



# Certificates

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UB03-\*



THE STRONGEST LINK.

Version:  
Issue date:

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## Disclaimer

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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.

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# 1 Preface



## NOTICE

This document contains all valid certificates for the UB03-\* devices. All certificates are also available on R. STAHL website and on the CDs / DVDs / USB sticks included in the delivery and a copy can also be ordered from R. STAHL HMI Systems GmbH.

## 2 ATEX EC type examination certificate

### 2.1 UB03-Z1-\*



# 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 18 ATEX E 001**

4 Product: **Universal Box type UB03-Z1-\***

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 EXAM 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 18.2004 EU.


9 Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

<b>EN 60079-0:2012 + A11:2013</b>	<b>General requirements</b>
<b>EN 60079-5:2015</b>	<b>Powder filling "q"</b>
<b>EN 60079-7:2015</b>	<b>Increased Safety "e"</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:

 **II 2G Ex eb q IIC T4 Gb**  
**II 2D Ex tb IIIC T115°C Db**

DEKRA EXAM GmbH  
 Bochum, 2018-01-04

  
 \_\_\_\_\_  
 Certifier

  
 \_\_\_\_\_  
 Approver



Page 1 of 3 of BVS 18 ATEX E 001  
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 telephone +49.234.3696-105, fax +49.234.3696-110, zs-exam@dekra.com



13 **Appendix**

14 **EU-Type Examination Certificate  
BVS 18 ATEX E 001**

15 **Product description**

15.1 **Subject and type**

Universal Box type

UB03-Z1-b\*

- RFID-C3-USB = RFID 13.56 MHz MIFARE / DESFire / EV1, CRYPT
- RFID-C4-USB = RFID 13.56 MHz MIFARE / DESFire / EV1, ASCII
- RFID-C5-USB = RFID 13.56 MHz LEGIC / MIFARE / DESFire / EV1, CRYPT
- RFID-C6-USB = RFID 13.56 MHz LEGIC / MIFARE / DESFire / EV1, ASCII
- RFID-C7-USB = RFID 13.56 MHz NFC
- RFID-C3-RS422 = RFID 13.56 MHz MIFARE / DESFire / EV1, CRYPT
- RFID-C4-RS422 = RFID 13.56 MHz MIFARE / DESFire / EV1, ASCII
- RFID-C5-RS422 = RFID 13.56 MHz LEGIC / MIFARE / DESFire / EV1, CRYPT
- RFID-C6-RS422 = RFID 13.56 MHz LEGIC / MIFARE / DESFire / EV1, ASCII
- RFID-C7-RS422 = RFID 13.56 MHz NFC
- CON-USB = Converter USB - 10/100BaseTX
- CON-UTP = Converter UTP - 10/100BaseTX
- AMP-Audio = Audio amplifier
- DSP-10 = Power supply
- III-LED = Illumination LED

\* any alphanumeric or symbolic characters, without relevance for explosion protection

15.2 **Description**

UB03-Z1-\* (Universal Box, size 03) is a device which is available in various function designs e.g. RFID reader. It is designed to operate in hazardous areas. It consists of an enclosure with the main electronics compartment in type of protection Powder Filling "d" resp. Protection by Enclosure "tb" and a terminal compartment in type of protection Increased Safety "eb" resp. Protection by Enclosure "tb". The supply is realized by cable entries or plugs and sockets which are separately certified for this purpose. The supply is realized by cable entries or plugs and sockets which are separately certified for this purpose and fulfill a degree of protection of min. IP66. UB03-Z1-\* can be mounted in an additional enclosure with a suitable cut out via a mounting frame which is approved for mounting in an Ex eb, Ex p or Ex tb enclosure.

15.3 **Parameters**

15.3.1 **Electrical data**

15.3.1.1 **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



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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
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15.3.1.2 Terminal block X2

Non-intrinsically safe interfaces data

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

15.3.2 Thermal data

Ambient temperature range	$T_a$	-40 °C up to 70 °C	
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16 **Report Number**

BVS PP 18.2004 EU, as of 2018-01-04

17 **Special Conditions for Use**

None

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.

Page 3 of 3 of BVS 18 ATEX E 001

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2.2 UB03-Z2-\*



1 **Type Examination Certificate**

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

3 Type Examination Certificate Number: **BVS 18 ATEX E 002**

4 Product: **Universal Box type UB03-Z2-\***

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 EXAM 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 18.2004 EU.


9 Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

- EN 60079-0:2012 + A11:2013 **General requirements**
- EN 60079-7:2015 **Increased Safety "e"**
- EN 60079-15:2010 **Type of Protection "n"**
- EN 60079-31:2014 **Protection by Enclosure "t"**


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 ec nC IIC T4 Gc**  
**II 3D Ex tc IIIC T115°C Dc**

DEKRA EXAM GmbH  
Bochum, 2018-01-04

  
\_\_\_\_\_  
Certifier

  
\_\_\_\_\_  
Approver



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13 **Appendix**14 **Type Examination Certificate  
BVS 18 ATEX E 002**15 **Product description**15.1 **Subject and type**

Universal Box type

UB03-Z2-b\*

RFID-C3-USB = RFID 13.56 MHz MIFARE / DESFire / EV1, CRYPT  
 RFID-C4-USB = RFID 13.56 MHz MIFARE / DESFire / EV1, ASCII  
 RFID-C5-USB = RFID 13.56 MHz LEGIC / MIFARE / DESFire / EV1, CRYPT  
 RFID-C6-USB = RFID 13.56 MHz LEGIC / MIFARE / DESFire / EV1, ASCII  
 RFID-C7-USB = RFID 13.56 MHz NFC  
 RFID-C3-RS422 = RFID 13.56 MHz MIFARE / DESFire / EV1, CRYPT  
 RFID-C4-RS422 = RFID 13.56 MHz MIFARE / DESFire / EV1, ASCII  
 RFID-C5-RS422 = RFID 13.56 MHz LEGIC / MIFARE / DESFire / EV1, CRYPT  
 RFID-C6-RS422 = RFID 13.56 MHz LEGIC / MIFARE / DESFire / EV1, ASCII  
 RFID-C7-RS422 = RFID 13.56 MHz NFC  
 CON-USB = Converter USB - 10/100BaseTX  
 CON-UTP = Converter UTP - 10/100BaseTX  
 AMP-Audio = Audio amplifier  
 DSP-10 = Power supply  
 III-LED = Illumination LED

\* any alphanumeric or symbolic characters, without relevance for explosion protection

15.2 **Description**

UB03-Z2-\* (Universal Box, size 03) is a device which is available in various function designs e.g. RFID reader. It is designed to operate in hazardous areas.  
 It consists of an enclosure with the main electronics compartment in type of protection Increased Safety "ec" resp. Protection by Enclosure "tc" and a terminal compartment in type of protection Increased Safety "ec" resp. Protection by Enclosure "tc".  
 The supply is realized by cable entries or plugs and sockets which are separately certified for this purpose.  
 The supply is realized by cable entries or plugs and sockets which are separately certified for this purpose and fulfill a degree of protection of min. IP66.  
 UB03-Z2-\* can be mounted in an additional enclosure with a suitable cut out via a mounting frame which is approved for mounting in an Ex ec, Ex p or Ex tc enclosure.

15.3 **Parameters**15.3.1 **Electrical data**15.3.1.1 **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

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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
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15.3.1.2 Terminal block X2

Non-intrinsically safe interfaces data

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

15.3.2 Thermal data

Ambient temperature range	$T_a$	-40 °C up to 70 °C	
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16 **Report Number**

BVS PP 18.2004 EU, as of 2018-01-04

17 **Special Conditions for Use**

None

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.



### 3 IECEX certificate

		<h2 style="text-align: right;">IECEX Certificate of Conformity</h2>	
<b>INTERNATIONAL ELECTROTECHNICAL COMMISSION</b> <b>IEC Certification Scheme 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.:	IECEX BVS 18.0001	issue No.:0	Certificate history: _____
Status:	Current		
Date of Issue:	2018-01-09	Page 1 of 4	
Applicant:	<b>R. STAHL HMI Systems GmbH</b> Adolf-Grimme Allee 8 50829 Köln Germany		
Equipment: Optional accessory:	<b>Universal Box type UB03-Z*-*</b>		
Type of Protection:	<b>Equipment protection by type of protection "n", Equipment dust ignition protection by enclosure "t", Equipment protection by powder filling "q", Equipment protection by increased safety "e"</b>		
Marking:	Ex eb q IIC T4 Gb            type UB03-Z1-* Ex tb IIIC T115°C Db Ex ec nC IIC T4 Gc        type UB03-Z2-* Ex tc IIIC T115°C Dc		
Approved for issue on behalf of the IECEX Certification Body:	Jörg Koch		
Position:	Head of Certification Body		
Signature: (for printed version)			
Date:			
1. This certificate and schedule may only be reproduced in full. 2. This certificate is not transferable and remains the property of the issuing body. 3. The Status and authenticity of this certificate may be verified by visiting the Official IECEX Website.			
Certificate issued by:		 <b>DEKRA</b> On the safe side.	
DEKRA EXAM GmbH Dinnendahlstrasse 9 44809 Bochum Germany			



# IECEX Certificate of Conformity

Certificate No.: IECEX BVS 18.0001  
 Date of Issue: 2018-01-09 Issue No.: 0  
 Page 2 of 4  
 Manufacturer: R. STAHL HMI Systems GmbH  
 Adolf-Grimme Allee 8  
 50829 Köln  
 Germany

**Additional Manufacturing location(s):**

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEX Quality system requirements. This certificate is granted subject to the conditions as set out in IECEX Scheme Rules, IECEX 02 and Operational Documents as amended.

**STANDARDS:**

The electrical apparatus and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards:

- IEC 60079-0 : 2011** Explosive atmospheres - Part 0: General requirements  
Edition: 6.0
- IEC 60079-15 : 2010** Explosive atmospheres - Part 15: Equipment protection by type of protection "n"  
Edition: 4
- IEC 60079-31 : 2013** Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"  
Edition: 2
- IEC 60079-5 : 2015** Explosive atmospheres –Part 5: Equipment protection by powder filling "q"  
Edition: 4.0
- IEC 60079-7 : 2015** Explosive atmospheres – Part 7: Equipment protection by increased safety "e"  
Edition: 5.0

*This Certificate does not indicate compliance with electrical safety and performance requirements other than those expressly included in the Standards listed above.*

**TEST & ASSESSMENT REPORTS:**

A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in

Test Report:  
DE/BVS/ExTR18.0002/00

Quality Assessment Report:  
DE/BVS/QAR06.0007/08



# IECEx Certificate of Conformity

Certificate No.: IECEx BVS 18.0001

Date of Issue: 2018-01-09

Issue No.: 0

Page 3 of 4

**Schedule**

**EQUIPMENT:**

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

**Subject and type:**

See Annex

**Description:**

UB03-Z\*-\* (Universal Box, size 03) is a device which is available in various function designs e.g. RFID reader. It is designed to operate in hazardous areas.  
 Type UB03-Z1-\* consists of an enclosure with the main electronics compartment in type of protection Powder Filling "q" resp. Protection by Enclosure "tb" and a terminal compartment in type of protection Increased Safety "eb" resp. Protection by Enclosure "tb".  
 The supply is realized by cable entries or plugs and sockets which are separately certified for this purpose and fulfill a degree of protection of min. IP66.  
 Type UB03-Z2-\* consists of an enclosure with the main electronics compartment in type of protection Increased Safety "ec" resp. Protection by Enclosure "tc" and a terminal compartment in type of protection Increased Safety "ec" resp. Protection by Enclosure "tc".  
 The supply is realized by cable entries or plugs and sockets which are separately certified for this purpose and fulfill a degree of protection of min. IP66.  
 UB03-Z\*-\* can be mounted in an additional enclosure with a suitable cut out via a mounting frame which is approved for mounting in an Ex e, Ex p or Ex t enclosure.

**SPECIFIC CONDITIONS OF USE: NO**



# IECEX Certificate of Conformity

Certificate No.: IECEx BVS 18.0001  
 Date of Issue: 2018-01-09  
 Issue No.: 0  
 Page 4 of 4

**EQUIPMENT(continued):**

**Parameters**

**Electrical data**

**1. Terminal block X1, pin1**

Non-intrinsically safe supply circuit (Power)  
 Nominal voltage DC 5 ... 30V  
 Nominal current ≤ 1A  
 Nominal power ≤ 30W  
 Max. input voltage U<sub>m</sub> AC 250V

**Terminal block X1, pin 2 and 3**

Non-intrinsically safe interfaces data  
 Nominal voltage AC/DC 5V  
 Max. input voltage U<sub>m</sub> AC 250V

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

Non-intrinsically safe interfaces data  
 Max. voltage AC/DC 30V  
 Max. current ≤ 1A

**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 30V

**2. Terminal block X2**

Non-intrinsically safe interfaces data  
 Nominal voltage AC/DC 5V  
 Max. input voltage U<sub>m</sub> AC 250V

Annex: BVS\_18\_0001\_RStahl\_HMI\_Annex.pdf



## IECEX Certificate of Conformity



**Certificate No.:** IECEx BVS 18.0001  
Annex  
Page 1 of 1

**Subject and type:**

UB03-a-b\*

RFID-C3-USB = RFID 13.56 MHz MIFARE / DESFire / EV1, CRYPT  
 RFID-C4-USB = RFID 13.56 MHz MIFARE / DESFire / EV1, ASCII  
 RFID-C5-USB = RFID 13.56 MHz LEGIC / MIFARE / DESFire / EV1, CRYPT  
 RFID-C6-USB = RFID 13.56 MHz LEGIC / MIFARE / DESFire / EV1, ASCII  
 RFID-C7-USB = RFID 13.56 MHz NFC  
 RFID-C3-RS422 = RFID 13.56 MHz MIFARE / DESFire / EV1, CRYPT  
 RFID-C4-RS422 = RFID 13.56 MHz MIFARE / DESFire / EV1, ASCII  
 RFID-C5-RS422 = RFID 13.56 MHz LEGIC / MIFARE / DESFire / EV1, CRYPT  
 RFID-C6-RS422 = RFID 13.56 MHz LEGIC / MIFARE / DESFire / EV1, ASCII  
 RFID-C7-RS422 = RFID 13.56 MHz NFC  
 CON-USB = Converter USB - 10/100BaseTX  
 CON-UTP = Converter UTP - 10/100BaseTX  
 AMP-Audio = Audio amplifier  
 DSP-10 = Power supply  
 III-LED = Illumination LED

Z1 = Zone 1, Zone 21, EPL Gb, Db version  
 Z2 = Zone 2, Zone 22, EPL Gc, Dc version

## 4 NEC certificate

# CERTIFICATE OF CONFORMITY



Member of the FM Global Group

1. HAZARDOUS (CLASSIFIED) LOCATION ELECTRICAL EQUIPMENT PER US REQUIREMENTS
2. **Certificate No:** FM21US0031X
3. **Equipment:**  
(Type Reference and Name)
  - Model KB2 Keyboard
  - Model PD2 Pointing Device
  - Model KM2 Keyboard Matrix Interface
  - Model KB2-HSG Keyboard with Enclosure
  - Model UB03 Universal Box
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:
  - 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.

**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@fmapprovals.com](mailto:information@fmapprovals.com) [www.fmapprovals.com](http://www.fmapprovals.com)

F 347 (Apr 21)



DQS Accredited  
Certificate CCN

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.

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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.

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**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**

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**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

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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)

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**SCHEDULE**

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**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.

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**SCHEDULE**



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**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

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## SCHEDULE



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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**

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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**

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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**

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**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, ≤ 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 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°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 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°C to +70°C;

Dust-Ignitionproof for use in Class II, III, Division 1, Groups 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;

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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 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

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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.

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## 5 CEC certificate

# 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)

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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.

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**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

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26 <sup>th</sup> April 2022	<p>Original Issue.</p> <p>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,</p> <p>Report Reference: PR459444 dated 26<sup>th</sup> April 2022. Description of the Change: Addition of the KB2-HSG Enclosure.</p> <p>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>
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## **ANNEX**

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**SCHEDULE**



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**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

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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)

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**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  
 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

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.

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### **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 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 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

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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;

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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  
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## 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**

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## 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  $+70^{\circ}C$ ;

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**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 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

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## 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.

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## 6 BIS certificate



भारतीय मानक ब्यूरो

(उपभोक्ता मामले, वाह्य एवं मार्केटिंग कंत्रालय संवत्सव, 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 2022-1525/R-41223980

Date:03-05-2022

**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 :	Smart Card Readers
Product Name :	SMART CARD READER
IS NO :	IS 13252(PART 1):2010/ IEC 60950-1 : 2005
Brand (As Declared by Manufacturer) :	STAHL
Model :	[Brand -> STAHL, Models -> UB03]
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-41223980** which has been made operative from **03-05-2022** and is valid upto **02-05-2024** . 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, CERTIFICATION 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,  
(Saksham Vasudev)  
Scientist-B  
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 CCC certificate

## 7.1 UB03-Z1-\*

### 7.1.1 English version



Certificate number: CNEEx21.1936X

## Electrical Apparatus for Explosive Atmospheres CERTIFICATE OF CONFORMITY

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

**Product** Universal Box

**Type** UB03-Z1-b\*

**Marking** Ex e q IIC T4 Gb/Ex tD A21 IP66 T115°C

**Standard(s)** —

**Drawing No.** 10570300 Rev00 UB03 Certification General view

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/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
GB12476.5-2013	Electrical apparatus for use in the presence of combustible dust - Part 5: Protection by enclosure "tD"

**Note:**  
See Annex (2 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 输入数据 查询防伪 8748 7188 1282 9913



Certificate number: CNEEx21.1936X

## Electrical Apparatus for Explosive Atmospheres CERTIFICATE OF CONFORMITY

Page 1 of 2

This product has been certified, under certificate number IECEx BVS 18.0001 , issue 0, dated 2018-01-09 and Test report DE/BVS/ExTR18.0002/00 dated 2018-01-04.

**Product Description:**

UB03-Z1-b\* (Universal Box, size 03) is a device which is available in various function designs e.g. RFID reader. It is designed to operate in hazardous areas. Type UB03-Z1-b\* consists of an enclosure with the main electronics compartment in type of protection Powder Filling "q" resp. Protection by Enclosure "tD" and a terminal compartment in type of protection Increased Safety "e" resp. Protection by Enclosure "tD". The supply is realized by cable entries or plugs and sockets which are separately certified for this purpose and fulfill a degree of protection of min. IP66.

**Type designation:**

- UB03-Z1-b\*

**Subject and type:**

Type	UB03	Z1	b	*
		1	2	3
1	Z1=Zone 1, Zone 21 , EPL Gb version			
2	RFID-C3-USB = RFID 13.56 MHz MIFARE / DESFire / EV1, CRYPT RFID-C4-USB = RFID 13.56 MHz MIFARE / DESFire / EV1 , ASCII RFID-C5-USB = RFID 13.56 MHz LEGIC / MIFARE / DESFire / EV1, CRYPT RFID-C6-USB = RFID 13.56 MHz LEGIC / MIFARE / DESFire / EV1, ASCII RFID-C7-USB = RFID 13.56 MHz NFC RFID-C3-RS422 = RFID 13.56 MHz MIFARE / DESFire / EV1, CRYPT RFID-C4-RS422 = RFID 13.56 MHz MIFARE / DESFire / EV1, ASCII RFID-C5-RS422 = RFID 13.56 MHz LEGIC / MIFARE / DESFire / EV1, CRYPT RFID-C6-RS422 = RFID 13.56 MHz LEGIC / MIFARE / DESFire / EV1, ASCII RFID-C7-RS422 = RFID 13.56 MHz NFC CON-USB= Converter USB- 10/100BaseTX CON-UTP =Converter UTP- 10/100BaseTX AMP-Audio = Audio amplifier DSP-10 =Power supply III-LED = Illumination LED			
3	Any alphanumeric or symbolic characters, without relevance for 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: CNEEx21.1936X

## Electrical Apparatus for Explosive Atmospheres CERTIFICATE OF CONFORMITY

Page 2 of 2

**Parameters:**

Electrical data:

Terminal block X1, pin1	
Non-intrinsically safe supply circuit (Power)	
Nominal voltage	5~30V DC
Nominal current	≤ 1 A
Nominal power	≤ 30 W
Max. input voltage U <sub>m</sub>	250V AC
Terminal block X1, pin 2 and 3	
Non-intrinsically safe interfaces data	
Nominal voltage	5V AC/DC
Max. input voltage U <sub>m</sub>	250V AC
Terminal block X1, pin 2 and 3 (for "UB03-* -RFID-* -RS422*" only)	
Non-intrinsically safe interfaces data	
Max. voltage	30V AC/DC
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	30V AC/DC

Terminal block X2	
Non-intrinsically safe interfaces data	
Nominal voltage	5V AC/DC
Max. input voltage U <sub>m</sub>	250V AC

Ambient temperature: -40°C~+70°C

Ex marking: Ex e q IIC T4 Gb/Ex tD A21 IP66 T115°C

**Specific conditions of safety use: NO**

Director

Date:

2021-6-17

Valid until:

2026-6-16



CHINA NATIONAL QUALITY SUPERVISION AND TEST CENTER  
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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).

## 7.1.2 Chinese version



**国家防爆**

编号: CNEEx21.1936X

## 防爆合格证

制造单位	R. STAHL HMI SYSTEMS GmbH Adolf-Grimme-Allee 8, 50829 Koln, Germany
产品名称	通用盒
型号规格	UB03-Z1-b*
防爆标志	Ex e q IIC T4 Gb/Ex tD A21 IP66 T115°C
产品标准	—
总装图号	10570300 Rev00 UB03 Certification General view

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》
- 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》
- GB12476.5-2013《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2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英北路20号  
邮政编码: 473008  
电话: 0377-63258564  
传真: 0377-63208175  
网址: www.china-ex.com



公众号

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## 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: CNEx21.1936X

# 防爆合格证 (附页)

共 2 页 第 1 页

本产品已取得 IECEX 认证, 证书号: IECEX BVS 18.0001, 0 版, 2018.01.09 颁发, 报告号为: DE/BVS/ExTR18.0002/00, 2018.01.04 颁发。

**产品描述:**

UB03-Z1-b\* (通用盒, 尺寸 03) 是一种可用于各种功能设计的设备, 例如 RFID 阅读器。可用于危险区域。UB03-Z1-b\* 型包括一个外壳, 其主电子元件室分别采用填充 “q” 型保护粉。外壳和端子腔的保护类型分别为外壳型 “td” 和增安型 “e”。由经认证的电缆入口或插头和插座实现供电, 并达到最低 IP66 的防护等级。

**型号名称:**

- UB03-Z1-b\*

**型号及命名:**

型号	UB03	a	b	*
		1	2	3
1	Z1=1 区, 21 区, 设备保护级别为 Gb			
2	RFID-C3-USB = RFID 13.56 MHz MIFARE / DESFire / EV1, CRYPT RFID-C4-USB = RFID 13.56 MHz MIFARE / DESFire / EV1, ASCII RFID-C5-USB = RFID 13.56 MHz LEGIC / MIFARE / DESFire / EV1, CRYPT RFID-C6-USB = RFID 13.56 MHz LEGIC / MIFARE / DESFire / EV1, ASCII RFID-C7-USB = RFID 13.56 MHz NFC RFID-C3-RS422 = RFID 13.56 MHz MIFARE / DESFire / EV1, CRYPT RFID-C4-RS422 = RFID 13.56 MHz MIFARE / DESFire / EV1, ASCII RFID-C5-RS422 = RFID 13.56 MHz LEGIC / MIFARE / DESFire / EV1, CRYPT RFID-C6-RS422 = RFID 13.56 MHz LEGIC / MIFARE / DESFire / EV1, ASCII RFID-C7-RS422 = RFID 13.56 MHz NFC CON-USB= 转换器 USB- 10/100BaseTX CON-UTP = 转换器 UTP- 10/100BaseTX AMP-Audio = 音频放大器 DSP-10 = 电源 III-LED = LED 照明			
3	任何字母数字或符号字符, 与防爆无关。			

**参数:**

**电气数据:**

中心主任

颁发日期 2021年6月17日

本证有效期至 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

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# 防爆合格证 (附页)

共 2 页 第 2 页

接线端子 X1, 插脚 1	
非本质安全供电电路 (电源)	
额定电压	5~30V DC
额定电流	≤ 1 A
额定功率	≤ 30 W
最大输入电压 $U_m$	250V AC
接线端子 X1, 插脚 2 和 3	
非本质安全接口数据	
额定电压	5V AC/DC
最大输入电压 $U_m$	250V AC
接线端子 X1, 插脚 2 和 3 (仅适用于 "UB03-*-RFID-*-RS422*")	
非本质安全接口数据	
最大电压	30V AC/DC
最大电流	≤ 1 A
接线端子 X1, 插脚 2 和 3 (仅适用于 "UB03-*-AMP Audio*" 和 "UB03-*-DSP-10*")	
非本质安全接口数据	
最大输出电压	30V AC/DC

接线端子 X2	
非本质安全接口数据	
额定电压	5V AC/DC
最大输入电压 $U_m$	250V AC

环境温度: -40℃~70℃

防爆标志: Ex e q IIC T4 Gb/Ex tD A21 IP66 T115℃

安全使用条件: 无

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



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爆炸危险场所工程设备监理中心

7.2 UB03-Z2-\*

7.2.1 English version



国家防爆

Certificate number: CNEx21.1937X

**Electrical Apparatus for Explosive Atmospheres  
CERTIFICATE OF CONFORMITY**

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

**Product** Universal Box

**Type** UB03-Z2-b\*

**Marking** Ex nA nC IIC T4 Gc/Ex tD A22 IP66 T115°C

**Standard(s)** —

**Drawing No.** 10570300 Rev00 UB03 Certification General view

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 3836.8-2014 Explosive atmospheres - Part 8: Equipment protection by type of protection "n"
- GB12476.1-2013 Electrical apparatus for use in the presence of combustible dust - Part 1: General requirements
- GB12476.5-2013 Electrical apparatus for use in the presence of combustible dust - Part 5: Protection by enclosure "tD"

**Note:**  
See Annex (2 page in total).

**Director**

**Date:** 2021-6-17

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



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

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Certificate number: CNEEx21.1937X

## Electrical Apparatus for Explosive Atmospheres CERTIFICATE OF CONFORMITY

Page 1 of 2

This product has been certified, under certificate number IECEx BVS 18.0001 , issue 0, dated 2018-01-09 and Test report DE/BVS/ExTR18.0002/00 dated 2018-01-04.

**Product Description:**

UB03-Z2-b\* (Universal Box, size 03) is a device which is available in various function designs e.g. RFID reader. It is designed to operate in hazardous areas. Type UB03-Z2-b\* consists of an enclosure with the main electronics compartment in type of protection "nA" resp. Protection by Enclosure "tD" and a terminal compartment in type of protection "nA" resp. Protection by Enclosure "tD". The supply is realized by cable entries or plugs and sockets which are separately certified for this purpose and fulfill a degree of protection of min. IP66.

**Type designation:**

- UB03-Z2-b\*

Subject and type:

Type	UB03	Z2	b	*
		1	2	3
1	Z2=Zone 2, Zone 22 , EPL Gc version			
2	RFID-C3-USB = RFID 13.56 MHz MIFARE / DESFire / EV1, CRYPT RFID-C4-USB = RFID 13.56 MHz MIFARE / DESFire / EV1 , ASCII RFID-C5-USB = RFID 13.56 MHz LEGIC / MIFARE / DESFire / EV1, CRYPT RFID-C6-USB = RFID 13.56 MHz LEGIC / MIFARE / DESFire / EV1, ASCII RFID-C7-USB = RFID 13.56 MHz NFC RFID-C3-RS422 = RFID 13.56 MHz MIFARE / DESFire / EV1, CRYPT RFID-C4-RS422 = RFID 13.56 MHz MIFARE / DESFire / EV1, ASCII RFID-C5-RS422 = RFID 13.56 MHz LEGIC / MIFARE / DESFire / EV1, CRYPT RFID-C6-RS422 = RFID 13.56 MHz LEGIC / MIFARE / DESFire / EV1, ASCII RFID-C7-RS422 = RFID 13.56 MHz NFC CON-USB= Converter USB- 10/100BaseTX CON-UTP =Converter UTP- 10/100BaseTX AMP-Audio = Audio amplifier DSP-10 =Power supply III-LED = Illumination LED			
3	Any alphanumeric or symbolic characters, without relevance for explosion protection.			

Director

Date: 2021-6-17

Valid until: 2026-6-16



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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: CNEx21.1937X

## Electrical Apparatus for Explosive Atmospheres CERTIFICATE OF CONFORMITY

Page 2 of 2

**Parameters:**

Electrical data:

Terminal block X1, pin1	
Non-intrinsically safe supply circuit (Power)	
Nominal voltage	5~30V DC
Nominal current	≤ 1 A
Nominal power	≤ 30 W
Max. input voltage U <sub>m</sub>	250V AC
Terminal block X1, pin 2 and 3	
Non-intrinsically safe interfaces data	
Nominal voltage	5V AC/DC
Max. input voltage U <sub>m</sub>	250V AC
Terminal block X1, pin 2 and 3 (for "UB03-* -RFID-* -RS422*" only)	
Non-intrinsically safe interfaces data	
Max. voltage	30V AC/DC
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	30V AC/DC
Terminal block X2	
Non-intrinsically safe interfaces data	
Nominal voltage	5V AC/DC
Max. input voltage U <sub>m</sub>	250V AC

Ambient temperature: -40°C~+70°C

Ex marking: Ex nA nC IIC T4 Gc/Ex tD A22 IP66 T115°C

Specific conditions of safety use: NO

Director

Date:

2021-6-17

Valid until:

2026-6-16



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## 7.2.2 Chinese version

 <b>国家防爆</b>	编号: CNEx21.1937X
	<b>防爆合格证</b>
	制造单位 R. STAHL HMI SYSTEMS GmbH Adolf-Grimme-Allee 8, 50829 Koln, Germany
	产品名称 通用盒
	型号规格 UB03-Z2-b*
	防爆标志 Ex nA nC IIC T4 Gc/Ex tD A22 IP66 T115°C
	产品标准 —
	总装图号 10570300 Rev00 UB03 Certification General view
	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. 8-2014《爆炸性环境 第8部分: 由“n”型保护的的设备》 GB12476. 1-2013《可燃性粉尘环境用电气设备 第1部分: 通用要求》 GB12476. 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2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
 <b>国家防爆</b>	
 <b>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</b>	地址: 中国河南省南阳市仲英北路20号 邮政编码: 473008 电话: 0377-63258564 传真: 0377-63208175 网址: www.china-ex.com
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国家防爆

编号: CNEEx21.1937X

# 防爆合格证 (附页)

共 2 页 第 1 页

本产品已取得 IECEx 认证, 证书号: IECEx BVS 18.0001, 0 版, 2018.01.09 颁发, 报告号为: DE/BVS/ExTR18.0002/00, 2018.01.04 颁发。

**产品描述:**

UB03-Z1-b\* (通用盒, 尺寸 03) 是一种可用于各种功能设计的设备, 例如 RFID 阅读器。可用于危险区域。UB03-Z2-b\* 型由一个外壳组成, 其主电子腔的保护类型为 “nA”。外壳和端子腔的保护类型分别为 “tD” 和 “nA”。通过电缆入口或插头和插座实现供电, 电缆入口或插头和插座经过认证, 并达到最低 IP66 的防护等级。

**型号名称:**

- UB03-Z2-b\*

**型号命名:**

型号	UB03	a	b	*
		1	2	3
1	Z2=2 区, 22 区, 设备保护级别为 Gc			
2	RFID-C3-USB = RFID 13.56 MHz MIFARE / DESFire / EV1, CRYPT RFID-C4-USB = RFID 13.56 MHz MIFARE / DESFire / EV1, ASCII RFID-C5-USB = RFID 13.56 MHz LEGIC / MIFARE / DESFire / EV1, CRYPT RFID-C6-USB = RFID 13.56 MHz LEGIC / MIFARE / DESFire / EV1, ASCII RFID-C7-USB = RFID 13.56 MHz NFC RFID-C3-RS422 = RFID 13.56 MHz MIFARE / DESFire / EV1, CRYPT RFID-C4-RS422 = RFID 13.56 MHz MIFARE / DESFire / EV1, ASCII RFID-C5-RS422 = RFID 13.56 MHz LEGIC / MIFARE / DESFire / EV1, CRYPT RFID-C6-RS422 = RFID 13.56 MHz LEGIC / MIFARE / DESFire / EV1, ASCII RFID-C7-RS422 = RFID 13.56 MHz NFC CON-USB = 转换器 USB- 10/100BaseTX CON-UTP = 转换器 UTP- 10/100BaseTX AMP-Audio = 音频放大器 DSP-10 = 电源 III-LED = 照明 LED			
3	任何字母数字或符号字符, 与防爆无关。			

**参数:**

电气数据:

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编号: CNEEx21.1937X

# 防爆合格证 (附页)

共 2 页 第 2 页

接线端子 X1, 插脚 1	
非本质安全供电电路 (电源)	
额定电压	5~30V DC
额定电流	≤ 1 A
额定功率	≤ 30 W
最大输入电压 $U_m$	250V AC
接线端子 X1, 插脚 2 和 3	
非本质安全接口数据	
额定电压	5V AC/DC
最大输入电压 $U_m$	250V AC
接线端子 X1, 插脚 2 和 3 (仅适用于 "UB03-*-RFID-*-RS422*")	
非本质安全接口数据	
最大电压	30V AC/DC
最大电流	≤ 1 A
接线端子 X1, 插脚 2 和 3 (仅适用于 "UB03-*-AMP Audio*" 和 "UB03-*-DSP-10*")	
非本质安全接口数据	
最大输出电压	30V AC/DC

接线端子 X2	
非本质安全接口数据	
额定电压	5V AC/DC
最大输入电压 $U_m$	250V AC

环境温度: -40°C ~ 70°C

防爆标志: Ex nA nC IIC T4 Gc/Ex tD A22 IP66 T115°C

安全使用条件: 无

中心主任

颁发日期

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本证有效期

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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

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## 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

## 8 Korean certification

### 8.1 KCS certificate

제2021-044404-01-1호

# 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.

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**품 목**  
Universal Box

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**형식·모델(용량·등급) / 인증번호**  
UB03-Z1-\*(Ex eb q IIC T4 Gb) / 21-KA4BO-0785

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**인 증 기 준**  
고용노동부고시 제2021-22호

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**인 증 조 건**

1. **제조공장**  
·본 인증서는 'Adolf-Grimme-Allee 8, Cologne 50829, Germany'에서 생산하는 제품에 한함.
2. **제품개요**  
·당 기기는 복합방폭구조(안전증/충전) Universal Box 임.  
·사용주위온도:  $-40\text{ }^{\circ}\text{C} \leq T_a \leq +70\text{ }^{\circ}\text{C}$   
·전기적 파라미터: IECEx BVS 18.0001 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:** 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 18.0001 Issue No.0)와 함께 사용

2021년 10월 22일



**한국산업기술시험원장**

산업안전보건법 시행규칙 [별지 제46호서식]

(08389) 서울시 구로구 디지털로 26길 87(구로동) <http://www.ktl.re.kr>  
(52852) 경상남도 진주시 충의로 10(충무공동)



제2021-044405-01-1호

# 안전인증서

**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  
Universal Box

형식·모델(용량·등급) / 인증번호

UB03-Z1-\*(Ex tb IIIC T115 °C Db) / 21-KA4BO-0786

인증기준  
고용노동부고시 제2021-22호

인증조건

**1. 제조공장**

·본 인증서는 'Adolf-Grimme-Allee 8, Cologne 50829, Germany'에서 생산하는 제품에 한함.

**2. 제품개요**

·당 기기는 분진 방폭 구조 Universal Box 임.

·사용주위온도:  $-40\text{ °C} \leq T_a \leq +70\text{ °C}$

·전기적 파라미터: IECEx BVS 18.0001 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:** 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 18.0001 Issue No.0)와 함께 사용

2021년 10월 22일

한국산업기술시험원장



산업안전보건법 시행규칙 [별지 제46호서식]

(08389) 서울시 구로구 디지털로 26길 87(구로동) <http://www.ktl.re.kr>  
(52852) 경상남도 진주시 충의로 10(충무공동)



8.2 KCC certificate

21-043669-05

9104-55FD-DA26-35D8

방송통신기자재등의 적합등록 필증 Registration of Broadcasting and Communication Equipments	
상호 또는 성명 <small>Trade Name or Registrant</small>	알스탈주식회사
기자재명칭(제품명칭) <small>Equipment Name</small>	Universal Box with card reader
기기부호/추가 기기부호 <small>Equipment code / Additional Equipment code</small>	RFID3
기본모델명 <small>Basic Model Number</small>	UB03-Z1-RFID-C5-USB-PES-01
파생모델명 <small>Series Model Number</small>	UB03-Z1-RFID-C5-USB-PES-01, UB03-Z2-RFID-C6-RS422-PES-05, UB03-Z2-RFID-C6-RS422-PES-04, UB03-Z2-RFID-C6-RS422-PES-03, UB03-Z2-RFID-C6-RS422-PES-02, UB03-Z2-RFID-C6-RS422-PES-01, UB03-Z2-RFID-C6-USB-PES-05, UB03-Z2-RFID-C6-USB-PES-04, UB03-Z2-RFID-C6-USB-PES-03, UB03-Z2-RFID-C6-USB-PES-02, UB03-Z2-RFID-C6-USB-PES-01, UB03-Z2-RFID-C5-RS422-PES-05, UB03-Z2-RFID-C5-RS422-PES-04, UB03-Z2-RFID-C5-RS422-PES-03, UB03-Z2-RFID-C5-RS422-PES-02, UB03-Z2-RFID-C5-RS422-PES-01, UB03-Z1-RFID-C6-RS422-PES-05, UB03-Z1-RFID-C6-RS422-PES-04, UB03-Z1-RFID-C6-RS422-PES-03, UB03-Z1-RFID-C6-RS422-PES-02, UB03-Z1-RFID-C6-RS422-PES-01, UB03-Z1-RFID-C6-USB-PES-05, UB03-Z1-RFID-C6-USB-PES-04, UB03-Z1-RFID-C6-USB-PES-03, UB03-Z1-RFID-C6-USB-PES-02, UB03-Z1-RFID-C6-USB-PES-01, UB03-Z1-RFID-C5-RS422-PES-05, UB03-Z1-RFID-C5-RS422-PES-04, UB03-Z1-RFID-C5-RS422-PES-03, UB03-Z1-RFID-C5-RS422-PES-02, UB03-Z1-RFID-C5-RS422-PES-01, UB03-Z1-RFID-C5-USB-PES-05, UB03-Z1-RFID-C5-USB-PES-04, UB03-Z1-RFID-C5-USB-PES-03, UB03-Z1-RFID-C5-USB-PES-02
등록번호 <small>Registration No.</small>	R-R-RSE-UB03
제조사/제조국가 <small>Manufacturer/Country of Origin</small>	R.stahl HMI Systems GmbH / 독일
등록연월일 <small>Date of Registration</small>	2022-03-31
기타 <small>Others</small>	용도 : RF카드리더
위 기자재는 「전파법」 제58조의2 제3항에 따라 등록되었음을 증명합니다. It is verified that foregoing equipment has been registered under the Clause 3, Article 58-2 of Radio Waves Act.	
2022년(Year) 04월(Month) 01일(Day)	
국립전파연구원 Director General of National Radio Research Agency	
※ 적합등록 방송통신기자재는 반드시 "적합성평가표지" 를 부착하여 유통하여야 합니다. 위반시 과태료 처분 및 등록이 취소될 수 있습니다.	

### 8.3 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

## 9 Release Notes

The chapter entitled "Release Notes" contains all the changes made in every version of the certificates.

### Version 01.00.00

- First edition for UB03-\* devices

### Version 01.00.01

- Addition of EAC (TR) certification
- Formal changes

### Version 01.00.02

- Shifting EAC declaration of conformity into operating instructions
- Changing layout cover
- Changing disclaimer, new mail addresses
- Removing EAC certificate, certification is canceled
- Addition of CNEX certificate
- Adaption address field verso
- Formal changes

### Version 01.00.03

- Wrong picture on cover replaced

### Version 01.00.04

- Correction of phone and fax no.
- Addition of Korean certificates
- Addition of NEC certificate
- Addition of CEC certificate
- Addition of BIS certificate

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	(Technical Support)	<a href="mailto:support.dehm@r-stahl.com">support.dehm@r-stahl.com</a>

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