



# 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 19.0111X** Page 1 of 5 Certificate history:  
Status: **Current** Issue No: 2 Issue 1 (2020-02-25)  
Date of Issue: 2022-05-12 Issue 0 (2019-11-19)  
Applicant: **BEx-Solution GmbH**  
Lange Straße 99  
76199 Karlsruhe  
Germany  
Equipment: **BEx2-Remote IO, Type 24\*\*\*\*\***  
Optional accessory:  
Type of Protection: **ec, ia, mc**  
Marking: Ex ec mc [ia Ga] IIC T4 Gc  
[Ex ia Da] IIIC

Approved for issue on behalf of the IECEx  
Certification Body:

Position:

Signature:  
(for printed version)

Date:  
(for printed version)

Ulrich Feike

Certification Manager



2022-05-12

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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

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

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/ExTR19.0114/02

Quality Assessment Report:

DE/EPS/QAR22.0005/01



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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 2 (EPL Gc) 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 has to be installed in a suitable housing (see special conditions).

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

The BEx2-Remote IO of the types 2420010\*, 2420020\*, 2420030\*, 2420040\*, 2420050\* and 2420060\* have to be installed in a suitable housing according to the IECEx-Scheme in such a way that a degree of protection of at least IP 54 is reached.

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: 24200*00             | Type: 24200*01             | Type: 24200*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)**

Minor technical changes.