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 14.0017X issue No.:0	Certificate history:
Status:	**Current**	
Date of Issue:	**2014-02-24**	Page 1 of 4

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

Electrical Apparatus: **Surge protection system type PT-IQ Ex**
Optional accessory:

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

Marking: Ex nA nC ic [ia Ga] IIC T4/T6 Gc
[Ex ia Ga] IIC

Approved for issue on behalf of the IECEx Certification Body: H.-Ch. Simanski

Position: Head of Certification Body

Signature:
(for printed version)

Date: 24.2.2014

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:

DEKRA EXAM GmbH
Dinnendahlstrasse 9
44809 Bochum
Germany

DEKRA
DEKRA EXAM GmbH

IECEx Certificate of Conformity

Certificate No.: IECEx BVS 14.0017X

Date of Issue: **2014-02-24** Issue No.: **0**

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/ExTR14.0020/00

Quality Assessment Report:

NL/DEK/QAR11.0009/02

IECEx Certificate of Conformity

Certificate No.: IECEx BVS 14.0017X

Date of Issue: **2014-02-24** Issue No.: **0**

Schedule

EQUIPMENT:
Equipment and systems covered by this certificate are as follows:

General product information:

The surge protection system type PT-IQ Ex is used to limit transient overvoltages which could be coupled into protected intrinsically safe circuits. Thereto, a surge protection module is connected into the intrinsically safe circuit which has to be protected. The intrinsically safe circuit is not affected by the connection of the surge protection module in its properties.
The surge protection system type PT-IQ Ex contained a status information and control function which has to be realized by the associated control- and communication module.
The surge protection system type PT-IQ Ex has to be installed outside of the hazardous area or in an enclosure which is in accordance with IEC 60079-15. The components of the surge protection system type PT-IQ Ex are constructed in housings, which can be mounted on 35 mm top hat rails. The protection category for the housings is IP20.
The surge protection system **type PT-IQ Ex** consists of the following components:

1 control- and communication module **type PT-IQ-PTB-UT** consists of

one basic unit	**type PT-IQ-PTB-BE-UT**and
one plug-in module	**type PT-IQ-PTB-P**

up to 10 surge protection modules (1-channel) **type PT-IQ-1x2-EX-24DC-UT** consists of

one basic unit	**type PT-IQ-3-EX-BE-UT** and
one plug-in module	**type PT-IQ-1x2-EX-24DC-P**

up to 10 surge protection modules (2-channel) **type PT-IQ-2x2-EX-24DC-UT** consists of

one basic unit	**type PT-IQ-5-EX-BE-UT** and
one plug-in module	**type PT-IQ-2x2-EX-24DC-P**

In summation, maximum up to 10 surge protection modules can be connected to one control- and communication module. The connection or rather the contact between the modules is realised by the in each case integrated TT-bus (5-pole), type of protection Ex ic IIC. For the connection, only the 5-pole system plug-in connector **type PT-IQ 17.5 TBUS** can be used.

To be continued on page 4

CONDITIONS OF CERTIFICATION: YES as shown below:

For installation of the surge protection system type PT-IQ Ex in EPL Gc (Zone 2) areas, it has to be mounted in an enclosure which is in accordance with IEC 60079-15.

Ambient temperature range for installation outside of the hazardous area:	$-40\ °C \le T_a \le +70\ °C$
Ambient temperature range for installation in EPL Gc areas:	$-40\ °C \le T_a \le +70\ °C$ for T4
	$-40\ °C \le T_a \le +50\ °C$ for T6

Between the terminals of the intrinsically safe circuits and the non-intrinsically safe circuits, the value of clearances in air and the creepage distances has to be minimum 50 mm. Between the control- and communication module and the surge protection module this can be realised by use of the partition plates type **PT-IQ-EX-L-PP** or type **PT-IQ-EX-H-PP** or by several system connectors type **PT-IQ 17.5 TBUS**.

IECEx Certificate of Conformity

Certificate No.: IECEx BVS 14.0017X

Date of Issue: **2014-02-24** Issue No.: **0**

EQUIPMENT(continued):

Ratings:

1 Control- and communication module **type PT-IQ-PTB-UT**

1.1 Non intrinsically safe supply circuit,
connection via terminals 1 and/or 2 (+), 5 and/or 6 (-), 3 and/or 4 (GND, earth)

Nominal voltage	U_n	DC	24	V (20 - 30 V)
Maximum voltage by fault	U_m		35	V

1.2 Non intrinsically safe FM-circuit (relais contacts),
connection via terminals 8, 10 and 12

Nominal voltage	U_n	30	V_{DC} / 21 V_{AC}
Maximum current	I	200	mA
Maximum voltage by fault	U_m	60	V

2 Surge protection module **type PT-IQ-1x2-EX-24DC-UT** (1-channel),
intrinsically safe circuit (Ex ia IIC),
connection (loop-in) via terminals 7/11 and 8/12,
3, 4, 9, and 10 (earth)

Surge protection module **type PT-IQ-2x2-EX-24DC-UT** (2-channel),
intrinsically safe circuits (Ex ia IIC),
channel 1 - connection (loop-in) via terminals 1/5 and 2/6,
channel 2 - connection (loop-in) via terminals 7/11 and 8/12,
3, 4, 9, and 10 (earth)

Maximum input / output voltage	U_i/U_o	30	V
Maximum input / output current	I_i/I_o	350	mA
Maximum input / output power	P_i/P_o	1.2	W
Maximum internal capacitance	C_i	negligible	
Maximum internal inductance	L_i	negligible	

The intrinsically safe circuit is not affected by the connection of the surge protection module in its properties.

3 5-pole TT-bus connector, type of protection Ex ic IIC

In summation, maximum up to 10 surge protection modules can be connected to one control- and communication module. For the connection, only the 5-pole system plug-in connector **type PT-IQ 17.5 TBUS** can be used.

4 Thermal ratings
Ambient temperature range for installation outside of the hazardous area:
$-40\ °C \le T_a \le +70\ °C$
Ambient temperature range for installation outside of the hazardous area:
$-40\ °C \le T_a \le +70\ °C$ for T4
$-40\ °C \le T_a \le +50\ °C$ for T6