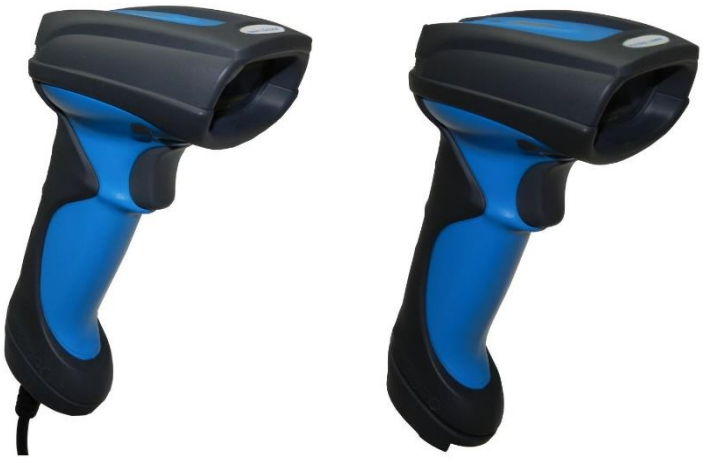

Certificates

Barcode scanner

Handheld scanner IDM16x / IDM26x

Bluetooth scanner IDM16x-BT / IDM26x-BT

THE STRONGEST LINK.

Certificates version: **01.02.01**
Issue: **09.08.2024**

Table of contents

1 Preface

NOTICE	This document contains all valid certificates for all typs of the IDM-barcode scanner. All technical details contained in the EC type examination certificate are also part of the associated operating instructions. All certificates are also available on R. STAHL 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 IDM16x / IDM26x handheld barcode scanner

IBExU Institut für Sicherheitstechnik GmbH
An-Institut der TU Bergakademie Freiberg

[1] **EU-TYPE EXAMINATION CERTIFICATE** - Translation

[2] Equipment or protective systems
intended for use in potentially explosive atmospheres, Directive 2014/34/EU

[3] EU-type examination certificate number **IBExU16ATEX1002** | Issue 2

[4] Product: **Handheld Scanners**
Type: IDM160-ex-b, IDM160-PDF-ex-b, IDM260-ex, IDM260-A-ex as well as IDM164-Z1 and IDM264-Z1

[5] Manufacturer: R. STAHL HMI Systems GmbH

[6] Address: Adolf-Grimme-Allee 8
50829 Köln
GERMANY

[7] This product and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

[8] IBExU Institut für Sicherheitstechnik GmbH, notified body number 0637 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 test report IB-22-3-0179.

[9] Compliance with the essential health and safety requirements has been assured by compliance with:
EN IEC 60079-0:2018, EN 60079-11:2012 and EN 60079-28:2015
except in respect of those requirements listed at item [18] of the schedule.

[10] If the sign "X" is placed after the certificate number, it indicates that the product is subject to the specific conditions of use specified in the schedule 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:

Type IDM160-ex-b, IDM160-PDF-ex-b:

Ⓔx II 2G Ex ib IIC T4 Gb
Ⓔx II 2D Ex ib IIIC T135 °C Db
-20 °C ≤ T_{amb} ≤ +50 °C

Type IDM260-ex:

Ⓔx II 2G Ex ib IIB T4 Gb
Ⓔx II 2D Ex ib IIIC T135 °C Db
-20 °C ≤ T_{amb} ≤ +50 °C

Type IDM260-A-ex:

Ⓔx II 2G Ex ib op is IIB T4 Gb
Ⓔx II 2D Ex ib op is IIIC T135 °C Db
-20 °C ≤ T_{amb} ≤ +50 °C

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IBExU Institut für Sicherheitstechnik GmbH
An-Institut der TU Bergakademie Freiberg

Type IDM164-Z1:

II 2G Ex ib IIB T4 Gb
II 2D Ex ib IIIC T135 °C Db
$-20\ °C \leq T_{amb} \leq +50\ °C$

Type IDM264-Z1:

II 2G Ex ib op is IIB T4 Gb
II 2D Ex ib op is IIIC T135 °C Db
$-20\ °C \leq T_{amb} \leq +50\ °C$

IBExU Institut für Sicherheitstechnik GmbH
Fuchsmühlenweg 7
09599 Freiberg, GERMANY

Tel: + 49 (0) 37 31 / 38 05 0
Fax: + 49 (0) 37 31 / 38 05 10

By order

Dr.-Ing. P. Cimalla

Seal
(notified body number 0637)

Certificates without signature and seal are not valid. Certificates may only be duplicated completely and unchanged. In case of dispute, the German text shall prevail.

Freiberg, 2023-04-24

IBExU Institut für Sicherheitstechnik GmbH
An-Institut der TU Bergakademie Freiberg

[13] **Schedule**

[14] **Certificate number IBExU16ATEX1002** | Issue 2

[15] **Description of product**

The handheld Scanners type IDM160-ex-b, IDM160-PDF-ex-b, IDM260-ex and IDM260-A-ex, IDM164-Z1 and IDM264-Z1 are used as a handheld unit in hazardous areas of which require equipment for category 2G and 2D. It is used to capture 1D codes (barcodes) and 2D codes (stacked-codes).

The handheld scanner consists of a housing made of plastic including window. The housing contains the electronic circuits and the light sources.
The handheld scanner is connected by means of supply cable VB-IDMx60-X with an intrinsically safe power supply.

Technical Data

- Ambient temperature range: -20 °C to +50 °C
- Light Source; Target laser: visible red light; $P_{opt.}$ < 35 mW or 5 mW/mm²
- Current consumption: ≤ 420 mA (standby 220 mA; scan 420 mA)

Electrical data:

	connecting cable	maximum input voltage U_i	maximum input current I_i	maximum input power P_i	maximum internal inductance L_i	maximum internal capacitance C_i
IDM160-ex-b IDM160-PDF-ex-b	VB-IDMx60-RS232-SR-X.8m	5.6 V	480 mA	1.25 W	negligible	46 µF
IDM160-ex-b IDM160-PDF-ex-b	VB-IDMx60-RS232-X.8m	4.9 V	480 mA	1.25 W	negligible	112.4 µF
IDM160-ex-b IDM160-PDF-ex-b	VB-IDMx60-USB-X.8m	4.9 V	480 mA	1.25 W	negligible	112.4 µF
IDM260-ex	VB-IDMx60-RS232-X.8m	4.9 V	750 mA	2 W	negligible	202 µF
IDM260-ex	VB-IDMx60-USB-X.8m	4.9 V	780 mA	2 W	negligible	202 µF
IDM260-A-ex	VB-IDMx60-RS232-X.8m	5.6 V	1180 mA	4.5 W	negligible	869 µF
IDM260-A-ex	VB-IDMx60-USB-X.8m	5.6 V	1180 mA	4.5 W	negligible	869 µF
IDM164-Z1	VB-IDM160-RS232-SR-X.8m	5.6 V	480 mA	1.25 W	negligible	46 µF
IDM164-Z1	VB-IDMx60-RS232-X.8m	4.9 V	480 mA	1.25 W	negligible	141 µF
IDM164-Z1	VB-IDMx60-USB-X.8m	4.9 V	480 mA	1.25 W	negligible	141 µF
IDM264-Z1	VB-IDMx60-RS232-X.8m	5.6 V	1180 mA	4.5 W	negligible	373 µF
IDM264-Z1	VB-IDMx60-USB-X.8m	5.6 V	1180 mA	4.5 W	negligible	373 µF

Variations compared to issue 1 of this certificate:

Variation 1
Two new types IDM164-Z1 and IDM264-Z1 have been added.

Variation 2
The circuits have been changed without affecting the intrinsic safety parameters.

IBExU Institut für Sicherheitstechnik GmbH
An-Institut der TU Bergakademie Freiberg

[16] **Test report**
The test results are recorded in the confidential test report IB-22-3-0179 of 2023-04-06.
The test documents are part of the test report and they are listed there.

Summary of the test results
The handheld Scanners mentioned under [4] further comply with the requirements of explosion protection for electrical equipment of Group II and category 2G and 2D in type of protection intrinsic safety in combination with Protection of equipment and transmission systems using optical radiation.

[17] **Specific conditions of use**
None

[18] **Essential health and safety requirements**
In addition to the essential health and safety requirements (EHSRs) covered by the standards listed at item [9], the following are considered relevant to this product, and conformity is demonstrated in the test report:
None

[19] **Drawings and Documents**
The documents are listed in the test report.

IBExU Institut für Sicherheitstechnik GmbH
Fuchsmühlenweg 7
09599 Freiberg, GERMANY

By order

Dr.-Ing. P. Cimalla

Freiberg, 2023-04-24

2.2 IDM16x-BT / IDM26x-BT Bluetooth barcode scanner

IBExU Institut für Sicherheitstechnik GmbH
An-Institut der TU Bergakademie Freiberg

[1] **EU-BAUMUSTERPRÜFBESCHEINIGUNG**

[2] Geräte und Schutzsysteme zur bestimmungsgemäßen Verwendung in explosionsgefährdeten Bereichen, Richtlinie 2014/34/EU

[3] EU-Baumusterprüfbescheinigung Nummer **IBExU16ATEX1003** | Ausgabe 2

[4] Produkt: **Bluetooth Handscanner** Typ: IDM160-BT-ex, IDM161-BT-ex
IDM261-BT-ex, IDM261-BT-A-ex sowie
IDM164-BT-Z1 und IDM264-BT-Z1
und Bluetooth Basisstationen Typ: IDM160-BT-Base-Z1
IDMx61-BT-Base-Z1, IDM261-BT-Base-Z1
IDMx61-BT-Base-A-Z1 sowie
IDMx64-BT-Base-Z1

[5] Hersteller: R. STAHL HMI Systems GmbH

[6] Anschrift: Adolf-Grimme-Allee 8
50829 Köln
GERMANY

[7] Dieses Produkt sowie die verschiedenen zulässigen Ausführungen sind in der Anlage zu dieser Bescheinigung sowie den darin aufgeführten Unterlagen festgelegt.

[8] IBExU Institut für Sicherheitstechnik GmbH, notifizierte Stelle mit der Nummer 0637 in Übereinstimmung mit Artikel 17 der Richtlinie 2014/34/EU des Europäischen Parlaments und des Rates vom 26. Februar 2014, bestätigt, dass dieses Produkt die wesentlichen Sicherheits- und Gesundheitsanforderungen für die Konzeption und den Bau von Produkten zur bestimmungsgemäßen Verwendung in explosionsgefährdeten Bereichen aus Anhang II der Richtlinie erfüllt.

Die Untersuchungs- und Prüfergebnisse werden in dem vertraulichen Prüfbericht IB-22-3-0180 festgehalten.

[9] Die Beachtung der wesentlichen Sicherheits- und Gesundheitsanforderungen wurde in Übereinstimmung mit folgenden Normen gewährleistet:
EN IEC 60079-0:2018, EN 60079-11:2012 und EN 60079-28:2015
Hiervon ausgenommen sind jene Anforderungen, die unter Punkt [18] der Anlage aufgelistet werden.

[10] Ein „X" hinter der Bescheinigungsnummer weist darauf hin, dass das Produkt den besonderen Bedingungen für die Verwendung unterliegt, die in der Anlage zu dieser Bescheinigung festgehalten sind.

[11] Diese EU-Baumusterprüfbescheinigung bezieht sich ausschließlich auf die Konzeption und den Bau des angegebenen Produkts. Für den Fertigungsprozess und die Bereitstellung dieses Produkts gelten weitere Anforderungen der Richtlinie. Diese fallen jedoch nicht in den Anwendungsbereich dieser Bescheinigung.

[12] Die Kennzeichnung des Produkts muss Folgendes beinhalten:

Typ IDM160-BT-ex, IDM161-BT-ex, IDM161-BT-PDF-ex, IDM261-BT-ex sowie IDM164-BT-Z1 und IDMx61-BT-Base-A-Z1 sowie IDMx64-BT-Base-Z1:

Ⓔx II 2G Ex ib IIB T4 Gb
Ⓔx II 2D Ex ib IIIC T135 °C Db
$-20\ °C \leq T_a \leq +50\ °C$

Typ IDM261-BT-A-ex und IDM264-BT-Z1:

Ⓔx II 2G Ex ib op is IIB T4 Gb
Ⓔx II 2D Ex ib op is IIIC T135 °C Db
$-20\ °C \leq T_a \leq +50\ °C$

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IBExU Institut für Sicherheitstechnik GmbH
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Typ IDM160-BT-Base-Z1, IDMx61-BT-Base-Z1, IDM261-BT-Base-Z1:

II 2G Ex ib IIC T4 Gb
II 2D Ex ib IIIC T135 °C Db
-20 °C ≤ T_a ≤ +50 °C

IBExU Institut für Sicherheitstechnik GmbH
Fuchsmühlenweg 7
09599 Freiberg, GERMANY

Tel: + 49 (0) 37 31 / 38 05 0
Fax: + 49 (0) 37 31 / 38 05 10

Im Auftrag

Dr.-Ing. P. Cimalla

Siegel
(notifizierte Stelle Nummer 0637)

Bescheinigungen ohne Siegel und Unterschrift haben keine Gültigkeit. Bescheinigungen dürfen nur vollständig und unverändert vervielfältigt werden.

Freiberg, 03.07.2023

IBExU Institut für Sicherheitstechnik GmbH

An-Institut der TU Bergakademie Freiberg

[13] **Anlage**

[14] **Bescheinigung Nummer IBExU16ATEX1003** | Ausgabe 2

[15] **Beschreibung des Produkts**

Der Bluetooth Handscanner ist ein Handgerät und dient dem Erfassen von 1D-Codes (Barcodes) und 2D-Codes (Stapelcodes) in explosionsgefährdeten Bereichen der Kategorie 2D und Kategorie 2G. Er wird von einem integrierten Li-Ionen Akku versorgt. Der Handscanner besteht aus einem Kunststoffgehäuse mit optischem Fenster und LED-Anzeigen.
Er verwendet Bluetooth zur drahtlosen Datenübertragung zu einem Empfangsgerät außerhalb des explosionsgefährdeten Bereiches oder zur eigensicheren Bluetooth Basis Station.
Die eigensichere Bluetooth Basisstation beinhaltet eine Datenschnittstelle und Ladefunktion für den Bluetooth-Handscanner. Sie wird von einer zugelassenen eigensicheren Quelle (z.B. Versorgungseinheit VM125-ex-X) versorgt. Die Versorgungseinheit dient auch der Umwandlung der nicht-eigensicheren Signale (USB, RS232 und RS422) in eigensichere Datensignale.
Das Aufladen des Akkus kann außerhalb des Ex-Bereiches mit einer separaten Basisstation oder Ladeschale erfolgen oder im explosionsgefährdeten Bereich mit der Bluetooth Basis Station in Verbindung mit einer eigensicheren Versorgung.

Typunterscheidung:

Bluetooth Handscanner: Ex ib IIB T4 Gb, Ex ib IIIC T135 °C Db	IDM160-BT-ex, IDM160-BT-PDF-ex IDM161-BT-ex, IDM161-BT-PDF-ex IDM261-BT-ex IDM164-BT-Z1
Bluetooth Handscanner: Ex ib op is IIB T4 Gb, Ex ib op is IIIC T135 °C Db	IDM261-BT-A-ex und IDM264-BT-Z1
Bluetooth Basisstation mit Ladefunktion: Ex ib IIC T4 Gb; Ex ib IIIC T135 °C Db	IDM160-BT-Base-Z1 IDMx61-BT-Base-Z1 IDM261-BT-Base-Z1
Bluetooth Basisstation mit Ladefunktion: Ex ib IIB T4 Gb; Ex ib IIIC T135°C Db	IDMx61-BT-Base-A-Z1 IDMx64-BT-Base-Z1

Technische Daten

- Umgebungstemperaturbereich: -20 °C bis +50 °C
- Lichtquelle, Ziellaser: sichtbares rotes Licht; $P_{opt.}$ < 35 mW
- Schnittstelle: Bluetooth V2.1/4.0 EDR; Bluetooth class 2/1
  2,402 – 2,4830 GHz; maximale Reichweite 30 m / 100 m
  serielle Schnittstelle RS-232/422 /USB
- Stromaufnahme: 330 mA (standby 80/130 mA; peak 500 mA)
- Batterie: Typ IDMx6x-BT-ex-LionX 3,6 V; 1500 mAh
  Typ IDMx6x-BT-ex-Lion 3,6 V; 2250 mAh

Elektrische Daten:

	Bluetooth Handscanner Typ IDM261-BT-A-ex	Bluetooth Hand-scanner Typ IDM160-BT-ex	Bluetooth Hand-scanner Typ IDM161-BT-ex IDM161-BT-PDF-ex	Bluetooth Hand-sScanner Typ IDM261-BT-ex	Bluetooth Handscanner Typ IDM164-BT-Z1	Bluetooth Handscanner Typ IDM264-BT-Z1
maximale Eingangsspannung U_i	4,2 V	4,2 V	4,2 V	4,2 V	4,2 V	4,2 V

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An-Institut der TU Bergakademie Freiberg

maximaler Eingangsstrom I_i	1071 mA	1071 mA	1071 mA	1071 mA	1071 mA	1071 mA
maximale Eingangsleistung P_i	4,5 W	4,5 W	4,5 W	4,5 W	4,5 W	4,5 W
maximale innere Induktivität L_i	vernach-lässigbar	vernach-lässigbar	vernach-lässigbar	vernach-lässigbar	vernach-lässigbar	vernach-lässigbar
maximale innere Kapazität C_i	1180 µF	407 µF	401 µF	415 µF	278 µF	521 µF

Anmerkung: maximale Eingangsspannung des Handscanners entspricht der Leerlaufspannung der Batterie.

	Bluetooth Basisstation Typ *IDM160-BT-Base-Z1* Bluetooth Basisstation Typ *IDMx61-BT-Base-Z1* Bluetooth Basisstation Typ *IDM261-BT-Base-Z1*	Bluetooth Basisstation Typ *IDMx61-BT-Base-A-Z1*	Bluetooth Basisstation Typ IDMx64-BT-Base-Z1
maximale Eingangs-spannung U_i	4,9 V	5,5 V	5,5 V
maximaler Eingangs-strom I_i	480 mA	480 mA	480 mA
maximale Eingangsleistung P_i	1,25 W	1,25 W	1,25 W
maximale innere In-duktivität L_i	vernachlässigbar	vernachlässigbar	vernachlässigbar
maximale innere Kapa-zität C_i	112 µF	190,3 µF	831 µF
mit Versorgungsleitung VB-IDMx6x-Base-RS232-SR-X.8m-Z1			
maximale Eingangsspannung U_i	5,6 V	5,6 V	5,6 V
maximaler Eingangsstrom I_i	480 mA	480 mA	480 mA
maximale Eingangsleistung P_i	1,25 W	1,25 W	1,25 W
maximale innere In-duktivität L_i	vernachlässigbar	vernachlässigbar	vernachlässigbar
maximale innere Kapa-zität C_i	46 µF	46 µF	46 µF

Anmerkung: Die Eingangsspannung der Bluetooth Basisstation ist durch die Versorgungsleitung Typ VB-IDMx6x-Base-RS232-SR-X.8m-Z1 von 5,6 V auf 4,9 V begrenzt.

Zubehör: Separate Ladestation und Basisstation außerhalb des explosionsgefährdeten Bereichs mit Netzteil Typ DSP.IDMx6x-DC5V

Typ: IDM160-BT-Base, IDM261-BT-Base-Z1, IDMx61-BT-Base-Z1, IDMx61-BT-Base-A-Z1, IDMx61-Base, IDMx61-BT-Base, IDMx61-Base-A, IDMx61-BT-Base-A, IDM261-BT- Base, IDM261-Base und IDMx64-BT-Base-Z1 und Basisstation IDM160-BT-Base-Z1, IDMx61-BT-Base-Z1, IDM261-BT-Base-Z1, IDMx61-BT-Base-A-Z1 sowie IDMx64-BT-Base-Z1 mit eigensicherer Versorgung VB-IDMx6x-Base-RS232-SR-X.8m-Z1) sowie mit eigensicherer Versorgung VM125-ex-X.

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IBExU Institut für Sicherheitstechnik GmbH
An-Institut der TU Bergakademie Freiberg

für Bluetooth Handscanner:
Typ: IDM160-BT-ex, IDM261-BT-ex, IDM161-BT-ex, IDM161-BT-A-ex, IDM164-BT-Z1 und IDM264-BT-Z1
U_m: 253 V AC Nennspannung: 5 V Nennstrom: 85 mA

Änderungen gegenüber der Ausgabe 1 dieser Bescheinigung:

Änderung 1
Es wurden neue Typen IDM164-BT-Z1, IDM264-BT-Z1 und IDMx64-BT-Base-Z1 hinzugefügt.

Änderung 2
Es wurden schaltungstechnische Änderungen vorgenommen, die keinen Einfluss auf die eigensicheren Parameter haben.

[16] **Prüfbericht**
Die Prüfergebnisse sind im vertraulichen Prüfbericht IB-22-3-0180 vom 21.06.2023 festgehalten.
Die Prüfunterlagen sind Teil des Prüfberichts und werden darin aufgelistet.

Zusammenfassung der Prüfergebnisse
Die unter [4] genannten Bluetooth Handscanner und Bluetooth Basisstationen genügen weiterhin den Anforderungen der Zündschutzart Eigensicherheit an explosionsgeschützte Geräte der Gruppe II und der Kategorie 2G sowie 2D in Kombination mit inhärent sicherer optischer Strahlung.

[17] **Besondere Bedingungen für die Verwendung**
Keine

[18] **Wesentliche Sicherheits- und Gesundheitsanforderungen**
Zusätzlich zu den wesentlichen Sicherheits- und Gesundheitsanforderungen, die in den Anwendungsbereich der unter Punkt [9] genannten Normen fallen, wird Folgendes für dieses Produkt als relevant angesehen und die Konformität wird im Prüfbericht dargelegt:
Keine

[19] **Zeichnungen und Unterlagen**
Die Dokumente sind im Prüfbericht aufgelistet.

IBExU Institut für Sicherheitstechnik GmbH
Fuchsmühlenweg 7
09599 Freiberg, GERMANY

Im Auftrag

Dr.-Ing. P. Cimalla

Freiberg, 03.07.2023

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3 IECEx certificate

3.1 IDM16x / IDM26x handheld barcode scanner

IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION
IEC Certification System for Explosive Atmospheres
for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.:	**IECEx IBE 16.0002**	Page 1 of 4	Certificate history:
Status:	**Current**	Issue No: 2	Issue 1 (2019-12-06) Issue 0 (2016-02-29)
Date of Issue:	2023-04-24		

Applicant: **R. STAHL HMI Systems GmbH**
Adolf-Grimme-Allee 8
Cologne 50829
Germany

Equipment: **Handheld scanner type IDM160-ex-b, IDM160-PDF-ex-b, IDM260-ex, IDM260-A-ex as well as IDM164-Z1 and IDM264-Z1**

Optional accessory:

Type of Protection: **Intrinsic safety "ib"**

Marking:

Type IDM160-ex-b, IDM160-PDF-ex-b
Ex ib IIC T4 Gb
Ex ib IIIC T135°C Db
-20 °C ≤ T_{amb} ≤ +50 °C

Type IDM164-Z1
Ex ib IIB T4 Gb
Ex ib IIIC T135°C Db
-20 °C ≤ T_{amb} ≤ +50 °C

Type IDM260-ex
Ex ib IIB T4 Gb
Ex ib IIIC T135°C Db
-20 °C ≤ T_{amb} ≤ +50 °C

Type IDM264-Z1
Ex ib op is IIB T4 Gb
Ex ib op is IIIC T135°C Db
-20 °C ≤ T_{amb} ≤ +50 °C

Type IDM260-A-ex
Ex ib op is IIB T4 Gb
Ex ib op is IIIC T135°C Db
-20 °C ≤ T_{amb} ≤ +50 °C

Approved for issue on behalf of the IECEx Certification Body: **Dr.-Ing. Peter Cimalla**

Position: **Deputy Head of department/Certification Body**

Signature: (for printed version)

Date: (for printed version) 2023-09-29

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting www.iecex.com or use of this QR Code.

Certificate issued by:

IBExU Institut für Sicherheitstechnik GmbH
Fuchsmühlenweg 7
09599 Freiberg
Germany

IECEx Certificate of Conformity

Certificate No.: **IECEx IBE 16.0002** Page 2 of 4

Date of issue: 2023-04-24 Issue No: 2

Manufacturer: **R. STAHL HMI Systems GmbH**
Adolf-Grimme-Allee 8
Cologne 50829
Germany

Manufacturing locations:

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

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

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

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

IEC 60079-28:2015 Explosive atmospheres - Part 28: Protection of equipment and transmission systems using optical radiation
Edition:2

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

TEST & ASSESSMENT REPORTS:
A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in:

Test Reports:

DE/IBE/ExTR16.0003/00 DE/IBE/ExTR16.0003/01 DE/IBE/ExTR16.0003/02

Quality Assessment Report:

DE/BVS/QAR06.0007/14

IECEx Certificate of Conformity

Certificate No.: **IECEx IBE 16.0002** Page 3 of 4

Date of issue: 2023-04-24 Issue No: 2

EQUIPMENT:
Equipment and systems covered by this Certificate are as follows:

The wired hand held scanners type IDM160-ex-b, IDM160-PDF-ex-b, IDM260-ex, IDM260-A-ex as well as IDM164-Z1 and IDM264-Z1 are used as a hand-held unit in hazardous areas of which require equipment for EPL Gb and Db. They are used to capture 1D codes (barcodes) and 2D codes (stacked-codes).

The hand scanners consist of a housing made of plastic including window. The housing contains the electronic circuits and the light sources.

The hand scanners are connected by means of supply cable VB-IDMx60-X with an intrinsically safe power supply.

The technical data are mentioned in the Annex to this certificate.

SPECIFIC CONDITIONS OF USE: NO

IECEx Certificate of Conformity

Certificate No.: **IECEx IBE 16.0002** Page 4 of 4

Date of issue: 2023-04-24 Issue No: 2

DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)
Two new types IDM164-Z1 and IDM264-Z1 have been added.

The circuits have been changed without affecting the intrinsic safety parameters.

Annex:

Annex_IBE16.0002_02.pdf

IECEx Certificate of Conformity - Annex

Certificate No: IECEx IBE 16.0002 Issue No: 2

Date of Issue: 2023-04-24 Page 1 of 1

Technical Data

- Ambient temperature range -20 °C to +50 °C
- Light Source; Target laser: visible red light, Popt. < 35 mW or 5 mW/mm²;
- Current consumption: ≤ 420 mA (standby 220 mA; scan 420 mA)

Electrical data:

	connecting cable	maximum input voltage U_i	maximum input current I_i	maximum input power P_i	maximum internal inductance L_i	maximum internal capacitance C_i
IDM160-ex-b IDM160-PDF-ex-b	VB-IDMx60-RS232-SR-X.8m	5.6 V	480 mA	1.25 W	negligible	46 µF
IDM160-ex-b IDM160-PDF-ex-b	VB-IDMx60-RS232-X.8m	4.9 V	480 mA	1.25 W	negligible	112.4 µF
IDM160-ex-b IDM160-PDF-ex-b	VB-IDMx60-USB-X.8m	4.9 V	480 mA	1.25 W	negligible	112.4 µF
IDM260-ex	VB-IDMx60-RS232-X.8m	4.9 V	750 mA	2 W	negligible	202 µF
IDM260-ex	VB-IDMx60-USB-X.8m	4.9 V	780 mA	2 W	negligible	202 µF
IDM260-A-ex	VB-IDMx60-RS232-X.8m	5.6 V	1180 mA	4.5 W	negligible	869 µF
IDM260-A-ex	VB-IDMx60-USB-X.8m	5.6 V	1180 mA	4.5 W	negligible	869 µF
IDM164-Z1	VB-IDM160-RS232-SR-X.8m	5.6 V	480 mA	1.25 W	negligible	46 µF
IDM164-Z1	VB-IDMx60-RS232-X.8m	4.9 V	480 mA	1.25 W	negligible	141 µF
IDM164-Z1	VB-IDMx60-USB-X.8m	4.9 V	480 mA	1.25 W	negligible	141 µF
IDM264-Z1	VB-IDMx60-RS232-X.8m	5.6 V	1180 mA	4.5 W	negligible	373 µF
IDM264-Z1	VB-IDMx60-USB-X.8m	5.6 V	1180 mA	4.5 W	negligible	373 µF

3.2 IDM16x-BT / IDM26x-BT Bluetooth barcode scanner

IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION
IEC Certification System for Explosive Atmospheres
for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.:	**IECEx IBE 16.0003**	Page 1 of 4	Certificate history:
Status:	**Current**	Issue No: 2	Issue 1 (2019-12-12) Issue 0 (2016-02-29)
Date of Issue:	2023-07-03		

Applicant: **R. STAHL HMI Systems GmbH**
Adolf-Grimme-Allee 8
Cologne 50829
Germany

Equipment: **Bluetooth Handheld Scanner type IDM160-BT-ex, IDM161-BT-ex, IDM261-BT-ex, IDM261-BT-A-ex, IDM164-BT-Z1 and IDM264-BT-Z1 and Bluetooth Base station type IDM160-BT-Base-Z1, IDMx61-BT-Base-Z1, IDM261-BT-Base-Z1, IDMx61-BT-Base-A-Z1 and IDMx64-BT-Base-Z1**

Optional accessory:

Type of Protection: **Intrinsic safety "ib" and inherently safe optical radiation "op is"**

Marking:

Type IDM160-BT-ex, IDM161-BT-ex, IDM161-BT-PDF-ex, IDM261-BT-ex as well as IDM164-BT-Z1 and IDMx61-BT-Base-A-Z1 as well as IDMx64-BT-Base-Z1:
Ex ib IIB T4 Gb
Ex ib IIIC T135 °C Db
$-20\ °C \le T_a \le +50\ °C$

Type IDM261-BT-A-ex and IDM264-BT-Z1:
Ex ib op is IIB T4 Gb
Ex ib op is IIIC T135 °C Db
$-20\ °C \le T_a \le +50\ °C$

Type IDM160-BT-Base-Z1, IDMx61-BT-Base-Z1, IDM261-BT-Base-Z1:
Ex ib IIC T4 Gb
Ex ib IIIC T135 °C Db
$-20\ °C \le T_a \le +50\ °C$

Approved for issue on behalf of the IECEx Certification Body: **Dr.-Ing. Peter Cimalla**

Position: **Deputy Head of department Certification Body**

Signature: (for printed version)

Date: (for printed version) 03-07-2023

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting www.iecex.com or use of this QR Code.

Certificate issued by:

IBExU Institut für Sicherheitstechnik GmbH
Fuchsmühlenweg 7
09599 Freiberg
Germany

IECEx Certificate of Conformity

Certificate No.: **IECEx IBE 16.0003** Page 2 of 4

Date of issue: 2023-07-03 Issue No: 2

Manufacturer: **R. STAHL HMI Systems GmbH**
Adolf-Grimme-Allee 8
Cologne 50829
Germany

Manufacturing locations:

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

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

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

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

IEC 60079-28:2015 Explosive atmospheres - Part 28: Protection of equipment and transmission systems using optical radiation
Edition:2

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

TEST & ASSESSMENT REPORTS:
A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in:

Test Reports:

DE/IBE/ExTR16.0004/00 DE/IBE/ExTR16.0004/01 DE/IBE/ExTR16.0004/02

Quality Assessment Report:

DE/BVS/QAR06.0007/14

IECEx Certificate of Conformity

Certificate No.: **IECEx IBE 16.0003** Page 3 of 4

Date of issue: 2023-07-03 Issue No: 2

EQUIPMENT:
Equipment and systems covered by this Certificate are as follows:

The Bluetooth hand scanner is used as a hand-held unit in hazardous areas requiring equipment for EPL Gb and Db. It is used to capture 1D codes (barcodes) and 2D codes (stacked-codes). The handheld scanner is supplied by an internal lithium-ion rechargeable battery.

The hand scanner consists of a housing made of plastic including window. The housing contains the electronic circuits and the light sources.

The data transfer is carried out via Bluetooth short-range radio to the Bluetooth base charging station standing in the non-hazardous area or to Bluetooth base station with charging function, which is located in the hazardous area.

The intrinsically safe Bluetooth base station contains the data interface and a charging circuit for the Bluetooth hand scanner. It can be supplied in a hazardous area with the supply unit VM125-ex-X

By means of the supply unit the non - intrinsically safe data signals (USB, RS232, RS422) are converted in intrinsically safe data signals.

The rechargeable battery may be charged outside the hazardous area with a separate base charging station and power supply or in hazardous areas with the Bluetooth base station in connection with an intrinsically safe power supply.

Type designation and technical data are mentioned in the annex.

SPECIFIC CONDITIONS OF USE: NO

IECEx Certificate of Conformity

Certificate No.: **IECEx IBE 16.0003** Page 4 of 4

Date of issue: 2023-07-03 Issue No: 2

DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)
New types IDM164-BT-Z1, IDM264-BT-Z1 and IDMx64-BT-Base-Z1 have been added.

The circuits have been changed without affecting the intrinsic safety parameters.

Annex:

Annex_IBE16.0003_02.pdf

IECEx Certificate of Conformity - Annex

Certificate No: IECEx IBE 16.0003 Issue No: 2

Date of Issue: 2023-07-03 Page 1 of 2

Type designation:

Bluetooth Handheld Scanner: Ex ib IIB T4 Gb; Ex ib IIIC T135 °C Db	IDM160-BT-ex, IDM160-BT-PDF-ex IDM161-BT-ex, IDM161-BT-PDF-ex IDM261-BT-ex IDM164-BT-Z1
Bluetooth Handheld Scanner: Ex ib op is IIB T4 Gb; Ex ib op is IIIC T135 °C Db	IDM261-BT-A-ex and IDM264-BT-Z1
Bluetooth Base station with charging function: Ex ib IIC T4 Gb; Ex ib IIIC T135 °C Db	IDM160-BT-Base-Z1 IDMx61-BT-Base-Z1 IDM261-BT-Base-Z1
Bluetooth Base station with charging function: Ex ib IIB T4 Gb; Ex ib IIIC T135°C Db	IDMx61-BT-Base-A-Z1 IDMx64-BT-Base-Z1

Technical Data

- Ambient temperature range: -20 °C to +50 °C
- Light Source; Target laser: visible red light; Popt. < 35 mW
- Interface: Bluetooth V2.1/4.0 EDR; Bluetooth class 2/1
  2.402 – 2.4830 GHz; max. distance 30 m / 100 m
  serial communication RS-232/422 /USB
- Current consumption: 330 mA (standby 80/130 mA; peak 500 mA)
- Battery: Type IDMx6x-BT-ex-LionX 3.6 V; 1500 mAh
  Type IDMx6x-BT-ex-Lion 3.6 V; 2250 mAh

Electrical data:

	Bluetooth Handscanner Type IDM261-BT-A-ex	Bluetooth Hand Scanner Type IDM160-BT-ex	Bluetooth Hand Scanner Type IDM161-BT-ex IDM161-BT-PDF-ex	Bluetooth Hand Scanner Type IDM261-BT-ex	Bluetooth Handscanner Type IDM164-BT-Z1	Bluetooth Handscanner Type IDM264-BT-Z1
maximum input voltage U_i	4.2 V	4.2 V	4.2 V	4.2 V	4.2 V	4.2 V
maximum input current I_i	1071 mA	1071 mA	1071 mA	1071 mA	1071 mA	1071 mA
maximum input power P_i	4.5 W	4.5 W	4.5 W	4.5 W	4.5 W	4.5 W
maximum internal inductance L_i	negligible	negligible	negligible	negligible	negligible	negligible
maximum internal capacitance C_i	1180 µF	407 µF	401 µF	415 µF	278 µF	521 µF

Remark: Input voltage to the handheld scanner is the maximum voltage provided by the rechargeable battery.

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	Bluetooth Base station Type *IDM160-BT-Base-Z1* Bluetooth base station Type *IDMx61-BT-Base-Z1* Bluetooth base station Type *IDM261-BT-Base-Z1*	Bluetooth Base station Type *IDMx61-BT-Base-A-Z1*	Bluetooth Base station Type *IDMx64-BT-Base-Z1*
maximum input voltage U_i	4.9 V	5.5 V	5.5 V
maximum input current I_i	480 mA	480 mA	480 mA
maximum input power P_i	1.25 W	1.25 W	1.25 W
maximum internal inductance L_i	negligible	negligible	negligible
maximum internal capacitance C_i	112 µF	190.3 µF	831 µF
with connecting cable VB-IDMx6x-Base-RS232-SR-X.8m-Z1			
maximum input voltage U_i	5.6 V	5.6 V	5.6 V
maximum input current I_i	480 mA	480 mA	480 mA
maximum input power P_i	1.25 W	1.25 W	1.25 W
maximum internal inductance L_i	negligible	negligible	negligible
maximum internal capacitance C_i	46 µF	46 µF	46 µF

Remark: Input voltage to the Bluetooth base station itself is reduced on this type associated connecting cable VB-IDMx6x-Base-RS232-SR-X.8m-Z1 of 5.6 V to 4.9 V.

Accessories: Separate charging box and Base charging station outside the hazardous area with power supply type DSP.IDMx6x-DC5V

Type: IDM160-BT-Base, IDM261-BT-Base-Z1, IDMx61-BT-Base-Z1, IDMx61-BT-Base-A-Z1, IDMx61-Base, IDMx61-BT-Base, IDMx61-Base-A, IDMx61-BT-Base-A, IDM261-BT- Base, IDM261-Base and IDMx64-BT-Base-Z1
and Base station IDM160-BT-Base-Z1, IDMx61-BT-Base-Z1, IDM261-BT-Base-Z1, IDMx61-BT-Base-A-Z1 as well as IDMx64-BT-Base-Z1 with intrinsically safe connecting cable VB-IDMx6x-Base-RS232-SR-X.8m-Z1) as well as intrinsically safe power supply VM125-ex-X.

for Bluetooth Hand Scanner:
Type: IDM160-BT-ex, IDM261-BT-ex, IDM161-BT-ex, IDM161-BT-A-ex, IDM164-BT-Z1 and IDM264-BT-Z1
U_m: 253 V AC rated voltage: 5 V rated current: 85 mA

4 Release Notes

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

Version 01.01.00

- First edition of release 01.01

Version 01.01.01

- Correction titels BT scanner

Version 01.02.00

- Renew of ATEX and IECEx certificates
- Adaption address field verso
- Formal changes

Version 01.02.01

- Renew of ATEX and IECEx certificates, with new scanner types
- Changing chapter titels
- Formal changes

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