



# Operating Instructions

## Pushbutton VB-PB-\*

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

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### Trademark







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## Formatting conventions

The markings in these operating instructions refer to specific features that must be noted.

In detail, these are:


 <b>DANGER</b>	This sign alerts users to hazards that <b>will</b> result in death or serious injury if ignored.
 <b>WARNING</b>	This sign alerts users to hazards that <b>may</b> result in death or serious injury if ignored.
 <b>CAUTION</b>	This sign alerts users to hazards that may damage machinery or equipment or result in injury if ignored.
 <b>ATTENTION</b>	Information highlighted by this symbol indicates measures for the prevention of damage to machinery or equipment.
 <b>NOTICE</b>	Information highlighted by this symbol indicates important information of which particular note should be taken.
 <b>DOCUMENTATION</b>	Information highlighted by this symbol refers to a different chapter or section in this manual or other documentation or a web-page.

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# 1 Foreword

These Operating Instructions contain all aspects relevant to explosion protection for the VB-PB-\* series pushbuttons. They also contain information on the connection and installation (etc.) of these devices.

 <b>NOTICE</b>	All data relevant to explosion protection was copied to these operating instructions from the EC type examination certificate.
	For the correct operation of all associated components please note, in addition to these operating instructions, all other operating instructions enclosed in this delivery as well as the operating instructions of the additional equipment to be connected.

# 2 Intended use

The VB-PB-\* pushbuttons are explosion-protected equipment for installation in hazardous areas and can be installed in zones 1, 2, 21 and 22 (EPL Gb, Db) or Zones 2 and 22 (EPL Gc, Dc) according to the ATEX directive.

The VB-PB-\* are used to switch signals in intrinsically safe circuits and can be installed in the connection covers of the xx8 devices or inside a separate enclosure with degree of protection Ex e, Ex i, Ex p or Ex t.

# 3 Technical data

Function / Equipment	VB-PB-22mm-Z1/Z2-0.2m
Type	Safety pushbutton
Operating sequence	NO
Switching voltage	max. 30 VDC
Switching current	max. 200 mA
Switch rating	max. 1.1 W
Switching travel	0.7 mm / [0.0023 ft]
Actuating force	7 N
Cable length	0.2 m / [0.656]
Enclosure protection type	IP66
Ambient temperature range	-40 °C ... +115 °C / [-40 °F ... +239 °F]
Mounting position	any
Dimensions [mm] / [ft]	without single core
Diameter	22 / [0.072]
Front (Ø x H)	22 x 23.6 / [0.072 x 0.077]
Mounting hole Ø (+0.2 / -0.0) / [+0.000656 / -0.0]	19 / [0.062]
Depth of cut-out	21.6 / [0.071]
Wall thickness	1 – 7 / [0.0033 - 0.023]
Weight [kg] / [oz.]	0.1 / [3.53]

# 4 Marking

## 4.1 Type code

VB-PB-22mm-Z1/Z2\*

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





### Options

Breakdown of version type codes	Description
	Version with
VB-PB-22mm-Z1/Z2-0.2m	Connection cable length 0.2 m / [0.656]



## 4.2 Ex classification ATEX / IECEx

ATEX and IECEx marking according to IEC 60079-0 and ATEX directive 2014/34/EU.

### 4.2.1 The following applies to version VB-PB-22mm-Z1-\*:

Design	2014/34/EU prefix	Ex marking	
Gas	 II 2 G	Ex ia IIC Gb	(for ia circuits)
	 II 2 G	Ex ib IIC Gb	(for ib circuits)
Dust	 II 2 D	Ex ia IIIC Db	(for ia circuits)
	 II 2 D	Ex ib IIIC Db	(for ib circuits)

### 4.2.2 The following applies to version VB-PB-22mm-Z2-\*:

Design	2014/34/EU prefix	Ex marking	
Gas	 II 3 G	Ex ic IIC Gc	(for ic circuits)
Dust	 II 3 D	Ex ic IIIC Dc	(for ic circuits)

## 4.3 Certificates

ATEX EC-Type Examination Certification number:

Version VB-PB-22mm-Z1-\*

BVS 18 ATEX E 031 U

Version VB-PB-22mm-Z2-\*

BVS 18 ATEX E 034 U

IECEx Certification number:

BVS 18.0026U

## 4.4 Notified Body ID number

Notified Body ID number:

0158

## 4.5 Temperature Range

Temperature range:

-40 °C ... +115 °C / [-40 °F ... +239 °F]

## 4.6 Ingress protection

Ingress protection: IP66 (IP64 ex-certified)

if installed in connection box of xx8 or inside a separate enclosure with ingress protection Ex e, Ex i, Ex p or Ex t.

## 4.7 Warnings

not applicable

## 4.8 Serial number, date of manufacture, manufacturer

The pushbuttons are marked according to IEC 60079-0 section 29.10. on the front ring of the push button.

Alternatively, marking can be according to IEC 60079-0 section 29.11 on a label containing the serial number, date of manufacture and the manufacturer.

## 5 Applied Standards

### 5.1 ATEX / IECEx

Standard	Classification
IEC 60079-0 : 2017	General requirements
IEC 60079-11 : 2011	Protection by intrinsic safety "i"

## 6 Electrical parameters

The following electric parameters apply:

max. voltage	U <sub>i</sub>	=	30	VDC
max. current	I <sub>i</sub>	=	200	mA
max power	P <sub>i</sub>	=	1.1	W
max. internal capacitance	C <sub>i</sub>	=	negligible	
max. internal inductance	L <sub>i</sub>	=	negligible	

## 7 Safety information

### 7.1 Commissioning

No special conditions.

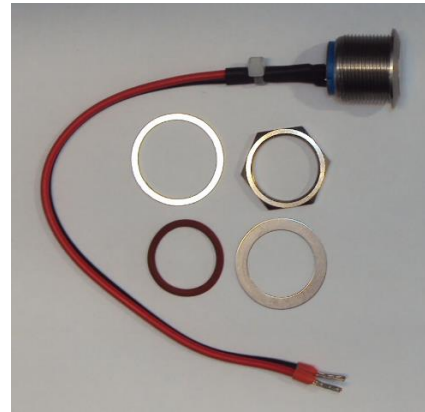
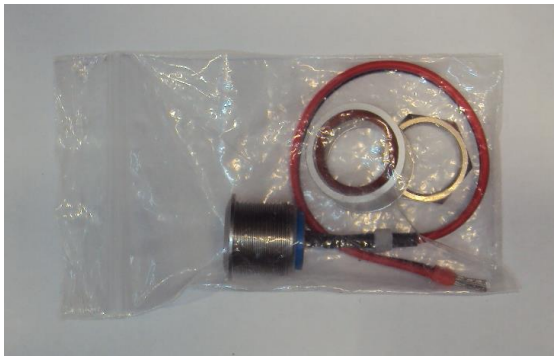
### 7.2 Use

See intended use.

### 7.3 Installation

- The current national regulations for installation and assembly apply (e.g. IEC/EN 60079-14).
- The intrinsically safe circuits must be installed according to applicable regulations.
- The pushbuttons may be installed and operated in any position.
- The pushbutton must be securely installed according to the installation drawing (10550505 Rev02 VB-PB-22mm Installation) and / or the installation instructions.
- The sealing ring of the pushbutton must not be damaged.
- The bevelled side of the mounting nut must be mounted in the direction of the sealing ring.
- The tightening torque of the mounting nut is 3 Nm.
- The clearances and creepage distances between the bare conducting parts of terminals of separate intrinsically safe circuits and to earthed or potential-free conducting parts shall be equal to or exceed the values given in IEC/EN 60079-11, Table 5.
- The insulation between an intrinsically safe circuit and a non-intrinsically safe circuit shall be capable of withstanding an r.m.s. a.c. test voltage with a minimum of 1500 V r.m.s.. When separation is accomplished by distance then the clearance between bare conducting parts of terminals shall be at least 50 mm / [0.164 ft].
- Where separate intrinsically safe circuits are being considered, the clearance distance between bare conducting parts of external connection facilities shall be at least 6 mm / [0.0197 ft] between the separate intrinsically safe circuits.
- For Da, Db, Dc application of the VB-PB-22mm-Z1/Z2-\*, the requirements according to clause 5.6.5 of IEC 60079-11 have to be regarded.

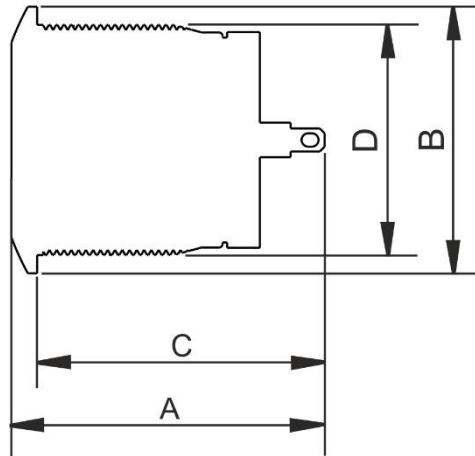
### 7.3.1 Views



### 7.3.2 Dimensions

Dimensions in mm / [ft].

#### 7.3.2.1 Dimensional drawing



A	=	height (H)	=	23.6 / [0.077]
B	=	diameter front	=	22 / [0.072]
C	=	depth of cut-out	=	21.6 / [0.071]
D	=	diameter corpus	=	19 / [0.062]

## 7.4 Maintenance, overhaul and repair

The devices are maintenance-free across their entire lifespan. The following must be checked during maintenance work:

- Pushbutton damage
- All screws are tightened fast
- All cables and lines are properly connected and undamaged

If the device in its factory state is damaged or altered in any way, decommission it immediately and contact the manufacturer !



## 7.5 Adjustment

not applicable

## 8 Training instructions

not applicable

## 9 Special conditions of use

- The clearances and creepage distances between the bare conducting parts of terminals of separate intrinsically safe circuits and to earthed or potential-free conducting parts shall be equal to or exceed the values given in IEC/EN 60079-11, Table 5.
- The insulation between an intrinsically safe circuit and a non-intrinsically safe circuit shall be capable of withstanding an r.m.s. a.c. test voltage with a minimum of 1500 V r.m.s.. When separation is accomplished by distance then the clearance between bare conducting parts of terminals shall be at least 50 mm / [0.164 ft].
- Where separate intrinsically safe circuits are being considered, the clearance distance between bare conducting parts of external connection facilities shall be at least 6 mm / [0.0197 ft] between the separate intrinsically safe circuits.
- For Da, Db, Dc application of the VB-PB-22mm-Z1/Z2-\*, the requirements according to clause 5.6.5 of IEC 60079-11 have to be regarded.

## 10 Special tools

not applicable

## 11 Cells and Batteries

not applicable

## 12 Disposal

Disposal of old electric and electronic devices, packaging and used parts is subject to regulations valid in whichever country the device has been installed.

For countries under the jurisdiction of the EU the corresponding WEEE directive applies.

The pushbuttons are classified according to the table below:

Directive	WEEE II Directive 2012/12/EU
Category	SG5, small devices <50 cm

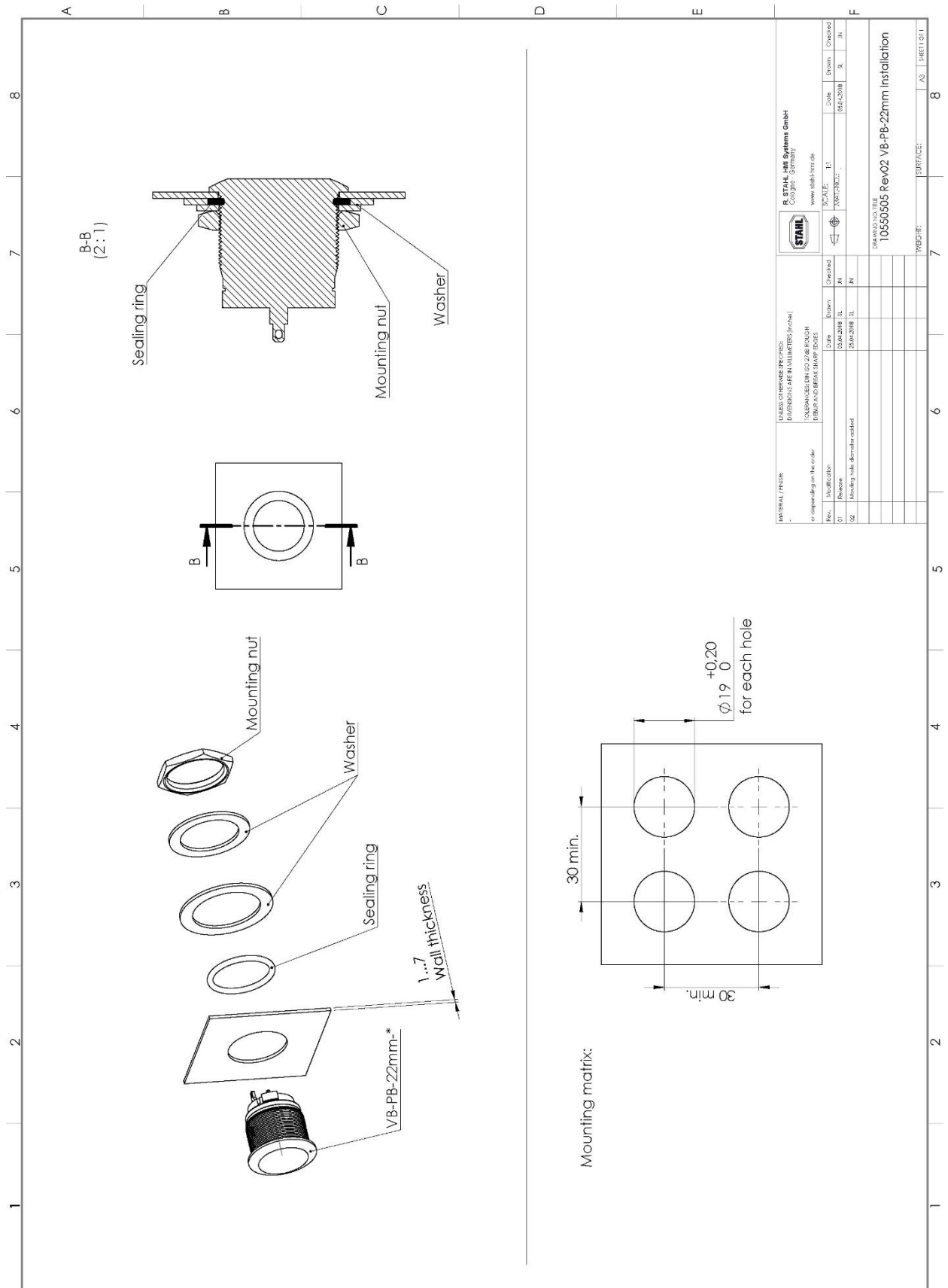
We shall take back our devices according to our General Terms and Conditions.

### 12.1 RoHS directive 2011/65/EC

The revised version of the RoHS (restriction of hazardous substances) 2002/95/EC directive, directive 2011/65/EC, extends its area of application to all electric and electronic products.

The pushbutton are conform with the requirements from RoHS directive 2011/65/EU, dated 03.01.2013.

# 13 Installation drawing



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# 14 Declaration of EC conformity

**EU-Konformitätserklärung**  
*EU Declaration of Conformity*  
*Déclaration de Conformité UE*



**R. STAHL HMI Systems GmbH • Adolf-Grimme-Allee 8 • 50829 Köln, Germany**

erklärt in alleiniger Verantwortung, *declares in its sole responsibility, déclare sous sa seule responsabilité,*

dass das Produkt: *Taster*  
 that the product: *Button*  
 que le produit: *Bouton*

Typ(en), *type(s), type(s):* **VB-PB-22mm-Z1-\***  
**VB-PB-22mm-Z2-\***  
 \*- any alphanumeric or symbolic character without relevance for explosion protection

mit den Anforderungen der folgenden Richtlinien und Normen übereinstimmt.  
*is in conformity with the requirements of the following directives and standards.*  
*est conforme aux exigences des directives et des normes suivantes.*

Richtlinie(n) / Directive(s) / Directive(s)	Norm(en) / Standard(s) / Norme(s)
2014/34/EU ATEX-Richtlinie 2014/34/EU ATEX Directive 2014/34/UE Directive ATEX	IEC 60079-0:2017 EN 60079-11:2012 Das Produkt entspricht Anforderungen aus: <i>Product corresponds to requirements from:</i> <i>Produit correspond aux exigences:</i> EN 60079-0:2012/A11:2013

Kennzeichnung, *marking, marquage:*

**For VB-PB-22mm-Z1-\***  
 II 2G Ex ia IIC Gb (ia circuits)  
 II 2G Ex ib IIC Gb (ib circuits)  
 II 2D Ex ia IIIC Db (ia circuits)  
 II 2D Ex ib IIIC Db (ib circuits) **CE 0158**

**Ex**  
**For VB-PB-22mm-Z2-\***  
 II 3G Ex ic IIC Gc (ia circuits)  
 II 3D Ex ic IIIC Dc (ia circuits) **CE**

IEC 60079-0:2017, 29.10 kann für Kennzeichnung angewendet werden.  
*IEC 60079-0:2017, 29.10 may applied for marking.*  
 IEC 60079-0:2017, 29.10 peut être appliqué sur le marquage.

EG/EU-Baumusterprüfbescheinigung:  
*EC/EU Type Examination Certificate:*  
*Attestation d'examen CE/UE de type:*

**BVS 18 ATEX E 031 U, BVS 18 ATEX E 034 U**  
**DEKRA EXAM GmbH (NB 0158)**  
 Dinnendahlstraße 9, 44809 Bochum, Germany

2011/65/EU RoHS-Richtlinie 2011/65/EU RoHS Directive 2011/65/UE Directive RoHS	EN 50581:2012
--	---------------

Spezifische Merkmale und Bedingungen für den Einbau siehe Betriebsanleitung.  
*Specific characteristics and how to incorporate see operating instructions.*  
*Caracteristiques et conditions spécifiques pour l'installation voir le mode d'emploi.*

Köln, 2018-07-05

Ort und Datum  
*Place and date*  
*Lieu et date*

i.V.   
**J. Düren**  
 Technical Director

i.V.   
**A. Jung**  
 Ex Representative



# 16 Certificates

## 16.1 ATEX certification

### 16.1.1 Version VB-PB-22mm-Z1-\*



# 1 EU-Type Examination Certificate

2 **Components intended for use on/in an Equipment or Protective System intended for use in potentially explosive atmospheres**  
 Directive 2014/34/EU

3 EU-Type Examination Certificate Number: **BVS 18 ATEX E 031 U**

4 Product: **Push Button type VB-PB-22mm-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 18.2056 EU.

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

**IEC 60079-0:2017                      General requirements**  
**EN 60079-11:2012                    Intrinsic Safety "i"**

10 The sign "U" is placed after the certificate number. It indicates that this certificate must not be mistaken for a certificate intended for an equipment or protective system. This partial certification may be used as a basis for certification of an equipment or protective system respectively product.

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

12 The marking of the product shall include the following:

	<b>II 2G Ex ia IIC Gb</b> (ia circuits)
	<b>II 2G Ex ib IIC Gb</b> (ib circuits)
	<b>II 2D Ex ia IIIC Db</b> (ia circuits)
	<b>II 2D Ex ib IIIC Db</b> (ib circuits)

DEKRA EXAM GmbH  
 Bochum, 2018-04-19

\_\_\_\_\_  
 Certifier

\_\_\_\_\_  
 Approver



Page 1 of 2 of BVS 18 ATEX E 031 U  
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DEKRA EXAM GmbH, Dinnendahlstrasse 9, 44809 Bochum, Germany,  
 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 031 U**

15 **Product description**

15.1 **Subject and type**

Push Button type VB-PB-22mm-Z1-\*

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

15.2 **Description**

The push button type VB-PB-22mm-Z1-\* is a component; designed to switch Intrinsically Safe circuits.

It can be mounted in the wall of a separate container/enclosure e.g. in type of protection Increased Safety "e", Pressurization "p", Protection by Enclosure "t" or as well Intrinsic Safety "i". The connected circuit has to be intrinsically safe.

15.3 **Parameters**

Limits of service temperature -40 °C...+115 °C

Parameters of the intrinsically safe circuit via the switch contact:

voltage	U <sub>i</sub>	DC	30 V
current	I <sub>i</sub>		200 mA
power	P <sub>i</sub>		1.1 W

Max. internal capacitance C<sub>i</sub> negligible

Max. internal inductance L<sub>i</sub> negligible

16 **Report Number**

BVS PP 18.2056 EU, as of 2018-04-19

17 **Installation Instructions**

17.1 The clearances and creepage distances between the bare conducting parts of terminals of separate intrinsically safe circuits and to earthed or potential-free conducting parts shall be equal to or exceed the values given in IEC 60079-11, Table 5.

17.2 The insulation between an intrinsically safe circuit and a non-intrinsically safe circuit shall be capable of withstanding an r.m.s. a.c. test voltage with a minimum of 1 500 V r.m.s. When separation is accomplished by distance the clearance between bare conducting parts of terminals shall be at least 50 mm.

17.3 Where separate intrinsically safe circuits are being considered, the clearance distance between bare conducting parts of external connection facilities shall be at least 6 mm between the separate intrinsically safe circuits.

17.4 For Db application, the VB-PB-22mm-Z1-\* the requirements according to clause 5.6.5 of IEC 60079-11 have to be regarded.

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 2 of 2 of BVS 18 ATEX E 031 U  
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telephone +49.234.3696-105, fax +49.234.3696-110, zs-exam@dekra.com



16.1.2 Version VB-PB-22mm-Z2-\*



1 **Type Examination Certificate**

2 **Component Intended for use on/in an Equipment or Protective System intended for use in potentially explosive atmospheres**  
**Directive 2014/34/EU**

3 Type Examination Certificate Number: **BVS 18 ATEX E 034 U**

4 Product: **Push Button type VB-PB-22mm-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 18.2056 EU.

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

**IEC 60079-0:2017**                      **General requirements "**  
**EN 60079-11:2012**                   **Intrinsic Safety "i"**

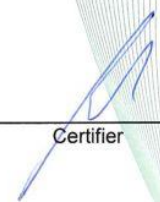
10 The sign "U" is placed after the certificate number. It indicates that this certificate must not be mistaken for a certificate intended for an equipment or protective system. This partial certification may be used as a basis for certification of an equipment or protective system respectively product.

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

12 The marking of the product shall include the following:

 **II 3G Ex ic IIC Gc** (ic circuits)  
**II 3D Ex ic IIIC Dc** (ic circuits)

DEKRA EXAM GmbH  
 Bochum, 2018-04-19

  
 \_\_\_\_\_  
 Certifier

  
 \_\_\_\_\_  
 Approver



Page 1 of 2 of BVS 18 ATEX E 034 U  
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 telephone +49.234.3696-105, fax +49.234.3696-110, zs-exam@dekra.com





13 **Appendix**

14 **Type Examination Certificate  
BVS 18 ATEX E 034 U**

15 **Product description**

15.1 **Subject and type**

Push Button type VB-PB-22mm-Z2-\*

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

15.2 **Description**

The push button type VB-PB-22mm-Z2-\* is a component; designed to switch Intrinsically Safe circuits.

It can be mounted in the wall of a separate container/enclosure e.g. in type of protection Increased Safety "e", Pressurization "p", Protection by Enclosure "t" or as well Intrinsic Safety "i". The connected circuit has to be intrinsically safe.

15.3 **Parameters**

Limits of service temperature -40 °C...+115 °C

Parameters of the intrinsically safe circuit via the switch contact:

voltage	$U_i$	DC	30 V
current	$I_i$		200 mA
power	$P_i$		1,1 W
Max. internal capacitance	$C_i$		negligible
Max. internal inductance	$L_i$		negligible

16 **Report Number**

BVS PP 18.2056 EU, as of 2018-04-19

17 **Installation Instructions**

17.1 The clearances and creepage distances between the bare conducting parts of terminals of separate intrinsically safe circuits and to earthed or potential-free conducting parts shall be equal to or exceed the values given in IEC 60079-11, Table 5.

17.2 The insulation between an intrinsically safe circuit and a non-intrinsically safe circuit shall be capable of withstanding an r.m.s. a.c. test voltage with a minimum of 1,500 V r.m.s. When separation is accomplished by distance the clearance between bare conducting parts of terminals shall be at least 50 mm.

17.3 Where separate intrinsically safe circuits are being considered, the clearance distance between bare conducting parts of external connection facilities shall be at least 6 mm between the separate intrinsically safe circuits.

17.4 For Dc application, the VB-PB-22mm-Z2-\* the requirements according to clause 5.6.5 of IEC 60079-11 have to be regarded.

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.



16.2 IECEx certification

		<h2 style="text-align: right;">IECEX Certificate of Conformity</h2>	
<p><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></p>			
Certificate No.:	IECEX BVS 18.0026U	issue No.:0	Certificate history: .....
Status:	Current		
Date of Issue:	2018-04-25	Page 1 of 4	
Applicant:	<b>R. STAHL HMI Systems GmbH</b> Adolf-Grimme Allee 8 50829 Köln Germany		
Equipment: Optional accessory:	<b>Push button type VB-PB-22mm-Z1/Z2.*</b>		
Type of Protection:	<b>Equipment protection by intrinsic safety "I"</b>		
Marking:	Ex ia IIC Gb (ia circuits) Type VB-PB-22mm-Z1-* Ex ib IIC Gb (ib circuits) Ex ia IIIC Db (ia circuits) Ex ib IIIC Db (ib circuits) Ex ic IIC Gc (ic circuits) -Type VB-PB-22mm-Z2-* Ex ic IIIC Dc (ic circuits)		
Approved for issue on behalf of the IECEx Certification Body:	Jörg Koch		
Position:	Head of Certification Body		
Signature: (for printed version)			
Date:	20.9.18		
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 <a href="http://www.iecex.com">Official IECEx Website</a> .			
Certificate issued by:			
DEKRA EXAM GmbH Dinnendahlstrasse 9 44809 Bochum Germany		On the safe side.	





## IECEx Certificate of Conformity

Certificate No.: IECEx BVS 18.0026U  
Date of Issue: 2018-04-25 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 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 : 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

*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/ExTR18.0028/00](#)

Quality Assessment Report:

[DE/BVS/QAR06.0007/09](#)



# IECEx Certificate of Conformity

Certificate No.: IECEx BVS 18.0026U

Date of Issue: 2018-04-25

Issue No.: 0

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### Schedule

**EQUIPMENT:**

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

**Subject and Type**

Push Button type VB-PB-22mm-Z1/Z2-\*

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

**Description**

The push button type VB-PB-22mm-Z1/Z2-\* is a component; designed to switch Intrinsically Safe circuits. It can be mounted in the wall of a separate container/enclosure e.g. in type of protection Increased Safety "e", Pressurization "p", Protection by Enclosure "t" or as well Intrinsic Safety "i". The connected circuit has to be intrinsically safe.

**SPECIFIC CONDITIONS OF USE: NO**



# IECEx Certificate of Conformity

Certificate No.: IECEx BVS 18.0026U  
 Date of Issue: 2018-04-25  
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**EQUIPMENT(continued):**

**Parameters**

Rated service temperature range -40 °C up to +115 °C

Parameters of the intrinsically safe circuit via the switch contact:

voltage	$U_i$ DC	30	V
current	$I_i$	200	mA
power	$P_i$	1.1	W

Max. internal capacitance  $C_i$  negligible

Max. internal inductance  $L_i$  negligible

**"Schedule of Limitations" for Ex Components, if any:**

1. The clearances and creepage distances between the bare conducting parts of terminals of separate intrinsically safe circuits and to earthed or potential-free conducting parts shall be equal to or exceed the values given in IEC 60079-11, Table 5.
2. The insulation between an intrinsically safe circuit and a non-intrinsically safe circuit shall be capable of withstanding an r.m.s. a.c. test voltage with a minimum of 1 500 V r.m.s. When separation is accomplished by distance the clearance between bare conducting parts of terminals shall be at least 50 mm.
3. Where separate intrinsically safe circuits are being considered, the clearance distance between bare conducting parts of external connection facilities shall be at least 6 mm between the separate intrinsically safe circuits.
4. For Db, Dc application, the VB-PB-22mm-Z1/Z2-\* the requirements according to clause 5.6.5 of IEC 60079-11 have to be regarded.

## 17 Release notes

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

Version 01.00.00

- First edition







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