



(1) **EU - Type Examination Certificate**

(2) Equipment and protective systems intended for use in potentially explosive atmospheres – **Directive 2014/34/EU**

(3) EU - Type Examination Certificate Number

EPS 19 ATEX 1 219 X

Revision 2

(4) Equipment: BEx1-Remote IO - Type 142****, 143****, 152****, 153****

(5) Manufacturer: BEx-Solution GmbH

(6) Address: Lange Straße 99
76199 Karlsruhe
Germany

(7) This equipment and any acceptable variation thereto are specified in the annex to this certificate and the documentation therein referred to.

(8) Bureau Veritas Consumer Products Services Germany GmbH, notified body No. 2004 in accordance with Article 21 given in the Directive 2014/34/EU of the European Parliament and of the Council of 26 February 2014, certifies that this equipment has been found to comply with the essential health and safety requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres, given in Annex II of the Directive. The examination and test results are recorded in the confidential documentation under the reference number 19TH0298.

(9) Compliance with the essential health and safety requirements has been assured by compliance with:

EN IEC 60079-0:2018

EN IEC 60079-7:2015/A1:2018

EN 60079-31:2014

EN 60079-11:2012

EN 60079-18:2015/A1:2017

(10) If the sign "X" is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the annex to this certificate.

(11) This EU - Type Examination Certificate relates only to the design and construction of the specified equipment in accordance with Directive 2014/34/EU. Further requirements of this Directive apply to the manufacture of this equipment and its placing on the market. Those requirements are not covered by this certificate.


Certificates without signature and seal are void. This certificate is allowed to be distributed only if not modified. Extracts or modifications must be authorized by Bureau Veritas Consumer Products Services Germany GmbH.

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(12) The marking of the equipment shall include the following:


Type 142***:**

 II 2(1) G Ex eb mb [ja Ga] IIC T4 Gb
II (1) D [Ex ia Da] IIIC

Type 152***:**

 II 2 G Ex eb mb IIC T4 Gb

Type 143***:**

 II 2(1) G Ex eb mb [ja Ga] IIC T4 Gb
II 2(1) D Ex tb [ja Da] IIIC T110°C Db

Type 153***:**

 II 2(1) G Ex eb mb IIC T4 Gb
II 2 D Ex tb IIIC T110°C Db



Certification department of explosion protection

Ulrich Feike



Tuerkheim, 2022-05-12

(13)

Annex

(14) **EU - Type Examination Certificate EPS 19 ATEX 1 219 X**

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(15) Description of equipment:

Type 152** and 153**** (Ex e)**

The equipment is a remote IO system with increased safe digital IO channels. The equipment is suitable to be located in zone 1 (EPL Gb) and the output circuits are suitable to be connected to increased safety circuits in zone 1 (EPL Gb). The remote IO system includes a variety of different modules, differing in the bus type to be connected.

Type 152** (IP 20 Modul):** 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.

Type 142** and 143**** (Ex i)**

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 0 (EPL Ga). The remote IO system includes a variety of different modules, differing in the bus type to be connected.

Type 142** (IP 20 Modul):** 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.

The ambient temperature range is: $-40\text{ °C} \leq T_a \leq 70\text{ °C}$

Electrical data:

Type 142** and 143**** (Ex i):**

$U_m = 30\text{ V DC}$ (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 μF	3.6 μF
Group IIB / III				
L_o	100 mH	10 mH	1 mH	0 mH
C_o	2 μF	3.6 μF	6.1 μF	26 μF

Clamp (GND): Galvanically separated from input GND

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	Type: 14200*00	Type: 14200*01	Type: 14200*02
Clamp 1	U _o = 26 V d.c.	U _o = 26 V d.c.	U _o = 9.6 V d.c.
Clamp 2	GND	GND	GND
Clamp 3	U _o = 26 V d.c.	U _o = 9.6 V d.c.	U _o = 9.6 V d.c.
Clamp 4	GND	GND	GND
Clamp 5	U _o = 9.6 V d.c.	U _o = 9.6 V d.c.	U _o = 9.6 V d.c.
Clamp 6	GND	GND	GND
Clamp 7	U _o = 26 V d.c.	U _o = 26 V d.c.	U _o = 9.6 V d.c.
Clamp 8	GND	GND	GND

Type 152*** and 153***** (Ex e):**

U_m = 30 V DC (Terminals X9 / X10)

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

Clamp (24 V):
 U_{max} = 24 V d.c.
 I_{max} = 0.5 A (clamp 3)
 I_{max} = 2.0 A (clamp 5)

(16) Reference number: 19TH0298

(17) Special conditions for safe use:

Type 142***, Type 152*****:**

The BEx1-Remote IO of the types 142***** and type 152***** shall be mounted in an enclosure which is fully certified according to the directive 2014/34/EU. 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.

All types:

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 (U_m=30V DC).

(18) Essential health and safety requirements:

Met by compliance with standards.

Certification department of explosion protection

Tuerkheim, 2022-05-12

Ulrich Felke

