



## Certificates

---



Device version KB2, incl. HSG  
KB2 Keyboards  
PD2 Pointing device  
KB2-HSG / PD2-HSG Assemblies



THE STRONGEST LINK.

Certificates version:  
Issue date:

01.00.04  
02.11.2022

## Disclaimer

Publisher and copyright holder:

R. STAHL HMI Systems GmbH  
Adolf-Grimme-Allee 8  
D 50829 Köln

Telephone:	(Sales Support)	+49 221 768 06	- 1200
	(Technical Support)		- 5000
Fax:			- 4200
E-mail:	(Sales Support)	<a href="mailto:sales.dehm@r-stahl.com">sales.dehm@r-stahl.com</a>	
	(Technical Support)	<a href="mailto:support.dehm@r-stahl.com">support.dehm@r-stahl.com</a>	

- All rights reserved.
- This document may not be reproduced in whole or in part except with the written consent of the publisher.
- This document may be subject to change without notice.

Any warranty claims are limited to the right to demand amendments. Liability for any damage that might result from the content of this description or all other documentation is limited to clear cases of premeditation.

We reserve the right to change our products and their specifications at any time, provided it is in the interest of technical progress. The information in the current manual (in the internet and on CD / DVD / USB stick) or in the operating instructions included with the HMI device applies.

### Trademarks

The terms and names used in this document are registered trademarks and / or products of the companies in question.

Copyright © 2022 R. STAHL HMI Systems GmbH. Subject to alterations.

## Table of contents

	Description	Page
	Disclaimer	2
	Table of contents	3
1	Preface	4
2	ATEX EC type examination certificate	5
2.1	KB2 / PD2 - Z1	5
2.2	KB2 / PD2 – Z2	11
2.3	KB2 / PD2 - Z1-* -HSG*00* / *U3*	17
2.4	KB2 / PD2 – Z2-* -HSG*00* / *U3*	23
3	IECEX certificate	29
3.1	KB2 / PD2	29
3.2	KB2 / PD2 -* -HSG*00* / *U3*	36
4	EAC certificate Russia	43
5	CNEEx certificate China	50
5.1	KB2 / PD2 – Z1	50
5.1.1	English version	50
5.1.2	Chinese version	57
5.2	KB2 / PD2 -* -HSG*00* / *U3*	69
5.2.1	English version	69
5.2.2	Chinese version	76
6	BIS certificate India	90
7	PESO certificate India	91
8	FM certificate USA	92
9	FM certificate Canada	106
10	KCS certificate Korea	120
10.1	KB2 / PD2 – Z1 (Zone 1 devices)	120
10.2	KB2 / PD2 – Z1 (Zone 21 devices)	121
10.3	KB2 / PD2 – Z1-* -HSG*00* (Zone 1 devices inside enclosure)	122
10.4	KB2 / PD2 – Z1-* -HSG*00* (Zone 21 devices inside enclosure)	123
10.5	KB2 / PD2 – Z1-* -HSG*U3* (Zone 1 devices inside enclosure, UB03)	124
10.6	KB2 / PD2 – Z1-* -HSG*U3* (Zone 21 devices inside enclosure, UB03)	125
10.7	Customer confirmation letter	126
11	Release Notes	127

# 1 Preface

 **NOTICE**

This document contains all valid certificates for the KB2 product line. All technical details contained in the EC type examination certificate are also part of the associated operating instructions. All certificates are also available on [r-stahl.com](http://r-stahl.com), on the CD / DVD / USB stick included in the delivery or a copy can also be ordered from R. STAHL HMI Systems GmbH.

## 2 ATEX EC type examination certificate

### 2.1 KB2 / PD2 - Z1



#### Translation

# 1 EU-Type Examination Certificate

2 **Equipment intended for use in potentially explosive atmospheres  
Directive 2014/34/EU**

3 EU-Type Examination Certificate Number: **BVS 20 ATEX E 078 X**

4 Product: **Keyboard with pointing device type KB2-Z1-CCC-DD-EE-F-\***  
**Pointing device type PD2-Z1-CCC-DD-EE-F-\***  
**Keyboard matrix interface type KM2-Z1-CCC-DD-EE-F-\***

5 Manufacturer: **R. STAHL HMI Systems GmbH**

6 Address: **Adolf-Grimme Allee 8, 50829 Köln, Germany**

7 This product and any acceptable variations thereto are specified in the appendix to this certificate and the documents referred to therein.

8 DEKRA Testing and Certification GmbH, Notified Body number 0158, in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres given in Annex II to the Directive.  
The examination and test results are recorded in the confidential Report No. BVS PP 20.2125 EU.

9 The Essential Health and Safety Requirements are assured in consideration of:

**EN IEC 60079-0:2018                      General requirements**  
**EN 60079-11:2012                      Intrinsic Safety "i"**

10 If the sign "X" is placed after the certificate number, it indicates that the product is subject to the Special Conditions for Use specified in the appendix to this certificate.

11 This EU-Type Examination Certificate relates only to the design and construction of the specified product. Further requirements of the Directive apply to the manufacturing process and supply of this product. These are not covered by this certificate.

12 The marking of the product shall include the following:

	<b>II 2G Ex ia IIC T4 Gb</b>	(When connected to an ia-circuit)
	<b>II 2D Ex ia IIIC T<sub>200</sub> 135°C Db</b>	
	<b>II 2G Ex ib IIC T4 Gb</b>	(When connected to an ib-circuit)
	<b>II 2D Ex ib IIIC T<sub>200</sub> 135°C Db</b>	
	<b>II 3G Ex ic IIC T4 Gc</b>	(When connected to an ic-circuit)
	<b>II 3D Ex ic IIIC T<sub>200</sub> 135°C Dc</b>	

DEKRA Testing and Certification GmbH  
Bochum, 2010-09-18

Signed: Jörg-Timm Kilisch

Managing Director



Page 1 of 6 of BVS 20 ATEX E 078 X – Jobnumber 341551600  
This certificate may only be reproduced in its entirety and without any change.

DEKRA Testing and Certification GmbH, Handwerkstr. 15, 70565 Stuttgart, Germany  
Certification body: Dinnendahlstr. 9, 44809 Bochum, Germany  
Phone +49.234.3696-400, Fax +49.234.3696-401, e-mail DTC-Certification-body@dekra.com



## 13 Appendix

## 14 EU-Type Examination Certificate

BVS 20 ATEX E 078 X

## 15 Product description

## 15.1 Subject and type

Types AAA-BB-CCC-DD-EE-F-\*

In the complete type denomination, the wild cards A-F are replaced by the following characters and numbers to distinguish different variants.

**AAA: Type**  
 KB2 Keyboard with pointing device  
 PD2 Pointing device only  
 KM2 Keyboard matrix interface

**BB: Zone**  
 Z1 For use in Zone 1, 2, 21, 22

**CCC: Type of interface (not Ex-relevant)**

**DD: Type of pointing device**  
 00 No pointing device  
 TB Trackball  
 TP Touchpad  
 JS Joystick

**EE: Front plate material**  
 AP Aluminium coated  
 AL Aluminium anodized  
 V2 Stainless steel  
 V4 Stainless steel  
 ST Steel

**F: Surface front foil**  
 P Polyester foil  
 V Metallic foil

The \* is replaced by characters and numbers to distinguish variations with no influence to explosion protection.

## 15.2 Description

The Human Interface Devices (HIDs) KB2-Z1-..., PD2-Z1-... and KM2-Z1-... are used for connection to PCs or similar devices in hazardous areas.

The HIDs are intrinsically safe apparatus.

They are suitable for use in areas requiring EPL Gb or Db. They have level of protection ia, when connected to an ia-circuit. When connected to an ib-circuit, they have level of protection ib. When connected to an ic-circuit, they have level of protection ic and are suitable for areas requiring EPL Gc or Dc.

**The Keyboards type KB2-Z1-... and the Pointing Devices type PD2-Z1-...** are intended for installation into a control board or for installation into a suitable cutout of an external enclosure. They have a metallic front plate with switches and control elements as joystick, trackball or touchpad.

The electronic is placed behind the front plate. The backside of the apparatus is open (no enclosure).



Page 2 of 6 of BVS 20 ATEX E 078 X – Jobnumber 341551600  
 This certificate may only be reproduced in its entirety and without any change.

DEKRA Testing and Certification GmbH, Handwerkstr. 15, 70565 Stuttgart, Germany  
 Certification body: Dinnendahlstr. 9, 44809 Bochum, Germany  
 Phone +49.234.3696-400, Fax +49.234.3696-401, e-mail DTC-Certification-body@dekra.com



The installation depends on the use:

- For use in Group II:  
The devices have to be installed in such a way that at least IP20 according to EN 60529 is ensured for the backside.
- For use in Group III:  
The devices have to be installed in such a way that at least IP64 according to EN IEC 60079-0 is ensured for the backside.  
When supplied with maximum current > 250 mA:  
The devices must be supplied by an ia-circuit (linear characteristics).
- Installation in t, e, p:  
The devices are suitable for installation into the cutout of an enclosure with IP64 according to EN IEC 60079-0 resp. into the cutout of an enclosure type of protection Ex eb resp. ec or Ex tb resp. tc or Ex p. They fulfil the respective enclosure requirements.

The devices are supplied via a permanently connected cable with max. 5 m length.

**The Keyboard Matrix Interfaces Typ KM2-Z1-...** are intended for connection of an external keyboard.

They consist of a metallic enclosure with inner electronics.

The connection is done via external terminals.

The enclosure has IP20 according to EN 60529.

- For use in Group III:  
The devices have to be installed in such a way that at least IP64 according to EN IEC 60079-0 is ensured for the backside.  
When supplied with maximum current > 250 mA:  
The devices must be supplied by an ia-circuit (linear characteristics).

#### Listing of all components used referring to older standards

No components

#### 15.3 Parameters

##### 15.3.1 Type PD2-Z1-\*\*\* \*\*\_\*\_\*\_\*\_\*; (Pointing device)

Supply

via a permanently connected cable with max. 5 m length

Wires

for 8-wire cable: +5V (red resp. 5), USB-m (grey resp. 7), USB\_p (pink resp. 8) and GND (blue resp. 6)

for 4-wire cable: +5V (white resp. 1), USB-m (green resp. 2), USB\_p (yellow resp. 3) and GND (brown resp. 4)

Maximum input voltage	$U_i$	DC	5.9	V
Maximum input current	$I_i$			
For Group II			319	mA
For Group III, ia			319	mA
For Group III, ib resp. ic			250	mA
Maximum input power	$P_i$		650	mW
Effective internal capacitance	$C_i$		21	$\mu$ F
Effective internal inductance	$L_i$		1.68	$\mu$ H

For the permanently connected cable, the following values have to be respected additionally:

Cable capacitance	$C_c$	200	pF/m
Cable inductance	$L_c$	1	$\mu$ H/m



Page 3 of 6 of BVS 20 ATEX E 078 X – Jobnumber 341551600  
This certificate may only be reproduced in its entirety and without any change.

DEKRA Testing and Certification GmbH, Handwerkstr. 15, 70565 Stuttgart, Germany  
Certification body: Dinnendahlstr. 9, 44809 Bochum, Germany  
Phone +49.234.3696-400, Fax +49.234.3696-401, e-mail DTC-Certification-body@dekra.com



15.3.1.2 **Type KB2-Z1-\*\*\*-00-\*\*-\*\*-\*:**  
(Keyboard without Pointing Device)

Supply  
via a permanently connected cable with max. 5 m length

Wires +5V (white resp. 1), USB-m (green resp. 2), USB\_p (yellow resp. 3) and GND (brown resp. 4)

Maximum input voltage	U <sub>i</sub>	DC	5.9	V
Maximum input current	I <sub>i</sub>			
For Group II			319	mA
For Group III, ia			319	mA
For Group III, ib resp. ic			250	mA
Maximum input power	P <sub>i</sub>		650	mW
Effective internal capacitance	C <sub>i</sub>		21	µF
Effective internal inductance	L <sub>i</sub>		1.68	µH

For the permanently connected cable, the following values have to be respected additionally:

Cable capacitance	C <sub>c</sub>		200	pF/m
Cable inductance	L <sub>c</sub>		1	µH/m

15.3.1.3 **Type KB2-Z1-\*\*\*-TB-\*\*-\*\*-\*:**  
**Type KB2-Z1-\*\*\*-TP-\*\*-\*\*-\*:**  
**Type KB2-Z1-\*\*\*-JS-\*\*-\*\*-\*:**  
(Keyboard with Pointing Device)

Supply with 2 separate intrinsically safe circuits  
via an 8-wire permanently connected cable with max. 5 m length

15.3.1.3.1 Keyboard-circuit

Wires +5V (white resp. 1), USB-m (green resp. 2), USB\_p (yellow resp. 3) and GND (brown resp. 4)

Maximum input voltage	U <sub>i</sub>	DC	5.9	V
Maximum input current	I <sub>i</sub>			
For Group II			319	mA
For Group III, ia			319	mA
For Group III, ib resp. ic			250	mA
Maximum input power	P <sub>i</sub>		650	mW
Effective internal capacitance	C <sub>i</sub>		21	µF
Effective internal inductance	L <sub>i</sub>		1.68	µH

For the permanently connected cable, the following values have to be respected additionally:

Cable capacitance	C <sub>c</sub>		200	pF/m
Cable inductance	L <sub>c</sub>		1	µH/m

15.3.1.3.2 Pointing Device-Circuit

Wires +5V (red resp. 5), USB-m (grey resp. 7), USB\_p (pink resp. 8) and GND (blue resp. 6)

Maximum input voltage	U <sub>i</sub>	DC	5.9	V
Maximum input current	I <sub>i</sub>			
For Group II			319	mA
For Group III, ia			319	mA
For Group III, ib resp. ic			250	mA
Maximum input power	P <sub>i</sub>		650	mW
Effective internal capacitance	C <sub>i</sub>		21	µF
Effective internal inductance	L <sub>i</sub>		1.68	µH

Page 4 of 6 of BVS 20 ATEX E 078 X – Jobnumber 341551600  
This certificate may only be reproduced in its entirety and without any change.



DEKRA Testing and Certification GmbH, Handwerkstr. 15, 70565 Stuttgart, Germany  
Certification body: Dinnendahlstr. 9, 44809 Bochum, Germany  
Phone +49.234.3696-400, Fax +49.234.3696-401, e-mail DTC-Certification-body@dekra.com





For the permanently connected cable, the following values have to be respected additionally:

Cable capacitance	$C_c$	200	pF/m
Cable inductance	$L_c$	1	$\mu$ H/m

15.3.1.4 Type **KM2-Z1-\*\*\*-\*\*-\*\*\*-\***:  
(Keyboard Matrix)

15.3.1.4.1 Supply

Terminal block X1  
Terminals +5V (1), USB\_m (2), USB\_p (3), GND (4)

Maximum input voltage	$U_i$	DC	5.9	V
Maximum input current	$I_i$			
For Group II			319	mA
For Group III, ia			319	mA
For Group III, ib resp. ic			250	mA
Maximum input power	$P_i$		650	mW
Effective internal capacitance	$C_i$		20.5	$\mu$ F
Effective internal inductance	$L_i$		1.68	$\mu$ H

Terminal 5 is intended for connection of a cable shield.

15.3.1.4.2 Terminals for connection of an external keyboard:  
Terminal blocks X2, X3, X4:  
(The signals at all 3 terminal blocks are regarded as 1 intrinsically safe circuit)

Maximum output voltage	$U_o$	= $U_i$		
Maximum output current	$I_o$	250		mA
Maximum output power	$P_o$	= $P_i$		
Maximum external capacitance	$C_o$	0.5		$\mu$ F
Maximum external inductance	$L_o$	0.5		$\mu$ H

15.3.2 Thermal parameters

Ambient temperature resp. temperature at the place of installation	$T_a$	-40 °C... 70 °C
---	-------	-----------------

Further details are part of the manual.

16 Report Number

BVS PP 20.2125 EU, as of 2020-09-18



Page 5 of 6 of BVS 20 ATEX E 078 X – Jobnumber 341551600  
This certificate may only be reproduced in its entirety and without any change.

DEKRA Testing and Certification GmbH, Handwerksstr. 15, 70565 Stuttgart, Germany  
Certification body: Dinnendahlstr. 9, 44809 Bochum, Germany  
Phone +49.234.3696-400, Fax +49.234.3696-401, e-mail DTC-Certification-body@dekra.com



**17 Special Conditions for Use**

- 17.1 Type KB2-Z1-... and type PD2-Z1-...:  
For use in gas-explosive areas, the devices must be installed in a suitable enclosure to obtain at least IP20 in accordance with IEC 60529.
- 17.2 Type KB2-Z1-... and type PD2-Z1-... and KM2-Z1-...:  
When used in dust-explosive areas, the device has to be installed in a suitable enclosure to obtain at least IP64 in accordance with EN IEC 60079-0.  
When supplied with > 250 mA in dust-explosive areas:  
The device must be supplied by an ia-circuit (linear characteristics).
- 17.3 Type KB2-Z1-\*\*\*-TB-\*\*-\*\* and type KB2-Z1-\*\*\*-TP-\*\*-\*\* and type KB2-Z1-\*\*\*-JS-\*\*-\*\*:  
The connection cable contains 2 separate intrinsically safe circuits.  
The device has to be installed in such a way that mechanical effects (pulling forces) on the cable are excluded.  
The cable has to be fixed and effectively protected against damage.
- 17.4 The devices (inclusive connection cables) shall only be installed in areas where intensive electrostatic charging processes are excluded.

**18 Essential Health and Safety Requirements**

The Essential Health and Safety Requirements are covered by the standards listed under item 9.

**19 Drawings and Documents**

Drawings and documents are listed in the confidential report.

We confirm the correctness of the translation from the German original.  
In the case of arbitration, only the German wording shall be valid and binding.

DEKRA Testing and Certification GmbH  
Bochum, 2020-09-18  
BVS-Su A20191076

  
\_\_\_\_\_  
Managing Director



Page 6 of 6 of BVS 20 ATEX E 078 X – Jobnumber 341551600  
This certificate may only be reproduced in its entirety and without any change.

DEKRA Testing and Certification GmbH, Handwerkstr. 15, 70565 Stuttgart, Germany  
Certification body: Dinnendahlstr. 9, 44809 Bochum, Germany  
Phone +49.234.3696-400, Fax +49.234.3696-401, e-mail DTC-Certification-body@dekra.com

## 2.2 KB2 / PD2 – Z2



## Translation

1 **Type Examination Certificate**2 Equipment intended for use in potentially explosive atmospheres  
Directive 2014/34/EU3 Type Examination Certificate Number: **BVS 20 ATEX E 079 X**4 Product: **Keyboard with pointing device type KB2-Z2-CCC-DD-EE-F-\***  
**Pointing device type PD2-Z2-CCC-DD-EE-F-\***  
**Keyboard matrix interface type KM2-Z2-CCC-DD-EE-F-\***5 Manufacturer: **R. STAHL HMI Systems GmbH**6 Address: **Adolf-Grimme Allee 8, 50829 Köln, Germany**

7 This product and any acceptable variations thereto are specified in the appendix to this certificate and the documents referred to therein.

8 DEKRA Testing and Certification GmbH certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres given in Annex II to the Directive.  
The examination and test results are recorded in the confidential Report No. BVS PP 20.2125 EU.

9 The Essential Health and Safety Requirements are assured in consideration of:

**EN IEC 60079-0:2018 General requirements**  
**EN 60079-11:2012 Intrinsic Safety "i"**

10 If the sign "X" is placed after the certificate number, it indicates that the product is subject to the Special Conditions for Use specified in the appendix to this certificate.

11 This Type Examination Certificate relates only to the design and construction of the specified product. Further requirements of the Directive apply to the manufacturing process and supply of this product. These are not covered by this certificate.

12 The marking of the product shall include the following:

 **II 3G Ex ic IIC T4 Gc**  
**II 3D Ex ic IIC T<sub>200</sub> 135 °C Dc**DEKRA Testing and Certification GmbH  
Bochum, 2020-09-18

Signed: Jörg-Timm Kilisch

\_\_\_\_\_  
Managing DirectorPage 1 of 6 of BVS 20 ATEX E 079 X – Jobnumber 342029300  
This certificate may only be reproduced in its entirety and without any change.DEKRA Testing and Certification GmbH, Handwerkstr. 15, 70565 Stuttgart, Germany  
Certification body: Dinnendahlstr. 9, 44809 Bochum, Germany  
Phone +49.234.3696-400, Fax +49.234.3696-401, e-mail DTC-Certification-body@dekra.com



13 **Appendix**

14 **Type Examination Certificate**

**BVS 20 ATEX E 079 X**

15 **Product description**

15.1 **Subject and type**

Types **AAA-BB-CCC-DD-EE-F-\***

In the complete type denomination, the wild cards A-F are replaced by the following characters and numbers to distinguish different variants.

**AAA: Type**  
 KB2 Keyboard with pointing device  
 PD2 Pointing device only  
 KM2 Keyboard matrix interface

**BB: Zone**  
 Z2 For use in Zone 2, 22

**CCC: Type of interface (not Ex-relevant)**

**DD: Type of pointing device**  
 00 No pointing device  
 TB Trackball  
 TP Touchpad  
 JS Joystick

**EE: Front plate material**  
 AP Aluminium coated  
 AL Aluminium anodized  
 V2 Stainless steel  
 V4 Stainless steel  
 ST Steel

**F: Surface front foil**  
 P Polyester foil  
 V Metallic foil

The \* is replaced by characters and numbers to distinguish variations with no influence to explosion protection.

15.2 **Description**

The Human Interface Devices (HIDs) KB2-Z2-..., PD2-Z2-... and KM2-Z2-... are used for connection to PCs or similar devices in hazardous areas.

The HIDs are intrinsically safe apparatus.  
 They are suitable for use in areas requiring EPL Gc or Dc.

**The Keyboards type KB2-Z2-... and the Pointing Devices type PD2-Z2-...** are intended for installation into a control board or for installation into a suitable cutout of an external enclosure. They have a metallic front plate with switches and control elements as joystick, trackball or touchpad.

The electronic is placed behind the front plate. The backside of the apparatus is open (no enclosure).

The installation depends on the use:

- For use in Group II:  
 The devices have to be installed in such a way that at least IP20 according to EN 60529 is ensured for the backside.



Page 2 of 6 of BVS 20 ATEX E 079 X – Jobnumber 342029300  
 This certificate may only be reproduced in its entirety and without any change.

DEKRA Testing and Certification GmbH, Handwerkstr. 15, 70565 Stuttgart, Germany  
 Certification body: Dinnendahlstr. 9, 44809 Bochum, Germany  
 Phone +49.234.3696-400, Fax +49.234.3696-401, e-mail DTC-Certification-body@dekra.com



- For use in Group III:  
The devices have to be installed in such a way that at least IP64 according EN IEC 60079-0 is ensured for the backside.
- Installation in t, e, p:  
The devices are suitable for installation into the cutout of an enclosure with IP64 according to EN IEC 60079-0 resp. into the cutout of an enclosure type of protection Ex ec or Ex tc or Ex pzc. They fulfil the respective enclosure requirements.

The devices are supplied via a permanently connected cable with max. 5 m length.

**The Keyboard Matrix Interfaces Typ KM2-Z2-...** are intended for connection of an external keyboard.

They consist of a metallic enclosure with inner electronics.

The connection is done via external terminals.

The enclosure has IP20 according to EN 60529.

- For use in Group III:  
The devices have to be installed in such a way that at least IP64 according EN IEC 60079-0 is ensured for the backside.

#### Listing of all components used referring to older standards

No components

### 15.3 Parameters

#### 15.3.1 Type PD2-Z2-\*\*\*-\*\*-\*\*-\*:\*: (Pointing device)

Supply

via a permanently connected cable with max. 5 m length

Wires

for 8-wire cable: +5V (red resp. 5), USB-m (grey resp. 7), USB\_p (pink resp. 8) and GND (blue resp. 6)

for 4-wire cable: +5V (white resp. 1), USB-m (green resp. 2), USB\_p (yellow resp. 3) and GND (brown resp. 4)

Maximum input voltage	$U_i$	DC	5.9	V
Maximum input current	$I_i$			
For Group II			319	mA
For Group III			250	mA
Maximum input power	$P_i$		650	mW
Effective internal capacitance	$C_i$		21	$\mu$ F
Effective internal inductance	$L_i$		1.68	$\mu$ H

For the permanently connected cable, the following values have to be respected additionally:

Cable capacitance	$C_c$	200	pF/m
Cable inductance	$L_c$	1	$\mu$ H/m

#### 15.3.1.2 Type KB2-Z2-\*\*\*-00-\*\*-\*\*-\*:\*: (Keyboard without Pointing Device)

Supply

via a permanently connected cable with max. 5 m length

Wires +5V (white resp. 1), USB-m (green resp. 2), USB\_p (yellow resp. 3) and GND (brown resp. 4)

Maximum input voltage	$U_i$	DC	5.9	V
Maximum input current	$I_i$			
For Group II			319	mA
For Group III			250	mA

Page 3 of 6 of BVS 20 ATEX E 079 X – Jobnumber 342029300

This certificate may only be reproduced in its entirety and without any change.



DEKRA Testing and Certification GmbH, Handwerkstr. 15, 70565 Stuttgart, Germany  
 Certification body: Dinnendahlstr. 9, 44809 Bochum, Germany  
 Phone +49.234.3696-400, Fax +49.234.3696-401, e-mail DTC-Certification-body@dekra.com



Maximum input power	P <sub>i</sub>	650	mW
Effective internal capacitance	C <sub>i</sub>	21	µF
Effective internal inductance	L <sub>i</sub>	1.68	µH

For the permanently connected cable, the following values have to be respected additionally:

Cable capacitance	C <sub>c</sub>	200	pF/m
Cable inductance	L <sub>c</sub>	1	µH/m

15.3.1.3 **Type KB2-Z2-\*\*\*-TB-\*\*\*-\*,**  
**Type KB2-Z2-\*\*\*-TP-\*\*\*-\*,**  
**Type KB2-Z2-\*\*\*-JS-\*\*\*-\*,**  
 (Keyboard with Pointing Device)

Supply with 2 separate intrinsically safe circuits via an 8-wire permanently connected cable with max. 5 m length

15.3.1.3.1 Keyboard-circuit

Wires +5V (white resp. 1), USB\_m (green resp. 2), USB\_p (yellow resp. 3) and GND (brown resp. 4)

Maximum input voltage	U <sub>i</sub>	DC	5.9	V
Maximum input current	I <sub>i</sub>			
For Group II			319	mA
For Group III			250	mA
Maximum input power	P <sub>i</sub>		650	mW
Effective internal capacitance	C <sub>i</sub>		21	µF
Effective internal inductance	L <sub>i</sub>		1.68	µH

For the permanently connected cable, the following values have to be respected additionally:

Cable capacitance	C <sub>c</sub>	200	pF/m
Cable inductance	L <sub>c</sub>	1	µH/m

15.3.1.3.2 Pointing Device-Circuit

Wires +5V (red resp. 5), USB\_m (grey resp. 7), USB\_p (pink resp. 8) and GND (blue resp. 6)

Maximum input voltage	U <sub>i</sub>	DC	5.9	V
Maximum input current	I <sub>i</sub>			
For Group II			319	mA
For Group III			250	mA
Maximum input power	P <sub>i</sub>		650	mW
Effective internal capacitance	C <sub>i</sub>		21	µF
Effective internal inductance	L <sub>i</sub>		1.68	µH

For the permanently connected cable, the following values have to be respected additionally:

Cable capacitance	C <sub>c</sub>	200	pF/m
Cable inductance	L <sub>c</sub>	1	µH/m

15.3.1.4 **Type KM2-Z2-\*\*\*-\*\*-\*-\*:**  
 (Keyboard Matrix)

15.3.1.4.1 Supply

Terminal block X1  
 Terminals +5V (1), USB\_m (2), USB\_p (3), GND (4)

Maximum input voltage	U <sub>i</sub>	DC	5.9	V
Maximum input current	I <sub>i</sub>			
For Group II			319	mA
For Group III			250	mA
Maximum input power	P <sub>i</sub>		650	mW



Page 4 of 6 of BVS 20 ATEX E 079 X – Jobnumber 342029300  
 This certificate may only be reproduced in its entirety and without any change.

DEKRA Testing and Certification GmbH, Handwerkstr. 15, 70565 Stuttgart, Germany  
 Certification body: Dinnendahlstr. 9, 44809 Bochum, Germany  
 Phone +49.234.3696-400, Fax +49.234.3696-401, e-mail DTC-Certification-body@dekra.com



Effective internal capacitance	$C_i$	20.5	$\mu\text{F}$
Effective internal inductance	$L_i$	1.68	$\mu\text{H}$

Terminal 5 is intended for connection of a cable shield.

- 15.3.1.4.2 Terminals for connection of an external keyboard:  
Terminal blocks X2, X3, X4:  
(The signals at all 3 terminal blocks are regarded as 1 intrinsically safe circuit)

Maximum output voltage	$U_o$	= $U_i$	
Maximum output current	$I_o$	250	mA
Maximum output power	$P_o$	= $P_i$	
Maximum external capacitance	$C_o$	0.5	$\mu\text{F}$
Maximum external inductance	$L_o$	0.5	$\mu\text{H}$

- 15.3.2 Thermal parameters

Ambient temperature resp. temperature at the place of installation	$T_a$	-40 °C..... 70 °C
---	-------	-------------------

Further details are part of the manual.

- 16 **Report Number**

BVS PP 20.2125 EU, as of 2020-09-18

- 17 **Special Conditions for Use**

- 17.1 Type KB2-Z2-... and type PD2-Z2-...:  
For use in gas-explosive areas, the devices must be installed in a suitable enclosure to obtain at least IP20 in accordance with IEC 60529.
- 17.2 Type KB2-Z2-... and type PD2-Z2-... and KM2-Z2-...:  
When used in dust-explosive areas, the device has to be installed in a suitable enclosure to obtain at least IP64 in accordance with EN IEC 60079-0.
- 17.3 Type KB2-Z2-\*\*\*-TB-\*\*\*-\*\* and type KB2-Z2-\*\*\*-TP-\*\*\*-\*\* and type KB2-Z2-\*\*\*-JS-\*\*\*-\*\*:  
The connection cable contains 2 separate intrinsically safe circuits.  
The device has to be installed in such a way that mechanical effects (pulling forces) on the cable are excluded.  
The cable has to be fixed and effectively protected against damage.
- 17.4 The devices (inclusive connection cables) shall only be installed in areas where intensive electrostatic charging processes are excluded.



Page 5 of 6 of BVS 20 ATEX E 079 X – Jobnumber 342029300  
This certificate may only be reproduced in its entirety and without any change.

DEKRA Testing and Certification GmbH, Handwerkstr. 15, 70565 Stuttgart, Germany  
Certification body: Dinnendahlstr. 9, 44809 Bochum, Germany  
Phone +49.234.3696-400, Fax +49.234.3696-401, e-mail DTC-Certification-body@dekra.com



**18 Essential Health and Safety Requirements**

The Essential Health and Safety Requirements are covered by the standards listed under item 9.

**19 Drawings and Documents**

Drawings and documents are listed in the confidential report.

---

We confirm the correctness of the translation from the German original.  
In the case of arbitration only the German wording shall be valid and binding.

DEKRA Testing and Certification GmbH  
Bochum, 2020-09-18  
BVS-Su/Hk A20200911



---

Managing Director



Page 6 of 6 of BVS 20 ATEX E 079 X – Jobnumber 342029300  
This certificate may only be reproduced in its entirety and without any change.

DEKRA Testing and Certification GmbH, Handwerkstr. 15, 70565 Stuttgart, Germany  
Certification body: Dinnendahlstr. 9, 44809 Bochum, Germany  
Phone +49.234.3696-400, Fax +49.234.3696-401, e-mail DTC-Certification-body@dekra.com



## 2.3 KB2 / PD2 - Z1-\*-HSG\*00\* / \*U3\*



## Translation

1 **EU-Type Examination Certificate**2 **Equipment intended for use in potentially explosive atmospheres  
Directive 2014/34/EU**3 EU-Type Examination Certificate Number: **BVS 20 ATEX E 106 X**4 Product: **Keyboard with pointing device and enclosure  
type KB2- Z1-CCC-DD-EE-F-GG-HSG H II J KKK L MM \* or  
only Pointing device type PD2- Z1-CCC-DD-EE-F-GG-HSG H II J KKK L MM \***5 Manufacturer: **R. STAHL HMI Systems GmbH**6 Address: **Adolf-Grimme Allee 8, 50829 Köln, Germany**

7 This product and any acceptable variations thereto are specified in the appendix to this certificate and the documents referred to therein.

8 DEKRA Testing and Certification GmbH, Notified Body number 0158, in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres given in Annex II to the Directive.  
The examination and test results are recorded in the confidential Report No. BVS PP \*\*.\*\*\*\* EU.

9 The Essential Health and Safety Requirements are assured in consideration of:

<b>EN IEC 60079-0:2018</b>	<b>General requirements</b>
<b>EN 60079-5:2015</b>	<b>Powder filling „q“</b>
<b>EN IEC 60079-7:2015 + A1:2018</b>	<b>Increased Safety “e”</b>
<b>EN 60079-11:2012</b>	<b>Intrinsic Safety “i”</b>
<b>EN 60079-31:2014</b>	<b>Protection by Enclosure “t”</b>

10 If the sign "X" is placed after the certificate number, it indicates that the product is subject to the Special Conditions for Use specified in the appendix to this certificate.

11 This EU-Type Examination Certificate relates only to the design and construction of the specified product. Further requirements of the Directive apply to the manufacturing process and supply of this product. These are not covered by this certificate.

12 The marking of the product shall include the following:

<b>Type KB2-Z1-...-HSG...00</b>	<b>when connected to an ia-circuit</b>	<b>II 2G Ex ia IIC T4 Gb</b>
<b>Type PD2-Z1-...-HSG...00...</b>	<b>when connected to an ib-circuit</b>	<b>II 2D Ex ia IIIC T<sub>200</sub> 135°C Db</b>
<b>Type KB2-Z1-...-HSG...U3...</b>	<b>when connected to an ia-circuit</b>	<b>II 2G Ex ib IIC T4 Gb</b>
<b>Type PD2-Z1-...-HSG...U3...</b>	<b>when connected to an ib-circuit</b>	<b>II 2D Ex ib IIIC T<sub>200</sub> 135°C Db</b>
		<b>II 2G Ex eb ia q IIC T4 Gb</b>
		<b>II 2D Ex ia tb IIIC 135°C Db</b>
		<b>II 2G Ex eb ib q IIC T4 Gb</b>
		<b>II 2D Ex ib tb IIIC 135°C Db</b>

DEKRA Testing and Certification GmbH  
Bochum, 2020-12-07

Signed: Jörg-Timm Kilisch

Managing Director

Page 1 of 6 of BVS 20 ATEX E 106 X – Jobnumber 341552000  
This certificate may only be reproduced in its entirety and without any change.DEKRA Testing and Certification GmbH, Handwerksstr. 15, 70565 Stuttgart, Germany  
Certification body: Dinnendahlstr. 9, 44809 Bochum, Germany  
Phone +49.234.3696-400, Fax +49.234.3696-401, e-mail DTC-Certification-body@dekra.com



- 13 Appendix
- 14 EU-Type Examination Certificate
- 15 Product description
- 15.1 Subject and type

**Keyboard with pointing device and enclosure or Pointing Device only**  
**Types AAA-BB-CCC-DD-EE-F-GG-HSG H II J KKK L MM \***

In the complete type denomination, the wild cards A-M are replaced by the following characters and numbers to distinguish different variants:

**AAA: Typ**  
 KB2 Keyboard with Pointing Device  
 PD2 Pointing device only

**BB: Zone**  
 Z1 For use in Zone 1, 2, 21, 22

**CCC: Type of interface (not Ex-relevant)**

**DD: Type of pointing device**  
 00 no pointing device  
 TB Trackball  
 TP Touchpad  
 JS Joystick

**EE: Front plate material**  
 AP Aluminium coated  
 AL Aluminium anodized  
 V2 Stainless steel  
 V4 Stainless steel  
 ST Steel

**F: Surface front foil**  
 P Polyester foil  
 V Metallic foil

**GG: Layout (not Ex-relevant)**

**HSG: Housing**

**H: Sealing**  
 1 Sealing 1  
 2 Sealing 2

**II: Housing material**  
 V2 Housing material V2A  
 V4 Housing material V4A

**J: Coating**  
 N no coating (natural or eloxal)  
 P Coating  
 M Metallic coating

**KKK: Mounting option**  
 M## Mounting options  
 B## Back cover

**L: Design option (not Ex-relevant)**

**MM: Accessory**  
 00 without accessory  
 U3 UB03

The \* and # are replaced by characters and numbers to distinguish variations with no influence to explosion protection.



Page 2 of 6 of BVS 20 ATEX E 106 X – Jobnumber 341552000  
 This certificate may only be reproduced in its entirety and without any change.

DEKRA Testing and Certification GmbH, Handwerkstr. 15, 70565 Stuttgart, Germany  
 Certification body: Dinnendahlstr. 9, 44809 Bochum, Germany  
 Phone +49.234.3696-400, Fax +49.234.3696-401, e-mail DTC-Certification-body@dekra.com





15.3.1.2 **Type KB2-\*\*-\*\*\*-00-\*\*-\*\*\*-HSG \* \* \* \* \* :**

(Keyboard without Pointing Device)

Supply via a permanently connected cable with max. 5 m length

Wires +5V (white resp. 1), USB-m (green resp. 2), USB\_p (yellow resp. 3) and GND (brown resp. 4)

Maximum input voltage	U <sub>i</sub>	DC	5.9	V
Maximum input current	I <sub>i</sub>			
For Group II			319	mA
For Group III, ia			319	mA
For Group III, ib			250	mA
Maximum input power	P <sub>i</sub>		650	mW
Effective internal capacitance	C <sub>i</sub>		21	µF
Effective internal inductance	L <sub>i</sub>		1.68	µH

For the permanently connected cable, the following values have to be respected additionally:

Cable capacitance	C <sub>c</sub>	200	pF/m
Cable inductance	L <sub>c</sub>	1	µH/m

15.3.1.3 **Type KB2-\*\*-\*\*\*-TB-\*\*-\*\*\*-HSG \* \* \* \* \* :**

**Type KB2-\*\*-\*\*\*-TP-\*\*-\*\*\*-HSG \* \* \* \* \* :**

**Type KB2-\*\*-\*\*\*-JS-\*\*-\*\*\*-HSG \* \* \* \* \* :**

(Keyboard with Pointing Device)

Supply with 2 separate intrinsically safe circuits

via an 8-wire permanently connected cable with max. 5 m length

15.3.1.3.1 Keyboard-circuit

Wires +5V (white resp. 1), USB-m (green resp. 2), USB\_p (yellow resp. 3) and GND (brown resp. 4)

Maximum input voltage	U <sub>i</sub>	DC	5.9	V
Maximum input current	I <sub>i</sub>			
For Group II			319	mA
For Group III, ia			319	mA
For Group III, ib			250	mA
Maximum input power	P <sub>i</sub>		650	mW
Effective internal capacitance	C <sub>i</sub>		21	µF
Effective internal inductance	L <sub>i</sub>		1.68	µH

For the permanently connected cable, the following values have to be respected additionally:

Cable capacitance	C <sub>c</sub>	200	pF/m
Cable inductance	L <sub>c</sub>	1	µH/m

15.3.1.3.2 Pointing Device-Circuit

Wires +5V (red resp. 5), USB-m (gray resp. 7), USB\_p (pink resp. 8) and GND (blue resp. 6)

Maximum input voltage	U <sub>i</sub>	DC	5.9	V
Maximum input current	I <sub>i</sub>			
For Group II			319	mA
For Group III, ia			319	mA
For Group III, ib			250	mA
Maximum input power	P <sub>i</sub>		650	mW
Effective internal capacitance	C <sub>i</sub>		21	µF
Effective internal inductance	L <sub>i</sub>		1.68	µH

For the permanently connected cable, the following values have to be respected additionally:

Cable capacitance	C <sub>c</sub>	200	pF/m
Cable inductance	L <sub>c</sub>	1	µH/m

Page 4 of 6 of BVS 20 ATEX E 106 X – Jobnumber 341552000  
This certificate may only be reproduced in its entirety and without any change.



DEKRA Testing and Certification GmbH, Handwerkstr. 15, 70565 Stuttgart, Germany  
Certification body: Dinnendahlstr. 9, 44809 Bochum, Germany  
Phone +49.234.3696-400, Fax +49.234.3696-401, e-mail DTC-Certification-body@dekra.com



15.3.1.4 **Type** \*\*\*\_\*\*\_\*\*\*\_\*\*\_\*\*\*\_\*\*\_\*\*\*-HSG \* \* \* \* \* U3 \*:  
(Accessory UB03)

15.3.1.4.1 **Terminal block X1, pin1**

Non-intrinsically safe supply circuit (Power)

Nominal voltage	DC	5... 30	V
Nominal current	≤	1	A
Nominal power	≤	30	W
Max. input voltage	U <sub>m</sub> AC	250	V

Terminal block X1, pin 2 and 3

Non-intrinsically safe interfaces data

Nominal voltage	AC/DC	5	V
Max. input voltage	U <sub>m</sub> AC	250	V

Terminal block X1, pin 2 and 3 (for "UB03-\* -RFID-\* -RS422\*" only)

Non-intrinsically safe interfaces data

Max. voltage	AC/DC	30	V
Max. current	≤	1	A

Terminal block X1, pin 2 and 3 (for "UB03-\* -AMP-Audio\*" and "UB03-\* -DSP-10\*" only)

Non-intrinsically safe interfaces data

Max. output voltage	AC/DC	30	V
---------------------	-------	----	---

15.3.1.4.2 **Terminal block X2**

Non-intrinsically safe interfaces data

Nominal voltage	AC/DC	5	V
Max. input voltage	U <sub>m</sub> AC	250	V

15.3.2 **Thermal parameters**

Ambient temperature or temperature at the place of installation	T <sub>a</sub>	-40 °C... 70 °C
--	----------------	-----------------

16 **Report Number**

BVS PP 20.2171 EU, as of 2020-12-07

17 **Special Conditions for Use**

17.1 Type KB2-... and type PD2-... :

When supplied with > 250 mA in dust-explosive areas:  
The device must be supplied by an ia-circuit (linear characteristics).

17.2 Type KB2-Z1-\*\*\*-TB-\*\*\*-HSG \* \* \* \* \* ;

Type KB2-Z1-\*\*\*-TP-\*\*\*-HSG \* \* \* \* \* ;

Type KB2-Z1-\*\*\*-JS-\*\*\*-HSG \* \* \* \* \* ;

The connection cable contains 2 separate intrinsically safe circuits.

The device has to be installed in such a way that mechanical effects (pulling forces) on the cable are excluded.

The cable has to be fixed and effectively protected against damage.

17.3 The devices (inclusive connection cables) shall only be installed in areas where intensive electrostatic charging processes are excluded.

17.4 The enclosure, must be connected to earth potential with max. 1 MΩ. If applicable, the mounting components or the earth of mounted components can be used for this.

17.5 For the variants KB2-Z1-HSG\*U3\* or PD2-Z1-HSG\*U3\* a connecting cable with min. 0.5 mm insulation (conductor / outer sheath) must be used for the UB03 connection. The connecting cable must be installed in the housing in such a way that a distance of min. 50 mm to bare conductive parts of the keyboard / pointing device is ensured.



Page 5 of 6 of BVS 20 ATEX E 106 X – Jobnumber 341552000  
This certificate may only be reproduced in its entirety and without any change.

DEKRA Testing and Certification GmbH, Handwerkstr. 15, 70565 Stuttgart, Germany  
Certification body: Dinnendahlstr. 9, 44809 Bochum, Germany  
Phone +49.234.3696-400, Fax +49.234.3696-401, e-mail DTC-Certification-body@dekra.com



18 **Essential Health and Safety Requirements**

The Essential Health and Safety Requirements are covered by the standards listed under item 9.

19 **Drawings and Documents**

Drawings and documents are listed in the confidential report.

---

We confirm the correctness of the translation from the German original.  
In the case of arbitration only the German wording shall be valid and binding.

DEKRA Testing and Certification GmbH  
Bochum, 2020-12-07  
BVS-Hk/Mu A 20191078



---

Managing Director



Page 6 of 6 of BVS 20 ATEX E 106 X – Jobnumber 341552000  
This certificate may only be reproduced in its entirety and without any change.  
DEKRA Testing and Certification GmbH, Handwerkstr. 15, 70565 Stuttgart, Germany  
Certification body: Dinnendahlstr. 9, 44809 Bochum, Germany  
Phone +49.234.3696-400, Fax +49.234.3696-401, e-mail DTC-Certification-body@dekra.com

## 2.4 KB2 / PD2 – Z2-\*-HSG\*00\* / \*U3\*



## Translation

1 **Type Examination Certificate**2 Equipment intended for use in potentially explosive atmospheres  
Directive 2014/34/EU3 EU-Type Examination Certificate Number: **BVS 20 ATEX E 107 X**4 Product: **Keyboard with pointing device and enclosure  
type KB2- Z2-CCC-DD-EE-F-GG-HSG H II J KKK L MM \* or  
only Pointing device type PD2- Z2-CCC-DD-EE-F-GG-HSG H II J KKK L MM \***5 Manufacturer: **R. STAHL HMI Systems GmbH**6 Address: **Adolf-Grimme Allee 8, 50829 Köln, Germany**

7 This product and any acceptable variations thereto are specified in the appendix to this certificate and the documents referred to therein.

8 DEKRA Testing and Certification GmbH certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres given in Annex II to the Directive.  
The examination and test results are recorded in the confidential Report No. BVS PP 20.2171 EU.

9 The Essential Health and Safety Requirements are assured in consideration of:

<b>EN IEC 60079-0:2018</b>	<b>General requirements</b>
<b>EN IEC 60079-7:2015 + A1:2018</b>	<b>Increased Safety "e"</b>
<b>EN 60079-11:2012</b>	<b>Intrinsic Safety "i"</b>
<b>EN 60079-15:2010</b>	<b>Type of Protection "n"</b>
<b>EN 60079-31:2014</b>	<b>Protection by Enclosure "t"</b>

10 If the sign "X" is placed after the certificate number, it indicates that the product is subject to the Special Conditions for Use specified in the appendix to this certificate.

11 This Type Examination Certificate relates only to the design and construction of the specified product. Further requirements of the Directive apply to the manufacturing process and supply of this product. These are not covered by this certificate.

12 The marking of the product shall include the following:

<b>Type KB2-Z2-...-HSG...00</b>		<b>II 3G Ex ic IIC T4 Gc</b>
<b>Type PD2-Z2-...-HSG...00...</b>		<b>II 3D Ex ic IIIC T<sub>200</sub> 135°C Dc</b>
<b>Type KB2-Z2-...-HSG...U3...</b>		<b>II 3G Ex ec ic nC IIC T4 Gc</b>
<b>Type PD2-Z2-...-HSG...U3...</b>		<b>II 3D Ex ic tc IIIC 135°C Dc</b>

DEKRA Testing and Certification GmbH  
Bochum, 2020-12-07

Signed: Jörg-Timm Kilisch

Managing Director

Page 1 of 6 of BVS 20 ATEX E 107 X – Jobnumber 342109000  
This certificate may only be reproduced in its entirety and without any change.DEKRA Testing and Certification GmbH, Handwerkstr. 15, 70565 Stuttgart, Germany  
Certification body: Dinnendahlstr. 9, 44809 Bochum, Germany  
Phone +49.234.3696-400, Fax +49.234.3696-401, e-mail DTC-Certification-body@dekra.com



13 Appendix  
 14 Type Examination Certificate  
     BVS 20 ATEX E 107 X  
 15 Product description  
 15.1 Subject and type

**Keyboard with pointing device and enclosure or Pointing Device only**  
**Types AAA-BB-CCC-DD-EE-F-GG-HSG H II J KKK L MM \***

In the complete type denomination, the wild cards A-M are replaced by the following characters and numbers to distinguish different variants:

**AAA: Typ**  
 KB2 Keyboard with Pointing Device  
 PD2 Pointing device only

**BB: Zone**  
 Z2 For use in Zone 2, 22

**CCC: Type of interface (not Ex-relevant)**

**DD: Type of pointing device**  
 00 no pointing device  
 TB Trackball  
 TP Touchpad  
 JS Joystick

**EE: Front plate material**  
 AP Aluminium coated  
 AL Aluminium anodized  
 V2 Stainless steel  
 V4 Stainless steel  
 ST Steel

**F: Surface front foil**  
 P Polyester foil  
 V Metallic foil

**GG: Layout (not Ex-relevant)**

**HSG: Housing**

**H: Sealing**  
 1 Sealing 1  
 2 Sealing 2

**II: Housing material**  
 V2 Housing material V2A  
 V4 Housing material V4A

**J: Coating**  
 N no coating (natural or eloxal)  
 P Coating  
 M Metallic coating

**KKK: Mounting option**  
 M## Mounting options  
 B## Back cover

**L: Design option (not Ex-relevant)**

**MM: Accessory**  
 00 without accessory  
 U3 UB03

The \* and # are replaced by characters and numbers to distinguish variations with no influence to explosion protection.



Page 2 of 6 of BVS 20 ATEX E 107 X – Jobnumber 342109000  
 This certificate may only be reproduced in its entirety and without any change.

DEKRA Testing and Certification GmbH, Handwerkstr. 15, 70565 Stuttgart, Germany  
 Certification body: Dinnendahlstr. 9, 44809 Bochum, Germany  
 Phone +49.234.3696-400, Fax +49.234.3696-401, e-mail DTC-Certification-body@dekra.com





## 15.2 Description

The Keyboard with Pointing Device and enclosure and the Pointing Device (Human interface devices) are used for connection to PCs or similar devices in hazardous areas.

The separately certified Keyboard / Pointing device (BVS 20 ATEX E 079 X, IECEx BVS 20.0065X) is mounted in a housing in which the already certified Universal Box type UB03-Z\*-\* (BVS 18 ATEX E 002, IECEx BVS 18.0001) may be installed optionally.

### Variant KB2-Z2-HSG\*00\* or PD2-Z1-HSG\*00\*:

The Keyboard / Pointing Device is carried out in type of protection Intrinsic Safety "i".  
The variants KB2-Z2-... and PD2-Z2-... are suitable for use in areas requiring EPL Gc or Dc.  
The Keyboards type KB2-Z2... and the Pointing Devices type PD2-Z2... have a metallic frontplate with switches and control elements as joystick, trackball or touchpad.  
The electronic is placed behind the frontplate.  
The devices are supplied via a permanently connected cable with max. 5 m length.

### Supplementary to Variant KB2-Z2-HSG\*U3\* or PD2-Z2-HSG\*U3\*:

The Universal Box type UB03-Z2-\* is carried out in type of protection „ec nC“ and „tc“ and is suitable for use in areas requiring EPL Gc or Dc.  
Variants KB2-Z2-HSG\*U3\* or PD2-Z2-HSG\*U3\* are additionally supplied via a terminal box in type of protection Increased Safety "e" as part of the Universal Box.

## 15.3 Parameters

### 15.3.1 Electrical parameters

#### 15.3.1.1 Type PD2-Z2-\*\*\*-\*\*-\*\*\*-HSG \* \* \* \* \* \*

(Pointing device)

#### Supply

via a permanently connected cable with max. 5 m length

#### Wires

for 8-wire cable: +5V (red resp. 5), USB-m (gray resp. 7), USB\_p (pink resp. 8) and GND (blue resp. 6)

for 4-wire cable: +5V (white resp. 1), USB-m (green resp. 2), USB\_p (yellow resp. 3) and GND (brown resp. 4)

Maximum input voltage	$U_i$	DC	5.9	V
Maximum input current	$I_i$			
For Group II			319	mA
For Group III			250	mA
Maximum input power	$P_i$		650	mW
Effective internal capacitance	$C_i$		21	$\mu$ F
Effective internal inductance	$L_i$		1.68	$\mu$ H

For the permanently connected cable, the following values have to be respected additionally:

Cable capacitance	$C_c$	200	pF/m
Cable inductance	$L_c$	1	$\mu$ H/m



Page 3 of 6 of BVS 20 ATEX E 107 X – Jobnumber 342109000  
This certificate may only be reproduced in its entirety and without any change.

DEKRA Testing and Certification GmbH, Handwerkstr. 15, 70565 Stuttgart, Germany  
Certification body: Dinnendahlstr. 9, 44809 Bochum, Germany  
Phone +49.234.3696-400, Fax +49.234.3696-401, e-mail DTC-Certification-body@dekra.com



15.3.1.2 **Type KB2-Z2-\*\*\*-00-\*\*-\*\*\*-HSG \* \* \* \* \* :**

(Keyboard without Pointing Device)

Supply via a permanently connected cable with max. 5 m length

Wires +5V (white resp. 1), USB-m (green resp. 2), USB\_p (yellow resp. 3) and GND (brown resp. 4)

Maximum input voltage	$U_i$	DC	5.9	V
Maximum input current	$I_i$			
For Group II			319	mA
For Group III			250	mA
Maximum input power	$P_i$		650	mW
Effective internal capacitance	$C_i$		21	$\mu$ F
Effective internal inductance	$L_i$		1.68	$\mu$ H

For the permanently connected cable, the following values have to be respected additionally:

Cable capacitance	$C_c$		200	pF/m
Cable inductance	$L_c$		1	$\mu$ H/m

15.3.1.3 **Type KB2-Z2-\*\*\*-TB-\*\*-\*\*\*-HSG \* \* \* \* \* \***

**Type KB2-Z2-\*\*\*-TP-\*\*-\*\*\*-HSG \* \* \* \* \* \***

**Type KB2-Z2-\*\*\*-JS-\*\*-\*\*\*-HSG \* \* \* \* \* \***

(Keyboard with Pointing Device)

Supply with 2 separate intrinsically safe circuits

via an 8-wire permanently connected cable with max. 5 m length

15.3.1.3.1 Keyboard-circuit

Wires +5V (white resp. 1), USB-m (green resp. 2), USB\_p (yellow resp. 3) and GND (brown resp. 4)

Maximum input voltage	$U_i$	DC	5.9	V
Maximum input current	$I_i$			
For Group II			319	mA
For Group III			250	mA
Maximum input power	$P_i$		650	mW
Effective internal capacitance	$C_i$		21	$\mu$ F
Effective internal inductance	$L_i$		1.68	$\mu$ H

For the permanently connected cable, the following values have to be respected additionally:

Cable capacitance	$C_c$		200	pF/m
Cable inductance	$L_c$		1	$\mu$ H/m

15.3.1.3.2 Pointing Device-Circuit

Wires +5V (red resp. 5), USB-m (gray resp. 7), USB\_p (pink resp. 8) and GND (blue resp. 6)

Maximum input voltage	$U_i$	DC	5.9	V
Maximum input current	$I_i$			
For Group II			319	mA
For Group III			250	mA
Maximum input power	$P_i$		650	mW
Effective internal capacitance	$C_i$		21	$\mu$ F
Effective internal inductance	$L_i$		1.68	$\mu$ H

For the permanently connected cable, the following values have to be respected additionally:

Cable capacitance	$C_c$		200	pF/m
Cable inductance	$L_c$		1	$\mu$ H/m

Page 4 of 6 of BVS 20 ATEX E 107 X – Jobnumber 342109000  
This certificate may only be reproduced in its entirety and without any change.



DEKRA Testing and Certification GmbH, Handwerkstr. 15, 70565 Stuttgart, Germany  
Certification body: Dinnendahlstr. 9, 44809 Bochum, Germany  
Phone +49.234.3696-400, Fax +49.234.3696-401, e-mail DTC-Certification-body@dekra.com





17.5 For the variants KB2-Z2-HSG\*U3\* or PD2-Z2-HSG\*U3\* a connecting cable with min. 0.5 mm insulation (conductor / outer sheath) must be used for the UB03 connection. The connecting cable must be installed in the housing in such a way that a distance of min. 50 mm to bare conductive parts of the keyboard / pointing device is ensured.

18 Essential Health and Safety Requirements

The Essential Health and Safety Requirements are covered by the standards listed under item 9.

19 Drawings and Documents

Drawings and documents are listed in the confidential report.

We confirm the correctness of the translation from the German original.  
In the case of arbitration only the German wording shall be valid and binding.

DEKRA Testing and Certification GmbH  
Bochum, 2020-12-07  
BVS-Hk/Mu A 20201199

  
\_\_\_\_\_  
Managing Director

Page 6 of 6 of BVS 20 ATEX E 107 X – Jobnumber 342109000  
This certificate may only be reproduced in its entirety and without any change.




DEKRA Testing and Certification GmbH, Handwerkstr. 15, 70565 Stuttgart, Germany  
Certification body: Dinnendahlstr. 9, 44809 Bochum, Germany  
Phone +49.234.3696-400, Fax +49.234.3696-401, e-mail DTC-Certification-body@dekra.com

### 3 IECEx certificate

#### 3.1 KB2 / PD2

		<h2 style="text-align: center;">IECEx Certificate of Conformity</h2>					
<b>INTERNATIONAL ELECTROTECHNICAL COMMISSION</b> <b>IEC Certification System for Explosive Atmospheres</b> <small>for rules and details of the IECEx Scheme visit <a href="http://www.iecex.com">www.iecex.com</a></small>							
Certificate No.:	<b>IECEx BVS 20.0065X</b>	Page 1 of 4	<a href="#">Certificate history:</a>				
Status:	<b>Current</b>	Issue No: 0					
Date of Issue:	2020-10-19						
Applicant:	<b>R. STAHL HMI SYSTEMS GmbH</b> Adolf-Grimme-Allee 6 50829 Köln <b>Germany</b>						
Equipment:	<b>Keyboard with pointing device type KB2-BB-CCC-DD-EE-F-*, Pointing device type PD2-BB-CCC-DD-EE-F-* and Keyboard matrix interface type KM2-BB-CCC-DD-EE-F-*</b>						
Optional accessory:							
Type of Protection:	<b>Intrinsic Safety "I"</b>						
Marking:	<table border="1" style="width: 100%;"> <tbody> <tr> <td style="width: 50%; vertical-align: top;">           Type KB2-Z1-...            Type PD2-Z1-...            Type KM2-Z1-...         </td> <td style="width: 50%; vertical-align: top;">           When connected to an ia-circuit:            Ex ia IIC T4 Gb            Ex ia IIIC T<sub>200</sub> 135°C Db             When connected to an ib-circuit:            Ex ib IIC T4 Gb            Ex ib IIIC T<sub>200</sub> 135°C Db             When connected to an ic-circuit:            Ex ic IIC T4 Gc            Ex ic IIIC T<sub>200</sub> 135°C Dc         </td> </tr> <tr> <td style="vertical-align: top;">           Type KB2-Z2-...            Type PD2-Z2-...            Type KM2-Z2-...         </td> <td style="vertical-align: top;">           Ex ic IIC T4 Gc            Ex ic IIIC T<sub>200</sub> 135°C Dc         </td> </tr> </tbody> </table>			Type KB2-Z1-... Type PD2-Z1-... Type KM2-Z1-...	When connected to an ia-circuit: Ex ia IIC T4 Gb Ex ia IIIC T <sub>200</sub> 135°C Db  When connected to an ib-circuit: Ex ib IIC T4 Gb Ex ib IIIC T <sub>200</sub> 135°C Db  When connected to an ic-circuit: Ex ic IIC T4 Gc Ex ic IIIC T <sub>200</sub> 135°C Dc	Type KB2-Z2-... Type PD2-Z2-... Type KM2-Z2-...	Ex ic IIC T4 Gc Ex ic IIIC T <sub>200</sub> 135°C Dc
Type KB2-Z1-... Type PD2-Z1-... Type KM2-Z1-...	When connected to an ia-circuit: Ex ia IIC T4 Gb Ex ia IIIC T <sub>200</sub> 135°C Db  When connected to an ib-circuit: Ex ib IIC T4 Gb Ex ib IIIC T <sub>200</sub> 135°C Db  When connected to an ic-circuit: Ex ic IIC T4 Gc Ex ic IIIC T <sub>200</sub> 135°C Dc						
Type KB2-Z2-... Type PD2-Z2-... Type KM2-Z2-...	Ex ic IIC T4 Gc Ex ic IIIC T <sub>200</sub> 135°C Dc						
Approved for issue on behalf of the IECEx Certification Body:	<b>Dr Franz Eickhoff</b>						
Position:	<b>Lead Auditor and officially recognised expert</b>						
Signature: (for printed version)	 <hr/>						
Date:	<hr/> 2020-10-19						
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 <a href="http://www.iecex.com">www.iecex.com</a> or use of this QR Code.							
Certificate issued by: <b>DEKRA Testing and Certification GmbH</b> Certification Body Dinnendahlstrasse 9 44809 Bochum Germany		  <b>DEKRA</b> On the safe side.					

	<b>IECEX Certificate of Conformity</b>	
Certificate No.:	<b>IECEX BVS 20.0065X</b>	Page 2 of 4
Date of issue:	2020-10-19	Issue No: 0
Manufacturer:	<b>R. STAHL HMI SYSTEMS GmbH</b> Adolf-Grimme-Allee 6 50829 Köln Germany	
Additional manufacturing locations:		
<p>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</p>		
<b>STANDARDS :</b>		
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		
<b>IEC 60079-0:2017</b> Edition:7.0	<b>Explosive atmospheres - Part 0: Equipment - General requirements</b>	
<b>IEC 60079-11:2011</b> Edition:6.0	<b>Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"</b>	
This Certificate <b>does not</b> indicate compliance with safety and performance requirements other than those expressly included in the Standards listed above.		
<b>TEST &amp; ASSESSMENT REPORTS:</b>		
A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in:		
Test Report:		
	<a href="#">DE/BVS/ExTR20.0062/00</a>	
Quality Assessment Report:		
	<a href="#">DE/BVS/QAR06.0007/11</a>	



# IECEx Certificate of Conformity

Certificate No.: **IECEx BVS 20.0065X**

Page 3 of 4

Date of issue: 2020-10-19

Issue No: 0

**EQUIPMENT:**

Equipment and systems covered by this Certificate are as follows:

**Subject and Type**

Types **AAA-BB-CCC-DD-EE-F\***

In the complete type denomination, the wild cards A-F are replaced by the following characters and numbers to distinguish different variants

**AAA: Type**

- KB2 Keyboard with pointing device
- PD2 Pointing device only
- KM2 Keyboard matrix interface

**BB: Zone**

- Z1 For use in Zone 1, 2, 21, 22
- Z2 For use in Zone 2, 22

**CCC: Type of interface (not Ex-relevant)**

**DD: Type of pointing device**

- 00 No pointing device
- TB Trackball
- TP Touchpad
- JS Joystick

**EE: Front plate material**

- AP Aluminium coated
- AL Aluminium anodized
- V2 Stainless steel
- V4 Stainless steel
- ST Steel

**F: Surface front foil**

- P Polyester foil
- V Metallic foil

The \* is replaced by characters and numbers to distinguish variations with no influence to explosion protection.

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

1	Type KB2-... and type PD2-...: For use in gas-explosive areas, the devices must be installed in a suitable enclosure to obtain at least IP20 in accordance with IEC 60529.
2	Type KB2-... and type PD2-... and KM2-...: When used in dust-explosive areas, the device has to be installed in a suitable enclosure to obtain at least IP64 in accordance with IEC 60079-0. When supplied with > 250 mA in dust-explosive areas: The device must be supplied by an Ia-circuit (linear characteristics).
3	Type KB2-**-***-TB-**-** and type KB2-**-***-TP-**-** and type KB2-**-***-JS-**-**: The connection cable contains 2 separate intrinsically safe circuits. The device has to be installed in such a way that mechanical effects (pulling forces) on the cable are excluded. The cable has to be fixed and effectively protected against damage.
4	The devices (inclusive connection cables) shall only be installed in areas where intensive electrostatic charging processes are excluded.



## IECEx Certificate of Conformity

Certificate No.: **IECEx BVS 20.0065X**

Page 4 of 4

Date of issue: 2020-10-19

Issue No: 0

### Equipment (continued):

#### Description

The Human Interface Devices (HIDs) KB2-..., PD2-... and KM2-... are used for connection to PCs or similar devices in hazardous areas. The HIDs are intrinsically safe apparatus. The variants KB2-Z1-..., PD2-Z1-... and KM2-Z1-... are suitable for use in areas requiring EPL Gb or Db. They have level of protection ia, when connected to an ia-circuit. When connected to an ib-circuit, they have level of protection ib. When connected to an ic-circuit, they have level of protection ic and are suitable for areas requiring EPL Gc or Dc. The variants KB2-Z2-..., PD2-Z2-... and KM2-Z2-... are suitable for use in areas requiring EPL Gc or Dc.

**The Keyboards type KB2-... and the Pointing Devices type PD2-...** are intended for installation into a control board or for installation into a suitable cutout of an external enclosure. They have a metallic frontplate with switches and control elements as joystick, trackball or touchpad. The electronic is placed behind the frontplate. The backside of the apparatus is open (no enclosure). The installation depends on the use:

- For use in Group II:  
The devices have to be installed in such a way that at least IP20 according to IEC 60529 is ensured for the backside.
- For use in Group III:  
The devices have to be installed in such a way that at least IP64 according IEC 60079-0 is ensured for the backside.  
When supplied with maximum current > 250 mA:  
The devices must be supplied by an ia-circuit (linear characteristics).
- Installation in t, e, p:  
Types KB2-Z1-..., PD2-Z1-...:  
The devices are suitable for installation into the cutout of an enclosure with IP64 according to IEC 60079-0. resp. into the cutout of an enclosure type of protection Ex eb resp. ec or Ex tb resp. tc or Ex p. They fulfill the respective enclosure requirements.  
Types KB2-Z2-..., PD2-Z2-...:  
The devices are suitable for installation into the cutout of an enclosure with IP64 according to IEC 60079-0. resp. into the cutout of an enclosure type of protection Ex ec or Ex tc or Ex pzc. They fulfill the respective enclosure requirements.

The devices are supplied via a permanently connected cable with max. 5 m length.

**The Keyboard Matrix Interfaces Typ KM2-...** are intended for connection of an external keyboard. They consist of a metallic enclosure with inner electronics. The connection is done via external terminals. The enclosure has IP20 according to IEC 60529.

- For use in Group III:  
The devices have to be installed in such a way that at least IP64 according IEC 60079-0 is ensured for the backside.  
When supplied with maximum current > 250 mA:  
The devices must be supplied by an ia-circuit (linear characteristics).

#### Listing of all components used referring to older standards

No components

#### Parameters

See Annex

#### Annex:

[BVS\\_20\\_0065\\_STAHL\\_HMI\\_Annex.pdf](#)





## IECEx Certificate of Conformity



**Certificate No.:** IECEx BVS 20.0065X  
**Annex**  
**Page 1 of 1**

### Parameters

1 Electrical parameters

1.1 **Type PD2-\*\*-\*\*\*-\*\*-\*\*-\*:**  
(Pointing device)

Supply  
via a permanently connected cable with max. 5 m length

#### Wires

for 8-wire cable: +5V (red resp. 5), USB-m (gray resp. 7), USB\_p (pink resp. 8) and  
GND (blue resp. 6)

for 4-wire cable: +5V (white resp. 1), USB-m (green resp. 2), USB\_p (yellow resp. 3) and  
GND (brown resp. 4)

Maximum input voltage	$U_i$	DC	5.9	V
Maximum input current	$I_i$			

For Group II			319	mA
--------------	--	--	-----	----

For Group III, ia			319	mA
-------------------	--	--	-----	----

For Group III, ib resp. ic			250	mA
----------------------------	--	--	-----	----

Maximum input power	$P_i$		650	mW
---------------------	-------	--	-----	----

Effective internal capacitance	$C_i$		21	$\mu$ F
--------------------------------	-------	--	----	---------

Effective internal inductance	$L_i$		1.68	$\mu$ H
-------------------------------	-------	--	------	---------

For the permanently connected cable, the following values have to be respected additionally:

Cable capacitance	$C_c$		200	pF/m
-------------------	-------	--	-----	------

Cable inductance	$L_c$		1	$\mu$ H/m
------------------	-------	--	---	-----------

1.2 **Type KB2-\*\*-\*\*\*-00-\*\*-\*\*-\*:**

(Keyboard without Pointing Device)

Supply  
via a permanently connected cable with max. 5 m length

Wires +5V (white resp. 1), USB-m (green resp. 2), USB\_p (yellow resp. 3) and  
GND (brown resp. 4)

Maximum input voltage	$U_i$	DC	5.9	V
Maximum input current	$I_i$			

For Group II			319	mA
--------------	--	--	-----	----

For Group III, ia			319	mA
-------------------	--	--	-----	----

For Group III, ib resp. ic			250	mA
----------------------------	--	--	-----	----

Maximum input power	$P_i$		650	mW
---------------------	-------	--	-----	----

Effective internal capacitance	$C_i$		21	$\mu$ F
--------------------------------	-------	--	----	---------

Effective internal inductance	$L_i$		1.68	$\mu$ H
-------------------------------	-------	--	------	---------

For the permanently connected cable, the following values have to be respected additionally:

Cable capacitance	$C_c$		200	pF/m
-------------------	-------	--	-----	------

Cable inductance	$L_c$		1	$\mu$ H/m
------------------	-------	--	---	-----------

1.3 **Type KB2-\*\*-\*\*\*-TB-\*\*-\*\*-\*:**

**Type KB2-\*\*-\*\*\*-TP-\*\*-\*\*-\*:**

**Type KB2-\*\*-\*\*\*-JS-\*\*-\*\*-\*:**

(Keyboard with Pointing Device)

Supply with 2 separate intrinsically safe circuits  
via an 8-wire permanently connected cable with max. 5 m length



# IECEX Certificate of Conformity



**Certificate No.:** IECEX BVS 20.0065X  
**Annex**  
**Page 2 of 1**

1.3.1 Keyboard-circuit

Wires +5V (white resp. 1), USB-m (green resp. 2), USB\_p (yellow resp. 3) and GND (brown resp. 4)

Maximum input voltage	$U_i$	DC	5.9	V
Maximum input current	$I_i$			
For Group II			319	mA
For Group III, ia			319	mA
For Group III, ib resp. ic			250	mA
Maximum input power	$P_i$		650	mW
Effective internal capacitance	$C_i$		21	$\mu F$
Effective internal inductance	$L_i$		1.68	$\mu H$

For the permanently connected cable, the following values have to be respected additionally:

Cable capacitance	$C_c$		200	pF/m
Cable inductance	$L_c$		1	$\mu H/m$

1.3.2 Pointing Device-Circuit

Wires +5V (red resp. 5), USB-m (gray resp. 7), USB\_p (pink resp. 8) and GND (blue resp. 6)

Maximum input voltage	$U_i$	DC	5.9	V
Maximum input current	$I_i$			
For Group II			319	mA
For Group III, ia			319	mA
For Group III, ib resp. ic			250	mA
Maximum input power	$P_i$		650	mW
Effective internal capacitance	$C_i$		21	$\mu F$
Effective internal inductance	$L_i$		1.68	$\mu H$

For the permanently connected cable, the following values have to be respected additionally:

Cable capacitance	$C_c$		200	pF/m
Cable inductance	$L_c$		1	$\mu H/m$

1.4 Type **KM2-\*\*-\*\*\*-\*\*-\*\*-\*-\*:**  
 (Keyboard Matrix)

1.4.1 Supply

Terminal block X1  
 Terminals +5V (1), USB\_m (2), USB\_p (3), GND (4)

Maximum input voltage	$U_i$	DC	5.9	V
Maximum input current	$I_i$			
For Group II			319	mA
For Group III, ia			319	mA
For Group III, ib resp. ic			250	mA
Maximum input power	$P_i$		650	mW
Effective internal capacitance	$C_i$		20.5	$\mu F$
Effective internal inductance	$L_i$		1.68	$\mu H$

Terminal 5 is intended for connection of a cable shield.



## IECEX Certificate of Conformity



**Certificate No.:** IECEx BVS 20.0065X

**Annex**

**Page 3 of 1**

1.4.2 Terminals for connection of an external keyboard:

Terminal blocks X2, X3, X4:

(The signals at all 3 terminal blocks are regarded as 1 intrinsically safe circuit)

Maximum output voltage	$U_o$	= $U_i$	
Maximum output current	$I_o$	250	mA
Maximum output power	$P_o$	= $P_i$	
Maximum external capacitance	$C_o$	0.5	$\mu$ F
Maximum external inductance	$L_o$	0.5	$\mu$ H

2 Thermal parameters

Ambient temperature resp. temperature at the place of installation	$T_a$	-40 °C.... 70 °C	
---	-------	------------------	--

Further details are part of the manual.

3.2 KB2 / PD2 -\*HSG\*00\* / \*U3\*

		<h2 style="margin: 0;">IECEX Certificate of Conformity</h2>	
<p><b>INTERNATIONAL ELECTROTECHNICAL COMMISSION</b>  <b>IEC Certification System for Explosive Atmospheres</b>  <small>for rules and details of the IECEX Scheme visit <a href="http://www.iecex.com">www.iecex.com</a></small></p>			
Certificate No.:	<b>IECEX BVS 20.0084X</b>	Page 1 of 3	<a href="#">Certificate history:</a>
Status:	<b>Current</b>	Issue No: 0	
Date of Issue:	2020-12-11		
Applicant:	<b>R. STAHL HMI SYSTEMS GmbH</b> Adolf-Grimme-Allee 6 50829 Köln Germany		
Equipment:	<b>Keyboard with pointing device and enclosure type KB2- BB-CCC-DD-EE-F-GG-HSG H II J KKK L MM * or only Pointing device type PD2- BB-CCC-DD-EE-F-GG-HSG H II J KKK L MM *</b>		
Optional accessory:			
Type of Protection:	<b>Intrinsic Safety "i", Type of Protection "n", Protection by Enclosure "t", Powder Filling "q", Increased Safety "e"</b>		
Marking:	See Annex		
Approved for issue on behalf of the IECEX Certification Body:		<b>Jörg Koch</b>  <b>Head of Certification Body</b>	
Position:		 <hr/>	
Signature: (for printed version)		<hr/>	
Date:		<hr/>	
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 <a href="http://www.iecex.com">www.iecex.com</a> or use of this QR Code.			
Certificate issued by:			
<b>DEKRA Testing and Certification GmbH</b> Certification Body Dinnendahlstrasse 9 44809 Bochum Germany		<b>On the safe side.</b>	



## IECEx Certificate of Conformity

Certificate No.: **IECEx BVS 20.0084X**

Page 2 of 3

Date of issue: 2020-12-11

Issue No: 0

Manufacturer: **R. STAHL HMI SYSTEMS GmbH**  
Adolf-Grimme-Allee 6  
50829 Köln  
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<br>Edition:7.0  | Explosive atmospheres - Part 0: Equipment - General requirements                     |
| IEC 60079-11:2011<br>Edition:6.0 | Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"        |
| IEC 60079-15:2010<br>Edition:4   | Explosive atmospheres - Part 15: Equipment protection by type of protection "n"      |
| IEC 60079-31:2013<br>Edition:2   | Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t" |
| IEC 60079-5:2015<br>Edition:4.0  | Explosive atmospheres -Part 5: Equipment protection by powder filling "q"            |
| IEC 60079-7:2017<br>Edition:5.1  | Explosive atmospheres - Part 7: Equipment protection by increased safety "e"         |

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/BVS/ExTR20.0083/00](#)

Quality Assessment Report:

[DE/BVS/QAR06.0007/11](#)

		<h2 style="margin: 0;">IECEX Certificate of Conformity</h2>
Certificate No.:	<b>IECEX BVS 20.0084X</b>	Page 3 of 3
Date of issue:	2020-12-11	Issue No: 0
<b>EQUIPMENT:</b>		
Equipment and systems covered by this Certificate are as follows:		
<b>Subject and Type</b>		
See Annex		
<b>Description</b>		
The Keyboard with Pointing Device and enclosure and the Pointing Device (Human interface devices) are used for connection to PCs or similar devices in hazardous areas.		
The separately certified Keyboard / Pointing Device (BVS 20 ATEX E 078 X, BVS 20 ATEX E 079 X, IECEX BVS 20.0065X) is mounted in a housing in which the already certified Universal Box type UB03-Z-* (BVS 18 ATEX E 001, BVS 18 ATEX E 002, IECEX BVS 18.0001) may be installed optionally.		
<u>Variant KB2*-HSG*00* or PD2*-HSG*00*:</u>		
The Keyboard / Pointing Device is carried out in type of protection Intrinsic Safety "i".		
The variants KB2-Z1-... and PD2-Z1-... are suitable for use in areas requiring EPL Gb or Db. They have level of protection ia, when connected to an ia-circuit. When connected to an ib-circuit, they have level of protection ib.		
The variants KB2-Z2-... and PD2-Z2-... are suitable for use in areas requiring EPL Gc or Dc.		
The Keyboards type KB2-... and the Pointing Devices type PD2-... have a metallic frontplate with switches and control elements as joystick, trackball or touchpad.		
The electronic is placed behind the frontplate.		
The devices are supplied via a permanently connected cable with max. 5 m length.		
<u>Supplementary to Variant KB2*-HSG*U3* or PD2*-HSG*U3*:</u>		
The Universal Box type UB03-Z1-* is carried out in type of protection "eb q" and "tb" and is suitable for use in areas requiring EPL Gb or Db.		
The Universal Box type UB03-Z2-* is carried out in type of protection "ec nC" and "tc" and is suitable for use in areas requiring EPL Gc or Dc		
Variants KB2*-HSG*U3* or PD2*-HSG*U3* are additionally supplied via a terminal box in type of protection Increased Safety "e" as part of the Universal Box.		
<b>Parameters</b>		
See Annex		
<b>SPECIFIC CONDITIONS OF USE: YES as shown below:</b>		
1.	Type KB2-... and type PD2-... :	
	When supplied with > 250 mA in dust-explosive areas:	
	The device must be supplied by an ia-circuit (linear characteristics).	
2.	Type KB2-**-**-TB**-**-HSG * * * * * * * * * * ;	
	Type KB2-**-**-TP**-**-HSG * * * * * * * * * * ;	
	Type KB2-**-**-JS**-**-HSG * * * * * * * * * * ;	
	The connection cable contains 2 separate intrinsically safe circuits.	
	The device has to be installed in such a way that mechanical effects (pulling forces) on the cable are excluded.	
	The cable has to be fixed and effectively protected against damage.	
3.	The devices (inclusive connection cables) shall only be installed in areas where intensive electrostatic charging processes are excluded.	
4.	The enclosure, must be connected to earth potential with max. 1 MΩ. If applicable, the mounting components or the earth of mounted components can be used for this.	
5.	For the variants KB2*-HSG*U3* or PD2*-HSG*U3* a connecting cable with min. 0.5 mm insulation (conductor / outer sheath) must be used for the UB03 connection. The connecting cable must be installed in the housing in such a way that a distance of min. 50 mm to bare conductive parts of the keyboard / pointing device is ensured.	
<b>Annex:</b>		
<a href="#">BVS_20_0084X_R.STAHL_HMI_Annex.pdf</a>		



## IECEX Certificate of Conformity



**Certificate No.:** IECEX BVS 20.0084X  
**Annex**  
**Page 1 of 4**

### Marking

The marking is visible, legible, durable and contains the following:

1. The name and address of the manufacturer  
Year of construction  
Serial number  
Certificate number  
Ambient temperature range

- 1.1 Type KB2-Z1-...-HSG...00...  
Type PD2-Z1-...-HSG...00...  
  
When connected to an ia-circuit:  
Ex ia IIC T4 Gb  
Ex ia IIIC T<sub>200</sub> 135°C Db  
  
When connected to an ib-circuit:  
Ex ib IIC T4 Gb  
Ex ib IIIC T<sub>200</sub> 135°C Db  
  
When connected to an ic-circuit:  
Ex ic IIC T4 Gc  
Ex ic IIIC T<sub>200</sub> 135°C Dc

- 1.2 Type KB2-Z1-...-HSG...U3...  
Type PD2-Z1-...-HSG...U3...  
  
When connected to an ia-circuit:  
Ex eb ia q IIC T4 Gb  
Ex ia tb IIIC T135°C Db  
  
When connected to an ib-circuit:  
Ex eb ib q IIC T4 Gb  
Ex ib tb IIIC T135°C Db  
  
When connected to an ic-circuit:  
Ex eb ic q IIC T4 Gc  
Ex ic tb IIIC T135°C Dc

- 1.3 Type KB2-Z2-...-HSG...00...  
Type PD2-Z2-...-HSG...00...  
  
Ex ic IIC T4 Gc  
Ex ic IIIC T<sub>200</sub> 135°C Dc

- 1.4 Type KB2-Z2-...-HSG...U3...  
Type PD2-Z2-...-HSG...U3...  
  
Ex ec ic nC IIC T4 Gc  
Ex ic tc IIIC T135°C Dc



# IECEx Certificate of Conformity



**Certificate No.:** IECEx BVS 20.0084X  
**Annex**  
 Page 2 of 4

**Parameters**

**1 Electrical parameters**

1.1 **Type PD2-\*\*-\*\*\*-\*\*-\*\*-\*--HSG \* \* \* \* \* \* \* \* \* \*:**  
 (Pointing device)

Supply via a permanently connected cable with max. 5 m length

Wires for 8-wire cable: +5V (red resp. 5), USB-m (gray resp. 7), USB\_p (pink resp. 8) and GND (blue resp. 6) for 4-wire cable: +5V (white resp. 1), USB-m (green resp. 2), USB\_p (yellow resp. 3) and GND (brown resp. 4)

Maximum input voltage	$U_i$	DC	5.9	V
Maximum input current	$I_i$			
For Group II			319	mA
For Group III, ia			319	mA
For Group III, ib resp. ic			250	mA
Maximum input power	$P_i$		650	mW
Effective internal capacitance	$C_i$		21	$\mu$ F
Effective internal inductance	$L_i$		1.68	$\mu$ H

For the permanently connected cable, the following values have to be respected additionally:

Cable capacitance	$C_c$		200	pF/m
Cable inductance	$L_c$		1	$\mu$ H/m

1.2 **Type KB2-\*\*-\*\*\*-00-\*\*-\*\*-\*--HSG \* \* \* \* \* \* \* \* \* \*:**  
 (Keyboard without Pointing Device)

Supply via a permanently connected cable with max. 5 m length

Wires +5V (white resp. 1), USB-m (green resp. 2), USB\_p (yellow resp. 3) and GND (brown resp. 4)

Maximum input voltage	$U_i$	DC	5.9	V
Maximum input current	$I_i$			
For Group II			319	mA
For Group III, ia			319	mA
For Group III, ib resp. ic			250	mA
Maximum input power	$P_i$		650	mW
Effective internal capacitance	$C_i$		21	$\mu$ F
Effective internal inductance	$L_i$		1.68	$\mu$ H

For the permanently connected cable, the following values have to be respected additionally:

Cable capacitance	$C_c$		200	pF/m
Cable inductance	$L_c$		1	$\mu$ H/m

1.3 **Type KB2-\*\*-\*\*\*-TB-\*\*-\*\*-\*--HSG \* \* \* \* \* \* \* \* \* \*:**  
**Type KB2-\*\*-\*\*\*-TP-\*\*-\*\*-\*--HSG \* \* \* \* \* \* \* \* \* \*:**  
**Type KB2-\*\*-\*\*\*-JS-\*\*-\*\*-\*--HSG \* \* \* \* \* \* \* \* \* \*:**  
 (Keyboard with Pointing Device)

Supply with 2 separate intrinsically safe circuits via an 8-wire permanently connected cable with max. 5 m length





## IECEx Certificate of Conformity



Certificate No.: **IECEx BVS 20.0084X**  
**Annex**  
 Page 3 of 4

### 1.3.1 Keyboard-circuit

Wires +5V (white resp. 1), USB-m (green resp. 2), USB\_p (yellow resp. 3) and GND (brown resp. 4)

Maximum input voltage	$U_i$	DC	5.9	V
Maximum input current	$I_i$			
For Group II			319	mA
For Group III, ia			319	mA
For Group III, ib resp. ic			250	mA
Maximum input power	$P_i$		650	mW
Effective internal capacitance	$C_i$		21	$\mu$ F
Effective internal inductance	$L_i$		1.68	$\mu$ H

For the permanently connected cable, the following values have to be respected additionally:

Cable capacitance	$C_c$		200	pF/m
Cable inductance	$L_c$		1	$\mu$ H/m

### 1.3.2 Pointing Device-Circuit

Wires +5V (red resp. 5), USB-m (gray resp. 7), USB\_p (pink resp. 8) and GND (blue resp. 6)

Maximum input voltage	$U_i$	DC	5.9	V
Maximum input current	$I_i$			
For Group II			319	mA
For Group III, ia			319	mA
For Group III, ib resp. ic			250	mA
Maximum input power	$P_i$		650	mW
Effective internal capacitance	$C_i$		21	$\mu$ F
Effective internal inductance	$L_i$		1.68	$\mu$ H

For the permanently connected cable, the following values have to be respected additionally:

Cable capacitance	$C_c$		200	pF/m
Cable inductance	$L_c$		1	$\mu$ H/m

### 1.4 **Type \*\*\*\_\*\*\_\*\*\*\_\*\*\_\*\*\_\*\_\*\*-HSG \* \* \* \* \* U3 \*** (Accessory UB03)

#### 1.4.1 Terminal block X1, pin1

Non-intrinsically safe supply circuit (Power)

Nominal voltage		DC	5...30	V
Nominal current		$\leq$	1	A
Nominal power		$\leq$	30	W
Max. input voltage	$U_m$	AC	250	V

Terminal block X1, pin 2 and 3

Non-intrinsically safe interfaces data

Nominal voltage		AC/DC	5	V
Max. input voltage	$U_m$	AC	250	V

Terminal block X1, pin 2 and 3 (for "UB03-\* -RFID-\* -RS422\*" only)

Non-intrinsically safe interfaces data

Max. voltage		AC/DC	30	V
Max. current		$\leq$	1	A

Terminal block X1, pin 2 and 3 (for "UB03-\* -AMP-Audio\*" and "UB03-\* -DSP-10\*" only)

Non-intrinsically safe interfaces data

Max. output voltage		AC/DC	30	V
---------------------	--	-------	----	---



# IECEX Certificate of Conformity



**Certificate No.:** IECEX BVS 20.0084X  
**Annex**  
 Page 4 of 4

1.4.2 Terminal block X2  
 Non-intrinsically safe interfaces data  
 Nominal voltage  
 Max. input voltage

	AC/DC	5	V
U <sub>m</sub>	AC	250	V

**2 Thermal parameters**

Rated ambient temperature range -40 °C up to +70 °C

## 4 EAC certificate Russia

<b>ЕВРАЗИЙСКИЙ ЭКОНОМИЧЕСКИЙ СОЮЗ</b>	
<b>СЕРТИФИКАТ СООТВЕТСТВИЯ</b>	
№ EAЭС RU C-DE.HA91.B.00248/21	
Серия <b>RU</b> № <b>0329578</b>	
<p><b>ОРГАН ПО СЕРТИФИКАЦИИ</b> Орган по сертификации продукции Общества с ограниченной ответственностью Сертификационный центр «ЭНДЬЮРЕНС». Место нахождения (адрес юридического лица) и адрес места осуществления деятельности: 115114, Россия, город Москва, 2-й Павелецкий проезд, дом 5, строение 1, этаж 5, помещение VII, комната 11. Регистрационный номер аттестата аккредитации RA.RU.11HA91, дата регистрации аттестата аккредитации 23.11.2018; номер телефона: +7 (495) 799-07-93; адрес электронной почты: info@ccendce.com</p>	
<p><b>ЗАЯВИТЕЛЬ</b> Общество с ограниченной ответственностью «Р. ШТАЛЬ». Место нахождения (адрес юридического лица) и адрес места осуществления деятельности: 129085, Россия, Москва, улица Звездный бульвар, дом 21, строение 1, этаж 6, помещение I, комната 12. Основной государственный регистрационный номер: 5087746541493. Номер телефона: +7 (495) 616-32-52, адрес электронной почты: info@stahl.ru.com.</p>	
<p><b>ИЗГОТОВИТЕЛЬ</b> R.Stahl HMI Systems GmbH. Место нахождения (адрес юридического лица) и адрес места осуществления деятельности по изготовлению продукции: Adolf-Grimme Allee 8, 50829 Köln, Германия.</p>	
<p><b>ПРОДУКЦИЯ</b> Клавиатуры с манипулятором типов KB2, KB2-HSG, манипуляторы типов PD2, PD2-HSG, матричный интерфейс клавиатуры типа KM2. Продукция изготовлена в соответствии с технической документацией предприятия-изготовителя R. Stahl HMI Systems GmbH. Серийный выпуск.</p>	
<p><b>КОД ТН ВЭД ЕАЭС</b> 8471 60 600 0, 8536 90 850 0</p>	
<p><b>СООТВЕТСТВУЕТ ТРЕБОВАНИЯМ</b> Технического регламента Таможенного союза ТР ТС 012/2011 "О безопасности оборудования для работы во взрывоопасных средах".</p>	
<p><b>СЕРТИФИКАТ СООТВЕТСТВИЯ ВЫДАН НА ОСНОВАНИИ</b> Протокола испытаний № A0172.1.СТ/21 от 29.09.2021 Испытательный центр промышленной продукции Федерального государственного унитарного предприятия "Российский федеральный ядерный центр - Всероссийский научно-исследовательский институт экспериментальной физики" (ФГУП "РФЯЦ-ВНИИЭФ"), аттестат аккредитации № RA.RU.21ME17; Акта о результатах анализа состояния производства № 0212-СС/А от 15.04.2021; документов предоставленных заявителем в качестве доказательства соответствия требованиям ТР ТС 012/2011: инструкции по эксплуатации; комплект чертежей и электрических схем. Схема сертификации 1с.</p>	
<p><b>ДОПОЛНИТЕЛЬНАЯ ИНФОРМАЦИЯ</b> Стандарты, в результате применения которых на добровольной основе обеспечивается соблюдение требований технического регламента, указаны в Приложении (бланк № 0853616). Условия, сроки хранения и эксплуатации указаны в эксплуатационной документации изготовителя. Описание конструкции и средств обеспечения взрывозащиты, а также иная информация, идентифицирующая продукцию, указаны в Приложении (бланки №№ 0853617, 0853618, 0853619, 0853620, 0853621).</p>	
<p><b>СРОК ДЕЙСТВИЯ С</b> 25.10.2021 <b>ПО</b> 24.10.2026</p>	
<p><b>ВКЛЮЧИТЕЛЬНО</b></p>	
<p>Руководитель (уполномоченное лицо) органа по сертификации</p>	<p>Вервейко Александр Юрьевич (ф.и.о.)</p>
<p>Эксперт (эксперт-аудитор) (эксперты (эксперты-аудиторы))</p>	<p>Новожедина Евгения Вячеславовна (ф.и.о.)</p>

**ЕВРАЗИЙСКИЙ ЭКОНОМИЧЕСКИЙ СОЮЗ**

**ПРИЛОЖЕНИЕ**

Лист 1

К СЕРТИФИКАТУ СООТВЕТСТВИЯ № ЕАЭС RU C-DE.HA91.B.00248/21

Серия **RU** № **0853616**

Сведения о стандартах, применяемых на добровольной основе для соблюдения требований технического регламента Таможенного союза ТР ТС 012/2011 «О безопасности оборудования для работы во взрывоопасных средах»

Обозначение стандартов	Наименование стандартов
ГОСТ 31610.0-2014 (IEC 60079-0:2011)	Взрывоопасные среды. Часть 0. Оборудование. Общие требования.
ГОСТ Р МЭК 60079-5-2012	Взрывоопасные среды. Часть 5. Оборудование с видом взрывозащиты «кварцевое заполнение оболочки «q»
ГОСТ Р МЭК 60079-7-2012	Взрывоопасные среды. Часть 7. Оборудование. Повышенная защита вида «е»
ГОСТ 31610.11-2014 (IEC 60079-11:2011)	Взрывоопасные среды. Часть 11. Оборудование с видом взрывозащиты «искробезопасная электрическая цепь «i»
ГОСТ 31610.15-2014/IEC 60079-15:2010	Взрывоопасные среды. Часть 15. Оборудование с видом взрывозащиты «п»
ГОСТ IEC 60079-31-2013	Взрывоопасные среды. Часть 31. Оборудование с защитой от воспламенения пыли оболочками «t»

Руководитель (уполномоченное  
лицо) органа по сертификации

(подпись)

Эксперт (эксперт-аудитор)  
(эксперты (эксперты-аудиторы))

(подпись)



Вервейко Александр Юрьевич  
(Ф.И.О.)

Ноложенна Евгения Вячеславовна  
(Ф.И.О.)

## ЕВРАЗИЙСКИЙ ЭКОНОМИЧЕСКИЙ СОЮЗ

## ПРИЛОЖЕНИЕ

Лист 2

К СЕРТИФИКАТУ СООТВЕТСТВИЯ № ЕАЭС RU C-DE.НА91.В.00248/21

Серия RU № 0853617

**1. НАЗНАЧЕНИЕ И ОБЛАСТЬ ПРИМЕНЕНИЯ**

Клавиатуры с манипулятором типов KB2, KB2-HSG, манипуляторы типов PD2, PD2-HSG, матричный интерфейс клавиатуры типа KM2 (далее – устройства или изделия) предназначены для подключения к персональным компьютерам или аналогичным устройствам во взрывоопасных зонах.

Область применения – взрывоопасные зоны помещений и наружных установок в соответствии с присвоенной маркировкой взрывозащиты, требованиями ГОСТ IEC 60079-14-2013 и отраслевых Правил безопасности, регламентирующих применение данного оборудования во взрывоопасных зонах.

**2. ОСНОВНЫЕ ТЕХНИЧЕСКИЕ ДАННЫЕ**

2.1 Структура условного обозначения устройств KB2, PD2, KM2:

AAA	-	BB	-	CCC	-	DD	-	EE	-	F
-----	---	----	---	-----	---	----	---	----	---	---

AAA: тип устройства

KB2 = клавиатура с манипулятором

PD2 = манипулятор

KM2 = матричный интерфейс

BB: зона

Z1 = для применения в зонах 1, 2, 21, 22

Z2 = для применения в зонах 2, 22

CCC: тип интерфейса

DD: тип манипулятора

00 = без манипулятора

TB = трекбол

TP = тачпад

JS = джойстик

EE: материал передней панели

AP = алюминиевое покрытие

AL = покрытие из анодированного алюминия

V2 = нержавеющая сталь

V4 = нержавеющая сталь

ST = сталь

F: поверхность из фольги

P = полиэфирная фольга

V = металлическая фольга

2.2 Структура условного обозначения устройств KB2-HSG, PD2-HSG:

AAA	-	BB	-	CCC	-	DD	-	EE	-	F	-	GG	-	HSG	-	H	II	J	KK	L	MM
-----	---	----	---	-----	---	----	---	----	---	---	---	----	---	-----	---	---	----	---	----	---	----

AAA: тип устройства

KB2 = клавиатура с манипулятором

PD2 = манипулятор

BB: зона

Z1 = для применения в зонах 1, 2, 21, 22

Z2 = для применения в зонах 2, 22

CCC: тип интерфейса

DD: тип манипулятора

00 = без манипулятора

TB = трекбол

TP = тачпад

Руководитель (уполномоченное  
лицо) органа по сертификации

(подпись)

Эксперт (эксперт-аудитор)  
(эксперты (эксперты-аудиторы))

(подпись)



Вервеев Александр Юрьевич

(Ф.И.О.)

Новоженко Евгения Вячеславовна

(Ф.И.О.)

**ЕВРАЗИЙСКИЙ ЭКОНОМИЧЕСКИЙ СОЮЗ**

**ПРИЛОЖЕНИЕ**

Лист 3

**К СЕРТИФИКАТУ СООТВЕТСТВИЯ № ЕАЭС RU C-DE.HA91.B.00248/21**

Серия **RU** № **0853618**

- JS = джойстик
- EE: материал передней панели
  - AP = алюминиевое покрытие
  - AL = покрытие из анодированного алюминия
  - V2 = нержавеющая сталь
  - V4 = нержавеющая сталь
  - ST = сталь
- F: поверхность из фольги
  - P = полиэфирная фольга
  - V = металлическая фольга
- GG: схема (не влияет на взрывозащищенность оборудования)
- HSG: корпус
- H: уплотнение
  - 1 = уплотнение 1
  - 2 = уплотнение 2
- II: материал корпуса
  - V2 = материал корпуса V2A
  - V4 = материал корпуса V4A
- J: покрытие
  - N = без покрытия
  - P = покрытие
  - M = металлическое покрытие
- KKK: вариант монтажа
  - M## = варианты монтажа
  - B## = заднее покрытие
- L: варианты дизайна (не влияет на взрывозащищенность оборудования)
- MM: аксессуары
  - 00 = без аксессуаров
  - U3 = применяется сертифицированное универсальное считывающее устройство типа UB03

2.3 Основные технические данные устройств KB2, PD2, KM2 приведены в таблице 2.1

Таблица 2.1

Наименование параметра	Значение
Маркировка взрывозащиты	1Ex ia IIC T4 Gb X Ex ia IIIC T <sub>200</sub> 135°C Db X 1Ex ib IIC T4 Gb X Ex ib IIIC T <sub>200</sub> 135°C Db X 2Ex ic IIC T4 Gc X Ex ic IIIC T <sub>200</sub> 135°C Dc X
Диапазон температур окружающей среды при эксплуатации, °C	от минус 40 до плюс 70

2.4 Основные технические данные устройств KB2-HSG, PD2-HSG приведены в таблице 2.2

Таблица 2.2

Наименование параметра	Значение
Маркировка взрывозащиты: -устройств типа KB2-...-HSG...00... - устройств типа PD2-...-HSG...00...	1Ex ia IIC T4 Gb X Ex ia IIIC T <sub>200</sub> 135°C Db X 1Ex ib IIC T4 Gb X Ex ib IIIC T <sub>200</sub> 135°C Db X 2Ex ic IIC T4 Gc X

Руководитель (уполномоченное лицо) органа по сертификации

*(подпись)*

Сервико Александр Юрьевич (ф.и.о.)

Эксперт (эксперт-аудитор) (эксперты (эксперты-аудиторы))

*(подпись)*

Новоженна Евгения Вячеславовна (ф.и.о.)



## ЕВРАЗИЙСКИЙ ЭКОНОМИЧЕСКИЙ СОЮЗ

## ПРИЛОЖЕНИЕ

Лист 4

К СЕРТИФИКАТУ СООТВЕТСТВИЯ № ЕАЭС RU C-DE.HA91.B.00248/21

Серия RU № 0853619

Наименование параметра	Значение
- устройств типа KB2-...-HSG...U3...	Ex ic III C T <sub>200</sub> 135°C Dc X
- устройств типа PD2-...-HSG...U3...	1Ex e ia q II C T4 Gb X Ex ia tb III C T135°C Db X 1Ex e ib q II C T4 Gb X Ex ib tb III C T135°C Db X 2Ex e ic q II C T4 Gc X 2Ex e ic nC II C T4 Gc X Ex ic tb III C T135°C Dc X
Диапазон температур окружающей среды при эксплуатации, °C	от минус 40 до плюс 70

2.5 Параметры искробезопасных цепей устройств KB2, PD2, KM2, KB2-...-HSG...00..., PD2-...-HSG...00... приведены в таблице 2.3

Таблица 2.3

Наименование параметра	PD2, PD2-HGS	KB2, KB2-HGS	KM2
Максимальное входное напряжение U <sub>i</sub>	5,9 В DC	5,9 В DC	5,9 В DC
Максимальный входной ток I <sub>i</sub> :			
- для группы II	319 мА	319 мА	319 мА
- для группы III, ia	319 мА	319 мА	319 мА
- для группы III, ib или ic	250 мА	250 мА	250 мА
Максимальная входная мощность P <sub>i</sub>	650 мВт	650 мВт	650 мВт
Эффективная внутренняя емкость C <sub>i</sub>	21 мкФ	21 мкФ	20,5 мкФ
Эффективная внутренняя индуктивность L <sub>i</sub>	1,68 мкГн	1,68 мкГн	1,68 мкГн
Максимальное выходное напряжение U <sub>o</sub>	-	-	= U <sub>i</sub>
Максимальный выходной ток I <sub>o</sub>	-	-	250 мА
Максимальная выходная мощность P <sub>o</sub>	-	-	= P <sub>i</sub>
Максимальная внешняя емкость C <sub>o</sub>	-	-	0,5 мкФ
Максимальная внешняя индуктивность L <sub>o</sub>	-	-	0,5 мкГн
Параметры постоянно присоединенного кабеля:			
- емкость кабеля C <sub>c</sub>	200 пФ/м	200 пФ/м	-
- индуктивность кабеля L <sub>c</sub>	1 мкГн/м	1 мкГн/м	-

2.6 Электрические параметры устройств KB2-...-HSG...U3..., PD2-...-HSG...U3... приведены в таблице 2.4

Таблица 2.4

Наименование параметра	Значение
Цепь питания, клемма X1, контакт 1:	
- номинальное напряжение (DC)	5...30 В
- номинальный ток	≤ 1 А
- номинальная мощность	≤ 30 Вт
- максимальное входное напряжение (AC)	250 В
Данные интерфейсов, клеммная колодка X1, контакты 2 и 3:	
- номинальное напряжение (AC/DC)	5 В
- максимальное входное напряжение (AC)	250 В
Данные интерфейсов (только для UB03 - * - RFID - * - RS422 *), клеммная колодка X1, контакты 2 и 3:	
- максимальное напряжение AC/DC	30 В
- максимальный ток	1 А
Данные интерфейсов (только для UB03 - * - AMP-Audio * и UB03 - * - DSP-10 *), клеммная колодка X1, контакты 2 и 3:	

Руководитель (уполномоченное  
лицо) органа по сертификации

Эксперт (эксперт-аудитор)  
(эксперты (эксперты-аудиторы))

(подпись)  
(подпись)



Перевалко Александр Юрьевич

(ф.и.о.)

Новоженна Евгения Вячеславовна

(ф.и.о.)

## ЕВРАЗИЙСКИЙ ЭКОНОМИЧЕСКИЙ СОЮЗ

## ПРИЛОЖЕНИЕ

Лист 5

К СЕРТИФИКАТУ СООТВЕТСТВИЯ № ЕАЭС RU C-DE.HA91.B.00248/21

Серия RU № 0853620

Наименование параметра	Значение
- максимальное выходное напряжение (AC/DC)	30 В
Данные интерфейсов, клеммная колодка X2:	
- номинальное напряжение (AC/DC)	5 В
- максимальное входное напряжение (AC)	250 В

**3. ОПИСАНИЕ КОНСТРУКЦИИ И СРЕДСТВ ОБЕСПЕЧЕНИЯ ВЗРЫВОЗАЩИТЫ****3.1 Описание конструкции**

Клавиатуры типа KB2 и указывающие устройства типа PD2 предназначены для установки в плату управления или для установки в соответствующий вырез внешнего корпуса. У них есть металлическая передняя панель с переключателями и элементами управления, такими как джойстик, трекбол или тачпад. Электроника размещена за лицевой панелью. Тыльная сторона аппарата открытая (без корпуса). Питание устройств осуществляется через постоянно подключенный кабель длиной не более 5 м.

Матричные интерфейсы KM2 предназначены для подключения внешней клавиатуры. Они состоят из металлического корпуса с внутренней электроникой. Подключение осуществляется через внешние клеммы.

**3.2 Описание средств обеспечения взрывозащиты**

Взрывозащищенность устройств KB2, PD2, KM2 обеспечивается видом взрывозащиты «искробезопасная электрическая цепь «i» по ГОСТ 31610.11-2014 (IEC 60079-11:2011), а также выполнением их конструкции в соответствии с ГОСТ 31610.0-2014 (IEC 60079-0:2011).

Взрывозащищенность устройств KB2-HSG, PD2-HSG в зависимости от исполнения обеспечивается видами взрывозащиты «повышенная защита вида «e» по ГОСТ Р МЭК 60079-7-2012, «искробезопасная электрическая цепь «i» по ГОСТ 31610.11-2014 (IEC 60079-11:2011), «кварцевое заполнение оболочки «q» по ГОСТ Р МЭК 60079-5-2012, «оборудование с видом взрывозащиты «n» по ГОСТ 31610.15-2014/IEC 60079-15:2010, «оборудование с защитой от воспламенения пыли оболочками «t» по ГОСТ IEC 60079-31-2013, а также выполнением их конструкции в соответствии с ГОСТ 31610.0-2014 (IEC 60079-0:2011).

**4. СПЕЦИАЛЬНЫЕ УСЛОВИЯ ПРИМЕНЕНИЯ «X»**

4.1 Знак X в маркировке взрывозащиты устройств KB2, KB2-HSG, PD2, PD2-HSG, KM2 означает специальные условия применения, заключающиеся в следующем:

- устройства (включая соединительные кабели) следует устанавливать только в местах, где исключены процессы интенсивного электростатического заряда.

4.2 Знак X в маркировке взрывозащиты устройств KB2 означает специальные условия применения, заключающиеся в следующем:

- для применения во взрывоопасных газовых средах устройства должны быть установлены таким образом, чтобы обеспечить как минимум IP20 согласно EN 60529 для задней стороны;
- для применения во взрывоопасных пылевых средах устройства должны быть установлены таким образом, чтобы обеспечить как минимум IP64 согласно EN 60529 для задней стороны;
- при питании с максимальным током более 250 мА во взрывоопасных пылевых средах устройства должны питаться от искробезопасной цепи «ia» (линейные характеристики);
- соединительный кабель содержит две отдельные искробезопасные цепи. Устройство должно быть установлено таким образом, чтобы исключить механическое воздействие (тянущее усилие) на кабель. Кабель должен быть закреплен и надежно защищен от повреждений.

4.3 Знак X в маркировке взрывозащиты устройств PD2 означает специальные условия применения, заключающиеся в следующем:

- для применения во взрывоопасных газовых средах устройства должны быть установлены таким образом, чтобы обеспечить как минимум IP20 согласно EN 60529 для задней стороны.
- для применения во взрывоопасных пылевых средах устройства должны быть установлены таким образом, чтобы обеспечить как минимум IP64 согласно EN 60529 для задней стороны.
- при питании с максимальным током более 250 мА во взрывоопасных пылевых средах устройства должны питаться от ia-цепи (линейные характеристики).

Руководитель (уполномоченное  
лицо) органа по сертификации

Эксперт (эксперт-аудитор)  
(эксперты (эксперты-аудиторы))

(подпись)  
(подпись)



Ворвейко Александр Юрьевич  
(И.О.)

Новоженна Евгения Вячеславовна  
(Ф.И.О.)



# ЕВРАЗИЙСКИЙ ЭКОНОМИЧЕСКИЙ СОЮЗ

## ПРИЛОЖЕНИЕ

Лист 6

К СЕРТИФИКАТУ СООТВЕТСТВИЯ № ЕАЭС RU C-DE.HA91.B.00248/21

Серия RU № 0853621

4.4 Знак X в маркировке взрывозащиты устройств KM2 означает специальные условия применения, заключающиеся в следующем:

- для применения во взрывоопасных пылевых средах устройства должны быть установлены таким образом, чтобы обеспечить как минимум IP64 согласно EN 60529 для задней стороны.
- при питании с максимальным током более 250 мА: устройства должны питаться от искробезопасной цепи «ia» (линейные характеристики).

### 5. МАРКИРОВКА

Маркировка, наносимая на оборудование, должна включать следующие данные:

- наименование изготовителя или его зарегистрированный товарный знак;
- обозначение типа изделия и маркировку взрывозащиты;
- диапазон температур окружающей среды при эксплуатации;
- единый знак обращения продукции на рынке Евразийского экономического союза, утвержденный Решением Комиссии Таможенного союза от 15.07.2011 № 711, при условии соответствия оборудования требованиям всех Технических регламентов Таможенного союза и Технических регламентов ЕАЭС, действие которых распространяется на заявленное оборудование;
- специальный знак взрывобезопасности «Ex», согласно Приложению 2 Технического регламента Таможенного союза 012/2011 «О безопасности оборудования для работы во взрывоопасных средах»;
- дату выпуска и порядковый номер изделия по системе нумерации предприятия-изготовителя;
- номер сертификата соответствия и наименование органа по сертификации;
- другие данные, которые должен отразить изготовитель, если это требуется технической документацией.

Внесение в конструкцию и техническую документацию изменений, влияющих на показатели взрывобезопасности оборудования, должны быть согласованы с ОС ООО СЦ «ЭНДЬЮРЕНС».

Руководитель (уполномоченное  
лицо) органа по сертификации

(подпись)

Эксперт (эксперт-аудитор)  
(эксперты (эксперты-аудиторы))

(подпись)



Первеевко Александр Юрьевич

(ф.и.о.)

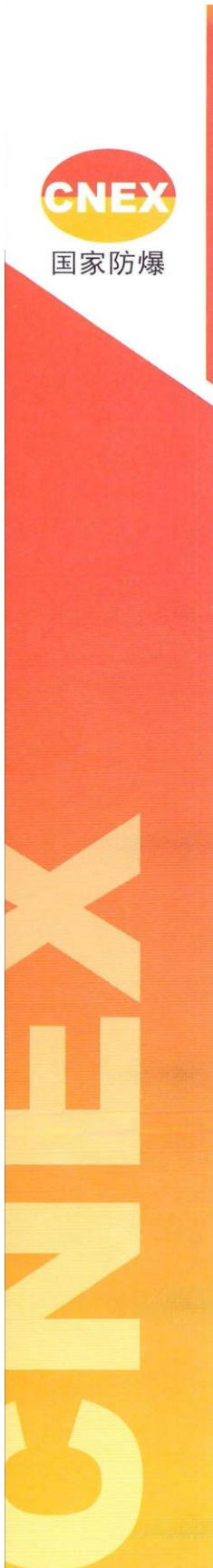
Новоженкина Евгения Вячеславовна

(ф.и.о.)

# 5 CNEx certificate China

## 5.1 KB2 / PD2 – Z1

### 5.1.1 English version



Certificate number: CNEx21.1931X

## Electrical Apparatus for Explosive Atmospheres CERTIFICATE OF CONFORMITY

**Manufacturer** R. STAHL HMI SYSTEMS GmbH  
Adolf-Grimme-Allee 8, 50829 Koln, Germany

**Product** Keyboard with pointing device, Pointing device, Keyboard matrix interface

**Type** KB2-Z1-CCC-DD-EE-F-GG\*, PD2-Z1-CCC-DD-EE-F-GG\*, KM2-Z1-CCC-DD-EE-F-GG\*

**Marking** See Annex

**Standard(s)** —

**Drawing No.** 10591300 Rev00 KB2-Cert. Variant overview

The drawings, technical documents and the samples are verified and certified according to standard(s) for safety as below:

GB 3836.1-2010	Explosive atmospheres - Part 1: Equipment - General requirements
GB 3836.4-2010	Explosive atmospheres - Part 4: Equipment protection by intrinsic safety "i"
GB12476.1-2013	Electrical apparatus for use in the presence of combustible dust - Part 1: General requirements
GB12476.4-2010	Electrical apparatus for use in the presence of combustible dust - Part 4: Protection by intrinsic safety "iD"

**Note:**  
See Annex (6 page in total).

**Director**

**Date:** 2021-6-17

**Valid until:** 2026-6-16



**CHINA NATIONAL QUALITY SUPERVISION AND TEST CENTER  
FOR EXPLOSION PROTECTED ELECTRICAL PRODUCTS**

Address: No.20 North Zhongjing Rd, Nanyang, Henan(473008), P.R.China  
Tel: 0377-63258564 Fax: 0377-63208175 Web: www.china-ex.com

Note: This certificate is only valid for products which identify with the sample(s) tested and verified. Holder(s) of this certificate have the responsibility to ensure the products complying with relevant standard(s). 登录网站 输入数码 查询防伪 3807 2409 8842 2663



Certificate number: CNEx21.1931X

## Electrical Apparatus for Explosive Atmospheres

# CERTIFICATE OF CONFORMITY

Page 1 of 6

This product has been certified, under certificate number IECEX BVS 20.0065X, issue 0, dated 2020-10-19 and Test report DE/BVS/ExTR20.0062/00 dated 2020-09-18.

**Product Description:**

The Human Interface Devices (HiDs) KB2-... , PD2-... and KM2-... are used for connection to PCs or similar devices in hazardous areas. The HiDs are intrinsically safe apparatus. The variants KB2-Z1-... , PD2-Z1-... and KM2-Z1-... are suitable for use in areas requiring EPL Gb. They have level of protection ia, when connected to an ia-circuit. When connected to an ib-circuit, they have level of protection ib. When connected to an ic-circuit, they have level of protection ic and are suitable for areas requiring EPL Gc.

**Type designation:**

- KB2-Z1-CCC-DD-EE-F-GG\*, PD2-Z1-CCC-DD-EE-F-GG\*,  
KM2-Z1-CCC-DD-EE-F-GG\*

**Subject and Type:**

Types AAA-BB-CCC-DD-EE-F-GG \*

In the complete type denomination, the wild cards A-G are replaced by the following characters and numbers to distinguish different variants.

<b>AAA:</b>	<b>Type</b>
KB2	Keyboard with pointing device
PD2	Pointing device only
KM2	Keyboard matrix interface
<b>BB:</b>	<b>Zone</b>
Z1	For use in Zone 1, 2, 21, 22
<b>CCC:</b>	<b>Type of interface (not Ex-relevant)</b>
USB	USB
PS2	PS2
<b>DD:</b>	<b>Type of pointing device</b>
00	No pointing device
TB	Trackball
TP	Touchpad
JS	Joystick
<b>EE:</b>	<b>Front plate material</b>
AP	Aluminium coated
AL	Aluminium anodized

Director

Date: 2021-6-17

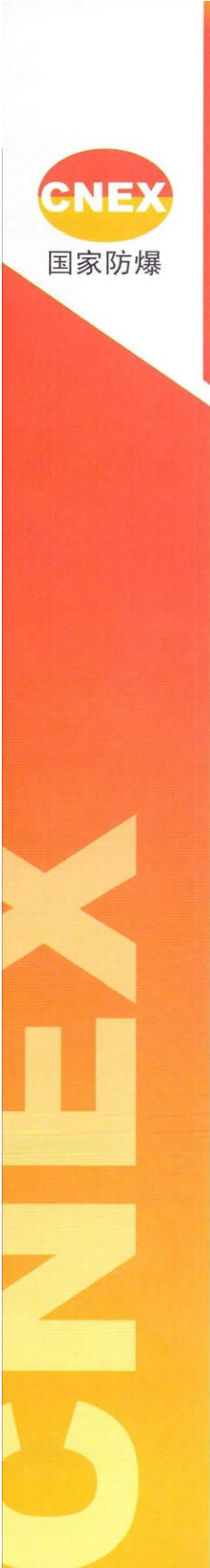
Valid until: 2026-6-16



CHINA NATIONAL QUALITY SUPERVISION AND TEST CENTER  
FOR EXPLOSION PROTECTED ELECTRICAL PRODUCTS

Address: No.20 North Zhongjiing Rd, Nanyang, Henan(473008), P.R.China  
Tel: 0377-63258564 Fax: 0377-63208175 Web: www.china-ex.com

Note: This certificate is only valid for products which identify with the sample(s) tested and verified. Holder(s) of this certificate have the responsibility to ensure the products complying with relevant standard(s).



Certificate number: CNEx21.1931X

## Electrical Apparatus for Explosive Atmospheres CERTIFICATE OF CONFORMITY

Page 2 of 6

- V2      Stainless steel
- V4      Stainless steel
- ST      Steel
- F:**      **Surface front foil**
- P      Polyester foil
- V      Metallic foil
- GG:**    **Layout (not Ex-relevant)**
- CN      keyboard layout CN (China)
- US      keyboard layout US-American
- DE      keyboard layout German
- FR      keyboard layout French
- DK      keyboard layout Denmark
- SL      keyboard layout Slovenia
- ES      keyboard layout Spain
- SE      keyboard layout Sweden
- JP      keyboard layout Japan
- 00      no keyboard layout

The \* is replaced by characters and numbers to distinguish variations with no influence to explosion protection.

**Parameters:**

Electrical parameters:

Type PD2-Z1-\*\*\*-\*\*-\*\*\*-\*\*\* \*(Pointing device):

Supply via a permanently connected cable with max. 5 m length.

Wires: for 8-wire cable: +5V (red resp. 5), USB-m (gray resp. 7), USB\_p (pink resp. 8) and GND (blue resp. 6).

for 4-wire cable: +5V (white resp. 1), USB-m (green resp. 2), USB\_p (yellow resp. 3) and GND (brown resp. 4).

Director

Date:

2021-6-17

Valid until:

2026-6-16



CHINA NATIONAL QUALITY SUPERVISION AND TEST CENTER  
FOR EXPLOSION PROTECTED ELECTRICAL PRODUCTS

Address: No.20 North Zhongjing Rd, Nanyang, Henan(473008), P.R.China  
Tel: 0377-63258564 Fax: 0377-63208175 Web: www.china-ex.com

Note: This certificate is only valid for products which identify with the sample(s) tested and verified. Holder(s) of this certificate have the responsibility to ensure the products complying with relevant standard(s).



Certificate number: CNEx21.1931X

## Electrical Apparatus for Explosive Atmospheres CERTIFICATE OF CONFORMITY

Page 3 of 6

Maximum input voltage $U_i$	5.9V DC
Maximum input current $I_i$	
For Group II	319mA
For Group dust, iaD	319mA
For Group dust, ibD	250mA
Maximum input power $P_i$	650mW
Effective internal capacitance $C_i$	21 $\mu$ F
Effective internal inductance $L_i$	1.68 $\mu$ H
For the permanently connected cable, the following values have to be respected additionally:	
Cable capacitance $C_c$	200pF/m
Cable inductance $L_c$	1 $\mu$ H/m

Type KB2-Z1-\*\*\*-00-\*\*-\*\*\* \*\* (Keyboard without Pointing Device) :

Supply via a permanently connected cable with max. 5 m length.

Wires: +5V (white resp. 1), USB-m (green resp. 2), USB\_p (yellow resp. 3) and GND (brown resp. 4).

Maximum input voltage $U_i$	5.9V DC
Maximum input current $I_i$	
For Group II	319mA
For Group dust, iaD	319mA
For Group dust, ibD	250mA
Maximum input power $P_i$	650mW
Effective internal capacitance $C_i$	21 $\mu$ F
Effective internal inductance $L_i$	1.68 $\mu$ H
For the permanently connected cable, the following values have to be respected additionally:	
Cable capacitance $C_c$	200pF/m
Cable inductance $L_c$	1 $\mu$ H/m

Type KB2-Z1-\*\*\*-TB-\*\*-\*\*\* \*\*, Type KB2-Z1-\*\*\*-TP-\*\*-\*\*\* \*\*, Type KB2-Z1-\*\*\*-JS-\*\*-\*\*\* \*\*;  
(Keyboard with Pointing Device)

Supply with 2 separate intrinsically safe circuits via an 8-wire permanently connected cable with max. 5 m length.

Director

Date:

2021-6-17

Valid until:

2026-6-16



CHINA NATIONAL QUALITY SUPERVISION AND TEST CENTER  
FOR EXPLOSION PROTECTED ELECTRICAL PRODUCTS

Address: No.20 North Zhongjing Rd, Nanyang, Henan(473008), P.R.China  
Tel: 0377-63258564 Fax: 0377-63208175 Web: www.china-ex.com

Note: This certificate is only valid for products which identify with the sample(s) tested and verified. Holder(s) of this certificate have the responsibility to ensure the products complying with relevant standard(s).



Certificate number: CNEx21.1931X

## Electrical Apparatus for Explosive Atmospheres CERTIFICATE OF CONFORMITY

Page 4 of 6

Keyboard-circuit :

Wires: +5V (white resp. 1), USB-m (green resp. 2), USB\_p (yellow resp. 3) and GND (brown resp. 4).

Maximum input voltage $U_i$	5.9V DC
Maximum input current $I_i$	
For Group II	319mA
For Group dust, iaD	319mA
For Group dust, ibD	250mA
Maximum input power $P_i$	650mW
Effective internal capacitance $C_i$	21 $\mu$ F
Effective internal inductance $L_i$	1.68 $\mu$ H
For the permanently connected cable, the following values have to be respected additionally:	
Cable capacitance $C_c$	200pF/m
Cable inductance $L_c$	1 $\mu$ H/m

Pointing Device-Circuit :

Wires: +5V (red resp. 5), USB-m (gray resp. 7), USB\_p (pink resp. 8) and GND (blue resp. 6).

Maximum input voltage $U_i$	5.9V DC
Maximum input current $I_i$	
For Group II	319mA
For Group dust, iaD	319mA
For Group dust, ibD	250mA
Maximum input power $P_i$	650mW
Effective internal capacitance $C_i$	21 $\mu$ F
Effective internal inductance $L_i$	1.68 $\mu$ H
For the permanently connected cable, the following values have to be respected additionally:	
Cable capacitance $C_c$	200pF/m
Cable inductance $L_c$	1 $\mu$ H/m

Director

Date:

2021-6-17

Valid until:

2026-6-16



CHINA NATIONAL QUALITY SUPERVISION AND TEST CENTER  
FOR EXPLOSION PROTECTED ELECTRICAL PRODUCTS

Address: No.20 North Zhongjing Rd, Nanyang, Henan(473008), P.R.China  
Tel: 0377-63258564 Fax: 0377-63208175 Web: www.china-ex.com

Note: This certificate is only valid for products which identify with the sample(s) tested and verified. Holder(s) of this certificate have the responsibility to ensure the products complying with relevant standard(s).



Certificate number: CNEx21.1931X

## Electrical Apparatus for Explosive Atmospheres CERTIFICATE OF CONFORMITY

Page 5 of 6

Type KM2-Z1-\*\*\*-\*\*-\*\*\*-\*\*\*\*(Keyboard Matrix):

Supply:

Terminal block X1

Terminals:+5V (1), USB\_m (2), USB\_p (3), GND (4).

Maximum input voltage $U_i$	5.9V DC
Maximum input current $I_i$	
For Group II	319mA
For Group dust, iaD	319mA
For Group dust, ibD	250mA
Maximum input power $P_i$	650mW
Effective internal capacitance $C_i$	20.5 $\mu$ F
Effective internal inductance $L_i$	1.68 $\mu$ H
Terminal 5 is intended for connection of a cable shield.	

Terminals for connection of an external keyboard:

Terminal blocks X2, X3, X4:

(The signals at all 3 terminal blocks are regarded as 1 intrinsically safe circuit)

Maximum output voltage $U_o$	= $U_i$
Maximum output current $I_o$	250 mA
Maximum output power $P_o$	= $P_i$
Maximum external capacitance $C_o$	0.5 $\mu$ F
Maximum external inductance $L_o$	0.5 $\mu$ H

Ambient temperature: -40 $^{\circ}$ C~70 $^{\circ}$ C

Ex marking:

Type KB2-Z1-... ,Type PD2-Z1-... ,Type KM2-Z1-... :

When connected to an ia-circuit: Ex ia IIC T4 Gb/Ex iaD 21 T<sub>200</sub> 135 $^{\circ}$ C

When connected to an ib-circuit: Ex ib IIC T4 Gb/Ex ibD 21 T<sub>200</sub> 135 $^{\circ}$ C

When connected to an ic-circuit: Ex ic IIC T4 Gc

Director

Date: 2021-6-17

Valid until: 2026-6-16



CHINA NATIONAL QUALITY SUPERVISION AND TEST CENTER  
FOR EXPLOSION PROTECTED ELECTRICAL PRODUCTS

Address: No.20 North Zhongjing Rd, Nanyang, Henan(473008), P.R.China  
Tel: 0377-63258564 Fax: 0377-63208175 Web: www.china-ex.com

Note: This certificate is only valid for products which identify with the sample(s) tested and verified. Holder(s) of this certificate have the responsibility to ensure the products complying with relevant standard(s).



Certificate number: CNEx21.1931X

## Electrical Apparatus for Explosive Atmospheres CERTIFICATE OF CONFORMITY

Page 6 of 6

**Specific conditions of safety use:**

- Type KB2-Z1-\*\*\* and type PD2-Z1-\*\*\* :
- For use in gas-explosive areas, the devices must be installed in a suitable enclosure to obtain at least IP20 in accordance with GB/T4208.
- Type KB2-Z1-\*\*\* and type PD2-Z1-\*\*\* and KM2-Z1-\*\*\* :
- When used in dust-explosive areas, the device has to be installed in a suitable enclosure to obtain at least IP64 in accordance with GB12476.1.
- When supplied with > 250 mA in dust-explosive areas: The device must be supplied by an ia-circuit (linear characteristics).
- Type KB2-Z1-\*\*\*-TB-\*\*-\*\*\* and type KB2-Z1-\*\*\*-TP-\*\*-\*\*\* and type KB2-Z1-\*\*\*-JS-\*\*-\*\*\* :
- The connection cable contains 2 separate intrinsically safe circuits.
- The device has to be installed in such a way that mechanical effects (pulling forces) on the cable are excluded.
- The cable has to be fixed and effectively protected against damage.
- The devices (inclusive connection cables) shall only be installed in areas where intensive electrostatic charging processes are excluded.

Director

Date:

2021-6-17

Valid until:

2026-6-16



**CHINA NATIONAL QUALITY SUPERVISION AND TEST CENTER  
FOR EXPLOSION PROTECTED ELECTRICAL PRODUCTS**

Address: No.20 North Zhongjing Rd, Nanyang, Henan(473008), P.R.China  
Tel: 0377-63258564 Fax: 0377-63208175 Web: www.china-ex.com

Note: This certificate is only valid for products which identify with the sample(s) tested and verified. Holder(s) of this certificate have the responsibility to ensure the products complying with relevant standard(s).



## 5.1.2 Chinese version



**国家防爆**

编号: CNEx21.1931X

## 防爆合格证

制造单位	R. STAHL HMI SYSTEMS GmbH Adolf-Grimme-Allee 8, 50829 Köln, Germany
产品名称	防爆键盘
型号规格	KB2-Z1-CCC-DD-EE-F-GG*, PD2-Z1-CCC-DD-EE-F-GG*, KM2-Z1-CCC-DD-EE-F-GG*
防爆标志	见附页
产品标准	—
总装图号	10591300 Rev00 KB2-Cert. Variant overview

经对上述产品图样及技术文件的审查和样品检验,确认符合下列标准:  
 GB3836.1-2010《爆炸性环境 第1部分:设备 通用要求》  
 GB3836.4-2010《爆炸性环境 第4部分:由本质安全型“i”保护的的设备》  
 GB12476.1-2013《可燃性粉尘环境用电气设备 第1部分:通用要求》  
 GB12476.4-2010《可燃性粉尘环境用电气设备 第4部分:本质安全型“iD”》

记事:见附页(共5页)。

中心主任		颁发日期	2021年6月17日
		本证有效期	2021年6月17日至2026年6月16日



国家防爆电气产品质量监督检验中心  
南阳防爆电气研究所

地址: 中国河南省南阳市仲景北路20号  
 邮政编码: 473008  
 电话: 0377-63258564  
 传真: 0377-63208175  
 网址: www.china-ex.com



公众号

注: 本证书仅对与认可文件和样品一致的产品有效。登录网站或关注公众号查询真伪 4993 2595 9059 7060 查询方式: www.china-ex.com



## 南阳防爆电气研究所



南阳防爆电气研究所有限公司

强制性认证

IECEX认证

自愿性认证



南阳防爆电气研究所国际认证中心 (CNEX-GLOBAL B.V.)

IECEX 认证

ATEX 认证



国家防爆电气产品质量监督检验中心 (CQST)

IECEX TL 国际实验室

美国能源部电动机效率实验室 (NVLAP)

国家安全生产检测检验机构

中国人民解放军军工产品检验机构

船用防爆电气产品检验实验室

国家中小型电机节能认证检验实验室

机械工业防爆电气产品质量监督检验中心

国家地方联合工程实验室



国家车辆特种性能质量监督检验中心 (CNV)



全国防爆电气设备标准化技术委员会秘书处

IEC TC31 技术委员会 中国办公室

中国电器工业协会防爆电机分会

中国电工技术学会防爆电气技术专业委员会

爆炸危险场所工程设备监理中心



编号: CNEx21.1931X

## 防爆合格证 (附页)

共 5 页 第 1 页

本产品已取得 IECEx 认证, 证书号: IECEx BVS 20.0065X, 0 版, 2020.10.19 颁发, 报告号为: DE/BVS/ExTR20.0062/00, 2020.09.18 颁发。

### 产品描述:

人机接口设备 (HIDs) KB2-..., PD2-...和 KM2-...用于连接到危险区域的 PCs 或类似设备。HIDs 是本质安全设备。型号 KB2-Z1-..., PD2-Z1-...和 KM2-Z1-...适用于设备保护级别为 Gb 的区域。连接到 ia 电路时, 保护级别为 ia。连接到 ib 电路时, 保护等级为 ib。当连接到 ic 电路时, 保护等级为 ic, 适用于设备保护级别为 Gc 的区域。

### 型号名称:

- KB2-Z1-CCC-DD-EE-F-GG \*, PD2-Z1-CCC-DD-EE-F-GG \*,  
KM2-Z1-CCC-DD-EE-F-GG \*

### 型号命名:

型号 AAA-BB-CCC-DD-EE-F-GG \*

在完整的型号命名中, A-G 被以下字符和数字所取代, 以区分不同的型号。

<b>AAA:</b>	型号
KB2	带指点设备的键盘
PD2	仅限指点设备
KM2	矩阵键盘接口界面
<b>BB:</b>	区域
Z1	用于 1、2、21、22 区
<b>CCC:</b>	接口类型 (与防爆不相关)
<b>DD:</b>	指点设备型号
00	无指点设备
TB	轨迹球
TP	触摸板
JS	操纵杆
<b>EE:</b>	前板材料
AP	铝涂层
AL	铝阳极氧化
V2	不锈钢
V4	不锈钢
ST	钢
<b>F:</b>	表面前膜
P	聚酯膜
V	金属膜

中心主任

颁发日期

2021年6月17日

本证有效期

2021年6月17日至2026年6月16日



国家防爆电气产品质量监督检验中心  
南阳防爆电气研究所

地址: 中国河南省南阳市仲景北路20号  
邮政编码: 473008  
电话: 0377-63258564  
传真: 0377-63208175  
网址: www.china-ex.com



公众号

注: 本证书仅对与认可文件和样品一致的产品有效。登录网站或关注公众号查询真伪

查询方式: www.china-ex.com



## 南阳防爆电气研究所



南阳防爆电气研究所有限公司



强制性认证



IECEX认证

自愿性认证



南阳防爆电气研究所国际认证中心 (CNEX-GLOBAL B.V.)



IECEX 认证



ATEX 认证



国家防爆电气产品质量监督检验中心 (CQST)



IECEX TL 国际实验室



美国能源部电动机效率实验室 (NVLAP)

国家安全生产检测检验机构

中国人民解放军军工产品检验机构

船用防爆电气产品检验实验室

国家中小型电机节能认证检验实验室

机械工业防爆电气产品质量监督检验中心

国家地方联合工程实验室



国家车辆特种性能质量监督检验中心 (CNV)



全国防爆电气设备标准化技术委员会秘书处



IEC TC31技术委员会 中国办公室



中国电器工业协会防爆电机分会



中国电工技术学会防爆电气技术专业委员会

爆炸危险场所工程设备监理中心



编号: CNEx21.1931X

## 防爆合格证 (附页)

共 5 页 第 2 页

GG: 布局 (与防爆无关)  
 CN 键盘布局 CN (中国)  
 US 键盘布局 US(美国)  
 DE 键盘布局 德国  
 FR 键盘布局 法国  
 DK 键盘布局 丹麦  
 SL 键盘布局 斯洛文尼亚  
 ES 键盘布局 西班牙  
 SE 键盘布局 瑞典  
 JP 键盘布局 日本  
 00 无键盘布局

\*由字符和数字代替以区分型号, 不影响防爆性能。

参数:

电气参数:

型号 PD2-Z1-\*\*\*-\*\*-\*\*\*-\*\*\* (指点设备):

通过最大长度为 5 m 的永久连接电缆供电。

对于 8 线电缆: +5V (5 代表红色), USB-m (7 代表灰色), USB\_p (8 代表粉色) 和 GND (6 代表蓝色)。

对于 4 线电缆: +5V (1 代表白色), USB-m (2 代表绿色), USB\_p (3 代表黄色) 和 GND (4 代表棕色)。

最大输入电压 $U_i$	5.9V DC
最大输入电流 $I_i$	
对于 II 类	319mA
对于粉尘类、iaD	319mA
对于粉尘类、ibD	250mA
最大输入功率 $P_i$	650mW
有效内部电容 $C_i$	21 $\mu$ F
有效内部电感 $L_i$	1.68 $\mu$ H
对于永久连接的电缆, 还必须遵守以下值:	
电缆电容 $C_c$	200pF/m
电缆电感 $L_c$	1 $\mu$ H/m

型号 KB2-Z1-\*\*\*-00-\*\*-\*\*\*-\*\*\* (不带指点设备的键盘):

中心主任

颁发日期

2021年6月17日

本证有效期

2021年6月17日至2026年6月16日



国家防爆电气产品质量监督检验中心  
 南阳防爆电气研究所

地址: 中国河南省南阳市仲景北路20号  
 邮政编码: 473008  
 电话: 0377-63258564  
 传真: 0377-63208175  
 网址: www.china-ex.com



公众号

注: 本证书仅对与认可文件和样品一致的产品有效。登录网站或关注公众号查询真伪

查询方式: www.china-ex.com



## 南阳防爆电气研究所



南阳防爆电气研究所有限公司



强制性认证



IECEX认证

自愿性认证



南阳防爆电气研究所国际认证中心 (CNEX-GLOBAL B.V.)



IECEX 认证



ATEX 认证



国家防爆电气产品质量监督检验中心 (CQST)



IECEX TL 国际实验室



美国能源部电动机效率实验室 (NVLAP)

国家安全生产检测检验机构

中国人民解放军军工产品检验机构

船用防爆电气产品检验实验室

国家中小型电机节能认证检验实验室

机械工业防爆电气产品质量监督检验中心

国家地方联合工程实验室



国家车辆特种性能质量监督检验中心 (CNV)



全国防爆电气设备标准化技术委员会秘书处



IEC TC31技术委员会 中国办公室



中国电器工业协会防爆电机分会



中国电工技术学会防爆电气技术专业委员会

爆炸危险场所工程设备监理中心



编号: CNEx21.1931X

## 防爆合格证 (附页)

共 5 页 第 3 页

通过最大长度为 5 米的永久连接电缆供电。

电线: +5V (1 代表白色), USB-m (2 代表绿色), USB\_p (3 代表黄色)和 GND (4 代表棕色)。

最大输入电压 $U_i$	5.9V DC
最大输入电流 $I_i$	
对于 II 类	319mA
对于粉尘类、iaD	319mA
对于粉尘类、ibD	250mA
最大输入功率 $P_i$	650mW
有效内部电容 $C_i$	21 $\mu$ F
有效内部电感 $L_i$	1.68 $\mu$ H
对于永久连接的电缆, 还必须遵守以下值:	
电缆电容 $C_c$	200pF/m
电缆电感 $L_c$	1 $\mu$ H/m

型号 KB2-Z1-\*\*\*-TB-\*\*-\*\*\*, KB2-Z1-\*\*\*-TP-\*\*-\*\*\*, KB2-Z1-\*\*\*-JS-\*\*-\*\*\*;  
(带指点设备的键盘)

通过 8 线永久连接电缆提供 2 个独立的本安电路, 最大长度为 5 m。

键盘电路:

电线: +5V (1 代表白色), USB-m (2 代表绿色), USB\_p (3 代表黄色)和 GND (4 代表棕色)。

最大输入电压 $U_i$	5.9V DC
最大输入电流 $I_i$	
对于 II 类	319mA
对于粉尘类、iaD	319mA
对于粉尘类、ibD	250mA
最大输入功率 $P_i$	650mW
有效内部电容 $C_i$	21 $\mu$ F
有效内部电感 $L_i$	1.68 $\mu$ H
对于永久连接的电缆, 还必须遵守以下值:	
电缆电容 $C_c$	200pF/m
电缆电感 $L_c$	1 $\mu$ H/m

中心主任

颁发日期

2021年6月17日

本证有效期

2021年6月17日至2026年6月16日



国家防爆电气产品质量监督检验中心  
南阳防爆电气研究所

地址: 中国河南省南阳市仲景北路20号  
邮政编码: 473008  
电话: 0377-63258564  
传真: 0377-63208175  
网址: www.china-ex.com



公众号

注: 本证书仅对与认可文件和样品一致的产品有效。登录网站或关注公众号查询真伪

查询方式: www.china-ex.com



## 南阳防爆电气研究所



南阳防爆电气研究所有限公司



强制性认证



IECEX认证

自愿性认证



南阳防爆电气研究所国际认证中心 (CNEX-GLOBAL B.V.)



IECEX 认证



ATEX 认证



国家防爆电气产品质量监督检验中心 (CQST)



IECEX TL 国际实验室



美国能源部电动机效率实验室 (NVLAP)

国家安全生产检测检验机构

中国人民解放军军工产品检验机构

船用防爆电气产品检验实验室

国家中小型电机节能认证检验实验室

机械工业防爆电气产品质量监督检验中心

国家地方联合工程实验室



国家车辆特种性能质量监督检验中心 (CNV)



全国防爆电气设备标准化技术委员会秘书处



IEC TC31技术委员会 中国办公室



中国电器工业协会防爆电机分会



中国电工技术学会防爆电气技术专业委员会

爆炸危险场所工程设备监理中心





国家防爆

编号: CNEx21.1931X

## 防爆合格证 (附页)

共 5 页 第 4 页

指点设备电路:

电线: +5V (5 代表红色), USB\_m (7 代表灰色), USB\_p (8 代表粉色)和 GND (6 代表蓝色)。

最大输入电压 $U_i$	5.9V DC
最大输入电流 $I_i$	
对于 II 类	319mA
对于粉尘类、iaD	319mA
对于粉尘类、ibD	250mA
最大输入功率 $P_i$	650mW
有效内部电容 $C_i$	21 $\mu$ F
有效内部电感 $L_i$	1.68 $\mu$ H
对于永久连接的电缆, 还必须遵守以下值:	
电缆电容 $C_c$	200pF/m
电缆电感 $L_c$	1 $\mu$ H/m

型号 KM2-Z1-\*\*\*-\*\*\*-\*\*\*-\*\*\*\*(键盘线路):

供电电路:

接线端子 X1

端子: +5V (1), USB\_m (2), USB\_p (3), GND (4)

最大输入电压 $U_i$	5.9V DC
最大输入电流 $I_i$	
对于 II 类	319mA
对于粉尘类、iaD	319mA
对于粉尘类、ibD	250mA
最大输入功率 $P_i$	650mW
有效内部电容 $C_i$	20.5 $\mu$ F
有效内部电感 $L_i$	1.68 $\mu$ H
端子 5 用于电缆屏蔽的连接	

连接外部键盘的端子:

中心主任

颁发日期

2021年6月17日

本证有效期

2021年6月17日至2026年6月16日



国家防爆电气产品质量监督检验中心  
南阳防爆电气研究所

地址: 中国河南省南阳市仲景北路20号  
邮政编码: 473008  
电话: 0377-63258564  
传真: 0377-63208175  
网址: www.china-ex.com



公众号

注: 本证书仅对与认可文件和样品一致的产品有效。登录网站或关注公众号查询真伪

查询方式: www.china-ex.com



## 南阳防爆电气研究所



南阳防爆电气研究所有限公司

强制性认证

IECEX认证

自愿性认证



南阳防爆电气研究所国际认证中心 (CNEX-GLOBAL B.V.)

IECEX 认证

ATEX 认证



国家防爆电气产品质量监督检验中心 (CQST)

IECEX TL 国际实验室

美国能源部电动机效率实验室 (NVLAP)

国家安全生产检测检验机构

中国人民解放军军工产品检验机构

船用防爆电气产品检验实验室

国家中小型电机节能认证检验实验室

机械工业防爆电气产品质量监督检验中心

国家地方联合工程实验室



国家车辆特种性能质量监督检验中心 (CNV)



全国防爆电气设备标准化技术委员会秘书处

IEC TC31技术委员会 中国办公室

中国电器工业协会防爆电机分会

中国电工技术学会防爆电气技术专业委员会

爆炸危险场所工程设备监理中心



编号: CNEx21.1931X

## 防爆合格证 (附页)

共 5 页 第 5 页

接线端子 X2, X3, X4:  
(3 个接线端子处的信号均视为 1 个本安电路)

最大输出电压 $U_o$	= $U_i$
最大输出电流 $I_o$	250 mA
最大输出功率 $P_o$	= $P_i$
最大外部电容 $C_o$	0.5 $\mu$ F
最大外部电感 $L_o$	0.5 $\mu$ H

环境温度: -40°C~70°C

防爆标志:

型号 KB2-Z1-..., PD2-Z1-..., KM2-Z1-...;

当连接到 ia 电路时: Ex ia IIC T4 Gb/Ex iaD 21 T200 135°C

当连接到 ib 电路时: Ex ib IIC T4 Gb/Ex ibD 21 T200 135°C

当连接到 ic 电路时: Ex ic IIC T4 Gc

安全使用条件:

- 型号 KB2-Z1-... 和 PD2-Z1-...;
- 对于用于爆炸性气体环境, 必须将设备安装在最低防护等级为 IP20 (GB/T4208) 的外壳中。
- 型号 KB2-Z1-..., PD2-Z1-... 和 KM2-Z1-...;
- 对于用于爆炸性粉尘环境, 必须将设备安装在最低防护等级为 IP64 (GB12476.1) 的外壳中。
- 当在粉尘爆炸区域供电 > 250 mA 时: 设备必须由 ia 电路供电 (线性特性)。
- 型号 KB2-Z1-\*\*\*-TB-\*\*\*-\*\*\*, KB2-Z1-\*\*\*-TP-\*\*\*-\*\*\* 和 KB2-Z1-\*\*\*-JS-\*\*\*-\*\*\*;
- 连接电缆包含 2 个独立的本安电路。
- 该设备的安装方式必须排除电缆上的机械影响 (拉力)。
- 电缆必须固定并有防止损坏措施。
- 该设备 (包括连接电缆) 不能安装在强静电充电过程的区域。

中心主任

颁发日期 2021年6月17日

本证有效期 2021年6月17日至2026年6月16日



国家防爆电气产品质量监督检验中心  
南阳防爆电气研究所

地址: 中国河南省南阳市仲景北路20号  
邮政编码: 473008  
电话: 0377-63258564  
传真: 0377-63208175  
网址: www.china-ex.com



公众号

注: 本证书仅对与认可文件和样品一致的产品有效。登录网站或关注公众号查询真伪

查询方式: www.china-ex.com



## 南阳防爆电气研究所



南阳防爆电气研究所有限公司



强制性认证



IECEX认证

自愿性认证



南阳防爆电气研究所国际认证中心 (CNEX-GLOBAL B.V.)



IECEX 认证



ATEX 认证



国家防爆电气产品质量监督检验中心 (CQST)

IECEX TL 国际实验室

美国能源部电动机效率实验室 (NVLAP)

国家安全生产检测检验机构

中国人民解放军军工产品检验机构

船用防爆电气产品检验实验室

国家中小型电机节能认证检验实验室

机械工业防爆电气产品质量监督检验中心

国家地方联合工程实验室



国家车辆特种性能质量监督检验中心 (CNV)



全国防爆电气设备标准化技术委员会秘书处



IEC TC31技术委员会 中国办公室



中国电器工业协会防爆电机分会



中国电工技术学会防爆电气技术专业委员会

爆炸危险场所工程设备监理中心

## 5.2 KB2 / PD2 -\*HSG\*00\* / \*U3\*

## 5.2.1 English version



Certificate number: CNEx21.1934X

## Electrical Apparatus for Explosive Atmospheres CERTIFICATE OF CONFORMITY

**Manufacturer** R. STAHL HMI SYSTEMS GmbH  
Adolf-Grimme-Allee 8, 50829 Koln, Germany

**Product** Keyboard

**Type** KB2-Z1-...-HSG..., PD2-Z1-...-HSG...

**Marking** See Annex

**Standard(s)** —

**Drawing No.** 10591350 Rev01 HSG-KB2-Cert. Housing overview

The drawings, technical documents and the samples are verified and certified according to standard(s) for safety as below:

GB 3836.1-2010	Explosive atmospheres - Part 1: Equipment - General requirements
GB 3836.3-2010	Explosive atmospheres - Part 3: Equipment protection by increased safety "e"
GB 3836.4-2010	Explosive atmospheres - Part 4: Equipment protection by intrinsic safety "i"
GB/T 3836.7-2017	Explosive atmospheres - Part 7: Equipment protection by powder filling "q"
GB12476.1-2013	Electrical apparatus for use in the presence of combustible dust - Part 1: General requirements
GB12476.4-2010	Electrical apparatus for use in the presence of combustible dust - Part 4: Protection by intrinsic safety "iD"
GB12476.5-2013	Electrical apparatus for use in the presence of combustible dust - Part 5: Protection by enclosure "tD"

**Note:**

See Annex (6 page in total).

**Director**

**Date:** 2021-6-17

**Valid until:** 2026-6-16



CHINA NATIONAL QUALITY SUPERVISION AND TEST CENTER  
FOR EXPLOSION PROTECTED ELECTRICAL PRODUCTS

Address: No.20 North Zhongjing Rd, Nanyang, Henan(473008), P.R.China  
Tel: 0377-63258564 Fax: 0377-63208175 Web: www.china-ex.com

Note: This certificate is only valid for products which identify with the sample(s) tested and verified. Holder(s) of this certificate have the responsibility to ensure the products complying with relevant standard(s). 登录网站 输入数码 查询防伪: 4208 4509 8046 7260



Certificate number: CNEx21.1934X

## Electrical Apparatus for Explosive Atmospheres CERTIFICATE OF CONFORMITY

Page 1 of 6

This product has been certified, under certificate number IECEx BVS 20.0084X, issue 0, dated 2020-12-11 and Test report DE/BVS/ExTR20.0083/00 dated 2020-12-07.

**Product Description:**

The Keyboard with Pointing Device and enclosure and the Pointing Device (Human interface devices) are used for connection to PCs or similar devices in hazardous areas.

**Type designation:**

Keyboard with pointing device and enclosure: KB2-Z1-...-HSG..., Pointing device: PD2-Z1-...-HSG...

Subject and Type:

AAA-BB-CCC-DD-EE-F-GG-HSG H II J KKK L MM \*

In the complete type denomination, the wild cards A-M are replaced by the following characters and numbers to distinguish different variants.

- AAA: Type**
- KB2 Keyboard with pointing device
- PD2 Pointing device only
- BB: Zone**
- Z1 For use in Zone 1, 2, 21, 22
- CCC: Type of interface**
- USB USB
- PS2 PS2
- DD: Type of pointing device**
- 00 no pointing device
- TB Trackball
- TP Touchpad
- JS Joystick
- EE: Front plate material**
- AP Aluminium coated
- AL Aluminium anodized
- V2 Stainless steel
- V4 Stainless steel
- ST Steel
- F: Surface front foil**
- P Polyester foil
- V Metallic foil

Director

Date:

2021-6-17

Valid until:

2026-6-16



CHINA NATIONAL QUALITY SUPERVISION AND TEST CENTER  
FOR EXPLOSION PROTECTED ELECTRICAL PRODUCTS

Address: No.20 North Zhongjing Rd, Nanyang, Henan(473008), P.R.China  
Tel: 0377-63258564 Fax: 0377-63208175 Web: www.china-ex.com

Note: This certificate is only valid for products which identify with the sample(s) tested and verified. Holder(s) of this certificate have the responsibility to ensure the products complying with relevant standard(s).



Certificate number: CNEx21.1934X

## Electrical Apparatus for Explosive Atmospheres

# CERTIFICATE OF CONFORMITY

Page 2 of 6

**GG: Layout (not Ex-relevant)**  
 CN keyboard layout CN (China)  
 US keyboard layout US-American  
 DE keyboard layout German  
 FR keyboard layout French  
 DK keyboard layout Denmark  
 SL keyboard layout Slovenia  
 ES keyboard layout Spain  
 SE keyboard layout Sweden  
 JP keyboard layout Japan  
 00 no keyboard layout

**HSG: Housing**  
 HSG Housing

**H: Sealing**  
 1 Sealing 1  
 2 Sealing 2

**II: Housing material**  
 V2 Enclosure material V2A  
 V4 Enclosure material V4A

**J: Coating**  
 N no coating  
 P coating  
 M Metallic coating

**KKK: Mounting option**  
 M## mounting options  
 B## backcover type

**L: Design option (not Ex-relevant)**  
 S Standard  
 G GMP-option

**MM: Accessory**  
 00 no accessory  
 U3 UB03

The \* is replaced by characters and numbers to distinguish variations with no influence to explosion protection.

The # is replaced by one character or number to distinguish variations with no influence to explosion protection.

Director

Date:

2021-6-17

Valid until:

2026-6-16



CHINA NATIONAL QUALITY SUPERVISION AND TEST CENTER  
 FOR EXPLOSION PROTECTED ELECTRICAL PRODUCTS

Address: No.20 North Zhongjing Rd, Nanyang, Henan(473008), P.R.China

Tel: 0377-63258564 Fax: 0377-63208175 Web: www.china-ex.com

Note: This certificate is only valid for products which identify with the sample(s) tested and verified. Holder(s) of this certificate have the responsibility to ensure the products complying with relevant standard(s).







Certificate number: CNEx21.1934X

## Electrical Apparatus for Explosive Atmospheres CERTIFICATE OF CONFORMITY

Page 4 of 6

Maximum input voltage $U_i$	5.9 V DC
Maximum input current $I_i$	
For Group II	319 mA
For Group dust, iaD	319 mA
For Group dust, ibD	250 mA
Maximum input power $P_i$	650 mW
Effective internal capacitance $C_i$	21 $\mu$ F
Effective internal inductance $L_i$	1.68 $\mu$ H
For the permanently connected cable, the following values have to be respected additionally:	
Cable capacitance $C_c$	200 pF/m
Cable inductance $L_c$	1 $\mu$ H/m

Type KB2-Z1-\*\*\*-TB-\*\*-\*\*\*-HSG \*\*\*\*\* , Type KB2-Z1-\*\*\*-TP-\*\*-\*\*\*-HSG \*\*\*\*\*  
\* , Type KB2-Z1-\*\*\*-JS-\*\*-\*\*\*-HSG \*\*\*\*\* (Keyboard with Pointing Device):

Supply with 2 separate intrinsically safe circuits via an 8-wire permanently connected cable with max. 5 m length.

Keyboard-circuit :

Wires: +5V (white resp. 1), USB-m (green resp. 2), USB\_p (yellow resp. 3) and GND (brown resp. 4).

Maximum input voltage $U_i$	5.9 V DC
Maximum input current $I_i$	
For Group II	319 mA
For Group dust, iaD	319 mA
For Group dust, ibD	250 mA
Maximum input power $P_i$	650 mW
Effective internal capacitance $C_i$	21 $\mu$ F
Effective internal inductance $L_i$	1.68 $\mu$ H
For the permanently connected cable, the following values have to be respected additionally:	
Cable capacitance $C_c$	200 pF/m
Cable inductance $L_c$	1 $\mu$ H/m

Pointing Device-Circuit:

Director

Date:

2021-6-17

Valid until:

2026-6-16



CHINA NATIONAL QUALITY SUPERVISION AND TEST CENTER  
FOR EXPLOSION PROTECTED ELECTRICAL PRODUCTS

Address: No.20 North Zhongjing Rd, Nanyang, Henan(473008), P.R.China  
Tel: 0377-63258564 Fax: 0377-63208175 Web: www.china-ex.com

Note: This certificate is only valid for products which identify with the sample(s) tested and verified. Holder(s) of this certificate have the responsibility to ensure the products complying with relevant standard(s).





Certificate number: CNEx21.1934X

## Electrical Apparatus for Explosive Atmospheres CERTIFICATE OF CONFORMITY

Page 6 of 6

Terminal block X2	
Non-intrinsically safe interfaces data	
Nominal voltage	5V AC/DC
Max. input voltage Um	250V AC

Rated ambient temperature range: -40°C up to +70°C

**Ex marking:**

Type KB2-Z1-...-HSG...00... and Type PD2-Z1-...-HSG...00... :

When connected to an ia-circuit: Ex ia IIC T4 Gb/Ex iaD 21 T<sub>200</sub> 135°C

When connected to an ib-circuit: Ex ib IIC T4 Gb/Ex ibD 21 T<sub>200</sub> 135°C

When connected to an ic-circuit: Ex ic IIC T4 Gc

Type KB2-Z1-...-HSG...U3... and Type PD2-Z1-...-HSG...U3... :

When connected to an ia-circuit: Ex e ia q IIC T4 Gb/

Ex tD A21 IP 66 T135°C+Ex iaD 21 T135°C

When connected to an ib-circuit: Ex e ib q IIC T4 Gb/

Ex tD A21 IP 66 T135°C+Ex ibD 21 T135°C

When connected to an ic-circuit: Ex e ic q IIC T4 Gc

**Specific conditions of safety use:**

- Type KB2-Z1-... and type PD2-Z1-... :

● When supplied with > 250 mA in dust-explosive areas: The device must be supplied by an ia-circuit (linear characteristics).

- Type KB2-Z1-\*\*\*-TB-\*\*\*-HSG \* \* \* \* \* , Type KB2-Z1-\*\*\*-TP-\*\*\*-HSG \* \* \* \* \* , Type KB2-Z1-\*\*\*-JS-\*\*\*-HSG \* \* \* \* \* :

● The connection cable contains 2 separate intrinsically safe circuits.

● The device has to be installed in such a way that mechanical effects (pulling forces) on the cable are excluded.

● The cable has to be fixed and effectively protected against damage.

- The devices (inclusive connection cables) shall only be installed in areas where intensive electrostatic charging processes are excluded.

- The enclosure, must be connected to earth potential with max. 1MΩ. If applicable, the mounting components or the earth of mounted components can be used for this.

- For the variants KB2-\* -HSG\*U3\* or PD2-\* -HSG\*U3\* a connecting cable with min. 0.5 mm insulation (conductor / outer sheath) must be used for the UB03 connection. The connecting cable must be installed in the housing in such a way that a distance of min. 50 mm to bare conductive parts of the keyboard / pointing device is ensured.

Director

Date:

2021-6-17

Valid until:

2026-6-16



CHINA NATIONAL QUALITY SUPERVISION AND TEST CENTER  
FOR EXPLOSION PROTECTED ELECTRICAL PRODUCTS

Address: No.20 North Zhongjing Rd, Nanyang, Henan(473008), P.R.China  
Tel: 0377-63258564 Fax: 0377-63208175 Web: www.china-ex.com

Note: This certificate is only valid for products which identify with the sample(s) tested and verified. Holder(s) of this certificate have the responsibility to ensure the products complying with relevant standard(s).

## 5.2.2 Chinese version



**国家防爆**

编号: CNEx21.1934X

## 防爆合格证

制造单位	R. STAHL HMI SYSTEMS GmbH Adolf-Grimme-Allee 8, 50829 Köln, Germany
产品名称	防爆键盘
型号规格	KB2-Z1-...-HSG..., PD2-Z1-...-HSG...
防爆标志	见附页
产品标准	—
总装图号	10591350 Rev01 HSG-KB2-Cert. Housing overview

经对上述产品图样及技术文件的审查和样品检验,确认符合下列标准:  
 GB3836.1-2010《爆炸性环境 第1部分:设备 通用要求》  
 GB3836.3-2010《爆炸性环境 第3部分:由增安型“e”保护的的设备》  
 GB3836.4-2010《爆炸性环境 第4部分:由本质安全型“i”保护的的设备》  
 GB/T3836.7-2017《爆炸性环境 第7部分:由充砂型“q”保护的的设备》  
 GB12476.1-2013《可燃性粉尘环境用电气设备 第1部分:通用要求》  
 GB12476.4-2010《可燃性粉尘环境用电气设备 第4部分:本质安全型“iD”》  
 GB12476.5-2013《可燃性粉尘环境用电气设备 第5部分:外壳保护型“tD”》

记事: 见附页(共6页)。

中心主任



颁发日期

本证有效期

2021年6月17日

2021年6月17日至2026年6月16日





国家防爆电气产品质量监督检验中心  
南阳防爆电气研究所

地址: 中国河南省南阳市仲景北路20号  
 邮政编码: 473008  
 电话: 0377-63258564  
 传真: 0377-63208175  
 网址: www.china-ex.com



公众号

注: 本证书仅对与认可文件和样品一致的产品有效。登录网站或关注公众号查询真伪 6439 1649 1291 9181 查询方式: www.china-ex.com



## 南阳防爆电气研究所



南阳防爆电气研究所有限公司



强制性认证



IECEX认证

自愿性认证



南阳防爆电气研究所国际认证中心 (CNEX-GLOBAL B.V.)



IECEX 认证



ATEX 认证



国家防爆电气产品质量监督检验中心 (CQST)

IECEX TL 国际实验室

美国能源部电动机效率实验室 (NVLAP)

国家安全生产检测检验机构

中国人民解放军军工产品检验机构

船用防爆电气产品检验实验室

国家中小型电机节能认证检验实验室

机械工业防爆电气产品质量监督检验中心

国家地方联合工程实验室



国家车辆特种性能质量监督检验中心 (CNV)



全国防爆电气设备标准化技术委员会秘书处



IEC TC31 技术委员会 中国办公室



中国电器工业协会防爆电机分会



中国电工技术学会防爆电气技术专业委员会

爆炸危险场所工程设备监理中心



编号: CNEx21.1934X

## 防爆合格证 (附页)

共6页 第1页

本产品已取得 IECEX 认证, 证书号: IECEX BVS 20.0084X, 0 版, 2020.12.11 颁发, 报告号为: DE/BVS/ExTR20.0083/00, 2020.12.07 颁发。

### 产品描述:

带有指点设备和外壳的键盘以及指点设备 (人机界面设备) 用于连接危险区域的 PC 或类似设备。

### 型号名称:

- KB2-Z1-...-HSG... , PD2-Z1-...-HSG...

### 型号命名:

AAA-BB-CCC-DD-EE-F-GG-HSG H I J K K K L M M \*

在完整的型号命名中, A-M 被以下字符和数字所取代, 以区分不同的型号。

**AAA: 型号**  
 KB2 带指点设备的键盘  
 PD2 仅限指点设备  
**BB: 区域**  
 Z1 用于 1、2、21、22 区  
**CCC: 接口类型**  
 USB USB  
 PS2 PS2  
**DD: 定点设备类型**  
 00 无指点设备  
 TB 轨迹球  
 TP 触摸板  
 JS 操纵杆  
**EE: 前板材料**  
 AP 铝涂层  
 AL 铝阳极氧化  
 V2 不锈钢  
 V4 不锈钢  
 ST 钢  
**F: 表面前膜**  
 P 聚酯膜  
 V 金属膜

中心主任

颁发日期

2021年6月17日

本证有效期

2021年6月17日至2026年6月16日



国家防爆电气产品质量监督检验中心  
 南阳防爆电气研究所

地址: 中国河南省南阳市仲景北路20号  
 邮政编码: 473008  
 电话: 0377-63258564  
 传真: 0377-63208175  
 网址: www.china-ex.com



公众号

注: 本证书仅对与认可文件和样品一致的产品有效。登录网站或关注公众号查询真伪

查询方式: www.china-ex.com



## 南阳防爆电气研究所



南阳防爆电气研究所有限公司



强制性认证



IECEX认证

自愿性认证



南阳防爆电气研究所国际认证中心 (CNEX-GLOBAL B.V.)



IECEX 认证



ATEX 认证



国家防爆电气产品质量监督检验中心 (CQST)



IECEX TL 国际实验室



美国能源部电动机效率实验室 (NVLAP)

国家安全生产检测检验机构

中国人民解放军军工产品检验机构

船用防爆电气产品检验实验室

国家中小型电机节能认证检验实验室

机械工业防爆电气产品质量监督检验中心

国家地方联合工程实验室



国家车辆特种性能质量监督检验中心 (CNV)



全国防爆电气设备标准化技术委员会秘书处



IEC TC31技术委员会 中国办公室



中国电器工业协会防爆电机分会



中国电工技术学会防爆电气技术专业委员会

爆炸危险场所工程设备监理中心



编号: CNEx21.1934X

# 防爆合格证 (附页)

共 6 页 第 2 页

- GG: 布局 (与防爆无关)
- CN 键盘布局 CN (中国)
- US 键盘布局 US(美国)
- DE 键盘布局 德国
- FR 键盘布局 法国
- DK 键盘布局 丹麦
- SL 键盘布局 斯洛文尼亚
- ES 键盘布局 西班牙
- SE 键盘布局 瑞典
- JP 键盘布局 日本
- 00 无键盘布局
- HSG: 外壳
- HSG 外壳
- H: 密封
- 1 密封 1
- 2 密封 2
- II: 外壳材料
- V2 外壳材料 V2A
- V4 外壳材料 V4A
- J: 涂层
- N 无涂层
- P 涂层
- M 金属涂层
- KKK: 安装选项
- M## 安装选项
- B## 后盖类型
- L: 设计选项 (与防爆无关)
- S 标准
- G GMP 选项
- MM: 附件
- 00 无附件
- U3 UB03

\* 由字符和数字代替以区分型号, 不影响防爆性能。  
 # 由字符和数字代替以区分型号, 不影响防爆性能。

**参数:**

电气参数:

型号 PD2-Z1-\*\*\*-\*\*\*-\*\*\*-HSG \*\*\*\*\* \*(指点设备):

通过最大长度为 5 m 的永久连接电缆供电。

中心主任

颁发日期

2021年6月17日

本证有效期

2021年6月17日至2026年6月16日



国家防爆电气产品质量监督检验中心  
 南阳防爆电气研究所

地址: 中国河南省南阳市仲景北路20号  
 邮政编码: 473008  
 电话: 0377-63258564  
 传真: 0377-63208175  
 网址: www.china-ex.com



公众号

注: 本证书仅对与认可文件和样品一致的产品有效。登录网站或关注公众号查询真伪

查询方式: www.china-ex.com





## 南阳防爆电气研究所



南阳防爆电气研究所有限公司



强制性认证



IECEX认证

自愿性认证



南阳防爆电气研究所国际认证中心 (CNEX-GLOBAL B.V.)



IECEX 认证



ATEX 认证



国家防爆电气产品质量监督检验中心 (CQST)



IECEX TL 国际实验室



美国能源部电动机效率实验室 (NVLAP)

国家安全生产检测检验机构

中国人民解放军军工产品检验机构

船用防爆电气产品检验实验室

国家中小型电机节能认证检验实验室

机械工业防爆电气产品质量监督检验中心

国家地方联合工程实验室



国家车辆特种性能质量监督检验中心 (CNV)



全国防爆电气设备标准化技术委员会秘书处



IEC TC31技术委员会 中国办公室



中国电器工业协会防爆电机分会



中国电工技术学会防爆电气技术专业委员会

爆炸危险场所工程设备监理中心



编号: CNEx21.1934X

## 防爆合格证 (附页)

共 6 页 第 3 页

对于 8 线电缆: +5V (5 代表红色), USB-m (7 代表灰色), USB\_p (8 代表粉色) 和 GND (6 代表蓝色)。对于 4 线电缆: +5V (1 代表白色), USB-m (2 代表绿色), USB\_p (3 代表黄色) 和 GND (4 代表棕色)。

最大输入电压 $U_i$	5.9 V DC
最大输入电流 $I_i$	
对于 II 类	319 mA
对于粉尘类、iaD	319 mA
对于粉尘类、ibD	250 mA
最大输入功率 $P_i$	650 mW
有效内部电容 $C_i$	21 $\mu$ F
有效内部电感 $L_i$	1.68 $\mu$ H
对于永久连接的电缆, 还必须遵守以下值:	
电缆电容 $C_c$	200 pF/m
电缆电感 $L_c$	1 $\mu$ H/m

型号 KB2-Z1-\*\*\*-00-\*\*-\*\*\*-HSG \*\*\*\*\* (不带指点设备的键盘):

通过最大长度为 5 米的永久连接电缆供电。

电线: +5V (1 代表白色), USB-m (2 代表绿色), USB\_p (3 代表黄色) 和 GND (4 代表棕色)。

最大输入电压 $U_i$	5.9 V DC
最大输入电流 $I_i$	
对于 II 类	319 mA
对于粉尘类、iaD	319 mA
对于粉尘类、ibD	250 mA
最大输入功率 $P_i$	650 mW
有效内部电容 $C_i$	21 $\mu$ F
有效内部电感 $L_i$	1.68 $\mu$ H
对于永久连接的电缆, 还必须遵守以下值:	
电缆电容 $C_c$	200 pF/m
电缆电感 $L_c$	1 $\mu$ H/m

中心主任

颁发日期

2021年6月17日

本证有效期

2021年6月17日至2026年6月16日



国家防爆电气产品质量监督检验中心  
南阳防爆电气研究所

地址: 中国河南省南阳市仲景北路20号  
邮政编码: 473008  
电话: 0377-63258564  
传真: 0377-63208175  
网址: www.china-ex.com



公众号

注: 本证书仅对与认可文件和样品一致的产品有效。登录网站或关注公众号查询真伪

查询方式: www.china-ex.com



## 南阳防爆电气研究所



南阳防爆电气研究所有限公司



强制性认证



IECEX认证

自愿性认证



南阳防爆电气研究所国际认证中心 (CNEX-GLOBAL B.V.)



IECEX 认证



ATEX 认证



国家防爆电气产品质量监督检验中心 (CQST)

IECEX TL 国际实验室



美国能源部电动机效率实验室 (NVLAP)

国家安全生产检测检验机构

中国人民解放军军工产品检验机构

船用防爆电气产品检验实验室

国家中小型电机节能认证检验实验室

机械工业防爆电气产品质量监督检验中心

国家地方联合工程实验室



国家车辆特种性能质量监督检验中心 (CNV)



全国防爆电气设备标准化技术委员会秘书处



IEC TC31技术委员会 中国办公室



中国电器工业协会防爆电机分会



中国电工技术学会防爆电气技术专业委员会

爆炸危险场所工程设备监理中心



国家防爆

编号: CNEx21.1934X

# 防爆合格证 (附页)

共 6 页 第 4 页

型号 KB2-Z1-\*\*\*-TB-\*\*-\*\*\*-HSG \*\*\*\*\* ,  
 型号 KB2-Z1-\*\*\*-TP-\*\*-\*\*\*-HSG \*\*\*\*\* ,  
 型号 KB2-Z1-\*\*\*-JS-\*\*-\*\*\*-HSG \*\*\*\*\* (带指点设备的键盘):  
 通过 8 线永久连接电缆提供 2 个独立的本安电路, 最大长度为 5 m。  
 键盘电路:  
 电线: +5V (1 代表白色), USB-m (2 代表绿色), USB\_p (3 代表黄色)和 GND (4 代表棕色)。

最大输入电压 $U_i$	5.9 V DC
最大输入电流 $I_i$	
对于 II 类	319 mA
对于粉尘类、iaD	319 mA
对于粉尘类、ibD	250 mA
最大输入功率 $P_i$	650 mW
有效内部电容 $C_i$	21 $\mu$ F
有效内部电感 $L_i$	1.68 $\mu$ H
对于永久连接的电缆, 还必须遵守以下值:	
电缆电容 $C_c$	200 pF/m
电缆电感 $L_c$	1 $\mu$ H/m

指点设备电路:  
 电线: +5V (5 代表红色), USB-m (7 代表灰色), USB\_p (8 代表粉色)和 GND (6 代表蓝色)。

最大输入电压 $U_i$	5.9 V DC
最大输入电流 $I_i$	
对于 II 类	319 mA
对于粉尘类、iaD	319 mA
对于粉尘类、ibD	250 mA
最大输入功率 $P_i$	650 mW
有效内部电容 $C_i$	21 $\mu$ F
有效内部电感 $L_i$	1.68 $\mu$ H
对于永久连接的电缆, 还必须遵守以下值:	
电缆电容 $C_c$	200 pF/m
电缆电感 $L_c$	1 $\mu$ H/m

中心主任

颁发日期

2021年6月17日

本证有效期

2021年6月17日至2026年6月16日



国家防爆电气产品质量监督检验中心  
 南阳防爆电气研究所

地址: 中国河南省南阳市仲景北路20号  
 邮政编码: 473008  
 电话: 0377-63258564  
 传真: 0377-63208175  
 网址: www.china-ex.com



公众号

注: 本证书仅对与认可文件和样品一致的产品有效。登录网站或关注公众号查询真伪

查询方式: www.china-ex.com



## 南阳防爆电气研究所



南阳防爆电气研究所有限公司



强制性认证



IECEX认证

自愿性认证



南阳防爆电气研究所国际认证中心 (CNEX-GLOBAL B.V.)



IECEX 认证



ATEX 认证



国家防爆电气产品质量监督检验中心 (CQST)

IECEX TL 国际实验室



美国能源部电动机效率实验室 (NVLAP)

国家安全生产检测检验机构

中国人民解放军军工产品检验机构

船用防爆电气产品检验实验室

国家中小型电机节能认证检验实验室

机械工业防爆电气产品质量监督检验中心

国家地方联合工程实验室



国家车辆特种性能质量监督检验中心 (CNV)



全国防爆电气设备标准化技术委员会秘书处



IEC TC31技术委员会 中国办公室



中国电器工业协会防爆电机分会



中国电工技术学会防爆电气技术专业委员会

爆炸危险场所工程设备监理中心





## 南阳防爆电气研究所



南阳防爆电气研究所有限公司



强制性认证



IECEX认证

自愿性认证



南阳防爆电气研究所国际认证中心 (CNEX-GLOBAL B.V.)



IECEX 认证



ATEX 认证



国家防爆电气产品质量监督检验中心 (CQST)



IECEX TL 国际实验室



美国能源部电动机效率实验室 (NVLAP)

国家安全生产检测检验机构

中国人民解放军军工产品检验机构

船用防爆电气产品检验实验室

国家中小型电机节能认证检验实验室

机械工业防爆电气产品质量监督检验中心

国家地方联合工程实验室



国家车辆特种性能质量监督检验中心 (CNV)



全国防爆电气设备标准化技术委员会秘书处



IEC TC31技术委员会 中国办公室



中国电器工业协会防爆电机分会



中国电工技术学会防爆电气技术专业委员会

爆炸危险场所工程设备监理中心



编号: CNEx21.1934X

# 防爆合格证 (附页)

共 6 页 第 6 页

**防爆标志:**

型号 KB2-Z1-...-HSG...00... 和 PD2-Z1-...-HSG...00... ;  
 当连接到 ia 电路时: Ex ia IIC T4 Gb/Ex iaD 21 T200 135°C  
 当连接到 ib 电路时: Ex ib IIC T4 Gb/Ex ibD 21 T200 135°C  
 当连接到 ic 电路时: Ex ic IIC T4 Gc  
 型号 KB2-Z1-...-HSG...U3... 和 PD2-Z1-...-HSG...U3... ;  
 当连接到 ia 电路时: Ex e ia q IIC T4 Gb/Ex tD A21 IP 66 T135°C+Ex iaD 21 T135°C  
 当连接到 ib 电路时: Ex e ib q IIC T4 Gb/Ex tD A21 IP 66 T135°C+Ex ibD 21 T135°C  
 当连接到 ic 电路时: Ex e ic q IIC T4 Gc

**安全使用条件:**

- 型号 KB2-Z1-... 和 PD2-Z1-... ;
- 当在粉尘爆炸区域供电>250 mA 时: 设备必须由 ia 电路供电 (线性特性)。
- 型号 KB2-Z1-\*\*\*-TB-\*\*-\*\*\*-HSG \*\*\*\*\*、KB2-Z1-\*\*\*-TP-\*\*-\*\*\*-HSG \*\*\*\*\* 和 KB2-Z1-\*\*\*-JS-\*\*-\*\*\*-HSG \*\*\*\*\* ;
- 连接电缆包含 2 个独立的本安电路。
- 该设备的安装方式必须排除电缆上的机械影响 (拉力)。
- 电缆必须固定并有防止损坏措施。
- 该设备 (包括连接电缆) 不能安装在强静电充电过程的区域。
- 外壳必须接地, 接地电阻小于 1MΩ。如果适用, 可使用安装部件或已安装部件的接地。
- 对于型号 KB2-\*HSG\*U3\* 或 PD2-\*HSG\*U3\*, UB03 连接必须使用绝缘层至少为 0.5 mm 的连接电缆 (导线/外护套)。连接电缆必须安装在外壳中, 确保与键盘/指点设备的裸露导电部件之间至少有 50 mm 的距离。

中心主任

颁发日期

2021年6月17日

本证有效期

2021年6月17日至2026年6月16日



国家防爆电气产品质量监督检验中心  
 南阳防爆电气研究所

地址: 中国河南省南阳市仲景北路20号  
 邮政编码: 473008  
 电话: 0377-63258564  
 传真: 0377-63208175  
 网址: www.china-ex.com



公众号

注: 本证书仅对与认可文件和样品一致的产品有效。登录网站或关注公众号查询真伪

查询方式: www.china-ex.com





## 南阳防爆电气研究所



南阳防爆电气研究所有限公司



强制性认证



IECEX认证

自愿性认证



南阳防爆电气研究所国际认证中心 (CNEX-GLOBAL B.V.)



IECEX 认证



ATEX 认证



国家防爆电气产品质量监督检验中心 (CQST)



IECEX TL 国际实验室



美国能源部电动机效率实验室 (NVLAP)

国家安全生产检测检验机构

中国人民解放军军工产品检验机构

船用防爆电气产品检验实验室

国家中小型电机节能认证检验实验室

机械工业防爆电气产品质量监督检验中心

国家地方联合工程实验室



国家车辆特种性能质量监督检验中心 (CNV)



全国防爆电气设备标准化技术委员会秘书处



IEC TC31技术委员会 中国办公室



中国电器工业协会防爆电机分会



中国电工技术学会防爆电气技术专业委员会

爆炸危险场所工程设备监理中心

## 6 BIS certificate India



भारतीय मानक ब्यूरो

(उपभोक्ता मामले, खाद्य एवं सार्वजनिक वितरण मंत्रालय, भारत सरकार)

**BUREAU OF INDIAN STANDARDS**

(Ministry of Consumer Affairs, Food & Public Distribution,  
Govt. of India)

मानक भवन, 9 बहादुर शाह जफर मार्ग, नई दिल्ली - 110002

Manak Bhavan, 9 Bahadur Shah Zafar Marg, New Delhi - 110002

दूरभाष/Phone: +91-11-23230856/2323010131/23233375/23239402

ई-मेल/E-mail: registration@bis.gov.in

वेबसाइट/Website: <https://bis.gov.in/>, <https://www.crsbis.in/BIS/>

Our Ref: Registration/CRS 2022-1526/R-41226106

Date:23-05-2022

**Subject : Licence Document**

MANUFACTURING UNIT :	R.Stahl Hmi Systems Gmbh ADOLF-GRIMME-ALLEE 8, 50829 COLOGNE COLOGNE.Germany-50829 office@stahl-hmi.de 49221768061000	
----------------------	---	--

Dear Sir,

1. With reference to your Application, we are pleased to inform you that it has been decided to grant you licence as per details given below :

Product Category :	Keyboard
Product Name :	Keyboard
IS NO :	IS 13252(PART 1):2010/ IEC 60950-1 : 2005
Brand (As Declared by Manufacturer) :	STAHL
Model :	[Brand -> STAHL, Models -> KB2-JS, KB2-TB, KB2-TP]
Factory Address :	ADOLF-GRIMME-ALLEE 8, 50829 COLOGNE COLOGNE.Germany-50829

- The Licence is being granted for your unit located at the address and for the brand and models mentioned at serial no 1 above.
- The number assigned to this Licence is **R-41226106** which has been made operative from **23-05-2022** and is valid upto **22-05-2024** . The Licence Number should invariably be referred to in your future correspondence.
- The rights and privileges under the licence shall not be exercised by any other factory / organization at any other location. This licence is not transferable. In the event of shifting of the manufacturing machinery from the registered premises to some other place use of the Licence Number shall be stopped and BIS shall be informed.
- The licensee shall comply with the provisions of the Act, rules and regulations framed thereunder and as amended from time to time.
- The licensee shall follow the guidelines for the use of Standard Mark and labeling requirements as per Annex-I.
- The licensee shall not use the licence in any manner which contravenes the provisions of Act, rules and regulations framed thereunder and as amended from time to time.
- Upon expiry of validity, stoppage or suspension or cancellation of licence, you shall discontinue forthwith the self declaration of conformity to the relevant Indian Standard(s) and withdraw all promotional and advertising matter which contains any reference thereto.
- As per your declaration, **SATHISHKUMAR D, Cetiification Manager, R STAHL PRIVATE LIMITED(Address- Plot No 5 Malrosapuram Main Road, Sengundram Industrial Area, Singaperumal koil 603204 Tamil Nadu,NA)** is your authorized Indian representative. Any intended change in the name of the Indian representative ought to be brought to our notice immediately along with requisite fees and document.
- For renewal of licence, the licensee shall have to apply to BIS three months in advance before expiration of the licence and application form for renewal is available on BIS website
- The licence is not transferable. Kindly acknowledge receipt of this letter.

Thanking you,

Yours faithfully,  
(Deepti Budiyal)  
Granting Authority  
Telfax : +91-11-23230856  
E-mail: registration@bis.gov.in

Note: This is a system generated letter. Hence signature is not required.  
To verify authentication of letter, kindly scan the QR code on this letter.

## 7 PESO certificate India



Government of India  
Ministry of Commerce & Industry  
Petroleum & Explosives Safety Organisation (PESO)  
5th Floor, A-Block, CGO Complex, Seminary Hills,  
Nagpur - 440006

E-mail : explosives@explosives.gov.in  
Phone/Fax No : 0712 -2510248, Fax-2510577

Approval No : A/P/HQ/TN/104/6230 (P541910)

Dated : 11/08/2022

To,

M/s. R. STAHL HMI SYSTEMS GmbH,  
Adolf-Grimme-Allee 6,Köln  
50829  
GERMANY

Sub : Approval of Intrinsically Safe, Sand Filled, Increased Safety Type Electrical Equipments under Petroleum Rules 2002. under Petroleum Rules 2002- Regarding.  
Sir(s),

Please refer to your letter No. OIN1110266 dated 28/07/2022 on the subject.

The following Ex electrical equipment(s) manufactured by you according to IEC 60079-0 : 2017, IEC 60079-11 : 2011, IEC 60079-5 : 2015, IEC 60079-7 : 2017, standards and covered under DEKRA Testing and Certification GmbH Test reports mentioned below is/are approved for use in Zone 1 of Gas IIC hazardous areas coming under the the Petroleum Rules, 2002 administered by this Organization.

Sr. No	Description	Safety Protection	Equipment reference Number	Test Agency			Drawing no
				Name	Certificate No.	Certificate Date	
1	Operator Terminal type ET-208	Ex eb ib q [ib] IIC T4 Gb	P541910/1	DEKRA Testing and Certification GmbH	IECEX BVS 15.0039X Issue No 1	03/02/2022	13100004
2	Keyboard with pointing device Type KB2-Z1-...	Ex ia IIC T4 Gb	P541910/2	DEKRA Testing and Certification GmbH	IECEX BVS 20.0065X Issue No 0	19/10/2020	10591300
3	Keyboard with pointing device Type KB2-Z1-...	Ex ib IIC T4 Gb	P541910/3	DEKRA Testing and Certification GmbH	IECEX BVS 20.0065X Issue No 0	19/10/2020	10591300

This Approval is granted subject to observance of the following conditions:-

- 1)The design and construction of the equipment shall be strictly in accordance with description, condition and drawings as mentioned in the DEKRA Testing and Certification GmbH Test Reports referred to above.
- 2)The equipment shall be used only with approved type of accessories and associated apparatus.
- 3)Each equipment shall be marked either by raised lettering cast integrally or by plate attached permanently to the main structure to indicate conspicuously:-
  - (a) Name of the manufacturer
  - (b) Name and number by which the equipment is identified.
  - (c) Number & date of the test report of the DEKRA Testing and Certification GmbH applicable to the equipment.
  - (d) Equipment reference number of this letter by which use of apparatus is approved.
  - (e) Protection level.
- 4) A certificate to the effect that the equipment has been manufactured strictly in accordance with the drawing referred to in the DEKRA Testing and Certification GmbH Test report and is identical with the one tested and certified at DEKRA Testing and Certification GmbH shall be furnished with each equipment.
- 5) The customer shall be supplied with a copy of this letter, an extract of the conditions and maintenance schedule, if any, recommended by DEKRA Testing and Certification GmbH in their test reports and copy of instructions booklet detailing operation & maintenance of the equipment so as to maintain its Flame Proof characteristics.
- 6) The After sales service and maintenance of subject equipment shall be looked after by your representative R. STAHL PRIVATE LIMITED, Plot No.5, Malrosapuram Main Road

**Conditions of the Approval:-**

The approval for above equipment is subject to validity of IECEX Quality Assessment Report No. DE/BVS/QAR06.0007.

This approval also covers the permissible variations as approved under the DEKRA Testing and Certification GmbH test reports referred above. This approval is liable to be cancelled if any of the conditions of the approval is violated or not complied with . The approval may also be amended or withdrawn at any time, if considered necessary in the interest of safety.

The field performance report from actual users/your customers of the subject equipment may please be collected and furnished to this office for verification and record on annual basis.  
The Approval is Valid upto 31/12/2026

Yours faithfully,

(A.B. Tamgadge)  
Dy. Chief Controller of Explosives  
For Chief Controller of Explosives  
Nagpur

Copy to :

1. Jt. Chief Controller of Explosives, South Circle Office, CHENNAI
2. R. STAHL PRIVATE LIMITED,Plot No.5, Malrosapuram Main Road

for Chief Controller of Explosives  
Nagpur

(For more information regarding status,fees and other details please visit our website <http://peso.gov.in>)

**This is System Generated document. Signature is not required.**

Digitally signed by A B TAMGADGE  
Reason: Approval No. : A/P/HQ/TN/104/6230  
Location:Nagpur [P541910]  
Date:2022.08.11 05:58:25 +05:30

## 8 FM certificate USA

<b>CERTIFICATE OF CONFORMITY</b>		 <small>Member of the FM Global Group</small>
1.	<b>HAZARDOUS (CLASSIFIED) LOCATION ELECTRICAL EQUIPMENT PER US REQUIREMENTS</b>	
2.	<b>Certificate No:</b>	<b>FM21US0031X</b>
3.	<b>Equipment:</b> (Type Reference and Name)	<b>Model KB2 Keyboard Model PD2 Pointing Device Model KM2 Keyboard Matrix Interface Model KB2-HSG Keyboard with Enclosure Model UB03 Universal Box</b>
4.	<b>Name of Listing Company:</b>	<b>R Stahl HMI Systems GmbH</b>
5.	<b>Address of Listing Company:</b>	<b>Adolf-Grimme-Allee 8 Cologne, 50829 Germany</b>
6.	The examination and test results are recorded in confidential report number:  PR459390 dated 26 <sup>th</sup> April 2022	
7.	FM Approvals LLC, certifies that the equipment described has been found to comply with the following Approval standards and other documents:  FM Class 3600:2022, FM Class 3610:2021, FM Class 3611:2021, FM Class 3616:2022 FM Class 3810:2021, ANSI/IEC 60529:2004 (R2011), ANSI/UL 50:2020, ANSI/UL 50E:2020, ANSI/UL-60079-0:2019, ANSI/UL 60079-5:2016, ANSI/UL-60079-7:2016, ANSI/UL 60079-15:2013, ANSI/UL-60079-31:2015, ANSI/UL 60079-11:2014, ANSI/UL-121201:2017	
8.	If the sign 'X' is placed after the certificate number, it indicates that the equipment is subject to specific conditions of use specified in the schedule to this certificate.	
9.	This certificate relates to the design, examination and testing of the products specified herein. The FM Approvals surveillance audit program has further determined that the manufacturing processes and quality control procedures in place are satisfactory to manufacture the product as examined, tested and Approved.	
<b>Certificate issued by:</b>		
 J/E. Marquedant VP, Manager - Electrical Systems		26 April 2022 Date
To verify the availability of the Approved product, please refer to <a href="http://www.approvalguide.com">www.approvalguide.com</a>		
<b><u>THIS CERTIFICATE MAY ONLY BE REPRODUCED IN ITS ENTIRETY AND WITHOUT CHANGE</u></b>		
FM Approvals LLC, 1151 Boston-Providence Turnpike, Norwood, MA 02062 USA T: +1 (1) 781 762 4300 F: +1 (1) 781 762 9375 E-mail: <a href="mailto:information@fmaprovals.com">information@fmaprovals.com</a> <a href="http://www.fmaprovals.com">www.fmaprovals.com</a>		
F 347 (Apr 21)		 Page 1 of 14

## SCHEDULE



US Certificate Of Conformity No: FM21US0031X

10. Equipment Ratings:

**See Annex**

11. The marking of the equipment shall include:

**See Annex**

12. **Description of Equipment:**

**General**

The Models KB2, PD2 and KM2 devices are used to enter data, commands etc. on PCs and similar devices in hazardous areas. The devices are intended to be connected to intrinsically safe USB interfaces. Power supply and data communication takes place via the USB interface.

The Model KB2 Keyboard is a keyboard frontplate with the keyboard electronics exposed on the backside.

The Model PD2 Pointing Device is an optional extension to the keyboard frontplate, also with the electronics exposed on the backside. The Model PD2 pointing device contains either a trackball, joystick or touchpad.

The Model KM2 is a Keyboard Matrix Interface is intended for connection between passive keypad buttons and a USB interface. This is a separate device that is not part of the Model KB2 Keyboard System. The interface module is required to be installed inside of a final enclosure having a minimum rating of IP20.

The Model UB03 Universal Box is a device which is available in various function designs such as a RFID reader, an Ethernet extender, an audio amplifier, a power supply, or LED lighting. The Model UB03 Universal Box is either a stand-alone device or installed as part of the KB2-HSG Keyboard Enclosure.

The Model KB2 keyboard frontplate and the Model PD2 Pointing Device, with exposed backside electronics, is required to be installed into a cutout to complete a final enclosure. The final enclosure is required to have a minimum rating of IP20. The UB03 Universal Box housing has an enclosure rating of IP64 or Type 3 as a stand-alone enclosure.

The Model KB2 Electronics, the PD2 Pointing Device, and the UB03 Universal Box, have an outer enclosure rim with a gasket for sealing when installed to make up a final enclosure. The gasket seals of the Model KB2 Keyboard, Model PD2 Pointing Device, and UB03 Universal Box, were verified to comply with Type 3X or Type 3 requirements to UL50e, to dust exclusion requirements of ANSI/UL60079-0 and FM3616, and to enclosure protection IP64 to ANSI/UL 60529.

The Model KB2 Keyboard with Option HSG, is a complete keyboard enclosure. The Model KB2 Keyboard Enclosure, (Option HSG), contains the KB2 Keyboard, and may be fitted with the Model PD2 pointing device and/or with the Model UB03 Universal Box.

**Mechanical Construction**

The Model KB2 keyboard, without the pointing device, is approximately 465mm by 185mm. The keyboard, with the pointing device, is approximately 580mm by 185mm. The pointing device alone is 143mm by 185mm. The enclosure materials are constructed of 304 or 316 stainless steel or aluminum. The keys have a foil overlay with a rubber seal underneath the foil overlay.

**THIS CERTIFICATE MAY ONLY BE REPRODUCED IN ITS ENTIRETY AND WITHOUT CHANGE**

FM Approvals LLC, 1151 Boston-Providence Turnpike, Norwood, MA 02062 USA  
T: +1 (1) 781 762 4300 F: +1 (1) 781 762 9375 E-mail: [information@fmaprovals.com](mailto:information@fmaprovals.com) [www.fmaprovals.com](http://www.fmaprovals.com)

F 347 (Apr 21)

Page 2 of 14

## SCHEDULE



US Certificate Of Conformity No: FM21US0031X

The Model KM2 is a Keyboard Matrix Interface module is metallic and is intended to be installed inside a final enclosure. The KM2 module is approximately 147mm by 107mm by 35mm.

The Model KB2-HSG is a complete keyboard housing. The housing contains the Model KB2 electronics and may also contain the PD2 pointing device and/or the UB03 Universal Box. The KB2-HSG enclosure is approximately 635mm in width by 258mm in length by 92mm in depth. The KB2-HSG with UB03 enclosure is approximately 778mm in width by 258mm in length by 92mm in depth.

The KB2-HSG final housing material is constructed of 304 or 316 stainless steel.

The Model UB03 Universal Box enclosure is approximately 125mm in width by 185mm in length by 55mm in depth. The Model UB03 Universal box has two wire entries on the bottom side. Wire entry into the UB03 Universal Box is made from inside the KB2-HSG Keyboard Enclosure. Model UB03 Universal Box has an outer rim with a gasket seal that completes the installation when installed as an option for the Model KB2-HSG Keyboard Enclosure.

The Model UB03 housing material is constructed of coated or anodized aluminum EN AW-6061, AlMg1SiCu / EN AC-44300, AISi12(Fe). The surface is constructed of safety glass with a polyester foil over-layer.

See Annex for electrical ratings and environmental ratings.

**13. Specific Conditions of Use:**

**See Annex**

**14. Test and Assessment Procedure and Conditions:**

This Certificate has been issued in accordance with FM Approvals US Certification Requirements.

**15. Schedule Drawings**

A copy of the technical documentation has been kept by FM Approvals.

**16. Certificate History**

Details of the supplements to this certificate are described below:

Date	Description
26 <sup>th</sup> April 2022	Original Issue.  Report Reference: PR459390 dated 26 <sup>th</sup> April 2022. Description of the Change: Original Issue for Models KB2 Keyboard, PD2 Pointing Device and KM2 Keyboard Matrix Interface,  Report Reference: PR459444 dated 26 <sup>th</sup> April 2022. Description of the Change: Addition of the KB2-HSG Enclosure.

**THIS CERTIFICATE MAY ONLY BE REPRODUCED IN ITS ENTIRETY AND WITHOUT CHANGE**

FM Approvals LLC, 1151 Boston-Providence Turnpike, Norwood, MA 02062 USA  
 T: +1 (1) 781 762 4300 F: +1 (1) 781 762 9375 E-mail: [information@fmaprovals.com](mailto:information@fmaprovals.com) [www.fmaprovals.com](http://www.fmaprovals.com)

**SCHEDULE**



US Certificate Of Conformity No: FM21US0031X

	Report Reference: PR459445 dated 26 <sup>th</sup> April 2022. Description of the Change: Addition of the UB03 Universal Box and KB2-HSG Enclosure with UB03 Universal Box
--	--



**ANNEX**

**THIS CERTIFICATE MAY ONLY BE REPRODUCED IN ITS ENTIRETY AND WITHOUT CHANGE**

FM Approvals LLC, 1151 Boston-Providence Turnpike, Norwood, MA 02062 USA  
T: +1 (1) 781 762 4300 F: +1 (1) 781 762 9375 E-mail: [information@fmaprovals.com](mailto:information@fmaprovals.com) [www.fmaprovals.com](http://www.fmaprovals.com)

F 347 (Apr 21)

Page 4 of 14

**SCHEDULE**

US Certificate Of Conformity No: FM21US0031X

**KB2-a-b-c-d\*-e-f. Keyboard Electronics.****Equipment Rating**

Nonincendive (NIFW) for use in Class I, Division 2, Groups A, B, C and D; Temperature Class T4 Tamb = -40°C to +70°C; in accordance with Control Drawing No. 10591400;

Intrinsically safe (Entity) for use in Class I, Zone 1, AEx ia IIC T4 Gb Tamb = -40°C to +70°C; in accordance with Control Drawing No. 10591400;

Intrinsically safe (Entity) for use in Class I, Zone 2, AEx ic IIC T4 Gc Tamb = -40°C to +70°C; in accordance with Control Drawing No. 10591400;

Hazardous (Classified) Locations/Explosive Atmospheres;

Note: When installed as part of a final enclosure, the gasket seals of the Model KB2 Keyboard were verified to comply with Type 3X or Type 3 requirements to UL50e, to dust exclusion requirements of ANSI/UL60079-0 and FM3616, and to enclosure protection IP64 to ANSI/UL 60529.

\*Type 3X (when option d = V2 or V4); Type 3 (when option d = AP, AL or ST)

**Markings**

NONINCENDIVE CLASS I, DIVISION 2, GROUPS A, B, C, D;  
IS CLASS I, ZONE 1, AEx ia IIC T4 Gb  
IS CLASS I, ZONE 2, AEx ic IIC T4 Gc  
TEMP CLASS T4 Tamb = -40°C to +70°C;  
INSTALL PER CONTROL DRAWING NO. 10591400;

**Description****KB2-a-b-c-d-e-f. Keyboard Electronics.**

a = Approval: Z1 or Z2.

b = Interface: USB or PS2.

c = Type of pointing device: 00, TB, TP or JS.

d = Front plate material: AP, AL, V2, V4 or ST.

e = Surface Front foil: P or V.

f = Any alphanumeric or symbol characters not related to electrical or mechanical items.

**Electrical Ratings**

For type of protection intrinsic safety and nonincendive, connections can only made by connecting certified associated apparatus having entity parameters. The output of the associated apparatus shall not exceed the Entity parameters for the Model KB2 Keyboard as shown below.

Zone 1

Ui = 5.9Vdc, Ii = 319mA, Pi = 650mW, Ci = 21µF, Li = 1.68µH

**THIS CERTIFICATE MAY ONLY BE REPRODUCED IN ITS ENTIRETY AND WITHOUT CHANGE**

FM Approvals LLC, 1151 Boston-Providence Turnpike, Norwood, MA 02062 USA

T: +1 (1) 781 762 4300 F: +1 (1) 781 762 9375 E-mail: [information@fmaprovals.com](mailto:information@fmaprovals.com) [www.fmaprovals.com](http://www.fmaprovals.com)

F 347 (Apr 21)

Page 5 of 14



## SCHEDULE



US Certificate Of Conformity No: FM21US0031X

Division 2, Zone 2

Ui = 5.9Vdc, Ii = 250mA, Pi = 650mW, Ci = 21µF, Li = 1.68µH

The Model KB2 Keyboard shall be installed in accordance with control drawing 10591400 for Intrinsically Safe and Nonincendive field wiring compliance.

### **Environmental Ratings**

The Model KB2 Keyboard, with exposed backside electronics, is required to be installed into a final cutout enclosure having a minimum enclosure rating of IP20. The ambient temperature range of the Model KB2 Keyboard is -40°C to +70°C.

### **Specific Conditions of Use**

1. Using the box provided on the nameplate, the User shall permanently mark the type of protection chosen for the specific installation. Once the type of protection has been marked it shall not be changed.
2. The equipment shall be installed to complete the final enclosure and the final enclosure shall have a minimum enclosure protection of IP20.
3. The connection cable contains two separate intrinsically safe circuits when The Model PD2 pointing device (Option c= TB, TP or JS) is included, and shall be installed as such. The equipment shall be installed in such a way that mechanical effects (pulling forces) on the cable are excluded. The cable shall be fixed and effectively protected against damage.
4. The non-metallic parts incorporated in the enclosure of this equipment may generate an ignition-capable level of electrostatic charge. Therefore, particularly when it is used for applications that specifically require Group III, the equipment shall not be installed in a location where the external conditions are conducive to the build-up of electrostatic charge on such surfaces.
5. The Model KB2 Keyboard may contain metallic materials which are considered a potential risk of ignition by impact or friction. Care must be taken into account to prevent impact and friction.

### **PD2-a-b-c-d\*-e-f. Pointing Device.**

#### **Equipment Rating**

Nonincendive (NIFW) for use in Class I, Division 2, Groups A, B, C and D; Temperature Class T4 Tamb = -40°C to +70°C; in accordance with Control Drawing No. 10591400;

Intrinsically safe (Entity) for use in Class I, Zone 1, AEx ia IIC T4 Gb Tamb = -40°C to +70°C; in accordance with Control Drawing No. 10591400;

Intrinsically safe (Entity) for use in Class I, Zone 2, AEx ic IIC T4 Gc Tamb = -40°C to +70°C; in accordance with Control Drawing No. 10591400;

Hazardous (Classified) Locations/Explosive Atmospheres;

Note: When installed as part of a final enclosure, the gasket seals of the Model PD2 Pointing Device were verified to comply with Type 3X or Type 3 requirements to UL50e, to dust exclusion requirements of ANSI/UL60079-0 and FM3616, and to enclosure protection IP64 to ANSI/UL 60529.

\*Type 3X (when option d = V2 or V4); Type 3 (when option d = AP, AL or ST)

**THIS CERTIFICATE MAY ONLY BE REPRODUCED IN ITS ENTIRETY AND WITHOUT CHANGE**

FM Approvals LLC, 1151 Boston-Providence Turnpike, Norwood, MA 02062 USA

T: +1 (1) 781 762 4300 F: +1 (1) 781 762 9375 E-mail: [information@fmaprovals.com](mailto:information@fmaprovals.com) [www.fmaprovals.com](http://www.fmaprovals.com)

F 347 (Apr 21)

Page 6 of 14

## SCHEDULE



US Certificate Of Conformity No: FM21US0031X

### Markings

NONINCENDIVE CLASS I, DIVISION 2, GROUPS A, B, C, D;  
 IS CLASS I, ZONE 1, AEx ia IIC T4 Gb  
 IS CLASS I, ZONE 2, AEx ic IIC T4 Gc  
 TEMP CLASS T4 Tamb = -40°C to +70°C;  
 INSTALL PER CONTROL DRAWING NO. 10591400;

### Description

#### PD2-a-b-c-d-e-f. Pointing Device.

a = Approval: Z1 or Z2.  
 b = Interface: USB or PS2.  
 c = Type of pointing device: TB, TP or JS.  
 d = Front plate material: AP, AL, V2, V4 or ST.  
 e = Surface Front foil: P or V.  
 f = Any alphanumeric or symbol characters not related to electrical or mechanical items.

### Electrical Ratings

For type of protection intrinsic safety and nonincendive, connections can only be made by connecting certified associated apparatus having entity parameters. The output of the associated apparatus shall not exceed the Entity parameters for Model PD2 Pointing Device as shown below.

#### Zone 1

Ui = 5.9Vdc, Ii = 319mA, Pi = 650mW, Ci = 21µF, Li = 1.68µH

#### Division 2, Zone 2

Ui = 5.9Vdc, Ii = 250mA, Pi = 650mW, Ci = 21µF, Li = 1.68µH

The Model PD2 Pointing Device shall be installed in accordance with control drawing 10591400 for Intrinsically Safe and Nonincendive field wiring compliance.

### Environmental Ratings

The Model PD2 Pointing Device, with exposed backside electronics, is required to be installed into a final cutout enclosure having a minimum enclosure rating of IP20. The ambient temperature range of the Model PD2 Pointing device is -40°C to +70°C.

### Specific Conditions of Use

1. Using the box provided on the nameplate, the User shall permanently mark the type of protection chosen for the specific installation. Once the type of protection has been marked it shall not be changed.
2. The equipment shall be installed to complete the final enclosure and the final enclosure shall have a minimum enclosure protection of IP20.
3. The non-metallic parts incorporated in the enclosure of this equipment may generate an ignition-capable level of electrostatic charge. Therefore, particularly when it is used for applications that specifically require Group III, the equipment shall not be installed in a location where the external conditions are conducive to the build-up of electrostatic charge on such surfaces.
4. The Model PD2 pointing device may contain metallic materials which are considered a potential risk of ignition by impact or friction. Care must be taken into account to prevent impact and friction.

### THIS CERTIFICATE MAY ONLY BE REPRODUCED IN ITS ENTIRETY AND WITHOUT CHANGE

FM Approvals LLC, 1151 Boston-Providence Turnpike, Norwood, MA 02062 USA  
 T: +1 (1) 781 762 4300 F: +1 (1) 781 762 9375 E-mail: [information@fmapprovals.com](mailto:information@fmapprovals.com) [www.fmapprovals.com](http://www.fmapprovals.com)

F 347 (Apr 21)

Page 7 of 14

**SCHEDULE**

US Certificate Of Conformity No: FM21US0031X

**KM2-a-b-c-d-e-f. Keyboard Matrix Interface.****Equipment Rating**

Nonincendive (NIFW) for use in Class I, Division 2, Groups A, B, C and D; Temperature Class T4 Tamb = -40°C to +70°C; in accordance with Control Drawing No. 10591400;

Intrinsically safe (Entity) for use in Class I, Zone 1, Ex ia IIC T4 Gb Tamb = -40°C to +70°C; in accordance with Control Drawing No. 10591400;

Intrinsically safe (Entity) for use in Class I, Zone 2, Ex ic IIC T4 Gc Tamb = -40°C to +70°C; in accordance with Control Drawing No. 10591400;

Hazardous (Classified) Locations/Explosive Atmospheres.

**Markings**

NONINCENDIVE CLASS I, DIVISION 2, GROUPS A, B, C, D;  
IS CLASS I, ZONE 1, AEx ia IIC T4 Gb  
IS CLASS I, ZONE 2, AEx ic IIC T4 Gc  
TEMP CLASS T4 Tamb = -40°C to +70°C;  
INSTALL PER CONTROL DRAWING NO. 10591400;

**Description****KM2-a-b-c-d-e-f.**

a = Approval: Z1 or Z2.

b = Interface: USB or PS2.

c = Type of pointing device: 00.

d = Front plate material: AP, AL, V2, V4 or ST.

e = Surface Front foil: 0.

f = Any alphanumeric or symbol characters not related to electrical or mechanical items.

**Electrical Ratings**

For type of protection intrinsic safety and nonincendive, connections can only made by connecting certified associated apparatus having entity parameters. The output of the associated apparatus shall not exceed the Entity parameters for the Model KM2 Keyboard Matrix Interface as shown below.

Terminal Block X1:

Zone 1

Ui = 5.9Vdc, Ii = 319mA, Pi = 650mW, Ci = 20.5µF, Li = 1.68µH

Division 2, Zone 2

Ui = 5.9Vdc, Ii = 250mA, Pi = 650mW, Ci = 20.5µF, Li = 1.68µH

Terminals for connection of an external keyboard :

Terminal Block X2, X3, X4:

Uo = Ui, Io = 250mA, Po = Pi, Co = 0.5µF, Lo = 0.5µF.

The Model KM2 Keyboard Matrix Interface shall be installed in accordance with control drawing 10591400 for

**THIS CERTIFICATE MAY ONLY BE REPRODUCED IN ITS ENTIRETY AND WITHOUT CHANGE**

FM Approvals LLC, 1151 Boston-Providence Turnpike, Norwood, MA 02062 USA

T: +1 (1) 781 762 4300 F: +1 (1) 781 762 9375 E-mail: [information@fmaprovals.com](mailto:information@fmaprovals.com) [www.fmaprovals.com](http://www.fmaprovals.com)

F 347 (Apr 21)

Page 8 of 14

## SCHEDULE



US Certificate Of Conformity No: FM21US0031X

Intrinsically Safe and Nonincendive field wiring compliance.

### Environmental Ratings

The Model KM2 Keyboard Matrix Interface is required to be installed in a final housing having a minimum enclosure rating of IP20. The ambient temperature range of the Model KM2 Keyboard Matrix is -40°C to +70°C.

### Specific Conditions of Use

1. Using the box provided on the nameplate, the User shall permanently mark the type of protection chosen for the specific installation. Once the type of protection has been marked it shall not be changed.
2. The equipment shall be installed in a final enclosure having minimum protection of IP20 and be in compliance with the mounting, spacing and segregation requirements of the ultimate application.

### **KB2-a-b-c-d\*-e-f-HSGhijkl00n. Keyboard.**

#### Equipment Rating

Intrinsically Safe (Entity) for use in Class II, III, Division 1, Groups E, F and G; Temperature Class T4 Tamb = -40°C to +70°C; in accordance with Control Drawing No. 10591401;

Nonincendive (NIFW) for use in Class I, II, III, Division 2, Groups A, B, C, D, E, F and G; Temperature Class T4 Tamb = -40°C to +70°C; in accordance with Control Drawing No. 10591401;

Dust-Ignitionproof for use in Class II, III, Division 1, Groups E, F and G; Temperature Class T4 Tamb = -40°C to +70°C;

Intrinsically safe (Entity) for use in Class I, Zone 1, AEx ia IIC T4 Gb Tamb = -40°C to +70°C; in accordance with Control Drawing No. 10591401;

Intrinsically safe (Entity) for use in Zone 21, AEx ia IIIC T135°C Db Tamb = -40°C to +70°C; in accordance with Control Drawing No. 10591401;

Intrinsically safe (Entity) for use in Class I, Zone 2, AEx ic IIC T4 Gc Tamb = -40°C to +70°C; in accordance with Control Drawing No. 10591401;

Intrinsically safe (Entity) for use in Zone 22, AEx ic IIIC T135°C Dc Tamb = -40°C to +70°C; in accordance with Control Drawing No. 10591401;

Hazardous (Classified) Locations/Explosive Atmospheres;

Enclosure Degree of Protection IP64,

\*Enclosure Type 3X (when option d = V2 or V4);

\*Enclosure Type 3 (when option d = AP, AL or ST)

#### Markings

**THIS CERTIFICATE MAY ONLY BE REPRODUCED IN ITS ENTIRETY AND WITHOUT CHANGE**

FM Approvals LLC, 1151 Boston-Providence Turnpike, Norwood, MA 02062 USA

T: +1 (1) 781 762 4300 F: +1 (1) 781 762 9375 E-mail: [information@fmapprovals.com](mailto:information@fmapprovals.com) [www.fmapprovals.com](http://www.fmapprovals.com)

F 347 (Apr 21)

Page 9 of 14

## SCHEDULE



US Certificate Of Conformity No: FM21US0031X

INTRINSICALLY SAFE CLASS II, III, DIVISION 1, GROUPS E, F, G;  
 NONINCENDIVE CLASS I, II, III, DIVISION 2, GROUPS A, B, C, D, E, F, G;  
 DUST-IGNITIONPROOF CLASS II, III, DIVISION 1, Groups E, F, G;  
 IS CLASS I, ZONE 1, AEx ia IIC T4 Gb  
 IS ZONE 21, AEx ia IIIC T135°C Db  
 IS CLASS I, ZONE 2, AEx ic IIC T4 Gc  
 IS Zone 22, AEx ic IIIC T135°C Dc  
 TEMP CLASS T4 Tamb = -40°C to +70°C;  
 INSTALL PER CONTROL DRAWING NO. 10591401;  
 IP64  
 Type 3X (when option d = V2 or V4);  
 Type 3 (when option d = AP, AL or ST)

### Description

#### KB2-a-b-c-d-e-f-HSGhijkl00n. Keyboard.

a=Zone: Z1 or Z2.  
 b=Type of interface: USB or PS2.  
 c= Type of pointing device: 00, TB, TP or JS  
 d= Front plate material: AP, AL, V2, V4, or ST.  
 e= Surface front foil: P or V.  
 f= Layout: US, DE, CN, FR, DK, SL, ES, SE, JP, 00= no keyboard layout  
 h= Sealing: 1 or 2.  
 i= Housing material: V2 or V4.  
 j= Coating: N, P or M.  
 k= Mounting option: M00, M01, M02, M03, M04, C00, C01, B01 B02:  
 l= Design option: S or G.  
 m= Accessory: 00.  
 n= any alphanumeric or symbol characters, without relevance to hazardous location protection.

### Electrical Ratings

For type of protection intrinsic safety and nonincendive, connections can only made by connecting certified associated apparatus having entity parameters. The output of the associated apparatus shall not exceed the Entity parameters for the Model KB2 Keyboard as shown below.

#### Zone 1

Ui = 5.9Vdc, Ii = 319mA, Pi = 650mW, Ci = 21µF, Li = 1.68µH

#### Division 2, Zone 2

Ui = 5.9Vdc, Ii = 250mA, Pi = 650mW, Ci = 21µF, Li = 1.68µH

### Environmental Ratings

The Model KB2 Keyboard Enclosure (Option HSG) is rated for Enclosure Protection IP64. The aluminum versions are rated for Type 3 and the stainless steel version are rated for Type 3X, as noted on the product labels. The ambient temperature range of the Model KB2 Keyboard is -40°C to +70°C.

### Specific Conditions of Use

**THIS CERTIFICATE MAY ONLY BE REPRODUCED IN ITS ENTIRETY AND WITHOUT CHANGE**

FM Approvals LLC, 1151 Boston-Providence Turnpike, Norwood, MA 02062 USA  
 T: +1 (1) 781 762 4300 F: +1 (1) 781 762 9375 E-mail: [information@fmaprovals.com](mailto:information@fmaprovals.com) [www.fmaprovals.com](http://www.fmaprovals.com)

F 347 (Apr 21)

Page 10 of 14

## SCHEDULE



US Certificate Of Conformity No: FM21US0031X

1. Using the box provided on the nameplate, the User shall permanently mark the type of protection chosen for the specific installation. Once the type of protection has been marked it shall not be changed.
2. The non-metallic parts incorporated in the enclosure of this equipment may generate an ignition-capable level of electrostatic charge. Therefore, particularly when it is used for applications that specifically require Group III, the equipment shall not be installed in a location where the external conditions are conducive to the build-up of electrostatic charge on such surfaces.
3. The Model KB2 keyboard may contain metallic materials which are considered a potential risk of ignition by impact or friction. Care must be taken into account to prevent impact and friction.

### **UB03-a-bc. Universal Box.**

#### **Equipment Rating**

Nonincendive for use in Class I, II, III, Division 2, Groups A, B, C, D, E, F and G; Temperature Class T4 Tamb = -40°C to +70°C;

Increased Safety and Powder Filled use in Class I, Zone 1, AEx eb q IIC T4 Gb; Tamb = -40°C to +70°C;

Increased Safety and Type of protection "n" for use in Class I, Zone 2, AEx ec nC IIC T4 Gc Tamb = -40°C to +70°C;

Dust ignition protection by enclosure "t" for use in Zone 21, AEx tb IIIC T115°C Db Tamb = -40°C to +70°C;

Dust ignition protection by enclosure "t" for use in Zone 22, AEx tc IIIC T115°C Db Tamb = -40°C to +70°C;

Hazardous (Classified) Locations/Explosive Atmospheres;

Enclosure Degree of Protection IP64, Type 3

Note: When installed as part of a final enclosure, the gasket seals of the Model UB03 Universal Box were verified to comply with Type 3 requirements to UL50e, to dust exclusion requirements of ANSI/UL60079-0 and FM3616, and to enclosure protection IP64 to ANSI/UL 60529.

#### **Markings**

NONINCENDIVE CLASS I, II, III, DIVISION 2, GROUPS A, B, C, D, E, F, G;  
 DIP CLASS II, III, DIVISION 1, GROUPS E, F, G;  
 CLASS I, ZONE 1, AEx eb q IIC T4 Gb;  
 CLASS I, ZONE 2, AEx ec nC IIC T4 Gc  
 ZONE 21, AEx tb IIIC T115°C Db  
 Zone 22, AEx tc IIIC T115°C DC  
 TEMP CLASS T4 Tamb = -40°C to +70°C;  
 IP64, Type 3

#### **Description**

**THIS CERTIFICATE MAY ONLY BE REPRODUCED IN ITS ENTIRETY AND WITHOUT CHANGE**

FM Approvals LLC, 1151 Boston-Providence Turnpike, Norwood, MA 02062 USA  
 T: +1 (1) 781 762 4300 F: +1 (1) 781 762 9375 E-mail: [information@fmapprovals.com](mailto:information@fmapprovals.com) [www.fmapprovals.com](http://www.fmapprovals.com)

F 347 (Apr 21)

Page 11 of 14

## SCHEDULE



US Certificate Of Conformity No: FM21US0031X

### **UB03-a-bc. Universal Box.**

a= Approval: Z1 or Z2

b= Options: RFID-C3-USB, RFID-C4-USB, RFID-C5-USB, RFID-C6-USB, RFID-C7-USB, RFID-C3-RS422, RFID-C4-RS422, RFID-C5-RS422, RFID-C6-RS422, RFID-C7-RS422, CON-USB, CON-UTP, AMP-Audio, DSP-10 and/ or Ill-LED.

c = Any alphanumeric or symbol characters not related to electrical or mechanical items.

### **Electrical Ratings**

The Model UB03 Universal box has various supply parameters depending on its function. The nominal supply parameters are as follows:

Power:

Terminal block X1, Pin1: 5-30Vdc,  $\leq 1A$ ,  $\leq 30W$

Data Interface,

Terminal block X1, Pin 2 and 3: 5V ac or dc

Terminal block X1, Pin 2 and 3: (for "UB03-\***-RFID-\***-RS422\***" only):  $\leq 30V$  ac or dc,  $\leq 1A$**

Terminal block X1, Pin 2 and 3 (for "UB03-\***-AMP-Audio\***" and "UB03-\***-DSP-10\***" only): 30V ac or dc

Terminal block X2: 5V ac or dc

### **Environmental Ratings**

The Model UB03 Universal Box is rated for Enclosure Protection IP64 and for Type 3. The ambient temperature range of the Model UB03 Universal Box is  $-40^{\circ}C$  to  $+70^{\circ}C$ .

### **Specific Conditions of Use**

1. Using the box provided on the nameplate, the User shall permanently mark the type of protection chosen for the specific installation. Once the type of protection has been marked it shall not be changed.
2. The non-metallic parts incorporated in the enclosure of this equipment may generate an ignition-capable level of electrostatic charge. Therefore, particularly when it is used for applications that specifically require Group III, the equipment shall not be installed in a location where the external conditions are conducive to the build-up of electrostatic charge on such surfaces.
3. The Model UB03 Universal Box contains metallic materials which are considered a potential risk of ignition by impact or friction. Care must be taken into account to prevent impact and friction.

### **KB2-a-b-c-d-e-f-HSGhijklU3n. Keyboard.**

#### **Equipment Rating**

Nonincendive for use in Class I, II, III, Division 2, Groups A, B, C, D, E, F and G; Temperature Class T4 Tamb =  $-40^{\circ}C$  to  $+70^{\circ}C$ ;

Dust-Ignitionproof for use in Class II, III, Division 1, Groups E, F and G; Temperature Class T4 Tamb =  $-40^{\circ}C$  to  $+70^{\circ}C$ ;

Increased Safety and Powder Filled use in Class I, Zone 1, AEx eb q IIC T4 Gb; Tamb =  $-40^{\circ}C$  to  $+70^{\circ}C$ ;

**THIS CERTIFICATE MAY ONLY BE REPRODUCED IN ITS ENTIRETY AND WITHOUT CHANGE**

FM Approvals LLC, 1151 Boston-Providence Turnpike, Norwood, MA 02062 USA

T: +1 (1) 781 762 4300 F: +1 (1) 781 762 9375 E-mail: [information@fmaprovals.com](mailto:information@fmaprovals.com) [www.fmaprovals.com](http://www.fmaprovals.com)

F 347 (Apr 21)

Page 12 of 14

## SCHEDULE



US Certificate Of Conformity No: FM21US0031X

Increased Safety and Type of protection "n" for use in Class I, Zone 2, AEx ec nC IIC T4 Gc Tamb = -40°C to +70°C;

Dust ignition protection by enclosure "t" for use in Zone 21, AEx tb IIIC T115°C Db Tamb = -40°C to +70°C;

Dust ignition protection by enclosure "t" for use in Zone 22, AEx tc IIIC T115°C Db Tamb = -40°C to +70°C;

Hazardous (Classified) Locations/Explosive Atmospheres;

Enclosure Degree of Protection IP64, Type 3

### Markings

NONINCENDIVE CLASS I, II, III, DIVISION 2, GROUPS A, B, C, D, E, F, G;  
 DIP CLASS II, III, DIVISION 1, GROUPS E, F, G;  
 CLASS I, ZONE 1, AEx eb q IIC T4 Gb;  
 CLASS I, ZONE 2, AEx ec nC IIC T4 Gc  
 ZONE 21, AEx tb IIIC T115°C Db  
 Zone 22, AEx tc IIIC T115°C DC  
 TEMP CLASS T4 Tamb = -40°C to +70°C;  
 IP64, Type 3

### Description

#### KB2-a-b-c-d-e-f-HSGhijklU3n. Keyboard.

a=Zone: Z1 or Z2.

b=Type of interface: USB or PS2.

c= Type of pointing device: 00, TB, TP or JS

d= Front plate material: AP, AL, V2, V4, or ST.

e= Surface front foil: P or V.

f= Layout: US, DE, CN, FR, DK, SL, ES, SE, JP, 00= no keyboard layout

h= Sealing: 1 or 2.

i= Housing material: V2 or V4.

j= Coating: N, P or M.

k= Mounting option: M00, M01, M02, M03, M04, C00, C01, B01 B02:

l= Design option: S or G.

m= Accessory: U3.

n= any alphanumeric or symbol characters, without relevance to hazardous location protection.

### Electrical Ratings

The Model KB2-HSG Keyboard with the Model UB03 Universal box has various supply parameters depending on its function.

For type of protection intrinsic safety 'ic' and nonincendive field wiring, connections can only be made by connecting certified associated apparatus having entity parameters. The output of the associated apparatus shall not exceed the Entity parameters for the Model KB2 Keyboard as shown below.

Division 2, Zone 2

**THIS CERTIFICATE MAY ONLY BE REPRODUCED IN ITS ENTIRETY AND WITHOUT CHANGE**

FM Approvals LLC, 1151 Boston-Providence Turnpike, Norwood, MA 02062 USA

T: +1 (1) 781 762 4300 F: +1 (1) 781 762 9375 E-mail: [information@fmaprovals.com](mailto:information@fmaprovals.com) [www.fmaprovals.com](http://www.fmaprovals.com)

F 347 (Apr 21)

Page 13 of 14



## SCHEDULE



US Certificate Of Conformity No: FM21US0031X

Ui = 5.9Vdc, Ii = 250mA, Pi = 650mW, Ci = 21µF, Li = 1.68µH

The nominal operating parameters of the UB03 Universal Box are shown below. The Model UB03 does not have Nonincendive Field Wiring or Intrinsically Safe 'ic' entity inputs. Wiring is required to be installed per the National Electrical Code.

#### Power:

Terminal block X1, Pin1: 5-30Vdc, ≤ 1A, ≤ 30W

Data Interface,

Terminal block X1, Pin 2 and 3: 5V ac or dc

Terminal block X1, Pin 2 and 3: (for "UB03-\*-RFID-\*-RS422\*" only): ≤ 30V ac or dc, ≤ 1A

Terminal block X1, Pin 2 and 3 (for "UB03-\*-AMP-Audio\*" and "UB03-\*-DSP-10\*" only): 30V ac or dc

Terminal block X2: 5V ac or dc

#### Environmental Ratings

The Model KB2-HSG Keyboard Enclosure with the Model UB03 Universal Box is rated for Enclosure Protection IP64 and for Type 3. The ambient temperature range of the Model KB2 Keyboard is -40°C to +70°C.

#### Specific Conditions of Use

1. Using the box provided on the nameplate, the User shall permanently mark the type of protection chosen for the specific installation. Once the type of protection has been marked it shall not be changed.
2. The non-metallic parts incorporated in the enclosure of this equipment may generate an ignition-capable level of electrostatic charge. Therefore, particularly when it is used for applications that specifically require Group III, the equipment shall not be installed in a location where the external conditions are conducive to the build-up of electrostatic charge on such surfaces.
3. The Model KB2 keyboard may contain metallic materials which are considered a potential risk of ignition by impact or friction. Care must be taken into account to prevent impact and friction.

**THIS CERTIFICATE MAY ONLY BE REPRODUCED IN ITS ENTIRETY AND WITHOUT CHANGE**

FM Approvals LLC, 1151 Boston-Providence Turnpike, Norwood, MA 02062 USA

T: +1 (1) 781 762 4300 F: +1 (1) 781 762 9375 E-mail: [information@fmaprovals.com](mailto:information@fmaprovals.com) [www.fmaprovals.com](http://www.fmaprovals.com)

F 347 (Apr 21)

Page 14 of 14

## 9 FM certificate Canada

# CERTIFICATE OF CONFORMITY



Member of the FM Global Group

1. **HAZARDOUS LOCATION ELECTRICAL EQUIPMENT PER CANADIAN REQUIREMENTS**
2. **Certificate No:** **FM21CA0022X**
3. **Equipment:** 
**Model KB2 Keyboard**  
**Model PD2 Pointing Device**  
**Model KM2 Keyboard Matrix Interface**  
**Model KB2-HSG Keyboard with Enclosure**  
**Model UB03 Universal**

(Type Reference and Name)
4. **Name of Listing Company:** **R Stahl HMI Systems GmbH**
5. **Address of Listing Company:** 
**Adolf-Grimme-Allee 8**  
**Cologne, 50829**  
**Germany**
6. The examination and test results are recorded in confidential report number:  
  
PR459390 dated 26<sup>th</sup> April 2022
7. FM Approvals LLC, certifies that the equipment described has been found to comply with the following Approval standards and other documents:  
  
 C22.2 NO. 0.4-17:2017, C22.2 NO. 0.5-16:2016, C22.2 No. 25-17:2017, C22.2 No. 94.1-15:2015,  
 C22.2 No. 94.2-15:2015, CSA C22.2 No. 213-17:2017, CAN/CSA-C22.2 No. 60079-0:2019, CAN/CSA-  
 C22.2 No. 60079-5:2016, CAN/CSA-C22.2 No. 60079-7:2016, CAN/CSA-C22.2 No. 60079-11:2014,  
 CAN/CSA-C22.2 No. 60079-15:2018, CAN/CSA-C22.2 No. 60079-31:2015,  
 CAN/CSA-C22.2. 60529:2016, CAN/CSA-C22.2 No. 61010-1-12:2012 (R2017)
8. If the sign 'X' is placed after the certificate number, it indicates that the equipment is subject to specific conditions of use specified in the schedule to this certificate.
9. This certificate relates to the design, examination and testing of the products specified herein. The FM Approvals surveillance audit program has further determined that the manufacturing processes and quality control procedures in place are satisfactory to manufacture the product as examined, tested and Approved.

**Certificate issued by:**




---

J.E. Marquedant  
VP, Manager - Electrical Systems

26 April 2022  
Date

To verify the availability of the Approved product, please refer to [www.approvalguide.com](http://www.approvalguide.com)

**THIS CERTIFICATE MAY ONLY BE REPRODUCED IN ITS ENTIRETY AND WITHOUT CHANGE**

FM Approvals LLC, 1151 Boston-Providence Turnpike, Norwood, MA 02062 USA  
 T: +1 (1) 781 762 4300 F: +1 (1) 781 762 9375 E-mail: [information@fmaprovals.com](mailto:information@fmaprovals.com) [www.fmaprovals.com](http://www.fmaprovals.com)

F 348 (Apr 21)



Page 1 of 14

## SCHEDULE



Canadian Certificate Of Conformity No: FM21CA0022X

10. Equipment Ratings:

**See Annex**

11. The marking of the equipment shall include:

**See Annex**

12. **Description of Equipment:**

**General**

The Models KB2, PD2 and KM2 devices are used to enter data, commands etc. on PCs and similar devices in hazardous areas. The devices are intended to be connected to intrinsically safe USB interfaces. Power supply and data communication takes place via the USB interface.

The Model KB2 Keyboard is a keyboard frontplate with the keyboard electronics exposed on the backside.

The Model PD2 Pointing Device is an optional extension to the keyboard frontplate, also with the electronics exposed on the backside. The Model PD2 pointing device contains either a trackball, joystick or touchpad.

The Model KM2 is a Keyboard Matrix Interface is intended for connection between passive keypad buttons and a USB interface. This is a separate device that is not part of the Model KB2 Keyboard System. The interface module is required to be installed inside of a final enclosure having a minimum rating of IP20.

The Model UB03 Universal Box is a device which is available in various function designs such as a RFID reader, an Ethernet extender, an audio amplifier, a power supply, or LED lighting. The Model UB03 Universal Box is either a stand-alone device or installed as part of the KB2-HSG Keyboard Enclosure.

The Model KB2 keyboard frontplate and the Model PD2 Pointing Device, with exposed backside electronics, is required to be installed into a cutout to complete a final enclosure. The final enclosure is required to have a minimum rating of IP20. The UB03 Universal Box housing has an enclosure rating of IP64 or Type 3 as a stand-alone enclosure.

The Model KB2 Electronics, the PD2 Pointing Device, and the UB03 Universal Box, have an outer enclosure rim with a gasket for sealing when installed to make up a final enclosure. The gasket seals of the Model KB2 Keyboard, Model PD2 Pointing Device, and UB03 Universal Box, were verified to comply with Type 3X or Type 3 requirements to UL50e, to dust exclusion requirements of ANSI/UL60079-0 and FM3616, and to enclosure protection IP64 to ANSI/UL 60529.

The Model KB2 Keyboard with Option HSG, is a complete keyboard enclosure. The Model KB2 Keyboard Enclosure, (Option HSG), contains the KB2 Keyboard, and may be fitted with the Model PD2 pointing device and/or with the Model UB03 Universal Box.

**THIS CERTIFICATE MAY ONLY BE REPRODUCED IN ITS ENTIRETY AND WITHOUT CHANGE**

FM Approvals LLC, 1151 Boston-Providence Turnpike, Norwood, MA 02062 USA  
 T: +1 (1) 781 762 4300 F: +1 (1) 781 762 9375 E-mail: [information@fmapprovals.com](mailto:information@fmapprovals.com) [www.fmapprovals.com](http://www.fmapprovals.com)

F 348 (Apr 21)

Page 2 of 14

## SCHEDULE



Canadian Certificate Of Conformity No: FM21CA0022X

**Mechanical Construction**

The Model KB2 keyboard, without the pointing device, is approximately 465mm by 185mm. The keyboard, with the pointing device, is approximately 580mm by 185mm. The pointing device alone is 143mm by 185mm. The enclosure materials are constructed of 304 or 316 stainless steel or aluminum. The keys have a foil overlay with a rubber seal underneath the foil overlay.

The Model KM2 is a Keyboard Matrix Interface module is metallic and is intended to be installed inside a final enclosure. The KM2 module is approximately 147mm by 107mm by 35mm.

The Model KB2-HSG is a complete keyboard housing. The housing contains the Model KB2 electronics and may also contain the PD2 pointing device and/or the UB03 Universal Box. The KB2-HSG enclosure is approximately 635mm in width by 258mm in length by 92mm in depth. The KB2-HSG with UB03 enclosure is approximately 778mm in width by 258mm in length by 92mm in depth.

The KB2-HSG final housing material is constructed of 304 or 316 stainless steel.

The Model UB03 Universal Box enclosure is approximately 125mm in width by 185mm in length by 55mm in depth. The Model UB03 Universal box has two wire entries on the bottom side. Wire entry into the UB03 Universal Box is made from inside the KB2-HSG Keyboard Enclosure. Model UB03 Universal Box has an outer rim with a gasket seal that completes the installation when installed as an option for the Model KB2-HSG Keyboard Enclosure.

The Model UB03 housing material is constructed of coated or anodized aluminum EN AW-6061, AlMg1SiCu / EN AC-44300, AlSi12(Fe). The surface is constructed of safety glass with a polyester foil over-lay.

See Annex for electrical ratings and environmental ratings.

**13. Specific Conditions of Use:**

**See Annex**

**14. Test and Assessment Procedure and Conditions:**

This Certificate has been issued in accordance with FM Approvals Canadian Certification Scheme.

**15. Schedule Drawings**

A copy of the technical documentation has been kept by FM Approvals.

**16. Certificate History**

Details of the supplements to this certificate are described below:

Date	Description

**THIS CERTIFICATE MAY ONLY BE REPRODUCED IN ITS ENTIRETY AND WITHOUT CHANGE**

FM Approvals LLC, 1151 Boston-Providence Turnpike, Norwood, MA 02062 USA  
 T: +1 (1) 781 762 4300 F: +1 (1) 781 762 9375 E-mail: [information@fmaprovals.com](mailto:information@fmaprovals.com) [www.fmaprovals.com](http://www.fmaprovals.com)

**SCHEDULE**



Canadian Certificate Of Conformity No: FM21CA0022X

<p>26<sup>th</sup> April 2022</p>	<p>Original Issue.                      Report Reference: PR459390 dated 26<sup>th</sup> April 2022.                      Description of the Change: Original Issue for Models KB2 Keyboard, PD2 Pointing Device and KM2 Keyboard Matrix Interface,                      Report Reference: PR459444 dated 26<sup>th</sup> April 2022.                      Description of the Change: Addition of the KB2-HSG Enclosure.                      Report Reference: PR459445 dated 26<sup>th</sup> April 2022.                      Description of the Change: Addition of the UB03 Universal Box and KB2-HSG Enclosure with UB03 Universal Box</p>
-----------------------------------	---

FM Approvals

FM Approvals

**ANNEX**

**THIS CERTIFICATE MAY ONLY BE REPRODUCED IN ITS ENTIRETY AND WITHOUT CHANGE**

FM Approvals LLC, 1151 Boston-Providence Turnpike, Norwood, MA 02062 USA  
 T: +1 (1) 781 762 4300 F: +1 (1) 781 762 9375 E-mail: [information@fmaprovals.com](mailto:information@fmaprovals.com) [www.fmaprovals.com](http://www.fmaprovals.com)

F 348 (Apr 21)

Page 4 of 14

**SCHEDULE**

Canadian Certificate Of Conformity No: FM21CA0022X

**KB2-a-b-c-d\*-e-f. Keyboard Electronics.****Equipment Rating**

Nonincendive (NIFW) for use in Class I, Division 2, Groups A, B, C and D; Temperature Class T4 Tamb = -40°C to +70°C; in accordance with Control Drawing No. 10591400;

Intrinsically safe (Entity) for use in Class I, Zone 1, Ex ia IIC T4 Gb Tamb = -40°C to +70°C; in accordance with Control Drawing No. 10591400;

Intrinsically safe (Entity) for use in Class I, Zone 2, Ex ic IIC T4 Gc Tamb = -40°C to +70°C; in accordance with Control Drawing No. 10591400;

Hazardous Locations/Explosive Atmospheres;

Note: When installed as part of a final enclosure, the gasket seals of the Model KB2 Keyboard were verified to comply with Type 3X or Type 3 requirements to C22.2 No. 94.2, to dust exclusion requirements of CAN/CSA-C22.2 No. 60079-0 and C22.2 No. 25-17, and to enclosure protection IP64 to CAN/CSA-C22.2. 60529.

\*Type 3X (when option d = V2 or V4); Type 3 (when option d = AP, AL or ST)

**Markings**

NONINCENDIVE CLASS I, DIVISION 2, GROUPS A, B, C, D;  
Ex ia IIC T4 Gb  
Ex ic IIC T4 Gc  
TEMP CLASS T4 Tamb = -40°C to +70°C;  
INSTALL PER CONTROL DRAWING NO. 10591400;

**Description****KB2-a-b-c-d-e-f. Keyboard Electronics.**

a = Approval: Z1 or Z2.

b = Interface: USB or PS2.

c = Type of pointing device: 00, TB, TP or JS.

d = Front plate material: AP, AL, V2, V4 or ST.

e = Surface Front foil: P or V.

f = Any alphanumeric or symbol characters not related to electrical or mechanical items.

**Electrical Ratings**

For type of protection intrinsic safety and nonincendive, connections can only made by connecting certified associated apparatus having entity parameters. The output of the associated apparatus shall not exceed the Entity parameters for the Model KB2 Keyboard as shown below.

Zone 1

Ui = 5.9VDC, Ii = 319mA, Pi = 650mW, Ci = 21µF, Li = 1.68µH

**THIS CERTIFICATE MAY ONLY BE REPRODUCED IN ITS ENTIRETY AND WITHOUT CHANGE**

FM Approvals LLC, 1151 Boston-Providence Turnpike, Norwood, MA 02062 USA

T: +1 (1) 781 762 4300 F: +1 (1) 781 762 9375 E-mail: [information@fmaprovals.com](mailto:information@fmaprovals.com) [www.fmaprovals.com](http://www.fmaprovals.com)

F 348 (Apr 21)

Page 5 of 14

## SCHEDULE



Canadian Certificate Of Conformity No: FM21CA0022X

Division 2, Zone 2

Ui = 5.9Vdc, Ii = 250mA, Pi = 650mW, Ci = 21µF, Li = 1.68µH

The Model KB2 Keyboard shall be installed in accordance with control drawing 10591400 for Intrinsically Safe and Nonincendive field wiring compliance.

### **Environmental Ratings**

The Model KB2 Keyboard, with exposed backside electronics, is required to be installed into a final cutout enclosure having a minimum enclosure rating of IP20. The ambient temperature range of the Model KB2 Keyboard is -40°C to +70°C.

### **Specific Conditions of Use**

1. Using the box provided on the nameplate, the User shall permanently mark the type of protection chosen for the specific installation. Once the type of protection has been marked it shall not be changed.
2. The equipment shall be installed to complete the final enclosure and the final enclosure shall have a minimum enclosure protection of IP20.
3. The connection cable contains two separate intrinsically safe circuits when The Model PD2 pointing device (Option c= TB, TP or JS) is included, and shall be installed as such. The equipment shall be installed in such a way that mechanical effects (pulling forces) on the cable are excluded. The cable shall be fixed and effectively protected against damage.
4. The non-metallic parts incorporated in the enclosure of this equipment may generate an ignition-capable level of electrostatic charge. Therefore, particularly when it is used for applications that specifically require Group III, the equipment shall not be installed in a location where the external conditions are conducive to the build-up of electrostatic charge on such surfaces.
5. The Model KB2 Keyboard may contain metallic materials which are considered a potential risk of ignition by impact or friction. Care must be taken into account to prevent impact and friction.

### **PD2-a-b-c-d\*-e-f. Pointing Device.**

#### **Equipment Rating**

Nonincendive (NIFW) for use in Class I, Division 2, Groups A, B, C and D; Temperature Class T4 Tamb = -40°C to +70°C; in accordance with Control Drawing No. 10591400;

Intrinsically safe (Entity) for use in Class I, Zone 1, Ex ia IIC T4 Gb Tamb = -40°C to +70°C; in accordance with Control Drawing No. 10591400;

Intrinsically safe (Entity) for use in Class I, Zone 2, Ex ic IIC T4 Gc Tamb = -40°C to +70°C; in accordance with Control Drawing No. 10591400;

Hazardous Locations/Explosive Atmospheres;

Note: When installed as part of a final enclosure, the gasket seals of the Model PD2 Pointing Device were verified to comply with Type 3X or Type 3 requirements to C22.2 No. 94.2, to dust exclusion requirements of CAN/CSA-C22.2 No. 60079-0 and C22.2 No. 25-17, and to enclosure protection IP64 to CAN/CSA-C22.2. 60529.

\*Type 3X (when option d = V2 or V4); Type 3 (when option d = AP, AL or ST)

#### **THIS CERTIFICATE MAY ONLY BE REPRODUCED IN ITS ENTIRETY AND WITHOUT CHANGE**

FM Approvals LLC, 1151 Boston-Providence Turnpike, Norwood, MA 02062 USA

T: +1 (1) 781 762 4300 F: +1 (1) 781 762 9375 E-mail: [information@fmaprovals.com](mailto:information@fmaprovals.com) [www.fmaprovals.com](http://www.fmaprovals.com)

F 348 (Apr 21)

Page 6 of 14

**SCHEDULE**

Canadian Certificate Of Conformity No: FM21CA0022X

**Markings**

NONINCENDIVE CLASS I, DIVISION 2, GROUPS A, B, C, D;  
 Ex ia IIC T4 Gb  
 Ex ic IIC T4 Gc  
 TEMP CLASS T4 Tamb = -40°C to +70°C;  
 INSTALL PER CONTROL DRAWING NO. 10591400;

**Description**

a = Approval: Z1 or Z2.  
 b = Interface: USB or PS2.  
 c = Type of pointing device: TB, TP or JS.  
 d = Front plate material: AP, AL, V2, V4 or ST.  
 e = Surface Front foil: P or V.  
 f = Any alphanumeric or symbol characters not related to electrical or mechanical items.

**Electrical Ratings**

For type of protection intrinsic safety and nonincendive, connections can only made by connecting certified associated apparatus having entity parameters. The output of the associated apparatus shall not exceed the Entity parameters for Model PD2 Pointing Device as shown below.

**PD2-a-b-c-d-e-f. Pointing Device.**

Zone 1  
 $U_i = 5.9\text{VDC}$ ,  $I_i = 319\text{mA}$ ,  $P_i = 650\text{mW}$ ,  $C_i = 21\mu\text{F}$ ,  $L_i = 1.68\mu\text{H}$   
 Division 2, Zone 2  
 $U_i = 5.9\text{VDC}$ ,  $I_i = 250\text{mA}$ ,  $P_i = 650\text{mW}$ ,  $C_i = 21\mu\text{F}$ ,  $L_i = 1.68\mu\text{H}$

The Model PD2 Pointing Device shall be installed in accordance with control drawing 10591400 for Intrinsically Safe and Nonincendive field wiring compliance.

**Environmental Ratings**

The Model PD2 Pointing Device, with exposed backside electronics, is required to be installed into a final cutout enclosure having a minimum enclosure rating of IP20. The ambient temperature range of the Model PD2 Pointing device is -40°C to +70°C.

**Specific Conditions of Use**

1. Using the box provided on the nameplate, the User shall permanently mark the type of protection chosen for the specific installation. Once the type of protection has been marked it shall not be changed.
2. The equipment shall be installed to complete the final enclosure and the final enclosure shall have a minimum enclosure protection of IP20.
3. The non-metallic parts incorporated in the enclosure of this equipment may generate an ignition-capable level of electrostatic charge. Therefore, particularly when it is used for applications that specifically require Group III, the equipment shall not be installed in a location where the external conditions are conducive to the build-up of electrostatic charge on such surfaces.
4. The Model PD2 pointing device may contain metallic materials which are considered a potential risk of ignition by impact or friction. Care must be taken into account to prevent impact and friction.

**THIS CERTIFICATE MAY ONLY BE REPRODUCED IN ITS ENTIRETY AND WITHOUT CHANGE**

FM Approvals LLC, 1151 Boston-Providence Turnpike, Norwood, MA 02062 USA  
 T: +1 (1) 781 762 4300 F: +1 (1) 781 762 9375 E-mail: [information@fmapprovals.com](mailto:information@fmapprovals.com) [www.fmapprovals.com](http://www.fmapprovals.com)

F 348 (Apr 21)

Page 7 of 14



## SCHEDULE



Canadian Certificate Of Conformity No: FM21CA0022X

### **KM2-a-b-c-d-e-f. Keyboard Matrix Interface.**

#### **Equipment Rating**

Nonincendive (NIFW) for use in Class I, Division 2, Groups A, B, C and D; Temperature Class T4 Tamb = -40°C to +70°C; in accordance with Control Drawing No. 10591400;

Intrinsically safe (Entity) for use in Class I, Zone 1, Ex ia IIC T4 Gb Tamb = -40°C to +70°C; in accordance with Control Drawing No. 10591400;

Intrinsically safe (Entity) for use in Class I, Zone 2, Ex ic IIC T4 Gc Tamb = -40°C to +70°C; in accordance with Control Drawing No. 10591400;

Hazardous Locations/Explosive Atmospheres.

#### **Markings**

NONINCENDIVE CLASS I, DIVISION 2, GROUPS A, B, C, D;  
Ex ia IIC T4 Gb  
Ex ic IIC T4 Gc  
TEMP CLASS T4 Tamb = -40°C to +70°C;  
INSTALL PER CONTROL DRAWING NO. 10591400;

#### **Description**

##### **KM2-a-b-c-d-e-f.**

a = Approval: Z1 or Z2.

b = Interface: USB or PS2.

c = Type of pointing device: 00.

d = Front plate material: AP, AL, V2, V4 or ST.

e = Surface Front foil: 0.

f = Any alphanumeric or symbol characters not related to electrical or mechanical items.

#### **Electrical Ratings**

For type of protection intrinsic safety and nonincendive, connections can only made by connecting certified associated apparatus having entity parameters. The output of the associated apparatus shall not exceed the Entity parameters for the Model KM2 Keyboard Matrix Interface as shown below.

Terminal Block X1:

Zone 1

Ui = 5.9Vdc, Ii = 319mA, Pi = 650mW, Ci = 20.5µF, Li = 1.68µH

Division 2, Zone 2

Ui = 5.9Vdc, Ii = 250mA, Pi = 650mW, Ci = 20.5µF, Li = 1.68µH

Terminals for connection of an external keyboard :

Terminal Block X2, X3, X4:

Uo = Ui, Io = 250mA, Po = Pi, Co = 0.5µF, Lo = 0.5µF.

The Model KM2 Keyboard Matrix Interface shall be installed in accordance with control drawing 10591400 for

**THIS CERTIFICATE MAY ONLY BE REPRODUCED IN ITS ENTIRETY AND WITHOUT CHANGE**

FM Approvals LLC, 1151 Boston-Providence Turnpike, Norwood, MA 02062 USA

T: +1 (1) 781 762 4300 F: +1 (1) 781 762 9375 E-mail: [information@fmaprovals.com](mailto:information@fmaprovals.com) [www.fmaprovals.com](http://www.fmaprovals.com)

F 348 (Apr 21)

Page 8 of 14

**SCHEDULE**

Canadian Certificate Of Conformity No: FM21CA0022X

Intrinsically Safe and Nonincendive field wiring compliance.

**Environmental Ratings**

The Model KM2 Keyboard Matrix Interface is required to be installed in a final housing having a minimum enclosure rating of IP20. The ambient temperature range of the Model KM2 Keyboard Matrix is -40°C to +70°C.

**Specific Conditions of Use**

1. Using the box provided on the nameplate, the User shall permanently mark the type of protection chosen for the specific installation. Once the type of protection has been marked it shall not be changed.
2. The equipment shall be installed in a final enclosure having minimum protection of IP20 and be in compliance with the mounting, spacing and segregation requirements of the ultimate application.

**KB2-a-b-c-d\*-e-f-HSGhijkl00n. Keyboard.****Equipment Rating**

Intrinsically Safe (Entity) for use in Class II, III, Division 1, Groups E, F and G; Temperature Class T4 Tamb = -40°C to +70°C; in accordance with Control Drawing No. 10591401;

Nonincendive (NIFW) for use in Class I, II, III, Division 2, Groups A, B, C, D, E, F and G; Temperature Class T4 Tamb = -40°C to +70°C; in accordance with Control Drawing No. 10591401;

Dust-Tight for use in Class II, III, Division 1, Groups E, F and G; Temperature Class T4 Tamb = -40°C to +70°C;

Intrinsically safe (Entity) for use in Class I, Zone 1, Ex ia IIC T4 Gb Tamb = -40°C to +70°C; in accordance with Control Drawing No. 10591401;

Intrinsically safe (Entity) for use in Zone 21, Ex ia IIIC T135°C Db Tamb = -40°C to +70°C; in accordance with Control Drawing No. 10591401;

Intrinsically safe (Entity) for use in Class I, Zone 2, Ex ic IIC T4 Gc Tamb = -40°C to +70°C; in accordance with Control Drawing No. 10591401;

Intrinsically safe (Entity) for use in Zone 22, Ex ic IIIC T135°C Dc Tamb = -40°C to +70°C; in accordance with Control Drawing No. 10591401;

Hazardous Locations/Explosive Atmospheres;

Enclosure Degree of Protection IP64,

\*Enclosure Type 3X (when option d = V2 or V4);

\*Enclosure Type 3 (when option d = AP, AL or ST)

**Markings**

INTRINSICALLY SAFE CLASS II, III, DIVISION 1, GROUPS E, F, G;

NONINCENDIVE CLASS I, II, III, DIVISION 2, GROUPS A, B, C, D, E, F, G;

DUST-TIGHT CLASS II, III, DIVISION 1, Groups E, F, G;

**THIS CERTIFICATE MAY ONLY BE REPRODUCED IN ITS ENTIRETY AND WITHOUT CHANGE**

FM Approvals LLC, 1151 Boston-Providence Turnpike, Norwood, MA 02062 USA

T: +1 (1) 781 762 4300 F: +1 (1) 781 762 9375 E-mail: [information@fmaprovals.com](mailto:information@fmaprovals.com) [www.fmaprovals.com](http://www.fmaprovals.com)

F 348 (Apr 21)

Page 9 of 14

**SCHEDULE**

Canadian Certificate Of Conformity No: FM21CA0022X

Ex ia IIC T4 Gb  
 Ex ia IIIC T135°C Db  
 Ex ic IIC T4 Gc  
 Ex ic IIIC T135°C Dc  
 TEMP CLASS T4 Tamb = -40°C to +70°C;  
 INSTALL PER CONTROL DRAWING NO. 10591401;  
 IP64  
 Type 3X (when option d = V2 or V4);  
 Type 3 (when option d = AP, AL or ST)

**Description****KB2-a-b-c-d-e-f-HSGhijkl00n. Keyboard.**

a=Zone: Z1 or Z2.  
 b=Type of interface: USB or PS2.  
 c= Type of pointing device: 00, TB, TP or JS  
 d= Front plate material: AP, AL, V2, V4, or ST.  
 e= Surface front foil: P or V.  
 f= Layout: US, DE, CN, FR, DK, SL, ES, SE, JP, 00= no keyboard layout  
 h= Sealing: 1 or 2.  
 i= Housing material: V2 or V4.  
 j= Coating: N, P or M.  
 k= Mounting option: M00, M01, M02, M03, M04, C00, C01, B01 B02:  
 l= Design option: S or G.  
 m= Accessory: 00.  
 n= any alphanumeric or symbol characters, without relevance to hazardous location protection.

**Electrical Ratings**

For type of protection intrinsic safety and nonincendive, connections can only made by connecting certified associated apparatus having entity parameters. The output of the associated apparatus shall not exceed the Entity parameters for the Model KB2 Keyboard as shown below.

**Zone 1**

Ui = 5.9VDC, li = 319mA, Pi = 650mW, Ci = 21µF, Li = 1.68µH

**Division 2, Zone 2**

Ui = 5.9VDC, li = 250mA, Pi = 650mW, Ci = 21µF, Li = 1.68µH

**Environmental Ratings**

The Model KB2 Keyboard Enclosure (Option HSG) is rated for Enclosure Protection IP64. The aluminum versions are rated for Type 3 and the stainless steel version are rated for Type 3X, as noted on the product labels. The ambient temperature range of the Model KB2 Keyboard is -40°C to +70°C.

**Specific Conditions of Use**

**THIS CERTIFICATE MAY ONLY BE REPRODUCED IN ITS ENTIRETY AND WITHOUT CHANGE**

FM Approvals LLC, 1151 Boston-Providence Turnpike, Norwood, MA 02062 USA  
 T: +1 (1) 781 762 4300 F: +1 (1) 781 762 9375 E-mail: [information@fmaprovals.com](mailto:information@fmaprovals.com) [www.fmaprovals.com](http://www.fmaprovals.com)

F 348 (Apr 21)

Page 10 of 14

## SCHEDULE



Canadian Certificate Of Conformity No: FM21CA0022X

1. Using the box provided on the nameplate, the User shall permanently mark the type of protection chosen for the specific installation. Once the type of protection has been marked it shall not be changed.
2. The non-metallic parts incorporated in the enclosure of this equipment may generate an ignition-capable level of electrostatic charge. Therefore, particularly when it is used for applications that specifically require Group III, the equipment shall not be installed in a location where the external conditions are conducive to the build-up of electrostatic charge on such surfaces.
3. The Model KB2 keyboard may contain metallic materials which are considered a potential risk of ignition by impact or friction. Care must be taken into account to prevent impact and friction.

### **UB03-a-bc. Universal Box.**

#### **Equipment Rating**

Nonincendive for use in Class I, II, III, Division 2, Groups A, B, C, D, E, F and G; Temperature Class T4 Tamb = -40°C to +70°C;

Increased Safety and Powder Filled use in Class I, Zone 1, Ex eb q IIC T4 Gb; Tamb = -40°C to +70°C;

Increased Safety and Type of protection "n" for use in Class I, Zone 2, Ex ec nC IIC T4 Gc Tamb = -40°C to +70°C;

Dust ignition protection by enclosure "t" for use in Zone 21, Ex tb IIIC T115°C Db Tamb = -40°C to +70°C;

Dust ignition protection by enclosure "t" for use in Zone 22, Ex tc IIIC T115°C Db Tamb = -40°C to +70°C;

Hazardous Locations/Explosive Atmospheres;

Enclosure Degree of Protection IP64, Type 3

Note: When installed as part of a final enclosure, the gasket seals of the Model UB03 Universal Box were verified to comply with Type 3 requirements to C22.2 No. 94.2, to dust exclusion requirements of CAN/CSA-C22.2 No. 60079-0 and C22.2 No. 25-17, and to enclosure protection IP64 to CAN/CSA-C22.2. 60529.

#### **Markings**

NONINCENDIVE CLASS I, II, III, DIVISION 2, GROUPS A, B, C, D, E, F G;

DIP CLASS II, III, DIVISION 1, GROUPS E, F, G;

Ex eb q IIC T4 Gb;

Ex ec nC IIC T4 Gc

Ex tb IIIC T115°C Db

Ex tc IIIC T115°C DC

TEMP CLASS T4 Tamb = -40°C to +70°C;

IP64, Type 3

#### **Description**

**THIS CERTIFICATE MAY ONLY BE REPRODUCED IN ITS ENTIRETY AND WITHOUT CHANGE**

FM Approvals LLC, 1151 Boston-Providence Turnpike, Norwood, MA 02062 USA

T: +1 (1) 781 762 4300 F: +1 (1) 781 762 9375 E-mail: [information@fmapprovals.com](mailto:information@fmapprovals.com) [www.fmapprovals.com](http://www.fmapprovals.com)

F 348 (Apr 21)

Page 11 of 14

## SCHEDULE



Canadian Certificate Of Conformity No: FM21CA0022X

### **UB03-a-bc. Universal Box.**

a= Approval: Z1 or Z2

b= Options: RFID-C3-USB, RFID-C4-USB, RFID-C5-USB, RFID-C6-USB, RFID-C7-USB, RFID-C3-RS422, RFID-C4-RS422, RFID-C5-RS422, RFID-C6-RS422, RFID-C7-RS422, CON-USB, CON-UTP, AMP-Audio, DSP-10 and/ or III-LED.

c = Any alphanumeric or symbol characters not related to electrical or mechanical items.

### **Electrical Ratings**

The Model UB03 Universal box has various supply parameters depending on its function. The nominal supply parameters are as follows:

Power:

Terminal block X1. Pin1: 5-30Vdc,  $\leq 1A$ ,  $\leq 30W$

Data Interface,

Terminal block X1, Pin 2 and 3: 5V ac or dc

Terminal block X1, Pin 2 and 3: (for "UB03-\*RFID-\*RS422\*" only):  $\leq 30V$  ac or dc,  $\leq 1A$

Terminal block X1, Pin 2 and 3 (for "UB03-\*AMP-Audio\*" and "UB03-\*DSP-10\*" only): 30V ac or dc

Terminal block X2: 5V ac or dc

### **Environmental Ratings**

The Model UB03 Universal Box is rated for Enclosure Protection IP64 and for Type 3. The ambient temperature range of the Model UB03 Universal Box is  $-40^{\circ}C$  to  $+70^{\circ}C$ .

### **Specific Conditions of Use**

1. Using the box provided on the nameplate, the User shall permanently mark the type of protection chosen for the specific installation. Once the type of protection has been marked it shall not be changed.
2. The non-metallic parts incorporated in the enclosure of this equipment may generate an ignition-capable level of electrostatic charge. Therefore, particularly when it is used for applications that specifically require Group III, the equipment shall not be installed in a location where the external conditions are conducive to the build-up of electrostatic charge on such surfaces.
3. The Model UB03 Universal Box contains metallic materials which are considered a potential risk of ignition by impact or friction. Care must be taken into account to prevent impact and friction.

### **KB2-a-b-c-d-e-f-HSGhijklU3n. Keyboard.**

#### **Equipment Rating**

Nonincendive for use in Class I, II, III, Division 2, Groups A, B, C, D, E, F and G; Temperature Class T4 Tamb =  $-40^{\circ}C$  to  $+70^{\circ}C$ ;

Dust-Tight for use in Class II, III, Division 1, Groups E, F and G; Temperature Class T4 Tamb =  $-40^{\circ}C$  to  $+70^{\circ}C$ ;

Increased Safety and Powder Filled use in Class I, Zone 1, Ex eb q IIC T4 Gb; Tamb =  $-40^{\circ}C$  to  $+70^{\circ}C$ ;

Increased Safety and Type of protection "n" for use in Class I, Zone 2, Ex ec nC IIC T4 Gc Tamb =  $-40^{\circ}C$  to  $+70^{\circ}C$ ;  
Dust ignition protection by enclosure "t" for use in Zone 21, Ex tb IIC T115°C Db Tamb =  $-40^{\circ}C$  to  $+70^{\circ}C$ ;

**THIS CERTIFICATE MAY ONLY BE REPRODUCED IN ITS ENTIRETY AND WITHOUT CHANGE**

FM Approvals LLC, 1151 Boston-Providence Turnpike, Norwood, MA 02062 USA

T: +1 (1) 781 762 4300 F: +1 (1) 781 762 9375 E-mail: [information@fmapprovals.com](mailto:information@fmapprovals.com) [www.fmapprovals.com](http://www.fmapprovals.com)

F 348 (Apr 21)

Page 12 of 14

**SCHEDULE**

Canadian Certificate Of Conformity No: FM21CA0022X

Dust ignition protection by enclosure "t" for use in Zone 22, Ex tc IIIC T115°C Db Tamb = -40°C to +70°C;

Hazardous Locations/Explosive Atmospheres;

Enclosure Degree of Protection IP64, Type 3

**Markings**

NONINCENDIVE CLASS I, II, III, DIVISION 2, GROUPS A, B, C, D, E, F, G;

DIP CLASS II, III, DIVISION 1, GROUPS E, F, G;

Ex eb q IIC T4 Gb;

Ex ec nC IIC T4 Gc

Ex tb IIIC T115°C Db

Ex tc IIIC T115°C DC

TEMP CLASS T4 Tamb = -40°C to +70°C;

IP64, Type 3

**Description****KB2-a-b-c-d-e-f-HSGhijklU3n. Keyboard.**

a=Zone: Z1 or Z2.

b=Type of interface: USB or PS2.

c= Type of pointing device: 00, TB, TP or JS

d= Front plate material: AP, AL, V2, V4, or ST.

e= Surface front foil: P or V.

f= Layout: US, DE, CN, FR, DK, SL, ES, SE, JP, 00= no keyboard layout

h= Sealing: 1 or 2.

i= Housing material: V2 or V4.

j= Coating: N, P or M.

k= Mounting option: M00, M01, M02, M03, M04, C00, C01, B01 B02:

l= Design option: S or G.

m= Accessory: U3.

n= any alphanumeric or symbol characters, without relevance to hazardous location protection.

**Electrical Ratings**

The Model KB2-HSG Keyboard with the Model UB03 Universal box has various supply parameters depending on its function.

For type of protection intrinsic safety 'ic' and nonincendive field wiring, connections can only be made by connecting certified associated apparatus having entity parameters. The output of the associated apparatus shall not exceed the Entity parameters for the Model KB2 Keyboard as shown below.

Division 2, Zone 2

Ui = 5.9Vdc, Ii = 250mA, Pi = 650mW, Ci = 21µF, Li = 1.68µH

The nominal operating parameters of the UB03 Universal Box are shown below. The Model UB03 does not have Nonincendive Field Wiring or Intrinsically Safe 'ic' entity inputs. Wiring is required to be installed per the Canadian

**THIS CERTIFICATE MAY ONLY BE REPRODUCED IN ITS ENTIRETY AND WITHOUT CHANGE**

FM Approvals LLC, 1151 Boston-Providence Turnpike, Norwood, MA 02062 USA

T: +1 (1) 781 762 4300 F: +1 (1) 781 762 9375 E-mail: [information@fmaprovals.com](mailto:information@fmaprovals.com) [www.fmaprovals.com](http://www.fmaprovals.com)

F 348 (Apr 21)

Page 13 of 14

## SCHEDULE



Canadian Certificate Of Conformity No: FM21CA0022X

Electrical Code.

Power:

Terminal block X1, Pin1: 5-30Vdc,  $\leq 1A$ ,  $\leq 30W$

Data Interface,

Terminal block X1, Pin 2 and 3: 5V ac or dc

Terminal block X1, Pin 2 and 3: (for "UB03-\*RFID-\*RS422\*" only):  $\leq 30V$  ac or dc,  $\leq 1A$

Terminal block X1, Pin 2 and 3 (for "UB03-\*AMP-Audio\*" and "UB03-\*DSP-10\*" only): 30V ac or dc

Terminal block X2: 5V ac or dc

### **Environmental Ratings**

The Model KB2-HSG Keyboard Enclosure with the Model UB03 Universal Box is rated for Enclosure Protection IP64 and for Type 3. The ambient temperature range of the Model KB2 Keyboard is  $-40^{\circ}C$  to  $+70^{\circ}C$ .

### **Specific Conditions of Use**

1. Using the box provided on the nameplate, the User shall permanently mark the type of protection chosen for the specific installation. Once the type of protection has been marked it shall not be changed.
2. The non-metallic parts incorporated in the enclosure of this equipment may generate an ignition-capable level of electrostatic charge. Therefore, particularly when it is used for applications that specifically require Group III, the equipment shall not be installed in a location where the external conditions are conducive to the build-up of electrostatic charge on such surfaces.
3. The Model KB2 keyboard may contain metallic materials which are considered a potential risk of ignition by impact or friction. Care must be taken into account to prevent impact and friction.

**THIS CERTIFICATE MAY ONLY BE REPRODUCED IN ITS ENTIRETY AND WITHOUT CHANGE**

FM Approvals LLC, 1151 Boston-Providence Turnpike, Norwood, MA 02062 USA


T: +1 (1) 781 762 4300 F: +1 (1) 781 762 9375 E-mail: [information@fmapprovals.com](mailto:information@fmapprovals.com) [www.fmapprovals.com](http://www.fmapprovals.com)


F 348 (Apr 21)

Page 14 of 14

# 10 KCS certificate Korea

## 10.1 KB2 / PD2 – Z1 (Zone 1 devices)





제2021-044392-01-1호

# 안 전 인 증 서

**R. STAHL HMI Systems GmbH**  
Adolf-Grimme-Allee 8, Cologne 50829, Germany

위 사업장에서 제조하는 아래의 품목이 「산업안전보건법」 제84조 및 같은 법 시행규칙 제110조제1항에 따른 안전인증 심사 결과 안전·보건기준에 적합하므로 안전인증표시의 사용을 인증합니다.

---

**품 목**  
Keyboard

---

**형식·모델(용량·등급) / 인증번호**  
KB2-Z1-\*\*\*\*-\*\*\*\*-\*\*\*\*, PD2-Z1-\*\*\*\*-\*\*\*\*-\*\*\*\*, KM2-Z1-\*\*\*\*-\*\*\*\*-\*\*\*\*  
(Ex ia IIC T4 Gb, Ex ib IIC T4 Gb, Ex ic IIC T4 Gc) / 21-KA4BO-0773X

---


**인 증 기 준**  
고용노동부고시 제2021-22호

---

**인 증 조 건**

- 1. 제조공장**  
·본 인증서는 'Adolf-Grimme-Allee 8, Cologne 50829, Germany'에서 생산하는 제품에 한함.
- 2. 제품개요**  
·당 기기는 본질안전 방폭형 키보드임.  
·사용주위온도: -40 ℃ ≤ Ta ≤ +70 ℃  
·전기적 파라미터: IECEx BVS 20.0065X Issue No.0 Annex의 Electrical data 참조
- 3. 인증범위:** 본 인증서는 위의 형식번호에 한하여 유효함.
- 4. 안전한 사용을 위한 조건**  
·관련 IECEx 인증서(IECEx BVS 20.0065X issue No.0) 3 페이지 SPECIFIC CONDITIONS OF USE 참조.
- 5. 인증(변경)사항:** 없음.
- 6. 그 밖의 사항**  
·안전인증품의 품질관리, 확인심사 수검, 변경사항 신고 등 인증 받은 자의 의무 준수  
·본 안전인증서는 반드시 관련 IECEx 인증서(IECEx BVS 20.0065X Issue No.0)와 함께 사용

2021 년 10 월 29 일





한국산업기술시험원장

산업안전보건법 시행규칙 [별지 제46호서식]

(08389) 서울시 구로구 디지털로 26길 87(구로동) <http://www.ktl.re.kr>  
(52852) 경상남도 진주시 충의로 10(충무공동)



## 10.2 KB2 / PD2 – Z1 (Zone 21 devices)

제2021-044393-01-1호

# 안 전 인 증 서

**R. STAHL HMI Systems GmbH**  
Adolf-Grimme-Allee 8, Cologne 50829, Germany

위 사업장에서 제조하는 아래의 품목이 「산업안전보건법」 제84조 및 같은 법 시행규칙 제110조제1항에 따른 안전인증 심사 결과 안전·보건기준에 적합하므로 안전인증표시의 사용을 인증합니다.

---

**품 목**

Keyboard

---

**형식·모델(용량·등급) / 인증번호**

KB2-Z1-\*\*\*\*-\*\*\*-\*\*\*-\*\*\*, PD2-Z1-\*\*\*\*-\*\*\*-\*\*\*-\*\*\*, KM2-Z1-\*\*\*\*-\*\*\*-\*\*\*-\*\*\*  
(Ex ia IIIC T<sub>200</sub> 135 °C Db, Ex ib IIIC T<sub>200</sub> 135 °C Db, Ex ic IIIC T<sub>200</sub> 135 °C Dc) /  
21-KA4BO-0774X

---

**인 증 기 준**


고용노동부고시 제2021-22호

---

**인 증 조 건**

1. 제조공장  
·본 인증서는 'Adolf-Grimme-Allee 8, Cologne 50829, Germany'에서 생산하는 제품에 한함.
2. 제품개요  
·당 기기는 방폭형 키보드임.  
·사용주위온도: -40 °C ≤ Ta ≤ +70 °C  
·전기적 파라미터: IECEx BVS 20.0065X Issue No.0 Annex의 Electrical data 참조
3. 인증범위: 본 인증서는 위의 형식번호에 한하여 유효함.
4. 안전한 사용을 위한 조건: 없음.
5. 인증(변경)사항  
·관련 IECEx 인증서(IECEx BVS 20.0065X issue No.0) 3 페이지 SPECIFIC CONDITIONS OF USE 참조.
6. 그 밖의 사항  
·안전인증품의 품질관리, 확인심사 수검, 변경사항 신고 등 인증 받은 자의 의무 준수  
·본 안전인증서는 반드시 관련 IECEx 인증서(IECEx BVS 20.0065X Issue No.0)와 함께 사용

2021 년 10 월 29 일





## 한국산업기술시험원장

산업안전보건법 시행규칙 [별지 제46호서식]

(08389) 서울시 구로구 디지털로 26길 87(구로동) <http://www.ktl.re.kr>  
(52852) 경상남도 진주시 충의로 10(충무공동)

10.3 KB2 / PD2 – Z1-\*-HSG\*00\* (Zone 1 devices inside enclosure)

제2021-044396-01-1호

# 안 전 인 증 서

**R. STAHL HMI Systems GmbH**  
Adolf-Grimme-Allee 8, Cologne 50829, Germany

위 사업장에서 제조하는 아래의 품목이 「산업안전보건법」 제84조 및 같은 법 시행규칙 제110조제1항에 따른 안전인증 심사 결과 안전·보건기준에 적합하므로 안전인증표시의 사용을 인증합니다.

---

**품 목**  
Keyboard

---

**형식·모델(용량·등급) / 인증번호**  
KB2-Z1-...-HSG...00..., PD2-Z1-...-HSG...00...  
(Ex ia IIC T4 Gb, Ex ib IIC T4 Gb, Ex ic IIC T4 Gc) / 21-KA4BO-0777X

---

**인 증 기 준**  
고용노동부고시 제2021-22호


---

**인 증 조 건**

1. **제조공장**  
·본 인증서는 'Adolf-Grimme-Allee 8, Cologne 50829, Germany'에서 생산하는 제품에 한함.
2. **제품개요**  
·당 기기는 본질안전 방폭형 키보드임.  
·사용주위온도: -40 ℃ ≤ Ta ≤ +70 ℃  
·전기적 파라미터: IECEx BVS 20.0084X Issue No.0 Annex의 Electrical data 참조
3. **인증범위:** 본 인증서는 위의 형식번호에 한하여 유효함.
4. **안전한 사용을 위한 조건**  
·관련 IECEx 인증서(IECEx BVS 20.0084X issue No.0) 3 페이지 SPECIFIC CONDITIONS OF USE 참조.
5. **인증(변경)사항:** 없음.
6. **그 밖의 사항**  
·안전인증품의 품질관리, 확인심사 수검, 변경사항 신고 등 인증 받은 자의 의무 준수  
·본 안전인증서는 반드시 관련 IECEx 인증서(IECEx BVS 20.0084X Issue No.0)와 함께 사용

2021 년 10 월 29 일



**한국산업기술시험원장**



산업안전보건법 시행규칙 [별지 제46호서식]

(08389) 서울시 구로구 디지털로 26길 87(구로동) <http://www.ktl.re.kr>  
(52852) 경상남도 진주시 충의로 10(충무공동)

## 10.4 KB2 / PD2 – Z1-\*-HSG\*00\* (Zone 21 devices inside enclosure)

제2021-044397-01-1호

## 안 전 인 증 서

**R. STAHL HMI Systems GmbH**  
Adolf-Grimme-Allee 8, Cologne 50829, Germany


위 사업장에서 제조하는 아래의 품목이 「산업안전보건법」 제84조 및 같은 법 시행규칙 제110조제1항에 따른 안전인증 심사 결과 안전·보건기준에 적합하므로 안전인증표시의 사용을 인증합니다.

<b>품 목</b> Keyboard
<b>형식·모델(용량·등급) / 인증번호</b> KB2-Z1-...-HSG...00... , PD2-Z1-...-HSG...00... (Ex ia IIIc T <sub>200</sub> 135 °C Db, Ex ib IIIc T <sub>200</sub> 135 °C Db, Ex ic IIIc T <sub>200</sub> 135 °C Dc) / 21-KA4BO-0778X
<b>인 증 기 준</b> 고용노동부고시 제2021-22호
<b>인 증 조 건</b>

1. **제조공장**  
·본 인증서는 'Adolf-Grimme-Allee 8, Cologne 50829, Germany'에서 생산하는 제품에 한함.
2. **제품개요**  
·당 기기는 분진 방폭형 키보드임.  
·사용주위온도: -40 °C ≤ Ta ≤ +70 °C  
·전기적 파라미터: IECEx BVS 20.0084X Issue No.0 Annex의 Electrical data 참조
3. **인증범위:** 본 인증서는 위의 형식번호에 한하여 유효함.
4. **안전한 사용을 위한 조건**  
·관련 IECEx 인증서(IECEx BVS 20.0084X issue No.0) 3 페이지 SPECIFIC CONDITIONS OF USE 참조.
5. **인증(변경)사항:** 없음.
6. **그 밖의 사항**  
·안전인증품의 품질관리, 확인심사 수검, 변경사항 신고 등 인증 받은 자의 의무 준수  
·본 안전인증서는 반드시 관련 IECEx 인증서(IECEx BVS 20.0084X Issue No.0)와 함께 사용

2021 년 10 월 29 일



### 한국산업기술시험원장



산업안전보건법 시행규칙 [별지 제46호서식]

(08389) 서울시 구로구 디지털로 26길 87(구로동) <http://www.ktl.re.kr>  
(52852) 경상남도 진주시 충의로 10(충무공동)

10.5 KB2 / PD2 – Z1-\* -HSG\*U3\* (Zone 1 devices inside enclosure, UB03)

제2021-044398-01-1 호

# 안 전 인 증 서

**R. STAHL HMI Systems GmbH**  
Adolf-Grimme-Allee 8, Cologne 50829, Germany

위 사업장에서 제조하는 아래의 품목이 「산업안전보건법」 제84조 및 같은 법 시행규칙 제110조제1항에 따른 안전인증 심사 결과 안전·보건기준에 적합하므로 안전인증표시의 사용을 인증합니다.

**품 목**  
Keyboard


**형식·모델(용량·등급) / 인증번호**  
KB2-Z1-...-HSG...U3... , PD2-Z1-...-HSG...U3...  
(Ex eb ia q IIC T4 Gb, Ex eb ib q IIC T4 Gb, Ex eb ic q IIC T4 Gc) / 21-KA4BO-0779X

**인 증 기 준**  
고용노동부고시 제2021-22호

**인 증 조 건**

1. 제조공장  
·본 인증서는 'Adolf-Grimme-Allee 8, Cologne 50829, Germany'에서 생산하는 제품에 한함.
2. 제품개요  
·당 기기는 본질안전 방폭지역에서 사용 가능한 Keyboard 임.  
·사용주위온도: -40 ℃ ≤ Ta ≤ +70 ℃  
·전기적 파라미터: IECEx BVS 20.0084X Issue No.0 Annex의 Electrical data 참조
3. 인증범위: 본 인증서는 위의 형식번호에 한하여 유효함.
4. 안전한 사용을 위한 조건  
·관련 IECEx 인증서(IECEX BVS 20.0084X issue No.0) 3 페이지 SPECIFIC CONDITIONS OF USE 참조.
5. 인증(변경)사항: 없음.
6. 그 밖의 사항  
·안전인증품의 품질관리, 확인심사 수검, 변경사항 신고 등 인증 받은 자의 의무 준수  
·본 안전인증서는 반드시 관련 IECEx 인증서(IECEX BVS 20.0084X Issue No.0)와 함께 사용



2021 년 10 월 29 일



**한국산업기술시험원장**

산업안전보건법 시행규칙 [별지 제46호서식] (08389) 서울시 구로구 디지털로 26길 87(구로동) http://www.ktl.re.kr  
(52852) 경상남도 진주시 충의로 10(충무공동)

## 10.6 KB2 / PD2 – Z1-\*-HSG\*U3\* (Zone 21 devices inside enclosure, UB03)

제2021-044399-01-1 호

# 안 전 인 증 서


**R. STAHL HMI Systems GmbH**  
Adolf-Grimme-Allee 8, Cologne 50829, Germany

위 사업장에서 제조하는 아래의 품목이 「산업안전보건법」 제84조 및 같은 법 시행규칙 제110조제1항에 따른 안전인증 심사 결과 안전·보건기준에 적합하므로 안전인증표시의 사용을 인증합니다.

	<b>품 목</b>	
	Keyboard	
	<b>형식·모델(용량·등급) / 인증번호</b>	
	KB2-Z1-...-HSG...U3... , PD2-Z1-...-HSG...U3... (Ex ia tb IIIC T135°C Db, Ex ib tb IIIC T135°C Db, Ex ic tb IIIC T135°C Dc) / 21-KA4BO-0780X	
	<b>인 증 기 준</b>	
	고용노동부고시 제2021-22호	
	<b>인 증 조 건</b>	

- 1. 제조공장**  
·본 인증서는 'Adolf-Grimme-Allee 8, Cologne 50829, Germany'에서 생산하는 제품에 한함.
- 2. 제품개요**  
·당 기기는 분진 방폭형 키보드임.  
·사용주위온도: -40 °C ≤ Ta ≤ +70 °C  
·전기적 파라미터: IECEx BVS 20.0084X Issue No.0 Annex의 Electrical data 참조
- 3. 인증범위:** 본 인증서는 위의 형식번호에 한하여 유효함.
- 4. 안전한 사용을 위한 조건**  
·관련 IECEx 인증서(IECEx BVS 20.0084X issue No.0) 3 페이지 SPECIFIC CONDITIONS OF USE 참조.
- 5. 인증(변경)사항:** 없음.
- 6. 그 밖의 사항**  
·안전인증품의 품질관리, 확인심사 수검, 변경사항 신고 등 인증 받은 자의 의무 준수  
·본 안전인증서는 반드시 관련 IECEx 인증서(IECEx BVS 20.0084X Issue No.0)와 함께 사용

2021 년 10 월 29 일



**한국산업기술시험원장**

산업안전보건법 시행규칙 [별지 제46호서식]

(08389) 서울시 구로구 디지털로 26길 87(구로동) <http://www.ktl.re.kr>  
(52852) 경상남도 진주시 충의로 10(충무공동)

## 10.7 Customer confirmation letter

### Customer confirmation letter

#### 납품처 확인서

##### 1. Delivery Overview/ 납품 개요

- Target company name / 대상 회사명: (exporter/(수출자))
- Usage / 용도: (product name / 제품명)
- Model and quantity / 모델 및 수량:  
(product number / type number) - (quantity) / (제품 품번 / 타입번호) - (수량)

##### 2. Overview of domestic imports of products / 제품의 국내 수입 개요

The above (product name, model, quantity) are imported from (company name) and then delivered to the supplier (company name) (if there is an intermediary seller), the products are all overseas (country name) will be re-exported.

상기의 (제품명, 모델, 수량)은 제조사(회사명), (중간판매상이 있을 경우 기입,) 납품처 (회사명) 로 납품하는 것으로서, 해당 제품은 모두 해외(나라이름)로 재 수출되는 것입니다.

##### 3. According to the contract between (importer), (if there is an intermediary seller), and the supplier (company name), the product has been imported, and according to the contract of the (supplier), all are re-exported abroad. I will confirm.

(수입자), (중간판매상 있을경우 기입), 납품처(회사명) 간 계약에 따라, 해당 제품 수입진행 하였으며, (납품처)의 계약서에 따라, 모두 해외로 재 수출되는 것임을 확인 드립니다.

Year Month Day / 년 월 일

Manager / 담당자 :

contact / 연락처 :

(Company Name) / (회사명)

##### 4. Attachments:

- Customer PO / 고객 PO
- Owner PO of customer (in case of re-exporter) / 고객의 소유자 PO(재수출자의 경우)
- Product photo / 제품 사진
- Catalogue / 카탈로그
- Invoice / Packing list / B/L / 송장 / 포장 목록 / B/L
- Business registration / 사업자 등록

## 11 Release Notes

The chapter entitled "Release Notes" contains all the changes made in every version of the certificates.

Version 01.00.00

- First edition

Version 01.00.01

- Addition of EAC certificate

Version 01.00.02

- Changing picture title page
- Changing title of EAC certificate
- Addition of CNEx certificates
- Addition of BIS certificate
- Addition of FM certificate for USA and Canada
- Addition of KCS certificates

Version 01.00.03

- Addition of Customer confirmation letter

Version 01.00.04

- Addition of PESO certificate
- Correction of phone and fax no.

R. STAHL HMI Systems GmbH  
Adolf-Grimme-Allee 8  
D 50829 Köln

T:	(Sales Support)	+49 221 768 06 - 1200
	(Technical Support)	+49 221 768 06 - 5000
F:		+49 221 768 06 - 4200
E:	(Sales Support)	<a href="mailto:sales.dehm@r-stahl.com">sales.dehm@r-stahl.com</a>
	(Technical Support)	<a href="mailto:support.dehm@r-stahl.com">support.dehm@r-stahl.com</a>

[r-stahl.com](http://r-stahl.com)  
[exicom.de](http://exicom.de)



THE STRONGEST LINK.