



# TYPE APPROVAL CERTIFICATE

**Certificate No.** : HMB43238-AE001

**Initial Approval** : 23rd November, 2020

**Product** : Pressure Transmitter

**Manufacturer** : IMES GmbH

Dr.-Herbert-Kittel-Str.2, D-87600 Kaufbeuren, Germany

**Product Description** : Type : TCS-01CA, FPS-01, FPS-01CA, FPS-02, FPS-02CA, HTT-06, HTT-06CA, CPS-03, CPS-03CA, CPS-01, CPS-01CA, HTT-04CA

\* Abbreviations \*

- HTT : High Temperature Transmitter
- FPS : Front Membrane Pressure Sensor
- CPS : Cylinder Pressure Sensor
- TCS : Two stroke Compression Sensor

" See Appendix 1 "

**Approval Condition** : " See Appendix 1 "

**THIS IS TO CERTIFY** that the above-mentioned product has been approved in accordance with the relevant requirement of this Society's Rules and / or of the recognized standards as follows.

Pt. 6, Ch. 2, Art. 301 of the Rules for Classification of Steel Ships.

This Certificate is valid until 22nd November, 2025

Issued at Busan, Korea on 23rd November, 2020



This certificate is signed electronically in accordance with IMO FAL.5/Circ.39/Rev.2. Validation and authentication of the certificate can be confirmed from "<http://e-cert.krs.co.kr>" by using the tracking No (ME20040751928) and certificate No.(HMB43238-AE001).



KOREAN REGISTER

General Manager of  
Marine & Ocean Equipment Team

- Note :**
1. This certificate will be valid subject to complying with the approval conditions described on the certificate and/or on the Rules of this Society.
  2. This certificate will be invalid from the expiry date aforementioned unless the extension or renewal has been granted to the applicant or the manufacturer.
  3. Any significant modifications or changes in design or construction to the above product without approval from this Society will render this certificate invalid.
  4. Should the specified rules, regulations or standards be amended during the validity of this certificate, the product is to be re-approved by this Society in accordance with the requirements as amended.

## Appendix 1

# Product Description and/or Approval Condition

Certificate No : HMB43238-AE001

Date of Issue : 23rd November, 2020

## A. Product Description

### 1. Product Specification

- 1) Supply voltage : 24V DC, 5V DC for CPS-01
- 2) Output signal : 4 - 20mA, 0.5-4.5V DC for CPS-01
- 3) Measuring range : 0...300 bar
- 4) Electrical connection : HTOE10-6P-F42-A34-SPL or M12
- 5) Pressure connection : M10, M14
- 6) Body material : Stainless steel
- 7) Degree of protection : IP69 for HTT-06/CA, CPS-03/CA

### 2. Approved Drawings and Documents

- 1) Datasheets
  - No. TCS-01CA\_en\_02\_2019, HTT-06\_en\_06\_2020, HTT-06CA\_en\_04\_2020, HCPS-03\_en\_06\_2020, CPS-03CA\_en\_06\_2020, FPS-01\_en\_03\_2018, FPS-01CA\_en\_03\_2018, FPS-02\_en\_12\_2017, FPS-02CA\_en\_12\_2017, CPS-01\_en\_05\_2017, CPS-01CA\_en\_04\_2017, HTT-04CA\_en\_01-2009
- 2) Drawings
  - No. 905412 Rev.0, 905488-00 Rev.0, 905537-00 Rev.0, 905527-01 Rev.0, 905492-01 Rev.0, 903998 Rev.3, 905164 Rev.3, 905327 Rev.0, 905161 Rev.3, 600703 Rev.1, 905243 Rev.0, 905378 Rev.1

### 3. Test Reports, etc.

- 1) Test Reports
  - No. 2234581KAU001 (2018-01-09), 2235167KAU001 (2019-02-27), 2235473KAU001 (2019-03-06), 2239232KAU001 (2020-05-27), HB200008 (2020-01-15), HB200241 (2020-09-03), 20TUR0028\_BV-rules\_1 (2020-09-17), 20TUR0029\_BV-rules\_1 (2020-09-18), 20TH0284-IEC60068\_0 (2020-04-08), S-0328-3060-00BT (2009-03-31), U-328-3059-00 ME (2009-04-01), 2235167KAU001 (2019-02-27), 01/18 (2018-11-19), 09TH0043-BV-rules\_2 (2010-06-07)
- 2) Sensor Type Comparison, Doc. No. SP01\_004 Ver.1.0 (2020-06-23)

## B. Approval Condition

### 1. Application & Limitation

- 1) This approval is granted on the basis of the test reports and the approved documentation.
- 2) The manufacturer should inform this Society of all kinds of revisions of the equipment. If the changes are recognized to affect functionality of the approved equipment, type test to confirm the reliability of the revised equipment may be performed in the presence of our surveyor.
- 3) Degree of protection shall be complied with Rule Pt.6 Ch.1 Sec.2 201.2.(5).
- 4) The product shall not be installed in the bridge or on open decks.

### 2. Individual Product Cert. and Drawing Approval Requirement

- 1) Individual product certification is not required.

### 3. Marking

- 1) The product or packing is to be marked with the manufacturer's name and type designation on a suitable position.

### 4. Others

- 1) Test condition

Test	Condition	Remark
EMC	All locations excluding the bridge and deck zone	Up to 6 GHz
Temperature	-25 ~ +70°C	-
Vibration	Acceleration $\pm 4.0g$	-
Degree of protection	IP69	a)

a) : for HTT-06/CA, CPS-03/CA, CPS-01/CA

< End of Certificate >