DNV·GL

Certificate No:
TAA00002VT

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Temperature Sensor

with type designation(s)
TW, TG, TS Series: 8, 21, 21v, 26, 26v

Issued to
Plöger Sensor GmbH

Feßlerstraße 3
Hamburg, 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	**B see Application**
EMC	**B**
Enclosure	**IP66**

Issued at **Hamburg** on **2020-10-02**
This Certificate is valid until **2025-10-01**.
DNV GL local station: **Hamburg CMC**

for **DNV GL**

Approval Engineer: **Marco Rinkel**

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 GL AS, its parent companies and subsidiaries as well as their officers, directors and employees ("DNV GL") 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.

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Job Id: **262.1-034257-1**
Certificate No: **TAA00002VT**

Product description
Diesel Exhaust Gas Thermocouple

Temperature range up to:	800 °C
Measuring sensor:	1 or 2 x NiCr-Ni
Measuring sensor:	1 or 2 x Fe-CuNi
Measuring tolerance IEC 584:	cl. 2
Max. insert length:	200 mm
Screw-in thread:	G ½, G ¾
Protection tube material no.:	1.4541, 14571
Connection:	Silicon cable

Application/Limitation
The Type Approval covers hardware listed under Product description. When the hardware is used in applications to be classed by DNVGL, 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 Ships Pt.4 Ch.9 Control and Monitoring Systems.
Equipment has not been tested up to 6 GHz for radiated emissions and EM field test as this is not applicable to passive sensors

Vibration test characteristic curve 3:
20 g for insertion length up to 150 mm
15 g for insertion length up to 200 mm (150 mm, Type 26)
10 g for insertion length up to 200 mm (Type 26)

Type Approval documentation
Test report: RMS no. 03-05/2000 (06.06.2000);
Drawing no.: H 100-1, S 200-1, S 200-4, S 230-1, S 230-3

Tests carried out
Applicable tests according to Class Guidelines DNVGL-CG-0339, November 2019
(see Application/Limitation.)

Marking of product
Type
Technical data (as under "Product Desciption")
Serial Number

Place of production
PLÖGER Sensor GmbH
Feßlerstraße 3
22083 Hamburg, GERMANY

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 typeapproved 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