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 IBE 14.0039X	Issue No: 0	Certificate history: Issue No. 0 (2014-07-02)
Status:	Current	Page 1 of 3	
Date of Issue:	2014-07-02		
Applicant:	PHOENIX CONTACT GmbH & Co. KG Flachsmarktstraße 8 32825 Blomberg Germany		
Electrical Apparatus: *Optional accessory:*	Antennas types ANT-... and RAD-...		
Type of Protection:	Intrinsic safety "ia"		
Marking:	Ex ia IIC T6 Ga		

Approved for issue on behalf of the IECEx Certification Body: Prof. Dr. Tammo Redeker

Position: Head of Certification Body

Signature:
(for printed version)

Date: 2014-07-02

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.

Certificate issued by:

IBExU Institut für Sicherheitstechnik GmbH
Certification Body
Fuchsmühlenweg 7
09599 Freiberg
Germany

IBExU

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Certificate No:	IECEx IBE 14.0039X	Issue No: 0
Date of Issue:	2014-07-02	Page 2 of 3
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 60079-26 : 2006 Edition:2	Explosive atmospheres - Part 26: Equipment with equipment protection level (EPL) Ga

*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/IBE/ExTR14.0032/00

Quality Assessment Report:

NL/DEK/QAR11.0009/01

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Certificate No:	IECEx IBE 14.0039X	Issue No: 0
Date of Issue:	2014-07-02	Page 3 of 3

Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

Due to the different demands in the applications different kinds and types of antennas shall be supplied. These are mainly omnidirectional antennas and directional (panel) antennas. As different radio frequency bands shall be supplied as well for these bands optimized antennas are needed as well.
The transmitter is decoupled from the antenna by a certified antenna coupler in the way that there occurs only the RF signal on the output side of the antenna coupler. The antenna coupler is an associated apparatus which prevents potentially hazardous energy from reaching the antenna mounted in the explosive gas atmosphere in the case of failure and guarantees the maximum input values U_i, I_i and P_i for every circumstance according to the protection method "[ia]".

See the attachement for detailed technical data.

CONDITIONS OF CERTIFICATION: YES as shown below:

Metallic parts of the housing have to be grounded.

Observe during the installation the requirements of the IEC 60079-14 as well.

Avoid electrostatic charging of the antenna.

Mount the antenna out of reach of persons.

Clean the housing of the antenna only with a useful moist cloth.

The threshold power of the antenna may not exceed 2 W when the gain is taken into account.

Annex:

AnnexIBE14.0039X00.pdf

Antenna types

Article No.	Type identifier	Characteristic	Frequency range
27 02 136	ANT-OMNI-868-01	omnidirectional	868 – 870 MHz
29 03 219	RAD-2400-ANT-OMNI-6-0-SW	omnidirectional	2.4 – 2.5 GHz
28 85 919	RAD-ISM-2400-ANT-OMNI-6-0	omnidirectional	2.4 – 2.5 GHz
27 02 137	ANT-DIR-868-01	directional	865 – 870 MHz
27 01 186	ANT-DIR-2459-01	directional	2.4 – 2.5 / 5.15 – 5.875 GHz

Technical data

Common data	
U_i	30 V
I_i	600 mA
P_i	1 W
C_i	negligible
L_i	negligible

ANT-OMNI-868-01	SRD – omnidirect. antenna (Short Range Device)
Frequency range	868 MHz – 870 MHz
Impedance	50 Ω
Gain	4 dBi
Connector	N (female)
Dimensions (∅, h)	24 mm, 620 mm
Protection type	IP 67
Ambient temperature range	-40 °C … +75 °C
Material Housing:	Fiber glass and PC

RAD-2400-ANT-OMNI-6-0-SW	ISM – omnidirectional antenna
Frequency range	2.4 – 2.5 GHz
Impedance	50 Ω
Gain	6 dBi
Connector	N (female)
Dimensions (∅, h)	24 mm, 330 mm
Protection type	IP 65
Ambient temperature range	-40 °C … +75 °C
Material Housing:	ABS

RAD-ISM-2400-ANT-OMNI-6-0	ISM – omnidirectional antenna
Frequency range	2.4 – 2.5 GHz
Impedance	50 Ω
Gain	6 dBi
Connector	N (female)
Dimensions (∅, h)	22 mm, 250 mm
Protection type	IP 55
Ambient temperature range	-40 °C … +75 °C
Material Housing:	Fiber glass

ANT-DIR-868-01	ISM – directional antenna
Frequency range	865 MHz – 870 MHz
Impedance	50 Ω
Gain	3.5 dBi
Connector	SMA (female)
Dimensions (H x W x D)	101 x 81 x 35 mm
Protection type	IP 66
Ambient temperature range	-40 °C ... +75 °C
Material Housing:	PC

ANT-DIR-2459-01	ISM – Rod antenna
Frequency range	2.4 – 2.5 GHz / 5.15 – 5.875 GHz
Impedance	50 Ω
Gain	5 dBi
Connector	N (female)
Dimensions (H x W x D)	101 x 81 x 35 mm
Protection type	IP 67
Ambient temperature range	-40 °C ... +75 °C
Material Housing:	PC