



Marine & Offshore

Certificate number: 56686/A0 BV

File number: AP4892

Product code: 3953H

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 CONDUCTA GmbH+Co.KG

Gerlingen - GERMANY

for the type of product

SENSORS / DETECTORS / ANALYSERS

Analysis sensors

CPS11D, CPS12D, CPF81D, CLS21D, CLS50D, CLS82D, CUS50D, CUS52D,
CCS50D, CCS51D, CCS55D, COS81D

Requirements:

Bureau Veritas Rules for the Classification of Steel Ships

This certificate is issued to attest that Bureau Veritas Marine & Offshore did undertake the relevant approval procedures for the product identified above which was found to comply with the relevant requirements mentioned above.

This certificate will expire on: 07 May 2025

For Bureau Veritas Marine & Offshore,

At BV HAMBURG, on 07 May 2020,

Dirk Hoepfner



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 Marine & Offshore. 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 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 Marine & Offshore 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.

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BV Mod. Ad.E 530 June 2017

This certificate consists of 3 page(s)

THE SCHEDULE OF APPROVAL

1. PRODUCT DESCRIPTION :

Sensors for liquid analysis

CPS11D: pH electrode with digital Memosens technology
CPS12D: ORP electrode with Memosens technology
CPF81D: pH/ORP electrode with digital Memosens technology
CLS21D: Conductivity sensor with digital Memosens technology
CLS50D: Inductive conductivity sensor digital Memosens technology
CLS82D: Hygienic conductivity sensor with digital Memosens technology
CUS50D: Absorption sensor for turbidity measurements
CUS52D: Inline and immersion sensor for turbidity measurements
CCS50D: Chlorine dioxide sensor with digital Memosens technology
CCS51D: Free chlorine sensor with digital Memosens technology
CCS55D: Free bromine sensor with digital Memosens technology
COS81D: Optical sensor for measuring oxygen

Variants:

Type: CPS11D-**a bb c d**
a = Version : 7
bb = Application range: AA, AS
c = Shaft length: 2
d = Approval: C, 1, G, K, V

Type: CPS12D-**a bb c d**
a = Version : 7
bb = Measuring surface: NA, PA
c = Shaft length: 2
d = Approval: C, G, K, V, 1

Type: CPF81D-**a bb c d**
a = Version : 7
bb = Application range: LH, NN
c = Insertion length: 1, 3
d = Approval: O, 1

Type: CLS21D-**a bb c**
a = Measuring range: C
bb = Process connection: 1E, 1N
c = Approval: C, G, K, O, V, 1

Type: CLS50D-**aa b c d e**
aa = Approval: AA, BA, BV, C2, FB, GB, GR, IA, NA
b = Process connection: 1, 2
c = Sensor-, Seal-; Adapter material: B, C, D
d = Cable length: 1, 2, 3
e = Cable connection: 1, 2

Type: CLS82D-**aa bb c**
aa = Approval: AA, BA, C2, FB, GC, GR, IA, NA
bb = Process connection: GA, HA, PG, PM
c = Sensor material: A

Type: CUS50D-**aa b c d e f g**
aa = Approval: AA, GR
b = Measuring range: 2
c = Process connection: A
d = Adaption cable: A, B
e = Cable length: 2, 3, 4, 7, 8
f = Sensor material: A, B
g = Seal material: 1

Type: CUS52D-**aa b c d e**
aa = Approval: AA, GR
b = Measuring method: 1
c = Process connection: A
d = Adaption cable: A, B
e = Cable length: 2, 3, 4, 7, 8

Type: CCS50D-**aa bb cc**
aa = Approval: AA, GR, CD
bb = Application: 11
cc = Measuring range: AD, BF, CJ

Type: CCS51D-**aa bb cc**
aa = Approval: AA, GR, CD
bb = Application: 11
cc = Measuring range: AD, BF, CJ

Type: CCS55D-**aa bb cc**
aa = Approval: AA, GR, CD
bb = Application: 31
cc = Measuring range: AD, BF, CJ

Type: COS81D-**aa bb c d e f**
aa = Approval: AA, BA, C3, GC, GR, IA, NA
bb = Diameter, process connection; length: A2, A4
c = Type optical cap: C, U
d = Material, Sensorshaft; sensorcap: B
e = Material O-ring: 1, 3
f = Material process sealing: 1

2. DOCUMENTS AND DRAWINGS :

- TI00028C/07/EN/14.15; TI367C/07/en/05.05; TI00191C/07/EN/13.14; TI00085C/07/EN/15.18;
 TI00182C/07/EN/16.15; TI01188C/07/EN/04.17; TI01395C/07/EN/01.18; TI01136C/07/EN/03.18;
 TI01353C/07/EN/01.17; TI01423C/07/EN/01.18; TI01491C/07/EN/01.19; TI01201C/07/EN/02.17
 - BVS 12 ATEX E 048 X dated 2014-01-09; BVS 04 ATEX E 121 X dated 2018-10-04

3. TEST REPORTS :

- Test lab: E182222E1 dated 27.06.2019; U182222E1 dated 11.07.2019; S182222E1 dated 01.03.2019
 - Currenta: 19/0390 dated 2019-03-13; 19/0397 dated 2019-03-13; 19/0914 dated 2019-06-17

4. APPLICATION / LIMITATION :

- 4.1 - Bureau Veritas Rules 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 - The installation shall comply with the Manufacturer's recommendation described in the above-referenced documentation.
4.4 - Ex-certification is not covered by this certificate. Applications in hazardous areas are to be approved in each case according to the Rules and Conditions for Safe Use specified in a valid Ex-Certificate issued by a Notified or Recognised Certification Body.
4.5 - Each equipment is to be supplied with manual(s) for installation, use and maintenance.

5. PRODUCTION SURVEY REQUIREMENTS :

- 5.1 - The above mentioned sensors are to be supplied by **Endress + Hauser Conducta 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 and as such does not require a BV product certificate.
5.3 - **Endress + Hauser Conducta GmbH+Co. KG** has to make the necessary arrangements to have its works recognised by Bureau Veritas in compliance with the requirements of NR320 for HBV products :

Endress + Hauser Conducta GmbH+Co. KG
Landsberger Str. 28
04736 Waldheim
GERMANY

Endress+Hauser Conducta Inc.
4123 East La Palma Avenue, Suite 200
Anaheim, CA 92807
USA

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 - It is the responsibility of **Endress + Hauser Conducta GmbH+Co. KG** to inform shipbuilders or their sub-contractors of the proper methods of fitting, use and general maintenance of the approved equipment and the conditions of this approval.

*** END OF CERTIFICATE ***