



# IECEX Certificate of Conformity

## INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification System for Explosive Atmospheres

for rules and details of the IECEx Scheme visit [www.iecex.com](http://www.iecex.com)

Certificate No.: **IECEX EPS 19.0093X** Page 1 of 5 Certificate history:  
Issue 0 (2019-10-17)

Status: **Current** Issue No: 1

Date of Issue: 2020-02-25

Applicant: **BEx-Solution GmbH**  
Lange Straße 99  
76199 Karlsruhe  
Germany

Equipment: **BEx1-Remote IO, Type 14\*\*\*\*\***

Optional accessory:

Type of Protection: **eb, ia, mb**

Marking: Ex eb mb [ia Ga] IIC T4 Gb  
[Ex ia Da] IIIC

Approved for issue on behalf of the IECEx  
Certification Body:

**Holger Schaffer**

Position:

**Certification Manager**

Signature:  
(for printed version)

Date:

2020-02-25



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 [www.iecex.com](http://www.iecex.com) or use of this QR Code.

Certificate issued by:

**Bureau Veritas Consumer Products Services Germany GmbH**  
Businesspark A96  
86842 Türkheim  
Germany





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Manufacturer: **BEx-Solution GmbH**  
Lange Straße 99  
76199 Karlsruhe  
Germany

Additional  
manufacturing  
locations:

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 equipment 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 60079-0:2017** Explosive atmospheres - Part 0: Equipment - General requirements  
Edition:7.0

**IEC 60079-11:2011** Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"  
Edition:6.0

**IEC 60079-18:2017** Explosive atmospheres - Part 18: Protection by encapsulation "m"  
Edition:4.1

**IEC 60079-7:2017** Explosive atmospheres - Part 7: Equipment protection by increased safety "e"  
Edition:5.1

This Certificate **does not** indicate compliance with 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/EPS/ExTR19.0092/01

Quality Assessment Report:

DE/PTZ/QAR18.0002/01



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## **EQUIPMENT:**

Equipment and systems covered by this Certificate are as follows:

The equipment is a Remote IO system which isolates the non-intrinsically safe input circuits and the supply circuits from the intrinsically safe output circuits. It provides a transfer of non-intrinsically safe input signals to intrinsically safe output signals. The input circuits are suitable to be located in zone 1 (EPL Gb) and the output circuits are suitable to be connected to other intrinsically safe circuits in zone 0 (EPL Ga). The equipment is also suitable to be located outside a hazardous area and the output circuits to be connected to other intrinsically safe circuits in zone 20 (EPL Da). The Remote IO system includes a variety of different modules, differing in the bus type to be connected. The equipment requires an enclosure which is fully certified and the installation of the IO modules must be acknowledged by the certification of the enclosure.

## **SPECIFIC CONDITIONS OF USE: YES as shown below:**

The BEx1-Remote IO of the types 1420010\*, 1420020\*, 1420030\*, 1420040\*, 1420050\* and 1420060\* shall be mounted in an enclosure which is fully certified according to the directive 2014/34/EU and the IECEx-Scheme. The installation of the IO modules of the types mentioned above shall be acknowledged by the certification of the enclosure.

The permitted range of the service temperature after installation inside the additional enclosure is -40°C to +70°C.

The non-intrinsically safe terminals of the equipment (terminals X9 and X10) shall be supplied by a source providing SELV output circuit or conforming to IEC 61010 or IEC 60950 (Um=30V DC).



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**Equipment (continued):**

Electrical data:

$U_m = 30 \text{ V DC}$  (Terminals X9 / X10)

Terminal block X1 to X8 (output parameters of each clamp, clamps are not allowed to be combined):

Clamp (26 V):  $U_o = 26 \text{ V d.c.}$   
 $I_o = 82 \text{ mA}$   
 $P_o = 533 \text{ mW}$

Group IIC				
$L_o$	3 mH	1 mH	0.5 mH	0 mH
$C_o$	42 nF	62 nF	78 nF	99 nF
Group IIB / III				
$L_o$	20 mH	2 mH	0.5 mH	0 mH
$C_o$	350 nF	350 nF	490 nF	770 nF

Clamp (9.6 V)  $U_o = 9.6 \text{ V d.c.}$   
 $I_o = 31 \text{ mA}$   
 $P_o = 75 \text{ mW}$

Group IIC				
$L_o$	49 mH	10 mH	1 mH	0 mH
$C_o$	310 nF	640 nF	1.1 $\mu\text{F}$	3.6 $\mu\text{F}$
Group IIB / III				
$L_o$	100 mH	10 mH	1 mH	0 mH
$C_o$	2 $\mu\text{F}$	3.6 $\mu\text{F}$	6.1 $\mu\text{F}$	26 $\mu\text{F}$

Clamp (GND): Galvanically separated from input GND

	Type: 14200*00	Type: 14200*01	Type: 14200*02
Clamp 1	$U_o = 26 \text{ V d.c.}$	$U_o = 26 \text{ V d.c.}$	$U_o = 9.6 \text{ V d.c.}$
Clamp 2	GND	GND	GND
Clamp 3	$U_o = 26 \text{ V d.c.}$	$U_o = 9.6 \text{ V d.c.}$	$U_o = 9.6 \text{ V d.c.}$
Clamp 4	GND	GND	GND
Clamp 5	$U_o = 9.6 \text{ V d.c.}$	$U_o = 9.6 \text{ V d.c.}$	$U_o = 9.6 \text{ V d.c.}$
Clamp 6	GND	GND	GND
Clamp 7	$U_o = 26 \text{ V d.c.}$	$U_o = 26 \text{ V d.c.}$	$U_o = 9.6 \text{ V d.c.}$
Clamp 8	GND	GND	GND



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

Adding further variants.