

**TYPE APPROVAL CERTIFICATE****This is to certify:****That the Vibration Transmitter**

with type designation(s)

**ESW®-small -Transmitter-M-10-x, ESW®-small -Transmitter-Ex-M-10-x**

Issued to

**Holthausen Elektronik GmbH  
Nettetal, Germany**

is found to comply with

**Det Norske Veritas' Rules for Classification of Ships, High Speed & Light Craft and Det Norske Veritas' Offshore Standards****Application :****Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV GL.****Location classes:**

<b>Temperature</b>	<b>D</b>
<b>Humidity</b>	<b>B</b>
<b>Vibration</b>	<b>B</b>
<b>EMC</b>	<b>B</b>
<b>Enclosure</b>	<b>C/D</b>

This Certificate is valid until **2019-07-14**.Issued at **Høvik** on **2015-07-15**DNV GL local station: **Magdeburg**Approval Engineer: **Nils Jarem**for **DNV GL**

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**Odd Magne Nesvåg  
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

The ESW®-small-Transmitter is used for permanent machine monitoring.

Types:

ESW® - small-transmitter-M-10-x

ESW® - small-transmitter-Ex-M-10-x\*

x = 00...99 variable number for:

Frequency range: 2Hz – 2.5kHz

Measuring range: 1g – 10g rms acceleration  
10mm/s – 50mm/s speed

Measured value: vibration velocity  
vibration acceleration

Rating: 24V DC, 4-20 mA current sink.

\*Ratings for application in hazardous areas are to be obtained from the applicable Ex Certificate.

## 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 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

Datasheet [ESW-small-transmitter\\_pd\\_e dated 2014-04-22](#)

Manual [ESW\\_small\\_transmitter\\_M\\_hb\\_e dated 2015-04-2](#)

Test reports [U147585E1 dated 2015-06-22](#)

[U147585E2 dated 2015-06-03](#)

[E147585E1 dated 2015-05-11](#)

[DNV GL Magdeburg type approval assessment report dated 2015-07-06](#)

## Tests carried out

Applicable tests according to Standard for Certification No. 2.4, April 2006.

## Marking of product

The products to be marked with:

- model name
- manufacturer name
- serial number

Job Id: **262.1-016599-1**  
Certificate No: **A-14355**

### **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 every second year and at renewal of this certificate.

END OF CERTIFICATE