

# TYPE APPROVAL CERTIFICATE

## This is to certify:

That the Safety Unit for Rotating Machinery

with type designation(s)  
Shut Down Unit 104 (SDU 104)

Issued to

**DEIF A/S**  
Skive, Midtjylland, Denmark

is found to comply with

DNV rules for classification – Ships, offshore units, and high speed and light craft

## Application :

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV.

Temperature	D
Humidity	B
Vibration	A
EMC	A
Enclosure	A, IP20

Issued at Hamburg on 2023-10-13

This Certificate is valid until 2028-10-12.

DNV local unit: Denmark CMC

Approval Engineer: Jens Dietrich

for DNV



Digitally Signed By: Papanuskas, Joannis  
Location: DNV GL SE Hamburg, Germany

Joannis Papanuskas  
Head of Section

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.

LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV AS, its parent companies and their subsidiaries as well as their officers, directors and employees ("DNV") arising from or in connection with the services rendered for the purpose of the issuance of this document or reliance thereon, whether in contract or in tort (including negligence), shall be limited to direct losses and under any circumstance be limited to 300,000 USD.





## Product description

Shut Down Unit 104 (SDU 104) is a safety device for the protection of marine engines. The unit does not feature a CPU or programmable circuit.

The SDU 104 includes:

- 4 x shutdown inputs
- 1 x emergency stop input
- 1 x override input
- Overspeed detection
- 2 x relay outputs
- LEDs to show status and input state
- Dual 12/24 V DC power supply

Wire break monitoring for the stop solenoid is to be provided.

## Application/Limitation

The Type Approval covers hardware listed under Product description. When the hardware is used in applications to be classed by DNV, documentation for the actual application is to be submitted for approval by the manufacturer of the application system in each case. Reference is made to DNV rules for classification of ships Pt.4 Ch.9 Control and monitoring systems.

### Product certificate

As long as the units are covered by the Type Approval, a product certificate according to DNV Pt.4 Ch.9 Sec.1 will not be required. The certification test is to be performed at the manufacturer of the application system, preferably at the engine/system application maker integrating control, monitoring and safety system, before the system is shipped to the yard.

## Type Approval documentation

### Tests carried out

Applicable tests based on DNV CG-0339, Aug.2021; Functional Performance Test.

### Marking of product

Sticker with DEIF address, part#, type designation, power supply rating, protection, serial number, production date: yyyy/mm.

### 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

Periodical assessment is to be performed after 2 years and after 3.5 years. A renewal assessment will be performed at renewal of the certificate.

END OF CERTIFICATE