

TYPE APPROVAL CERTIFICATE

This is to certify:**That the Temperature Switch**with type designation(s)
474 - Picotherm M

Issued to

Trafag AG
Bubikon, ZH, Switzerland

is 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	D
Humidity	B
Vibration	B
EMC	Not relevant
Enclosure	B

Issued at **Hamburg** on **2019-04-15**for **DNV GL**This Certificate is valid until **2021-04-14**.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: **262.1-001447-4**
Certificate No: **TAA000025D**

Product description

Bellow temperature switch with fixed switching differential
Measuring ranges: +5 ... +95 °C, +20 ... +110 °C, +20 ... +150 °C
Accuracy: ±4% FS
Repeatability: ±1% FS
Output: micro switch (c/o contact) with silver contacts
Contact rating: 250V AC, 3(1)A
Electrical connection: female electrical connector EN 175301-803-A (DIN43650-A)
Process connection: G1/2"
Sensor length: max. 150 mm, K type (sensor + protection tube)
max. 3000 mm, B type (sensor + capillary tube)
Degree of protection: IP 65

Type approval of Picotherm M covers the following type code combinations:

	Type	Micro-switch	Range	Sensor-type	Mounting Executions		Protection tube	Accessories
					B	K		
Order No.	474	03	20 23 31	322 122	00	14	8316 1416	58 V3

Place of manufacture

Trafag spol s.r.o.
CZ-34701 Tachov

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.

Type Approval documentation

Documentation	Ref. No.
Data sheet:	H72113n, 2018/11
Data sheet:	E00930d
Instructions:	H73113g, 2007/01
Assembly Drawings:	R93261-issue c, R93262-issue c
Test Reports:	Trafag: Picotherm2.xls, dtd. 2001-09-13
	Trafag: Vibration Test Report, dtd. 2002-01-24
	Trafag: Test Report V-18093, dtd. 2018-11-26

Type approval assessment report issued at Prague on 2019-03-28.

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

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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