

TYPE APPROVAL CERTIFICATE

This is to certify:**That the Measurement Converter**with type designation(s)
MINI MCR-SL Series

Issued to

Phoenix Contact GmbH & Co. KG
Blomberg, Nordrhein-Westfalen, Germany

is found to comply with

DNV GL 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 GL.****Location classes:****Temperature B****Humidity B****Vibration B****EMC A****Enclosure Required protection according to the Rules shall be provided upon installation on board.**Issued at **Hamburg** on **2018-09-27**This Certificate is valid until **2023-09-26**.for **DNV GL**DNV GL local station: **Magdeburg**Approval Engineer: **Heinz Scheffler****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

3-way isolating amplifier	
2864383	MINI MCR-SL-UI-UI
2864150	MINI MCR-SL-UI-UI-NC
2864710	MINI MCR-SL-UI-UI-SP
2864163	MINI MCR-SL-UI-UI-SP-NC
2864053	MINI MCR-SL-U-UI
2865007	MINI MCR-SL-U-UI-NC
2811213	MINI MCR-SL-U-UI-SP
2810078	MINI MCR-SL-U-UI-SP-NC
2864684	MINI MCR-SL-U-U
2864697	MINI MCR-SL-U-U-SP
2813512	MINI MCR-SL-U-I-O
2813570	MINI MCR-SL-U-I-O-SP
2813525	MINI MCR-SL-U-I-4
2813583	MINI MCR-SL-U-I-4-SP
2813541	MINI MCR-SL-I-U-0
2813554	MINI MCR-SL-I-U-0-SP
2813538	MINI MCR-SL-I-U-4
2813567	MINI MCR-SL-I-U-4-SP
2864406	MINI MCR-SL-I-I
2864723	MINI MCR-SL-I-I-SP
2864134	MINI MCR-SL-PTB
2864147	MINI MCR-SL-PTB-SP
2811420	MINI MCR-SL-TB
2811268	MINI MCR-SL-V8-FLK 16-A
MCR repeater power supplies	
2864422	MINI MCR-SL-RPS-I-I
2864752	MINI MCR-SL-RPS-I-I-SP
3-way output signal conditioner for transmitting 0/4 ... 20 mA signals	
2905577	MINI MCR-SL-IDS-I-I
2905578	MINI MCR-SL-IDS-I-I-SP

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.

Type Approval documentation

Documents: TAA000020N_Overview_Documents_2018-10-16

Test Reports: EL2311; U71401; E143008E2; E143008E2_Annex; U172469E1_3rd Version

Job Id: **262.1-028794-1**
Certificate No: **TAA000020N**

Tests carried out

Applicable tests according to class guideline DNVGL-CG-0339, November 2016.

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