



TYPE APPROVAL CERTIFICATE

Certificate No:
TAA000010A
Revision No:
4

This is to certify:

That the single/double channel separator for 4...20 mA/HART sensors - VEGATRENN 151/152

with type designation(s)
TRENN 151, 152

Issued to
VEGA Grieshaber KG
Schiltach, Germany

is found to comply with
DNV 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.

Location classes:

Temperature B
Humidity B
Vibration A
EMC B
Enclosure A

Issued at **Hamburg** on **2021-12-08**

This Certificate is valid until **2026-12-31**.
DNV local station: **Augsburg**

Approval Engineer: **Dariusz Lesniewski**



for **DNV**
Digitally Signed By: **Papanuskas, Joannis**
Location: **DNV GL SE Hamburg, Germany**

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.

LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV AS, its parent companies and their subsidiaries as well as their officers, directors and employees ("DNV") arising from or in connection with the services rendered for the purpose of the issuance of this document or reliance thereon, whether in contract or in tort (including negligence), shall be limited to direct losses and under any circumstance be limited to 300,000 USD.



Form code: TA 251

Revision: 2021-03

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Job Id: 262.1-023318-7
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 Revision No: 4

Product description

Single/double channel separator for 4...20 mA/HART sensors

Type designation: TRENN 151/152. **a b X d e f g**

a Scope	A Europe I Worldwide
b Approval	M without Ex-Approval O with Ex Approval
X Version	Single channel passive separator for 4...20 mA/HART-Sensors (TRENN 151) Double channel passive separator for 4...20 mA/HART-Sensors (TRENN 152)
d SIL Qualification	X without S with, incl. Safety Manual
e Housing/Protection	K Plastic / IP 20
f Connection	X 2,5mm ² detachable terminal blocks 1 resp. 2 x black / 2 x black B 2,5mm ² detachable terminal blocks 1 resp. 2 x blue / 2 x black
g Certificates	M yes X no

* Shielded cable to be used for HART Communication Mode

VEGATRENN 151, 152

Power supply 15...35 V DC (loop-powered)

Approval conditions

The Type Approval covers hardware listed under Product description. When the hardware is used in applications to be classed by DNV, 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 rules for classification of ships Pt.4 Ch.9 Control and monitoring systems.

Application/Limitation

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: Paconsult No. 15-7105, dated 2015-08-20
 Test Report: Hermes Hansecontrol No. 1501-0158801R01A, dated 2016-09-12
 Test Report: Hermes Hansecontrol No. 1501-0158801R01A, dated 2016-09-12
 Test Report: Hermes Hansecontrol No. 2101-0137301R01A, dated 2021-08-11
 Test Report: Hermes Hansecontrol No. 2101-0137301R02A, dated 2021-08-10
 Operating Instructions: 50782-EN VEGATRENN 151, 50783-EN VEGATRENN 152
 Trace Layouts: GE3497, GE3498
 Circuit Diagrams: SB 1449-1-01-0
 Technical description for VEGATRENN 151/152 doc. no. VEGAZW-6-76139
 Type Approval Assessment Report issued at Augsburg on 2021-12-08

Tests carried out

Applicable tests according to Class Guideline DNV-CG-0339, August 2021.

Marking of product

The products to be marked with:

- model name
- manufacturer name
- serial number
-

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)



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- 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



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 Expiry Date: 23/04/2027



Type Approval Certificate

This is to certify that the undernoted product(s) has/have been tested with satisfactory results in accordance with the relevant requirements of the Lloyd's Register Type Approval System.

Manufacturer	Vega Grieshaber KG
Address	Am Hohenstein 113, Schiltach, 77761, Germany
Type	Barrier Units
Description	Single / double channel separator for 4...20 mA/ HART sensors Refer to the Appendix for further details.
Trade Name	VEGATRENN 151, VEGATRENN 152
Application	Marine, offshore and industrial applications for use in environmental categories ENV1, ENV2 and ENV3 as defined in Lloyd's Register's Type Approval System, Test Specification Number 1 – July, 2015.
Specified Standard	EN IEC 60079-0:2018 EN 60079-15:2010 IACS unified requirements E10 (Rev.8 Feb 2021)
Ratings	Power supply: 15... 35 V DC (loop-powered)
Additional Tests	Low temperature (-25°C/16h)
Other Conditions	Shielded cable to be used for HART Communication Mode. Special conditions for safe use of VEGATRENN are to be obtained from the

Thorsten Wolff
 Senior Specialist to Lloyd's Register EMEA
 A member of the Lloyd's Register group

71 Fenchurch Street, London, EC3M 4BS, United Kingdom

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TA01 1.0.0

52774-EN-220506



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Type Approval Certificate

applicable Ex Certificates.

This certificate is not valid for equipment, the design, ratings or operating parameters of which have been varied from the specimen tested. The manufacturer should notify Lloyd's Register EMEA of any modification or changes to the equipment in order to obtain a valid Certificate.

Previous Version: 17/20043

The Design Appraisal Document HPC1662089-22/TW and its supplementary Type Approval Terms and Conditions form part of this Certificate.

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Appendix

TYPES

TRENN 151/152. a b X d e f g

a Scope: A - Europe
 I - Worldwide

b Approval: M - without Ex-Approval
 O - with Ex Approval

X Version:
 Single channel passive separator for 4...20 mA/HART*-sensors for TRENN 151
 Double channel passive separator for 4...20 mA/HART*-sensors for TRENN152
 * see "Other Conditions"

d SIL Qualification: X - without
 S - with, incl. Safety Manual

e Housing / Protection : K - Plastic / IP 20

f Connection:
 X - 2,5mm² detachable terminal blocks 1 resp. 2 x black / 2 x black
 B - 2,5mm² detachable terminal blocks 1 resp. 2 x blue / 2 x black

g Certificates: M - yes
 X - no

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 Reference: HPC1662089-22/TW

LOYD'S REGISTER TYPE APPROVAL – DESIGN APPRAISAL DOCUMENT
ISSUED BY: HAMBURG TECHNICAL SUPPORT OFFICE
ISSUED TO: VEGA GRIESHABER KG
FOR: SINGLE / DOUBLE CHANNEL SEPARATOR FOR 4...20 MA/ HART SENSORS
TYPES VEGATRENN 151 AND VEGATRENN 152

The undernoted documents have been reviewed for compliance with the requirements of the Lloyd's Register Type Approval System Procedure TA14 Version 04 (September 2020) and this Design Appraisal Document forms part of the Certificate.

APPROVAL DOCUMENTATION

Unnumbered	Type Approval Application Checklist	23.11.2021
276639	Request for Marine Services – Type Approval	16.12.2021
HTS/ETS 35168-17	Design Appraisal Document for certificate no. 17/20043	24.04.2017
17/20043	LR Type Approval certificate	24.04.2017
HPC1862096	Production Quality Assessment Form	11.03.2019
VEGAZW-6-77989	Technical description for VEGATRENN 151/152 incl. documentation listed under Section 2 "Submitted and relevant documents"	23.11.2021 Version 00
51006	EU declaration of conformity	01.03.2022
Unnumbered	Delta Analysis EN 60079-0:2013 – EN IEC 60079-0:2018	10.12.2020

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Supplementary Type Approval Terms and Conditions

Type Approval certifies that a representative sample of the product(s) referred to herein has/have been found to meet the applicable design criteria for the use specified herein. It does not mean or imply approval for any other use, nor approval of any product(s) designed or manufactured otherwise than in strict conformity with the said representative sample.

Type Approval is based on the understanding that the manufacturer's recommendations and instructions and any relevant requirements of the Rules and Regulations are complied with.

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Type Approval does not eliminate the need for normal inspection and survey procedures required by the Rules and Regulations. Lloyd's Register EMEA reserves the right to cancel or withdraw this Type Approval Certificate in accordance with the Lloyd's Register Type Approval System Procedure.



52774-EN-220506

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Printing date:

VEGA

All statements concerning scope of delivery, application, practical use and operating conditions of the sensors and processing systems correspond to the information available at the time of printing.

Subject to change without prior notice

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