresponding LED indication showing whether they are active or not. The unit furnishes 10 digital shutdown inputs. One is predefined for over speed and another for emergency stop. All inputs are dry contacts. Output relays are provided for shut down of the engine. The Fuel Valve output relay is used for "energized to run applications", the stop solenoid output is used for "energized to stop" applications. Additionally the unit provides an output for circuit breaker trip for use with gen-sets. Engine speed (rpm) can be detected from magnetic and inductive pick-ups connected to dedicated inputs. Alternatively the speed can be detected from digital inputs. M2600 provides cable monitoring on all sensor inputs and for the shutdown relay output. Configuration is made solely with the dipswitches and rotary switches on the unit.

HW Type	HW	SW	HW description
M2600	Ver. 3	N/A	Diesel Engine protective shut down unit

### Application/Limitation

- 1. The Type Approval covers hardware listed under Product description.
- 2. This system is only to be used as engine safety system for emergency, auxiliary and propulsion marine diesel engines.

# Approval conditions

The following documentation of the actual application is to be submitted for approval in each case:

- Reference to this Type Approval Certificate
- System block diagram
- Power supply arrangement (may be part of the System block diagram)
- List of control and monitored points
- Test program for certification

#### Product certificate

Each delivery of the application system is **to be** certified according to Pt.4 Ch.9 Sec.1. The Certification is to be performed at the manufacturer before the system is shipped to the yard.

#### **Tests carried out**

Applicable tests according to class guideline DNVGL-CG-0339, December 2019.

### Marking of product

The products to be marked with:

- Model name
- Manufacturer name
- Serial number

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#### Periodical assessment

The scope of the periodical assessment is to verify that the conditions stipulated for the type are complied with, and that no alterations are made to the product design or choice of systems, software versions, components and/or materials.

The main elements of the assessment are:

- Ensure that type approved documentation is available
- Inspection of factory samples, selected at random from the production line (where practicable)
- Review of production and inspection routines, including test records from product sample tests and control routines
- Ensuring that systems, software versions, components and/or materials used comply with type approved documents and/or referenced system, software, component and material specifications
- Review of possible changes in design of systems, software versions, components, materials and/or performance, and make sure that such changes do not affect the type approval given
- Ensuring traceability between manufacturer's product type marking and the type approval certificate

A renewal assessment will be performed at renewal of the certificate.

**END OF CERTIFICATE** 

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