

TYPE APPROVAL CERTIFICATE

This is to certify:**That the Temperature Sensor**

with type designation(s)
0627 0045, 0627 0045-10, 0627 0045-20, 0627 0045-21

Issued to

B+B Thermo-Technik GmbH
Donaueschingen, Germany

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.

Temperature	B
Humidity	B
Vibration	A
EMC	n/a
Enclosure	B (IP54)

Issued at **Hamburg** on **2019-08-27**

This Certificate is valid until **2024-08-26**.

DNV GL local station: **Augsburg**

Approval Engineer: **Jens Dietrich**

for **DNV GL**

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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.



Product description

Screw-in Resistance Thermometer
0627 0045, 0627 0045-10, 0627 0045-20, 0627 0045-21

Max. measuring temperature: 90° C
Max. ambient temperature: 50 °C
Measuring sensor:

1xPt 100 - 2 wires (...0045)
1xPt 100 - 3 wires (...0045-10)
2xPt 100 - 2x2 wires (...0045-20, ...0045-21)

Insert length: 19,5 mm
Screw-in thread: G 1/2
Connected cable length: 3 m, 4x0.75mm² (screened)
Degree of protection: IP 54
Time constant: T 0.5 = 5 s, T 0.9 = 15 s

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.

Product certificate

If specified in the Rules, ref. Pt.4 Ch.9 Sec.1, the control and monitoring system in which the above listed hardware is used shall be delivered with a product certificate. For each such delivery the certification test is to be performed at the manufacturer of the application system before the system is shipped to the yard. The test shall be done according to an approved test program.

Tests carried out

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

Marking of product

The products are laser-marked as follows:

B+B 1xPt100/B/2 0627 0045
B+B 1xPt100/B/3 0627 0045-10
B+B 2xPt100/B/2 0627 0045-20
B+B 2xPt100/B/2 0627 0015-21
B+B 1xPt100/A/2 0627 0045
B+B 1xPt100/A/3 0627 0045-10
B+B 2xPt100/A/2 0627 0045-20
B+B 2xPt100/A/2 0627 0015-21

Each sensor is also marked with production date, calendar week and year, format: WW/YY.

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



Job Id: **262.1-031824-1**
Certificate No: **TAA00002FK**

- 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