

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Pressure Transmitter

with type designation(s)
522 and 527

Issued to

Huba Control AG
Würenlos, Switzerland

is found to comply with
DNV GL rules for classification – Ships

Application :

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.

Location classes:

Temperature D
Humidity B
Vibration B
EMC B
Enclosure B, C (see: Product Description)

This Certificate is valid until **2021-04-11**.

Issued at **Hamburg** on **2016-09-22**

DNV GL local station: **Augsburg**

Approval Engineer: **Dariusz Lesniewski**

for **DNV GL**

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Duy Nam Le
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.

Job Id: **262.1-020812-1**
Certificate No: **TAA00000NJ**

Product description

Huba 522 and 527 pressure transmitter series 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)

Place of manufacture

Huba Control AG
Industriestrasse 17
CH-5436 Würenlos
Switzerland

Application/Limitation

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 Ships Pt.4 Ch.9 Control and Monitoring Systems.

The transmitters are to be powered with a galvanically isolated instrument power supply of approved type.

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

Type Approval documentation

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.

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Tests carried out

Applicable tests according to Class Guidance DNVGL-CG-0339, November 2015.

Marking of product

Huba Control AG

Model name as listed under Product description

Order No. as listed under Product description

Measuring range

Serial No. ("Date of manufacture YY-MM" or "Date of manufacture with addition consecutive numbering YY-MM-xxx")

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 at least once in the period of validity and at renewal of this certificate.

END OF CERTIFICATE