



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 08.0035X issue No.:4

Status: **Current**

Date of Issue: **2016-10-17** Page 1 of 4

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

Certificate history:
Issue No. 4 (2016-10-17)
Issue No. 3 (2016-3-18)
Issue No. 2 (2012-10-5)
Issue No. 1 (2009-11-10)
Issue No. 0 (2008-8-13)

Equipment: **Smart Repeater type MACX MCR-EX-SL-RPSSI-I-UP resp. MACX MCR-EX-SL-RPSSI-I-UP-SP resp. BTS311-E0**
Optional accessory:

Type of Protection: **Equipment protection by intrinsic safety "i", Equipment protection by type of protection "n"**


Marking: [Ex ia Ga] IIC/IIB
[Ex ia Da] IIC
Ex nA [ia Ga] IIC/IIB T4 Gc

Approved for issue on behalf of the IECEx Certification Body: J. Koch

Position: Head of Certification Body

Signature:
(for printed version)

Date:



17.10.16

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**
On the safe side.



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Manufacturer: **Phoenix Contact GmbH & Co. KG**
Flachsmarktstraße 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 Edition: 6.0	Explosive atmospheres - Part 0: General requirements
IEC 60079-11 : 2011 Edition: 6.0	Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
IEC 60079-15 : 2010 Edition: 4	Explosive atmospheres - Part 15: Equipment protection by type of protection "n"

*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/ExTR08.0040/04](#)

Quality Assessment Report:

[NL/DEK/QAR11.0009/04](#)



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Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

General product information:

Type variants

Smart Repeater

Type MACX MCR-EX-SL-RPSSI-I-UP with screw terminals

Type MACX MCR-EX-SL-RPSSI-I-UP-SP with spring cage terminals

resp.

Smart Repeater type BTS311-E0

Description

The Smart Repeater, which will be installed outside the hazardous area or in an enclosure which is in accordance with IEC 60079-15, is used for transmission of 0(4)...20 mA signals between one intrinsically safe and one non-intrinsically safe signal circuit.

Ratings

See Annex

CONDITIONS OF CERTIFICATION: YES as shown below:

For installation of the Smart Repeater in Zone 2 areas, it has to be mounted in an enclosure which is in accordance with IEC 60079-15.

The setting of the DIL-switches has to be done, when the Smart Repeater is not energized.

Maximum overvoltage category II according to IEC 60664-1 is permitted for the non-intrinsically safe circuits.

The equipment shall only be used in an area of not more than pollution degree 2, as defined in IEC 60664-1.



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

No changes, because of a better overview, the product information was completely redefined.

Annex: [BVS_08_0035X_Phoenix_issue4_Annex.pdf](#)



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Annex
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Ratings

1	Power supply circuit (terminals 1.1 – 1.2)				
	nominal voltage	U_n	AC/DC 20 ... 230	V	
	max. voltage	U_m	AC/DC 253	V	
2	Non-intrinsically safe interface (terminals 3.1 – 3.2 resp. 3.2 – 3.3)				
	nominal signal		0(4) ... 20	mA	
	max. voltage	U_m	AC 253	V	
			DC 125	V	
3	Intrinsically safe interface				
	The intrinsically safe interface is galvanically isolated from the non-intrinsically safe circuits and from earth.				
3.1	Output (terminals 4.1 – 4.2)				
	max. output voltage	U_o	DC 25.2	V	
	max. output current	I_o	93	mA	
	max. output power	P_o	587	mW	
	For group IIC:				
	max. external capacitance	C_o	107	nF	
	max. external inductance	L_o	2	mH	
	For group IIB:				
	max. external capacitance	C_o	820	nF	
	max. external inductance	L_o	4	mH	
	The values for group IIB can be used for areas with combustible dust.				
3.2	Input (terminals 4.2 – 4.3)				
	max. input voltage	U_i	DC 30	V	
	max. input current	I_i	150	mA	
	max. internal capacitance	C_i	negligible		
	max. internal inductance	L_i	negligible		
4	Ambient temperature range				$-20\text{ °C} \leq T_a \leq +60\text{ °C}$