



IECEX Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification Scheme for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.: IECEx BVS 10.0044X issue No.:1

Certificate history:
Issue No. 1 (2013-1-29)
Issue No. 0 (2010-5-7)

Status: **Current**

Date of Issue: 2013-01-29 Page 1 of 5

Applicant: **Phoenix Contact GmbH & Co. KG**
Flachmarktstraße 8
32825 Blomberg
Germany

Electrical Apparatus: **Isolating amplifier type MACX MCR-UI-UI and MACX MCR-UI-UI-SP**
Optional accessory:

Type of Protection: **Equipment protection by type of protection "n"**

Marking: **Ex nA IIC T4 Gc**

Approved for issue on behalf of the IECEx
Certification Body:

H.-Ch. Simanski

Position:

Head of Certification Body

Signature:
(for printed version)



29/1/2013

Date:

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting the [Official IECEx Website](http://www.iecex.com).

Certificate issued by:

DEKRA EXAM GmbH
Dinnendahlstrasse 9
44809 Bochum
Germany

 **DEKRA**
DEKRA EXAM GmbH



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Manufacturer: **Phoenix Contact GmbH & Co. KG**
Flachmarktstraße 8
32825 Blomberg
Germany

Additional Manufacturing location
(s):

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended.

STANDARDS:

The electrical apparatus and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards:

IEC 60079-0 : 2011 Explosive atmospheres - Part 0: General requirements
Edition: 6.0

IEC 60079-15 : 2010 Explosive atmospheres - Part 15: Equipment protection by type of protection "n"
Edition: 4

*This Certificate **does not** indicate compliance with electrical safety and performance requirements other than those expressly included in the Standards listed above.*

TEST & ASSESSMENT REPORTS:

A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in

Test Report:

[DE/BVS/ExTR10.0061/01](#)

Quality Assessment Report:

[NL/DEK/QAR11.0009/00](#)



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Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

Type variants:

Isolating amplifier type MACX MCR-UI-UI and type MACX MCR-UI-UI-SP
The isolating amplifier type MACX MCR-UI-UI-SP differs from the type MACX MCR-UI-UI only in the kind of connecting the cables to the module. In the type with the ending -SP the Spring-Cage-Plugs are used.

Description:

The isolating amplifier is a single channel, configurable isolating amplifier with a 3-way-isolation. The isolating amplifier is designed for a supply range of 9.6 up to 30 V DC. The Isolating amplifier is constructed in a housing, which can be mounted on 35 mm top hat rails. The protection category for the housing is IP20.

CONDITIONS OF CERTIFICATION: YES as shown below:

If the isolating amplifier type MACX MCR-UI-UI or type MACX MCR-UI-UI-SP is used in Zone 2 areas, it has to be mounted in an enclosure which is in accordance with IEC 60079-15.



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EQUIPMENT(continued):

Electrical Parameters

1 Power Supply circuit (Terminals 1.1, 1.2)

Nominal voltage 24 V DC
Incl. tolerances 9.6 ... 30 V DC
Power consumption DC < 1 W

2 Input data

Current input
Input signal range $\pm 1 \dots \pm 100$ mA, (configurable by DIP-switches)

Terminals (4.1, 5.2) $\pm 10 \dots \pm 100$ mA
input resistance 10 Ω

Terminals (4.2, 5.2) $\pm 1 \dots \pm 5$ mA
input resistance 100 Ω

Voltage input
Input signal range ± 50 mV ... ± 100 V (configurable by DIP-switches)

Terminals (4.2, 5.2) ± 50 mV ... ± 1000 mV
Input resistance 100 k Ω

Terminals (5.1, 5.2) ± 1 V ... ± 100 V
Input resistance 1 M Ω

3 Output data

Current output/Load
Active (Terminals 3.1, 3.2) ± 20 mA / $\leq 600 \Omega$, ± 22 mA / $\leq 540 \Omega$
Passive (Terminals 2.1, 2.2) 22 mA / 1000 Ω ; $U_{max} = 24$ V

Voltage output/Load ± 10 V / ≥ 1 k Ω , ± 11 V / ≥ 1.1 k Ω

Thermal Parameters

Ambient temperature range -20°C up to +70°C



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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above):

Changings

The isolating amplifier type MACX MCR-UI-UI or type MACX MCR-UI-UI-SP was tested in accordance to the new standard versions of IEC 60079-*. The marking was modified according to the new standard versions.

The mechanical construction and the internal electronics is unchanged.