

TYPE APPROVAL CERTIFICATE

This is to certify:

That the Fire Detector

with type designation(s)

TITANUS PRO SENS, TITANUS TOP SENS, TITANUS MICRO SENS

Issued to

Wagner Group GmbH
Langenhagen, Germany

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.

Temperature A/B*

Humidity B

Vibration A

EMC B

Enclosure A

*** see remark under Application/Limitation**

Issued at **Hamburg** on **2018-04-04**

This Certificate is valid until **2023-04-03**.

DNV GL local station: **Magdeburg**

for **DNV GL**

Approval Engineer: **Heinz Scheffler**

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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

TITANUS PRO SENS®*, TITANUS TOP SENS®*

Application:

- Stand-alone areas;
- IT areas and clean rooms;
- Cold storage areas

General Data:

Prepared for the installation of two detector modules type DM-TT-XX

- max. 32/64 number of sampling holes 1 Detectormodule/ 2 Detectormodules
- max. 300 m/560m pipe length 1 Detectormodule/ 2 Detectormodules
- Monitoring of pipe systems for breakage and obstruction
- Operating voltage: 24 V DC
- Dimensions: (W x H x D) 200 x 292 x 113 mm³
- Low noise Fan SL-Type

Interface:

- Alarm and Fault alarm output: Potential free contact, 1 A, 30 V DC, max. 24 W
- External Reset Input: Potential free contact

TITANUS TOP SENS® Variants: TT-1-U, TT-1-F-U, TT-1-SL-U

Detector modules type:

- Sensitivity Detectormodule DM-TT-01:
 - Info-alarm: 0.005 % LT/m; # Pre-alarm: 0.010 % LT/m; # Main alarm: 0.015 % LT/m
- Sensitivity Detectormodule DM-TT-10:
 - Info-alarm: 0.03 % LT/m; # Pre-alarm: 0.07 % LT/m; # Main alarm: 0.1 % LT/m
- Sensitivity Detectormodule DM-TT-50:
 - Info-alarm: 0.17 % LT/m; # Pre-alarm: 0.3 % LT/m; # Main alarm: 0.5 % LT/m

Displays:

- Info-alarm, pre-alarm and main alarm
- Smoke level
- Fault
- Operation

TITANUS PRO SENS® Variants: TP-3/4/5-U, TP-3/4/5-F-U, TP-3/4/5-SL-U

Detector modules type:

- Sensitivity Detectormodule DM-TT-01:
 - Info-alarm: 0.005 % LT/m (Type TP-5); # Pre-alarm : 0.010 % LT/m (Type TP-4/5); # Main alarm: 0.015 % LT/m (Type TP-3/4/5)
- - Sensitivity Detectormodule DM-TT-10:
 - Info-alarm: 0.03 % LT/m (Type TP-5); # Pre-alarm : 0.07 % LT/m (Type TP-4/5); # Main alarm: 0.1 % LT/m (Type TP-3/4/5)
- Sensitivity Detectormodule DM-TT-50:
 - Info-alarm: 0.17 % LT/m (Type TP-5); # Pre-alarm : 0.3 % LT/m (Type TP-4/5); # Main alarm: 0.5 % LT/m (Type TP-3/4/5)

Displays:

- Info-alarm / pre-alarm and main alarm (depends on variants /each Detectormodule)
- Fault
- Operation

TITANUS MICRO SENS®

Application:

- Small to medium-sized spaces up to 400 m²
- Stand-alone areas

General Data:

- Max. 8 number of sampling holes
- Max. 50 m pipe length
- Monitoring of pipe systems for breakage and obstruction
- Operating voltage: 24 V DC
- Dimensions: (W x H x D): 140 x 222 x 70 mm³
- Redundant fan as option

Interface:

- Alarm and Fault output: Potential free contact, 1 A, 30 V DC, max. 24 W
- External Reset Input: Potential free contact

MICRO SENS® Variants: DM-TM-10/50-U, DM-TM-R-10/50-U, DM-TM-B-10/50-U, DM-TM-RB-10/50-U, DM-TMV-10/50-U, DM-TMV-R-10/50-U, DM-TMV-B-10/50-U, DM-TMV-RB-10/50-U

Detector modules type:

- Sensitivity detection unit DM-TMX-XX-10:
 - Pre-alarm: 0.05 % LT/m; # Main alarm: 0.10 % LT/m
- Sensitivity detection unit DM-TMX-XX-50:
 - Pre-alarm: 0.25 % LT/m; # Main alarm: 0.50 % LT/m

Displays:

- Pre-alarm and main alarm
- Smoke level (depends on the variants)
- Fault
- Operation

Application/Limitation

Location class Temperature:

A = TITANUS PRO SENS, TITANUS TOP SENS

B = TITANUS MICRO SENS

The Aspirating smoke detector is for special purpose where fixed fire detectors are not suitable or required.

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.

Clause for application software control

All changes in software are to be recorded as long as the system is in use on board. Documentation of major changes is to be forwarded to DNV GL for evaluation and approval before implemented on board.

Type Approval documentation

Test report : Nr. 9069.01-05 /12; Nr. 9069.05 /12; Nr. 6070 / 07; BMA07073; BMA03044; BMA06001; BMA 09050; Nr. 2010224-6; Nr. 2011097; SW-2002250; SW-2004248; BMA 13028
Documentation: TP/TT Part List Rev. 3.09, dated 06.04.2017; AD Part List Rev. 2.05, dated 14.11.2017; TP/TT - Manual 69-30-0330/360, Mirco Sens - Manual 69-30-0520.

Tests carried out

Applicable tests according to class guideline DNVGL-CG-0339, November 2016
EN 54-20: 2006

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)
- 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