



Marine & Offshore
Division

Certificate number: 23460/B0 BV

File number: AP4148

Product code: 3812H

This certificate is not valid when presented without the full attached schedule composed of 7 sections

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TYPE APPROVAL CERTIFICATE

This certificate is issued to

Endress & Hauser Wetzer GmbH & Co. KG
Nesselwang - GERMANY

for the type of product

TEMPERATURE SENSORS / PROBES / TRANSDUCERS

RTD thermometer

Omnigrad S: TR63, TR66

Requirements:

Bureau Veritas Rules for the Classification of Steel Ships.

EC Code: 41 or 41BS. (see item 4.x)

This certificate is issued to attest that BUREAU VERITAS did undertake the relevant approval procedures for the product identified above which was found to comply with the relevant requirements mentioned above.

This certificate is a renewal of certificate N° 23460/A0 BV expiring on 07/12/2015

This certificate will expire on: 07 Dec 2020

For BUREAU VERITAS,

At BV HAMBURG, on 03 Dec 2015,

Sandro Schmidt



This certificate remains valid until the date stated above, unless cancelled or revoked, provided the conditions indicated in the subsequent page(s) are complied with and the product remains satisfactory in service. This certificate will not be valid if the applicant makes any changes or modifications to the approved product, which have not been notified to, and agreed in writing with BUREAU VERITAS. Should the specified regulations or standards be amended during the validity of this certificate, the product(s) is/are to be re-approved prior to it/they being placed on board vessels to which the amended regulations or standards apply. This certificate is issued within the scope of the General Conditions of BUREAU VERITAS Marine & Offshore Division available on the internet site www.veristar.com. Any Person not a party to the contract pursuant to which this document is delivered may not assert a claim against BUREAU VERITAS for any liability arising out of errors or omissions which may be contained in said document, or for errors of judgement, fault or negligence committed by personnel of the Society or of its Agents in establishment or issuance of this document, and in connection with any activities for which it may provide.

THE SCHEDULE OF APPROVAL

1. PRODUCT DESCRIPTION:

Omnigrad S: TR63, TR66 series are PT100 resistance temperature sensors with thermowells.

Main characteristics:

Thermowell:	TR63: thermowell from pipe	TR66: barstock thermowell
Max length:	TR63: 750mm in process, 120mm for extension	TR66: 1000mm in process, 100mm for extension
Sensor:	Platinum (WW, TF), 1x or 2x PT100	
Measuring range:	WW: -200 to 600°C TF: -50 to 400°C	
Electrical connection:	Terminal block or flying leads	
Housing of head:	Aluminium for TA21H and TA30H or Stainless Steel for TA21H	
Degree of protection:	IP66/IP68	

Variants: (acc. to document TI282T/02/en/13.10)

Type: TR63 a b c d e f g h i j

a= Approval:

Ex-approvals

b= Head (housing):

A, B, D, S

c= Cable entry:

A to H

d= Neck length:

A to J

e= Thermowell materials:

B to H

f= Extension:

1, 3

g= Insertion length:

X

h= Process connection:

11, 22, 33, 44, 55, 66, 77, Cx, Jx

i= Electric connection:

C, F

j= RTD:

2, 3, 6, 7, A, B, C, F, G

Variants: (acc. to document TI284T/02/en)

Type: TR66 a b c d e f g h i j

a= Approval:

Ex-approvals

b= Head (housing):

A

c= Cable entry:

A to F

d= Neck length:

B, C, E, F, G, J

e= Thermowell materials:

B, C, D

f= Extension:

1, 2, 6

g= Immersion length:

X

h= Process connection:

11, 22, 44, Cx, Jx

i= Electric connection:

C, F

j= RTD:

2, 3, 6, 7, A, B, C, F, G

2. DOCUMENTS AND DRAWINGS:

- Technical Information TI282T/02/en/13.10 and TI284T/02/en/07.09

3. TEST REPORTS:

Paconsult: - 07-1702, dated: Oct. 18, 2007; 07-1567 rev.1, dated: 28 Sept. 2007

KEMA: - KEMA 09ATEX0091 X issue 1; KEMA 01ATEX1169 X issue 4

4. APPLICATION / LIMITATION :

4.1 - Bureau Veritas Rules and Regulations for the Classification of Steel Ships.

4.2 - Approval valid for ships intended to be granted with the following additional class notations: **AUT-UMS, AUT-CCS, AUT-PORT** and **AUT-IMS**.

4.3 - Bureau Veritas Environmental Category, **EC Code: 41BS** (with housing TA21H), **41** (with housing TA30H).

4.4 - The equipment fulfils the EMC requirements for installation in General Power Distribution and Deck Zones

4.5 - The installation shall comply with the Manufacturer's recommendation described in the above-referenced documentation.

5. PRODUCTION SURVEY REQUIREMENTS:

5.1 - The above mentioned products are to be supplied by **Endress & Hauser Wetzer GmbH & Co. KG** in compliance with the type described in this certificate.

5.2 - This type of product is within the category HBV of Bureau Veritas Rule Note NR320.

5.3 - **Endress & Hauser Wetzer GmbH & Co. KG** has to make the necessary arrangements to have its works recognized by Bureau Veritas in compliance with the requirements of NR320 for HBV products:

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5.4 - Equipment is to be supplied with manual(s) for installation, use and maintenance.

6. MARKING OF PRODUCT:

- Maker's name or trademark.
- Equipment type or model identification.
- Date of manufacture and/or serial number.
- Ex marking, as relevant

7. OTHERS:

7.1 - This approval is given on the understanding that the Society reserves the right to require check tests to be carried out on the units at any time and that **Endress & Hauser Wetzer GmbH & Co. KG - GERMANY**, will accept full responsibility for informing shipbuilders, ship owners or their sub-contractors of the proper methods of use and general maintenance of the units and the conditions of this approval.

7.2 - This certificate supersedes the Type Approval Certificate N° 23460/A0 BV issued on 07 Dec 2010 by the Society.

***** END OF CERTIFICATE *****