

# Certificate



Product Safety  
SIL/PL  
Capability

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**No.: 968/FSP 1298.00/16**

<b>Product tested</b>	Electronic Vibration Monitoring Sensor	<b>Certificate holder</b>	Holhausen Elektronik GmbH Wevelinghoven 38 41334 Nettetal Germany
<b>Type designation</b>	ESW®-small-Transmitter 10-**-SIL, ESW®-small-Transmitter M 10-**-SIL, ESW®-small-Transmitter Ex-d M 10-**-SIL, ESW®-small-Transmitter Ex-i M 10-**-SIL		
<b>Codes and standards</b>	IEC 61508 Parts 1-2 and 4-7:2010		
<b>Intended application</b>	The ESW Small Transmitter is used to monitor vibrations of rotating components. The sensor converts mechanical oscillations into a proportional output current signal of 4 to 20mA. In combination with a suitable external safety controller it can be used in a safety-related system in HFT=0 configuration up to SIL 2.		
<b>Specific requirements</b>	The safety manual, user manual and the datasheets shall be considered.  Output currents <3.8mA and >22mA have to be considered by the safety controller as a failure condition and the safe state has to be issued. It is highly recommended to treat a 4mA output signal within the external safety controller during normal operation of the machine as a failure condition and to initiate the safe state. During normal operation of the machine it can be expected, that mechanical vibration exists and an output signal >4mA can be expected.		

Valid until 2021-07-11

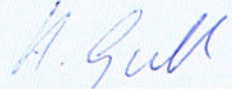
The issue of this certificate is based upon an examination, whose results are documented in Report No. 968/FSP 1298.00/16 dated 2016-07-11.

This certificate is valid only for products which are identical with the product tested. It becomes invalid at any change of the codes and standards forming the basis of testing for the intended application.

**TÜV Rheinland Industrie Service GmbH**  
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Köln, 2016-07-11

Certification Body Safety & Security for Automation & Grid

  
Dipl.-Ing. Heinz Gall

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