

# TYPE APPROVAL CERTIFICATE

**This is to certify:**

**That the Pressure Transmitter**

with type designation(s)  
**522, 527, 711**

Issued to

**Huba Control AG**  
**Würenlos, Switzerland**

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.**

**Location classes:**

Type	Temperature	Humidity	Vibration	EMC	Enclosure
<b>522, 527</b>	<b>D</b>	<b>B</b>	<b>B</b>	<b>B</b>	<b>B, C*</b>
<b>711</b>	<b>B</b>	<b>B</b>	<b>A</b>	<b>B</b>	<b>D</b>

\*see 'Product Description'

Issued at **Hamburg** on **2019-01-28**

for **DNV GL**

This Certificate is valid until **2023-12-17**.

DNV GL local station: **Augsburg**

Approval Engineer: **Dariusz Lesniewski**

\_\_\_\_\_  
**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

### 522, 527

Pressure transmitter for measuring absolute and gauge pressure.

Model name	Order No.	Max. measuring range	Accuracy	Measuring cell
Huba 522	522.9xxxxxxxxxx	0 – 1000 bar relative pressure	0.5 % FS	Stainless steel
Huba 527	527.xxxxxxxxxxx	0 – 60 bar rel., 0 – 16 bar abs.	0.5 % FS	Ceramic

Output signal: 4 to 20mA; two-wire connection; power supply DC 7...33V (DC 10...30V for Ex)  
0 to 10V; three-wire connection; power supply DC 12...33V

Electrical connection: Plug (EN 175301-803-A)M; Enclosure class: B (IP 65)  
Connector M12x1; Enclosure class: C (IP 67)  
Cable (1.5 m); Enclosure class: C (IP 67)

Mechanical connection: G1/2", G1/4", 1/2" NPT, 1/4" NPT, '7/16'-20 UNF (male/female), M20x1,5(male)

### 711

Level sensing pressure transmitter with relative pressure measuring cell and fixed cable.

Pressure range (relative): 0 ... 0.1 – 0 ... 16 bar

Materials in contact with medium:

Case: Stainless steel 1.4404 / AISI 316L

Stainless steel 1.4539 / AISI 904L

Sensor: Ceramic Al<sub>2</sub>O<sub>3</sub> (99.6%)

Cable: PE / FEP

Cable grommet: PPE / ETFE

Protection cover: PPE / ETFE

Sealing material: FPM / EPDM

Power supply: 24V nominal

Signal output: 4... 20 mA

Accuracy: better than 1% FS

Cable length: 3...300 m (limitation to be observed)

Degree of protection: IP 68 (32 bar/320 mH<sub>2</sub>O, 2 hours)

Ex protection acc. to: Certificate No. SEV 16 ATEX 0120, Certificate No. IECEx SEV 16.0002

## 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.

Ex-certification is not covered by this certificate. Application in hazardous area to be approved in each case according to DNV GL Rules and Ex-Certification / Special Condition for Safe Use listed in valid Ex-certificate issued by a notified/recognized Certification Body.

## Application/Limitation

Cable installation inside tank only. Connection with terminal box outside the tank must be realized by a shortest possible cable length (not longer than 6m) – reference is made to the operating conditions in the maker's operation instruction.

Transmitters of 522, 527 series to be powered with a galvanically isolated instrument power supply of approved type.

## **Type Approval documentation**

### **522, 527**

Test Report No. A5E03643148A, dated 2011-06-17 (Vibrations)  
Test Report No. A5E03643148B, dated 2011-06-28 (Damp heat)  
Test Report No. A5E03643148C, dated 2011-06-28 (Dry heat)  
Test Report No. A5E03643148D, dated 2011-06-29 (Cold, high voltage)  
Test Report No. K004150\_01\_2012\_E\_B01 dated 2012-02-28 (Radiated emission)  
Test Report No. K004150\_01\_2012\_E\_C01 dated 2012-02-29 (Radiated emission, conducted emission)  
SGS Test Report No. E0UG0001, dated 2011-06-29 (Salt mist)  
EMC Test reports (ESD / Burst / Surge / Conducted HF / Radiated emission 30MHz-1GHz / Radiated HF) (262.1-011597 [I-5])  
Test Report No. 40048-3954-001/151466 (FG43-1-151466), dated 2011-06-28 (Conducted LFI)  
Huba Control type 522 Technical data sheet edition 09/2016  
Huba Control type 527 Technical data sheet edition 03/2016  
Huba Control type 522 Operating instructions edition 03/2013  
Huba Control type 527 Operating instructions edition 03/2013  
Connector drawings: 304553 rev.d, 304789 rev.b, 304865 rev.-  
Cable data sheets: 302354 rev.c, 303405 rev.a  
Type Approval Assessment Report issued at Augsburg on 2016-08-03.

### **711**

Documents as listed in the manufacturer's document reference list no. 307231, Rev. b.  
Type approval initial assessment report, DNV GL Augsburg 2017-02-20.

## **Tests carried out**

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

## **Marking of product**

The products to be marked with:

- manufacturer name
- model name
- serial number
- power supply ratings

## **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
- 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