

TYPE APPROVAL CERTIFICATE

This is to certify:**That the Level Switches**with type designation(s)
Nivotester FailSafe FTL825

Issued to

Endress + Hauser SE + Co. KG
Maulburg, Germanyis found to comply with
DNV GL 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 GL.****Location classes:**

| | |
|--------------------|----------|
| Temperature | B |
| Humidity | B |
| Vibration | A |
| EMC | A |
| Enclosure | A |

Issued at **Hamburg** on **2019-08-08**for **DNV GL**This Certificate is valid until **2024-08-07**.DNV GL local station: **Augsburg**Approval Engineer: **Dariusz Lesniewski****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.



Job Id: **262.1-030666-1**
Certificate No: **TAA00002F5**

Product description

Switching unit for use with Liquiphant Failsafe FTL8x (DNVGL Certificate no. TAA00002F4)
Power supply: 230 AC 50 Hz, 24V DC
Input: 4 to 20mA signal
Output: 2 x switching n/o-contacts
 1 x signaling n/c-contact
 1 x fault-signaling c/o-contact
Human interface:
 Proof test button, interlock switch, leds (2 x green, 3 x red, 3 x yellow)
Mounting: DIN rail
Degree of protection: IP 20
HW-Version: V01.01 / SW-Version: V01.00.xx

| | |
|---|---|
| Order code for Nivotester FTL825 10 20 30 40 620 | |
| 10 = Approval | Any double letter and/or number combination |
| 20 = Housing | 3 |
| 30 = Power supply | A, E |
| 40 = Switch output | 4 |
| 620 = Accessory enclosed | PA |
| Product structure based on / related to approval drawing no. 960016115 - - (Release date: 26.06.2013) | |

Approval conditions

The Type Approval covers hardware listed under Product description. When the hardware is used in applications to be classed by DNV GL, 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 GL rules for classification of ships Pt.4 Ch.9 Control and monitoring systems.

Ex-certification is not covered by this certificate. Application in hazardous area to be approved in each case according to DNV GL Rules and Ex-Certification / Special Condition for Safe Use listed in valid Ex-certificate issued by a notified/recognized Certification Body.

Type Approval documentation

Test reports: Phoenix TestLab no. E125167E1, E125167E2, U125167E2, S124817E1
Data sheet: TI01027F/00/EN0/01.11
Product structure drawing 960016115--
Construction drawings; Assembly plans; Circuit diagrams; Part lists
Software documentation
Type approval assessment report issued at Augsburg on 2019-04-01

Tests carried out

Applicable tests according to class guideline DNVGL-CG-0339, November 2016.

Marking of product

The products to be marked with:

- manufacturer name
- model name
- serial number
- power supply ratings

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:

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- 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