BARTEC

Hand-held scanner BCS3600^{ex} series

User Manual

BARTEC

User Manual – Translation of the original

BCS3608ex-IS, BCS3678ex-IS, BCS3608ex-NI, BCS3678ex-NI

Hand-held scanner and accessories

ATEX / IECEx Zone 0 und Zone 20

ATEX / IECEx Zone 2 und Zone 22

Class I, II, III Division 2

Class I, II, III Division 1

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Content	Pages
English	1-164

BARTEC GmbH
Max-Eyth-Straße 16
97980 Bad Mergentheim
GERMANY

Fon: +49 7931 597-0
Fax: +49 7931 597-119

Support: em-support@bartec.com
Download: http://automation.bartec.de
Internet: www.bartec.com

1 Basic safety information

1.1 Information on this User Manual

Read carefully before putting the devices into operation.

The User Manual is a fixed part of the product. It must be kept in the direct vicinity of the device and the installation, operating and service staff must have access to it at all times.

The User Manual contains important information, safety instructions and test certificates which are necessary for the perfect function of the device in operation.

The User Manual is directed at all individuals concerned with the commissioning, handling and servicing of the product. The applicable guidelines and standards for areas with gas and dust atmosphere (EN/IEC 60079-17, EN/IEC 60079-19,) must be observed when conducting this work.

Knowledge of the safety and warning information in this User Manual and the strict compliance with it is essential for safe installation and commissioning. Accidents, injuries and material damage can be avoided by circumspect handling and systematically following the instructions.

The examples, tables, and figures provided in this User Manual are for illustration purposes. Due to the different requirements of the respective application, the BARTEC company cannot assume responsibility or liability for actual use based on the examples and figures.

The BARTEC company reserves the right to carry out technical changes at any time.

In no event will BARTEC company be responsible or liable for indirect or consequential damages resulting from the use or application of this user manual.

Safety and warning information is particularly emphasised in this User Manual and marked by symbols.

DANGER

DANGER describes a directly imminent danger. If not avoided, death or severe injury will be the consequence.

WARNING

WARNING describes a possibly imminent danger. If not avoided, death or severe injury may be the consequence.

CAUTION

CAUTION describes a possibly imminent danger. If not avoided, mild or slight injury may be the consequence.

ATTENTION

ATTENTION describes a possibly damaging situation. If not avoided, the plant or objects in its vicinity may be damaged.

Important information on effective, economical & environmentally compliant handling.

1.1.1 Languages

The original User Manual is written in German. All other available languages are translations of the original User Manual.

The User Manual is available in German and English. If further languages are required, these must be requested from BARTEC or stated on placing an order.

1.1.2 Changes in the document

BARTEC reserves the right to change the content of this document without notification. No warranty is assumed for the correctness of the information. In cases of doubt, the German safety instructions apply because it is not possible to rule out errors of translation or printing. In the case of legal disputes, the “General Terms and Conditions of Business” of the BARTEC Group also apply.

The current versions of the datasheets, certificates and declarations of conformity can be downloaded from www.bartec.com or may be requested directly from BARTEC GmbH.

1.1.3 Registered trademarks

Bluetooth®	is a registered trademark of Bluetooth Special Interest Group
WiFi	is a registered trademark of Wi-Fi-Alliance, an association of manufacturers founded in 1999.

1.2 Handling the product

The product described in this User Manual left the factory in a perfect and tested state in terms of safety. To maintain this state and to achieve a perfect and safe operation of this product, it may only be operated in the manner described by the manufacturer. In addition, the perfect and safe operation of this product requires correct transportation, proper storage and careful operation.

The safe and perfect handling of the Hand-held scanner is a prerequisite for its perfect and correct functioning.

1.3 Intended use

1.3.1 Exclusive purpose

The Hand-held scanner is a handheld piece of electrical equipment. It serves the purpose of the mobile recording, processing and/or radio transmission of data within potentially explosive atmospheres.

It is used exclusively in combination with devices which comply with the requirements placed on the overvoltage category I.

The admissible operating data of the device used must be considered.

1.3.2 Unintended use

Any other use is unintended and may lead to damage and accidents. The manufacturer shall not be liable for any use extending beyond the exclusive purpose.

1.4 Duties of the operator

The operator undertakes to only permit persons to work with the Hand-held scanner who

- are acquainted with the basic regulations on safety and accident prevention, and who have been inducted in the use of the Hand-held scanner,
- have read and understood the documentation, the safety chapter and the warnings.

The operator checks that the safety and accident prevention regulations applicable to the respective case of use have been observed.

1.5 Safety information

- Do not dry wipe or clean devices in potentially explosive atmospheres!
- Do not open devices in potentially explosive atmospheres.
- Do not replace or charge battery in potentially explosive atmospheres.
- General statutory provisions or guidelines on occupational health and safety, accident prevention provisions and environmental protection laws must be heeded, e.g. Operational Safety Ordinance (BetrSichV) and nationally applicable ordinances.
- Use suitable clothing and shoes with respect to the danger of hazardous electrostatic charges.
- Avoid heat influences outside the specified temperature range.
- Protect device from external influences! Do not expose device to caustic/aggressive liquids, vapours or spray.
- In the case of malfunction or damaged enclosure, remove the device immediately from the potentially explosive atmosphere and bring it to a safe place.

1.6 General safety information for operation

1.6.1 Maintenance

The pertinent erection and operating provisions for electrical systems must be observed! (e.g. Directive 2014/34/EU, BetrSichV and nationally applicable ordinances EN/IEC 60079-14 and the series DIN VDE 0100)!

Observe the national waste disposal regulations when disposing of the devices.

1.6.2 Servicing

No constant servicing will be necessary if operated correctly under consideration of the assembly instructions and environmental conditions.

See Chapter: Service, inspection, repair

1.6.3 Inspection

According to EN/IEC 60079-17 and EN/IEC 60079-19 the operator of electrical systems in potentially explosive atmospheres is obliged to have these inspected by an electrician to ensure correct condition.

1.6.4 Repairs

Repairs to explosion-protected devices may only be performed by authorised personnel with original spare parts and according to the state of the art.

Therfore all repairs to the Hand-held scanner have to conducted by BARTEC.

1.6.5 Commissioning

It must be checked that all components and documents are available before commissioning.

1.7 Labelling, test certificate, and standards

Labels on explosion protection and the test certificate are attached to the Hand-held scanner. Labelling see chapter: Technical Data.

The guidelines and standards applicable to the Hand-held scanner for devices and protected systems for intended use in potentially explosive atmospheres see chapter: Declaration of Conformity.

1.8 Warranty

WARNING

No changes or retrofits may be made without the written consent of the manufacturer.

If non-specified components are used, the explosion protection will no longer be guaranteed. In the case of externally procured parts, it is not guaranteed that these have been designed and manufactured in accordance with their load and requisite safety.

▶ Contact the manufacturer before any changes or retrofits to receive a release. Only use original spare and wearing parts.

The manufacturer shall exclusively assume the complete warranty only for spare parts ordered from him.

Our “General Terms and Conditions of Sale and Delivery” shall apply in principle. These shall be made available to the operator on signing of contract at the latest. Warranty and liability claims in the case of injury and damage to property shall be excluded if they are attributable to one or several of the following causes:

- Unintended use of the Hand-held scanner.
- Incorrect handling
- Failure to observe the information in the User Manual with respect to transport, storage, commissioning, operation and service.
- Independent structural changes
- Faulty monitoring of parts subject to wear and tear.
- Incorrectly performed repairs.
- Cases of disaster through the impact of foreign bodies and force majeure.

We grant a warranty period of one year starting from the date of delivery from the Bad Mergentheim factory on the Hand-held scanner (exception: battery 6 months). The warranty period for accessories is one year starting from the date of delivery from the Bad Mergentheim factory. This warranty covers all parts of the delivery and shall be restricted to the free replacement or repair of the defective parts in our Bad Mergentheim factory. For this purpose, any packaging supplied must be kept where possible. In the case of warranty, the goods must be returned to us after written agreement using an RMA form. There shall be no claim to repair at the sight of erection.

The information contained herein refers to the explosion-protected version of the Hand-held scanner BCS3600ex.

This User Manual contains all important information on the subject of explosion protection.

Further product information on handling and commissioning can be found on the BARTEC support page: http://automation.bartec.de/mobileE.htm

1.9 Co-applicable documents

All documents are available online from the following websites:

BARTEC: www.bartec.com or http://automation.bartec.de/mobileE.htm

ZEBRA: www.zebra.com

In the event of an overlaps with Zebra, the instructions of BARTEC apply.

Document BARTEC	Explanation
User manual BCS3608ex-NI / BCS3608ex-IS / BCS3678ex-NI / BCS3678ex-IS	This User Manual describes the use of the Hand-held scanner BCS3600ex series.
Quick Start Guide BCS3608ex-NI / BCS3608ex-IS / BCS3678ex-NI / BCS3678ex-IS	This Quick Start Guide describes the safety-related information, first use and further data of the Hand-held scanner BCS3600ex series.
Data sheet BCS3608ex-NI / BCS3608ex-IS / BCS3678ex-NI / BCS3678ex-IS	This technical data sheet contains the most important explosion protection technical data as well as general technical data.
Document ZEBRA	**Explanation**
For DS3608 und DS3678 ▪ **Product Reference Guide** ▪ **Multicode Data Formatting and Preferred Symbol** ▪ **Advanced Data Formatting (ADF)** ▪ **Simple Serial Interface Programmer's Guide**	Instructions for commissioning, operating, configuring, programming and maintaining hand-held scanners (full information can be found on the ZEBRA support page).

1.10 Available software

All software is available online from the following websites:

BARTEC: http://automation.bartec.de/mobileE.htm

ZEBRA: www.zebra.com

In the event of an overlaps with Zebra, the instructions of BARTEC apply.

Software BARTEC	Explanation
Plugins BCS3608ex-NI/BCS3608ex-IS/ BCS3678ex-NI/BCS3678ex-IS	Plugins are required to use the handheld scanners in combination with the Zebra 123 Scan Utility.
Driver Universal supply module Supply module Ex i	Driver for the supply modules for manual installation in case the PC/host does not recognize the driver automatically.
Software ZEBRA	**Explanation**
123 Scan Utility DS3608-HP and DS3678-HP DS3608-ER and DS3678-ER	Free configuration tool from Zebra. ▪ Firmware update ▪ Device configuration ▪ Read out and modify device data/configuration
Further Utility DS3608-HP and DS3678-HP DS3608-ER and DS3678-ER	Free utility to enable e.g. a simple pairing of Bluetooth handheld scanner to Android or Windows device. e.g. ▪ Scan-To-Connect
Development tools DS3608-HP and DS3678-HP DS3608-ER and DS3678-ER	Free tools for developers to create scanner applications. e.g. ▪ Simple Scanner Interface Description ▪ Scanner SDK for Windows, Android and iOS
Drivers and other software tools DS3608-HP and DS3678-HP DS3608-ER and DS3678-ER	Free drivers and tools for developers and system integrators to create/implement scanner applications/connections

1.11 Definition of terms

A few abbreviations are used in the documentation.

IS	=	Intrinsically Safe => is used as generic term for the Zone 1 versions
NI	=	Non Incendive => is used as generic term for Zone 2 and Division 2 version
BCS3600ex	=	stands for the entire product series of explosion-protected Hand-held scanner

2 Product description

2.1 Hand-held scanner BCS3600ex series

The hand-held scanners in the BCS3600ex series are used for the mobile capture, processing and transfer of data within potentially explosive atmospheres. The data are transferred either using a connection cable (BCS3608ex) or using a Bluetooth connection (BCS3678ex).

2.1.1 Purpose of use

The hand-held scanners in the BCS3600ex series have been modified for use in the following potentially explosive atmospheres:

Configuration		Approved zone
BCS3608ex-IS (Type 17-A1S4-1HP0/****)		ATEX / IECEx Zone 0 and Zone 20
BCS3678ex-IS (Type 17-A1S4-2HP1/****)		ATEX / IECEx Zone 0 and Zone 20 Class I Division 1 Groups A, B, C and D Class II Division 1 Groups E, F and G Class III Division 1 Class I Zone 0 and Zone 20
BCS3678ex-NI (Type B7-A2S4-1**0/****)		ATEX / IECEx Zone 2 and Zone 22 NEC / CEC Class I, II, III DIV 2
BCS3608ex-NI (Type B7-A2S4-2**1/****)		

The hand-held scanners may only be used together with operating equipment that corresponds to Installation Category I.

You must comply with the permissible ambient conditions for the device used (see User Manual).

2.1.2 Comparison with ZEBRA

The certified hand-held scanners from BARTEC are based on the following hand-held scanners from ZEBRA and are mainly function-compatible:

BARTEC	ZEBRA
BCS3608ex-NI – Type B7-A2S4-1HP0	DS3608-HP with 1D-/2D-High Performance Standard Range Imager (SE4750-HP)
BCS3608ex-IS – Type 17-A1S4-1HP0	
BCS3678ex-NI – Type B7-A2S4-2HP1	DS3678-HP with 1D-/2D-High Performance Standard Range Imager (SE4750-HP)
BCS3678ex-IS – Type 17-A1S4-2HP1	
BCS3608ex-NI – Type B7-A2S4-1ER0	DS3608-ER with 1D-/2D-Extended Range Imager (SE4850-ER)
BCS3678ex-NI – Type B7-A2S4-2ER1	DS3678-ER with 1D-/2D-Extended Range Imager (SE4850-ER)

2.1.3 Configurations

Configuration	Data transmission	Data capture
BCS3608ex-NI - Type: B7-A2S4-1HP0 BCS3608ex-IS - Type: 17-A1S4-1HP0	Connecting cable	1D-/2D-High Performance Standard Range Imager (SE4750-HP)
BCS3678ex-NI - Type: B7-A2S4-2HP1 BCS3678ex-IS - Type: 17-A1S4-2HP1	Bluetooth 4.0 2,4 GHz to 2,4835 GHz	
BCS3608ex-NI - Type: B7-A2S4-1ER0	Connecting cable	1D-/2D-Extended Range Imager (SE4850-ER)
BCS3678ex-NI - Type: B7-A2S4-2ER1	Bluetooth 4.0 2,4 GHz bis 2,4835 GHz	
Base station; for BCS3678ex-NI – Type: G7-A0Z0-0010 BCS3678ex-IS – Type: 17-A1Z0-0014	to the hand-held scanner: Bluetooth 4.0 2,4 GHz t0 2,4835 GHz, to PC/Host: Connecting cable	none
8 different universal supply moduls for installation in a potentially explosive atmosphere Zone 1/Zone2; Division 2 as well as a supply module Ex i, each Bluetooth or corded		

2.2 Supply modules

BARTEC offers different types of supply modules.

These are each available as versions for corded or Bluetooth handheld scanners.

The systems enable direct connection of BCS3600ex series hand-held scanners in the Ex area and data transfer to other PC/host systems in the Ex or safe area.

Configuration		Approved zone
Supply module for hand-held scanner BCS3600ex-IS (Type 17-A1Z0-0018) (Type 17-A1Z0-0019) (Type 17-A1Z0-0025) (Type 17-A1Z0-0028)	BARTEC	ATEX / IECEx Zone 1 and Zone 21
Supply module for hand-held scanner BCS3600ex-NI (Type B7-A2Z0-0042) (Type B7-A2Z0-0043)	BARTEC	ATEX / IECEx Zone 2 and Zone 22
Supply module for hand-held scanner BCS3600ex-NI (Type B7-A2Z0-004200US) (Type B7-A2Z0-004300US)	BARTEC	NEC / CEC Class I, II, III DIV 2

2.2.1 Configuration

Universal supply module

The Universal supply module (USM) has a terminal compartment on the output side for mains connection and data cable in Ex e design.

The USM enables a scanner to be operated directly in the Ex area and the data to be transferred to a PC/host system in the Ex area (in Ex e version) or in the safe area.

The cable routing and connection must conform to the valid installation guidelines for Ex e.

The Ex-relevant values of the Universal Supply Module are listed in the certificate and in the chapter: Ex-relevant values.

Universal supply module und scanners	Type
Universal supply module corded for hand-held scanner BCS3608ex-IS	17-A1Z0-0018
Universal supply module Bluetooth for hand-held scanner BCS3678ex-IS	17-A1Z0-0019
Universal supply module corded for hand-held scanner BCS3608ex-NI	B7-A2Z0-0042
Universal supply module corded for hand-held scanner BCS3608ex-NI VERSION: US + CANADA	B7-A2Z0-004200US
Universal supply module Bluetooth for hand-held scanner BCS3678ex-NI	B7-A2Z0-0043
Universal supply module Bluetooth for hand-held scanner BCS3678ex-NI VERSION: US + CANADA	B7-A2Z0-004300US

Supply module Ex i

The supply module Ex i has a connection compartment on the output side for mains connection in Ex e and data cable in Ex i version.

The USM enables a scanner to be operated directly in the Ex-area and the data to be transferred to another Ex i PC/Host System in the Ex area.

Important is:

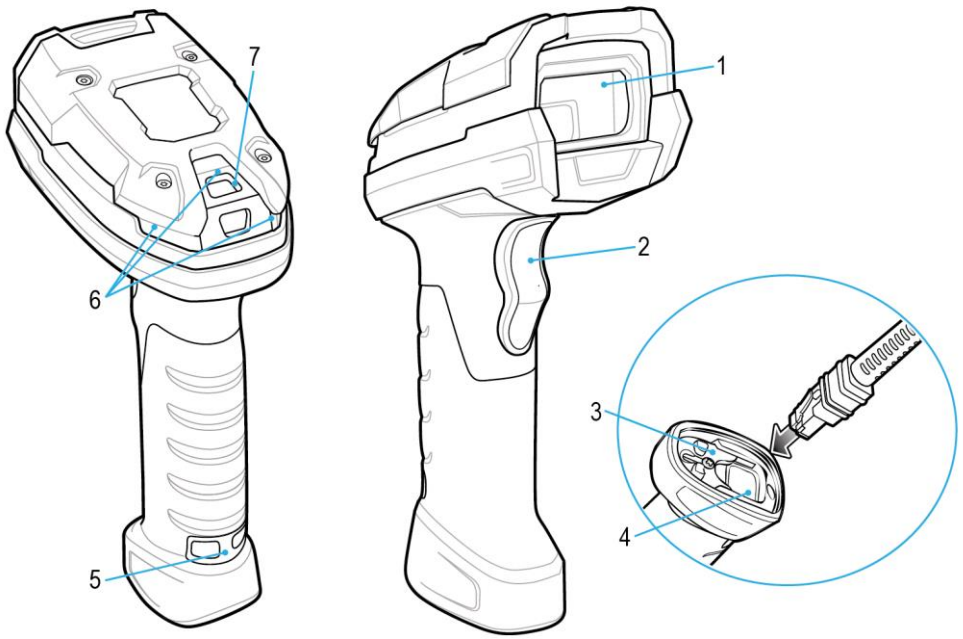
- For the mains connection an Ex e compliant cable installation and its connection.
- For the data line in Ex i version, the Ex i values of both systems must be compatible to each other. The cable routing and connection must conform to the applicable installation guidelines for Ex i.

The Ex-relevant values of the supply module Ex i are listed in the certificate and in the chapter: Ex-relevant values.

Supply module Ex i und scanners	Type
Supply module Ex i corded for hand-held scanner BCS3608ex-IS	17-A1Z0-0025
Supply module Ex i Bluetooth for hand-held scanner BCS3678ex-IS	17-A1Z0-0028

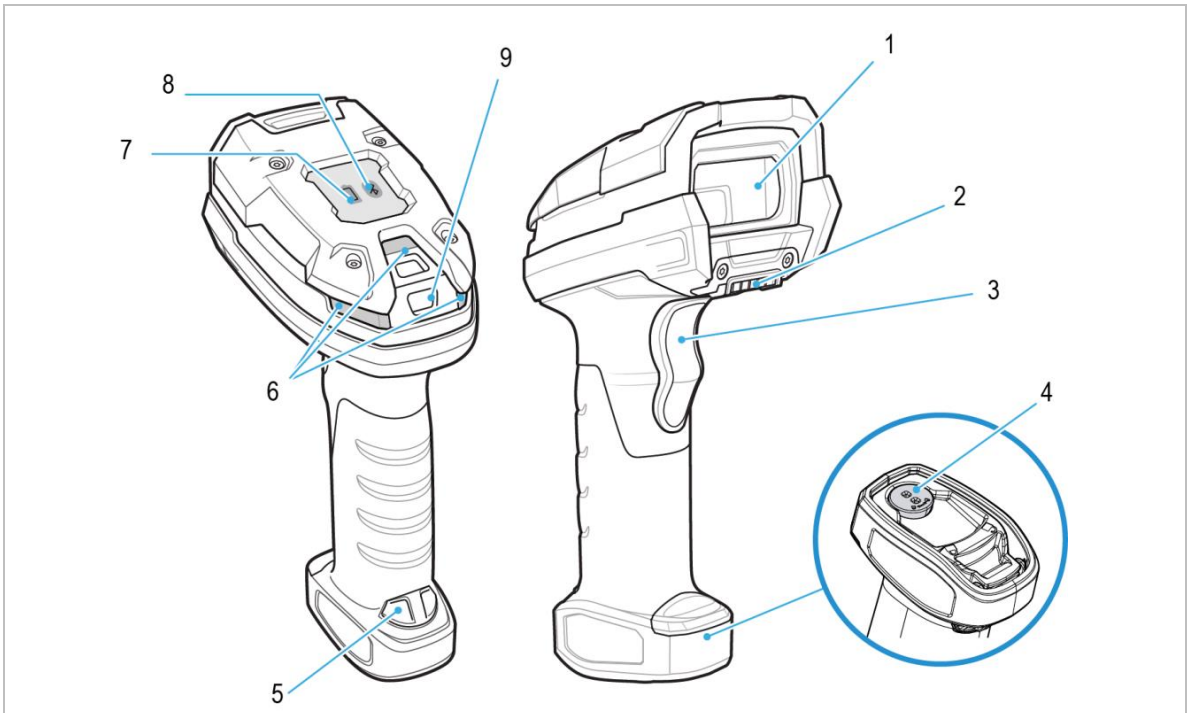
3 Structure

3.1 Corded Hand-held scanner BCS3608ex-NI/BCS3608ex-IS



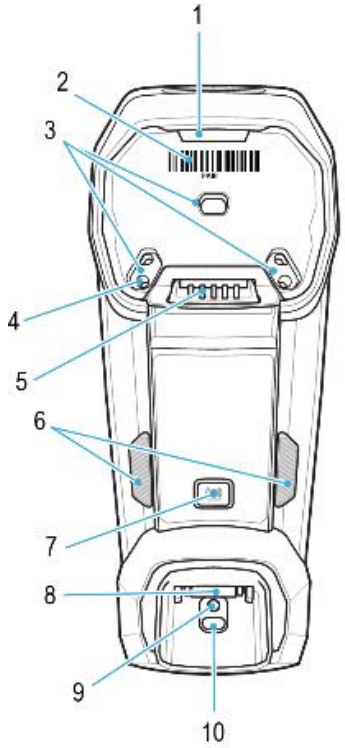
1	**Scan window**	Scanning barcodes
2	**Trigger button**	Starting the scan process
3	**Safety lock**	Securing the connection cable to prevent it coming unplugged
4	**Socket for connecting cable**	Insert connection cable, to connect hand-held scanner with universal supply module or HMI
5	**Lug**	Attaching cord to the hand-held scanner
6	**Status LEDs**	Displaying the status of the hand-held scanner
7	**Beeper**	Transmitting beeps or sequences of beeps indicating events

3.2 Bluetooth Hand-held scanner BCS3678ex-NI/BCS3678ex-IS

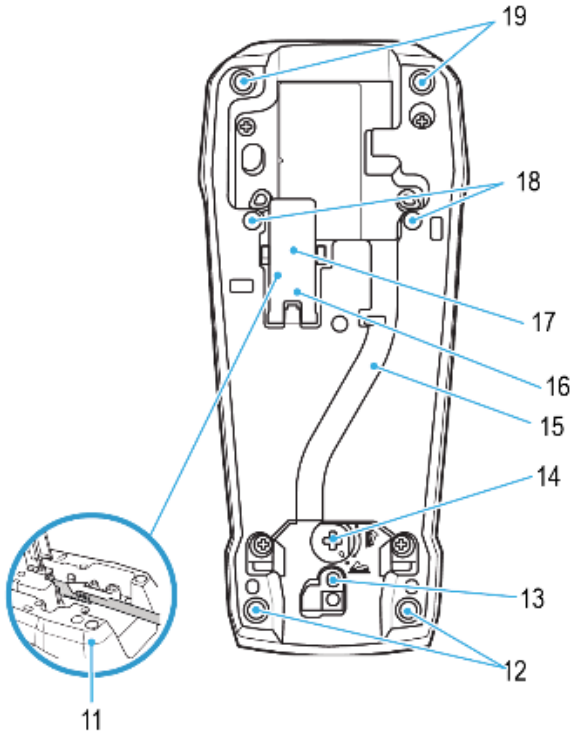


1	**Scan window**	Scanning barcodes
2	**Contact for base station (cradle)**	▪ Charging the battery ▪ Transferring data to base station (cradle)
3	**Trigger button**	Starting the scan process
4	**Battery compartment cover with safety lock**	▪ Securing the battery to stop it falling out ▪ Opening only possible using special tool (included with delivery)
5	**Lug**	Attaching cord to the hand-held scanner
6	**Status LEDs**	Displaying the status of the hand-held scanner
7	**Battery LED**	Displaying the charge status of the battery
8	**Bluetooth LED**	Displaying the status of the Bluetooth connection
9	**Beeper**	Transmitting beeps or sequences of beeps indicating events
10	**Vibration**	Vibrations that indicate events

3.3 Base station (Cradle)

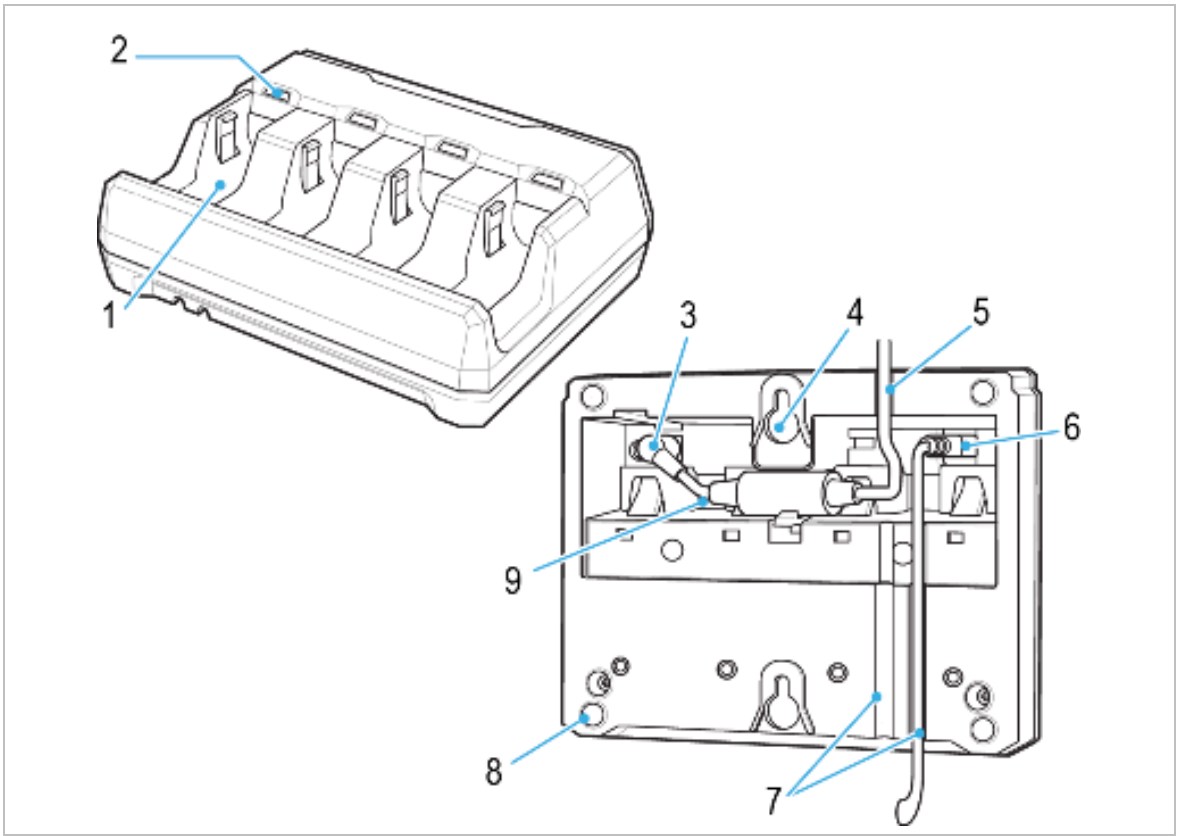


1	**Retainer**	Holding the hand-held scanner in place in the base station
2	**Connection code (for connection to BCS3678ex-NI / BCS3678ex-IS)**	Establishing a connection between base station and hand-held scanner
3	**Holes**	Water drainage
4	**Drill holes**	Mounting the base station to the wall
5	**Contact**	Charging the battery, transferring data
6	**LEDs**	Displaying the status of the base station
7	**Page button**	Connected hand-held scanners transmit a beep when the page button has been pressed
8	**Retainer**	Holding the hand-held scanner in the base station
9	**Drill hole**	Mounting the base station, e.g. on the wall
10	**Hole**	Water drainage



11	**Connection**	Connecting connection cable to base station
12	**Rubber feet**	Prevent the base station slipping
13	**Drill holes**	Mounting the base station, e.g. on the wall
14	**Adjusting screw**	Adjusting retainer to wall mounting or for use on the desk top
15	**Cable routing**	Feeding the connection cable to the connection
16	**Connection**	Protecting the connection
17	**Cover**	Relieving the strain on the connection cable
18	**Drill holes**	Mounting the base station, e.g. on the wall
19	**Rubber feet**	Prevent the base station slipping

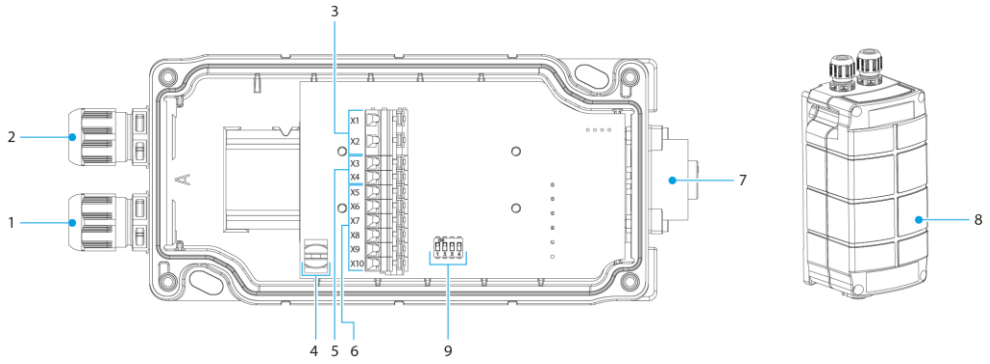
3.4 Battery charging station, 4-slot



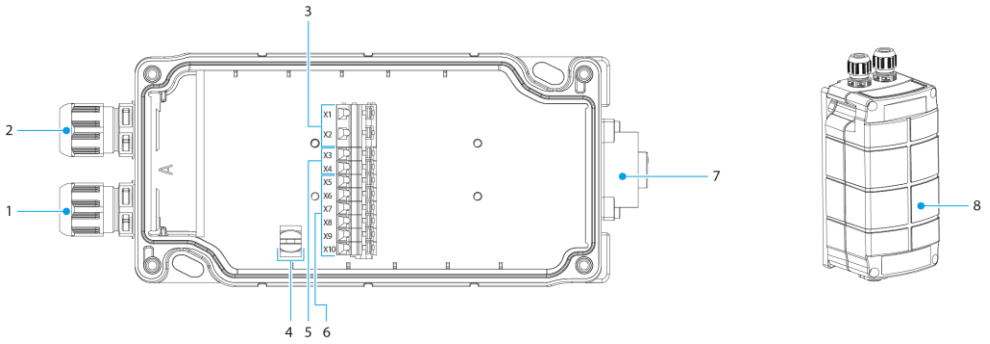
1	**Battery compartments (4)**	Inserting the battery for charging
2	**LEDs (4)**	Displaying the status of the battery charging station
3	**Connection for power supply**	Connect power supply with battery charging station
4	**Drill hole**	Mounting the battery charging station, e.g. on the wall
5	**Cable routing**	Feeding the power supply to the connection
6	**USB connection**	Connect USB cable to battery charging station
7	**Cable routing**	Feeding the cable to the connection
8	**Rubber feet (4)**	Prevent the battery charging station slipping
9	**Cable routing**	Feeding the power supply to the connection

3.5 Universal supply module corded

1st generation with DIP switch



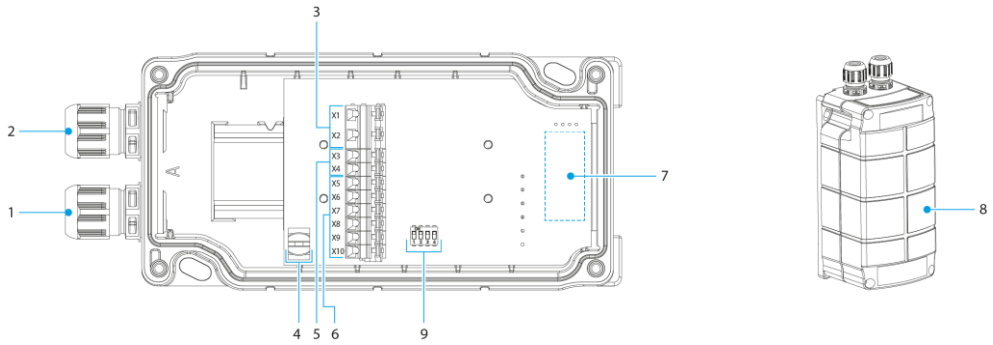
2nd generation without DIP switch



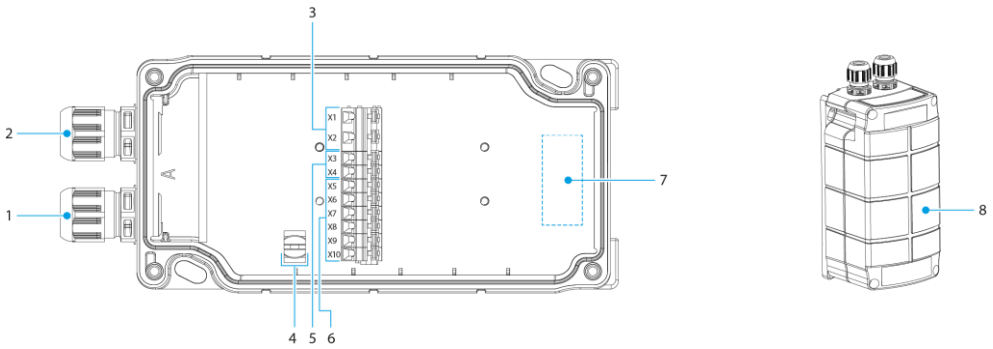
1	Cable gland	2	Cable gland
3	Terminals X1 to X2	4	Shield clamp
5	Terminals X3 to X4	6	Terminals X5 toX10
7	7-pole round plug	8	Cover
9	DIP switch		

3.6 Universal supply module Bluetooth

1st generation with DIP switch

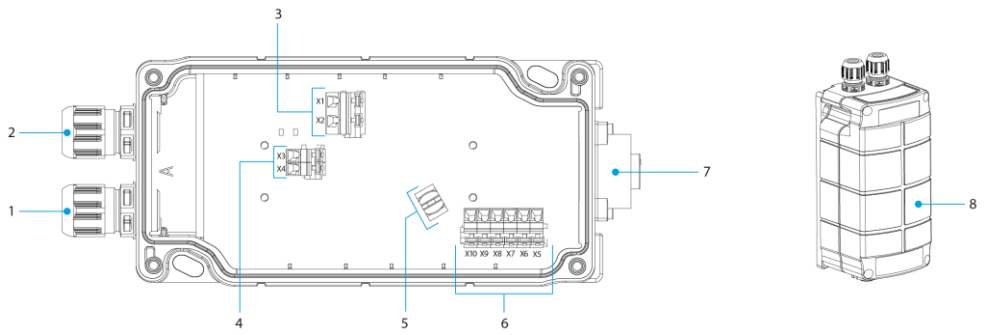


2nd generation without DIP switch



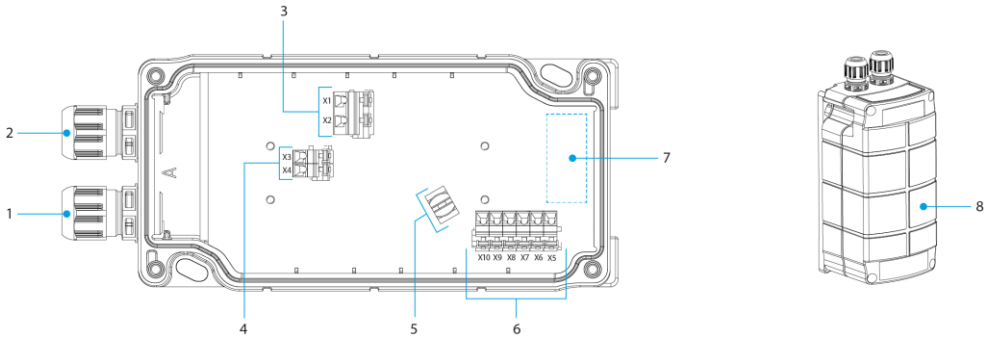
1	Cable gland	2	Cable gland
3	Terminals X1 to X2	4	Shield clamp
5	Terminals X3 to X4	6	Terminals X5 toX10
7	Bluetooth module	8	Cover
9	DIP switch		

3.7 Supply module Ex i corded



1	Kabelverschraubung	2	Cable gland
3	Klemmen X1 bis X2	4	Terminals X3 to X4
5	Shield clamp	6	Terminals X5 to X10
7	7-pole round plug	8	Cover

3.8 Supply module Ex i Bluetooth



1	Kabelverschraubung	2	Cable gland
3	Klemmen X1 bis X2	4	Terminals X3 to X4
5	Shield clamp	6	Terminals X5 to X10
7	Bluetooth module	8	Cover

4 Technical data

4.1 Explosion protection IS

4.1.1 Hand-held scanner BCS3608ex-IS (Type: 17-A1S4-1HP0/****)

ATEX Zone 0 / 20	
Labelling	II 1G Ex ia ma op is IIC T4 Ga II 1D Ex ia ma op is IIIC T135°C Da IP 64
Test certificate	EPS 18 ATEX 1 199 X
Standards	see chapter: EU Declaration of Conformity
IECEx Zone 0 / 20	
Labelling	Ex ia ma op is IIC T4 Ga Ex ia ma op is IIIC T135°C Da IP 64
Test certificate	IECEx EPS 18.0100X
Standards	see chapter: EU Declaration of Conformity

4.1.2 Hand-held scanner BCS3678ex-IS (Type: 17-A1S4-2HP1/****)

ATEX Zone 0 / 20	
Labelling	II 1G Ex ia ma op is IIC T4 Ga II 1D Ex ia ma op is IIIC T135°C Da IP 64
Test certificate	EPS 17 ATEX 1 177 X
Standards	see chapter: EU Declaration of Conformity
IECEx Zone 0 / 20	
Labelling	Ex ia ma op is IIC T4 Ga Ex ia ma op is IIIC T135°C Da IP 64
Test certificate	IECEx EPS 17.0090X
Standards	see chapter: EU Declaration of Conformity
Zone 0 / 20 and Class I, II, III Division 1	
Labelling CNL USL Class I, II. III Division 1	 Ex ia ma op is IIC T4 Ga Ex ia ma op is IIIC T135°C Da IP 64 Zone 0 AEx ia ma op is IIC T4 Ga Zone 20 AEx ia ma op is IIIC T135°C Da Class I, Division 1, Groups A, B, C and D Class II, Division 1, Groups E, F and G Class III, Division 1
Test certificate	E226123
Standards USA Standard National Standard of Canada	 UL 60079-0, Seventh Edition UL 60079-11, Sixth Edition UL 60079-18, Fourth Edition UL 60079-28, Second Edition CAN/CSA C22.2 No. 60079-0:19 CAN/CSA C22.2 No. 60079-11:14 CAN/CSA C22.2 No. 60079-18:16 CSA C22.2 No. 60079-28:16

4.1.3 Universal supply module for BCS3608ex-IS (Type: 17-A1Z0-0018/****)

ATEX Zone 1 / 21	
Labelling	II 2(1)G Ex eb ma [ia Ga] IIC T4 Gb II 2(1)D Ex tb [ia Da] IIIC T80°C Db
Test certificate	EPS 18 ATEX 1 013 X
Standards	see chapter: EU Declaration of Conformity
IECEx Zone 1 / 21	
Labelling	Ex eb ma [ia Ga] IIC T4 Gb Ex tb [ia Da] IIIC T80°C Db
Test certificate	IECEx EPS 18.0009X
Standards	see chapter: EU Declaration of Conformity

4.1.4 Universal supply module for BCS3678ex-IS (Type: 17-A1Z0-0019/****)

ATEX Zone 1 / 21	
Labelling	II 2G Ex eb ma IIC T4 Gb II 2D Ex tb IIIC T80°C Db
Test certificate	EPS 18 ATEX 1 013 X
Standards	see chapter: EU Declaration of Conformity
IECEx Zone 1 / 21	
Labelling	Ex eb ma IIC T4 Gb Ex tb IIIC T80°C Db
Test certificate	IECEx EPS 18.0009X
Standards	see chapter: EU Declaration of Conformity

4.1.5 Supply module Ex i for BCS3608ex-IS (Typ: 17-A1Z0-0025/****)

ATEX Zone 1 / 21	
Labelling	Ⓔx II 2(1)G Ex eb ib ma [ia Ga] IIC T4 Gb Ⓔx II 2(1)D Ex tb ib [ia Da] IIIC T80°C Db
Test certificate	EPS 18 ATEX 1 013 X
Standards	see chapter: EU Declaration of Conformity
IECEx Zone 1 / 21	
Labelling	Ex eb ib ma [ia Ga] IIC T4 Gb Ex tb ib [ia Da] IIIC T80°C Db
Test certificate	IECEx EPS 18.0009X
Standards	see chapter: EU Declaration of Conformity

4.1.6 Supply module Ex i for BCS3678ex-IS (Type: 17-A1Z0-0028/****)

ATEX Zone 1 / 21	
Labelling	Ⓔx II 2G Ex eb ib ma IIC T4 Gb Ⓔx II 2D Ex tb ib IIIC T80°C Db
Test certificate	EPS 18 ATEX 1 013 X
Standards	see chapter: EU Declaration of Conformity
IECEx Zone 1 / 21	
Labelling	Ex eb ib ma IIC T4 Gb Ex tb ib IIIC T80°C Db
Test certificate	IECEx EPS 18.0009X
Standards	see chapter: EU Declaration of Conformity

4.1.7 Special conditions for Explosion protection IS

⚠ WARNING - Explosion Hazard / ADVERTISSEMENT - Risque d'explosion

X – labelling / *étiquetage*

Special conditions of use for secure operation within the potentially explosive atmosphere!

Conditions particulières d'utilisation pour un fonctionnement sûr dans une atmosphère potentiellement explosive!

Battery shall only be changed or charged in an area known to be non-hazardous.

La batterie doit être changée ou chargée uniquement dans une zone connue pour être non dangereuse.

Ensure that the battery cover is closed and locked in hazardous locations.

Assurez-vous que le couvercle de la batterie est fermé et verrouillé dans les à zones dangereuses.

Programming shall only be done in an area known to be non-hazardous.

La programmation ne doit se faire que dans une zone connue pour être non dangereuse.

The device shall be protected against impacts with high impact energy *, against permanent UV-light ** and high electrostatic charge generating processes. ***

*Le produit doit être protégé contre les chocs à haute énergie d'impact *, contre la lumière UV permanente ** et les processus générant des charges électrostatiques élevées. ****

The Quick Start Guide shall be observed.

Le guide de démarrage rapide doit être respecté.

The non-Ex-relevant accessories may not be used in hazardous areas.

Les accessoires non pertinents pour l'Ex ne doivent pas être utilisés dans les zones dangereuses.

* Ensure the device is not impacted by more than 2 Joules as tested according to the Ex standards. Check the device before using it in the hazardous area.

In the case of function disturbances or damage to the enclosure, the device should be removed immediately from the potentially explosive atmosphere to a safe place.

Assurez-vous que l'appareil n'est pas soumis à un impact de plus de 2 Joules selon les tests effectués conformément aux normes Ex. Vérifiez l'appareil avant de l'utiliser dans la zone dangereuse.

En cas de perturbations fonctionnelles ou d'endommagement du boîtier, le dispositif doit être immédiatement retiré de l'atmosphère potentiellement explosive et placé dans un endroit sûr.

** The housing material is suitable for outdoor usage in respect to ultraviolet light, but the device is not certified for continuous outdoor usage.

Le matériau du boîtier est adapté à une utilisation extérieure en ce qui concerne les rayons ultraviolets, mais l'appareil n'est pas certifié pour une utilisation extérieure continue.

*** The device must not be used in processes that generate strong charges. These can occur in particular with electrostatic painting, pneumatically conveyed dust, flowing liquids and droplets, machine-driven belts, brushes and foils, etc.

L'appareil ne doit pas être utilisé dans des processus qui génèrent des charges importantes. Cela peut notamment se produire dans le cas de peinture électrostatique, de poussière transportée par voie pneumatique, de liquides et de gouttelettes qui s'écoulent, de courroies, de brosses et de feuilles entraînées par des machines, etc.

4.2 Explosion protection NI

4.2.1 Hand-held scanner BCS3608ex-NI and BCS3678ex-NI (Type: B7-A2S4-****/****)

ATEX Zone 2 / 22	
Labelling	II 3G Ex ic op is IIC T4 Gc II 3D Ex ic op is IIIC T135°C Dc IP 64
Test certificate	EPS 16 ATEX 1113 X
Standards	see chapter: EU Declaration of Conformity
IECEx Zone 2 / 22	
Labelling	Ex ic op is IIC T4 Gc Ex ic op is IIIC T135°C Dc IP 64
Test certificate	IECEx EPS 16.0050X
Standards	see chapter: EU Declaration of Conformity
NEC/CEC Div 2	
Labelling	Class I Div. 2 Groups A, B ,C and D Class II Div. 2 Group F, G Class III T4 Conforms to ANSI/UL Std. 60950 Cert. to CAN/CSA Std. C22.2 No. 60950
Test certificate	5012876

4.2.2 Universal supply module for BCS3608ex-NI (Type: B7-A2Z0-0042/****)

ATEX Zone 2 / 22	
Labelling	II 3G Ex ec [ic] IIC T4 Gc II 3D Ex tc [ic] IIIC T80°C Dc
Test certificate	EPS 16 ATEX 1113 X
Standards	see chapter: EU Declaration of Conformity
IECEx Zone 2 / 22	
Labelling	Ex ec [ic] IIC T4 Gc Ex tc [ic] IIIC T80°C Dc
Test certificate	IECEx EPS 16.0050X
Standards	see chapter: EU Declaration of Conformity

4.2.3 Universal supply module for BCS3608ex-NI (Type: B7-A2Z0-0042/00US)

NEC/CEC Div 2	
Labelling	Class I Div. 2 Groups A, B ,C and D Class II Div. 2 Group F, G Class III T4 Conforms to ANSI/UL Std. 60950 Cert. to CAN/CSA Std. C22.2 No. 60950
Test certificate	5012876

4.2.4 Universal supply module for BCS3678ex-NI (Type: B7-A2Z0-0043/****)

ATEX Zone 2 / 22	
Labelling	II 3G Ex ec IIC T4 Gc II 3D Ex tc IIIC T80°C Dc
Test certificate	EPS 16 ATEX 1113 X
Standards	see chapter: EU Declaration of Conformity
IECEx Zone 2 / 22	
Labelling	Ex ec IIC T4 Gc Ex tc IIIC T80°C Dc
Test certificate	IECEx EPS 16.0050X
Standards	see chapter: EU Declaration of Conformity

4.2.5 Universal supply module for BCS3678ex-NI (Type: B7-A2Z0-0043/00US)

NEC/CEC Div 2	
Labelling	Class I Div. 2 Groups A, B ,C and D Class II Div. 2 Group F, G Class III T4 Conforms to ANSI/UL Std. 60950 Cert. to CAN/CSA Std. C22.2 No. 60950
Test certificate	5012876

4.2.6 Special conditions for Explosion protection NI

X - labelling (special conditions of use for secure operation within the potentially explosive atmosphere)
The ambient temperature range is -20 °C ≤ Ta ≤ +50 °C.* The device must be protected from impact with high impact energy, from intense UV-irradiation, and strongly charge generating processes. It is not allowed to use connectors inside the potentially explosive atmosphere.*
*See individual chapters on the items in this User Manual.

4.3 Features

4.3.1 Physical features

4.3.1.1 Hand-held scanner

Dimensions (height x width x depth)	corded: 185 mm x 76 mm x 132 mm (7.3 inch x 3.0 inch x 5.2 inch) Bluetooth: 185 mm x 76 mm x 142 mm (7.3 inch x 3.0 inch x 5.6 inch)
Weight	Hand-held scanner BCS3678ex-NI (with battery) with Scanner SE4750-HP: approx. 411 g (approx. 0.91 lb) with Scanner SE4850-ER: approx. 436 g (approx. 0.96 lb) Hand-held scanner BCS3608ex-NI (without cable) with Scanner SE4750-HP: approx. 309 g (approx. 0.68 lb) with Scanner SE4850-ER: approx. 334 g (approx. 0.74 lb) Hand-held scanner BCS3678ex-IS (with battery) approx. 491 g (approx. 1.08 lb) Hand-held scanner BCS3608ex-IS (without cable) approx. 382 g (approx. 0.84 lb)

4.3.1.2 Supply module

Dimensions (height x width x depth)	corded: 81 mm x 222 mm x 88 mm (3.2 inch x 8.7 inch x 3.5 inch) Bluetooth: 81 mm x 208 mm x 88 mm (3.2 inch x 8.2 inch x 3.5 inch)
Weight	Universal supply module NI (Zone 2) approx. 1070 g (approx. 2.36 lb) Universal supply module IS (Zone 1) approx. 1050 g (approx. 2.31 lb) Supply module Ex i approx. 1040 g (approx. 2.29 lb)

4.3.1.3 Base station

Dimensions (width x length x height)	99.8 mm x 229.4 mm x 82.6 mm (3.9 inch x 9.0 inch x 3.3 inch)
Weight	approx. 342 g (approx. 0.75 lb)

4.3.2 Ambient conditions

4.3.2.1 Hand-held scanner

Operating temperature	Corded: –20 °C to 50 °C (–4°F to 122 °F) Bluetooth: –20 °C to 50 °C (–4 °F to 122 °F)
Storage temperature (without battery)	–40 °C to 70 °C (–40 °F to 158 °F)
Relative humidity	5 % - 95 %, condensing
Protection class (IEC 60529)	IP 65
Electrostatic discharge	EN 61000-4-2 ±25 kV discharge via air ±10 KV direct discharge ±10 kV indirect discharge
Insensitivity towards ambient light	0 to 108.000 Lux (direct sun radiation)
Maximum operating height	High altitude up to 2000 m above sea level (normal altitude zero)
Mounting position/alignment:	hand-held equipment

For further technical data see technical data sheet.

4.3.2.2 Supply modules

Operating temperature	–20 °C to 50 °C (–4 °F to 122 °F)
Storage temperature	–40 °C to 70 °C (–40 °F to 158 °F)
Relative humidity	5 % - 95 %, condensing
Protection class (IEC 60529)	IP65
Electrostatic discharge	EN 61000-4-2 ±25 kV discharge via air ±10 KV direct discharge ±10 kV indirect discharge
Insensitivity towards ambient light	0 to 108.000 Lux (direct sun radiation)
Maximum operating height	High altitude up to 2000 m above sea level (normal altitude zero)
Mounting position/alignment	permanently installed, no fixed alignment
Protection against dangerous body currents (overvoltage category)	The universal supply module and the supply module Ex i correspond to overvoltage category 2 and pollution degree 1.

For further technical data see technical data sheet.

4.3.2.3 Battery

Operating temperature	–20 °C to 50 °C (–4 °F to 122 °F)
Storage temperature	–20 °C to 50 °C (–4 °F to 122 °F)
Charging temperature (nominal)	0 °C to 40 °C (32 °F to 104 °F)
Charging temperature (ideal)	5 °C to 35 °C (41 °F to 95 °F)
Relative humidity	5 % - 95 %, condensing
UN38.3 compliant	Yes
Maximum operating height	High altitude up to 2000 m above sea level (normal altitude zero)

For further technical data see technical data sheet.

4.3.2.4 Base station

Operating temperature	–20 °C to 50 °C (–4 °F to 122 °F)
Operating temperature during charging (nominal)	0 °C to 40 °C (32 °F to 104 °F)
Operating temperature during charging (ideal)	5 °C to 35 °C (41 °F to 95 °F)
Storage temperature	–40 °C to 70 °C (–40 °F to 158 °F)
Relative humidity	5 % - 95 %, condensing
Protection class (IEC 60529)	IP65
Maximum operating height	High altitude up to 2000 m above sea level (normal altitude zero)

For further technical data see technical data sheet.

4.3.2.5 Battery charging station, 4-slot

Operating temperature	0 °C to 40 °C (32 °F to 104 °F)
Operating temperature during charging (nominal)	0 °C to 40 °C (32 °F to 104 °F)
Operating temperature during charging (ideal)	5 °C to 35 °C (41 °F to 95 °F)
Storage temperature	–40 °C to 70 °C (–40 °F to 158 °F)
Relative humidity	5 % - 95 %, condensing
Protection class (IEC 60529)	IP65
Maximum operating height	High altitude up to 2000 m above sea level (normal altitude zero)

For further technical data see technical data sheet.

4.4 Ex-relevant values

4.4.1 Connection HMI limiting cable to Ex HMI or other Ex systems - Zone2

This section lists the Ex relevant parameters that are relevant for connecting the BCS3608ex-NI corded handheld scanner to an Ex HMI or to Ex systems.

Cable for power supply and data line in Ex e:

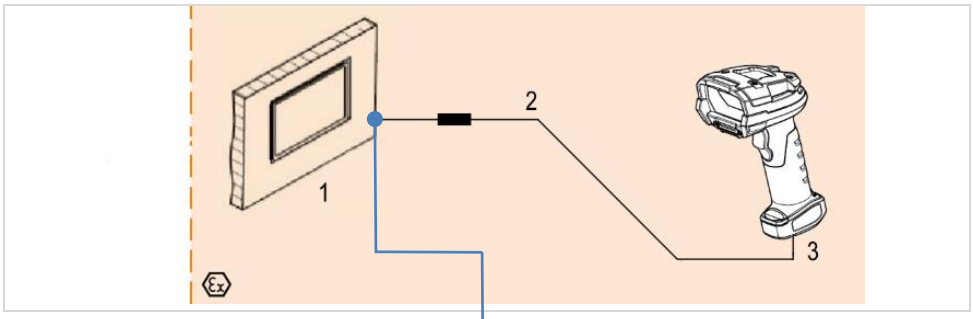
Must be mechanically protected for installation.

Plug connection (USB or RS232):

Must be mechanically protected against accidental loosening/pulling.

Connection:

The connection must be made in an Ex-tested terminal compartment.



Ex-relevant input parameters			
for BCS3608ex-NI with scanner: SE4750-HP Type B7-A2S4-1HP0/****		for BCS3608ex-NI with Scanner: SE4850-ER Type B7-A2S4-1ER0/****	
V_{max}	*5 V ±0.2 V*	V_{max}	*5 V ±0.2 V*
I_{max}	*1 A*	I_{max}	*1 A*

Available HMI limiting cables:

Type	Description	available for use in hazardous	
		ATEX/IECEx Zone 2/22	Class I, II, III Division 2
B7-A2Z0-0041	HMI limiting cable 1.9 m (plain) USB Connection between HMI and hand-held scanner BCS3608ex-NI, with open cable ends	Yes	Yes
B7-A2Z0-0054	HMI limiting cable 4.5 m (plain) USB Connection between HMI and hand-held scanner BCS3608ex-NI, with open cable ends	Yes	Yes
B7-A2Z0-0040	HMI limiting cable 1.9 m (plain) RS232 Connection between HMI and hand-held scanner BCS3608ex-NI, with open cable ends	Yes	Yes
B7-A2Z0-0050	HMI limiting cable 4.5 m (plain) RS232 Connection between HMI and hand-held scanner BCS3608ex-NI, with open cable ends	Yes	Yes

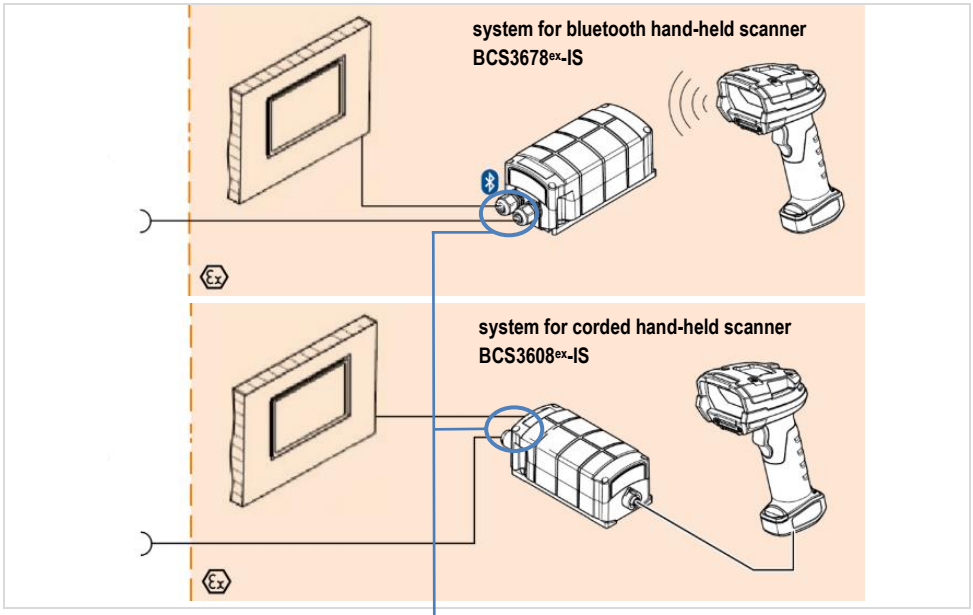
Ex-relevant and functional parameters necessary for the function:

- USB interface must provide 5 V/500 mA on the output side.
- RS232 interface needs a separate power supply with 5 VDC/500 mA.

If these values are not provided by the interface, the connection can be realized via a universal supply module.

4.4.2 Connection of supply module Ex i to other Ex systems

This section lists the Ex-relevant parameters that are relevant for connecting the supply module Ex i to another Ex system.

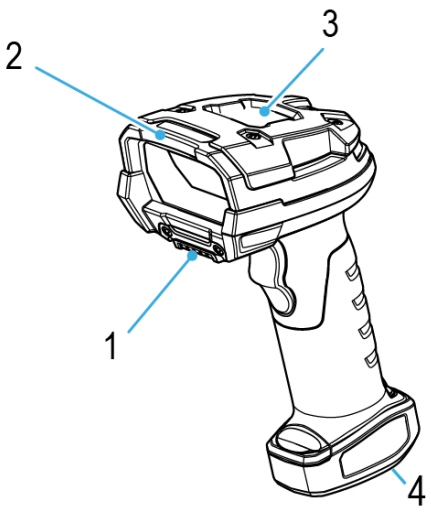


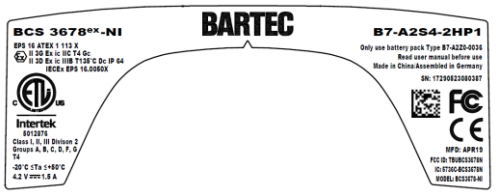
Ex-relevant input parameters for supply module Ex i	
Input	**Ex version**
Power supply	Ex e
Data cable	Ex i (passive) USB-SPP (Serial Port Profile) RS232 (only TxD)
Type: 17-A1Z0-0025/* + 17-A1Z0-0028/**** ***	
U_i	*6 V_{DC}*
I_i	*500 mA*
P_i	*2 W*
C_i	*5,7 µF*
L_i	*0 µH*

Ex i observation: **(so it is judged whether the values are compatible to each other)**		
Active Interface	Values must relate to each other as follows	Passive Interface
U_o	≤	U_i
I_o	≤	I_i
P_o	≤	P_i
C_o	≥	C_i
L_o	≥	L_i

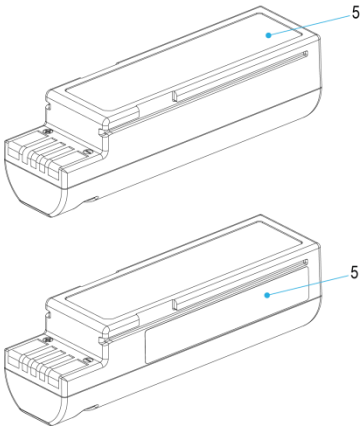
4.5 Product labelling

4.5.1 Hand-held scanner

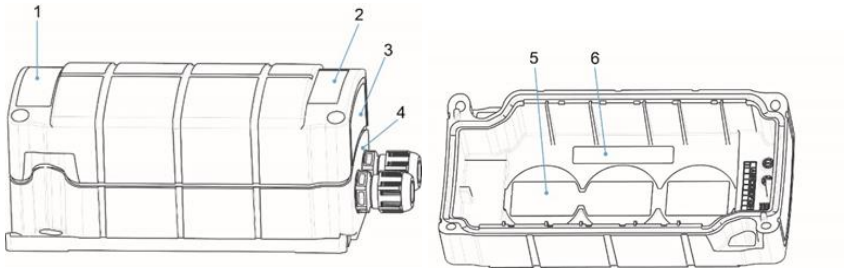


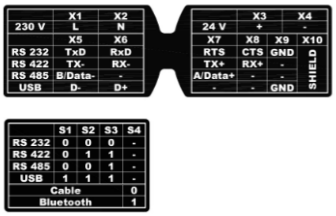
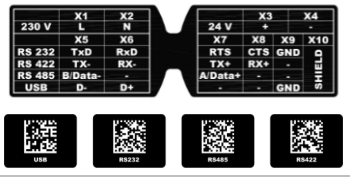
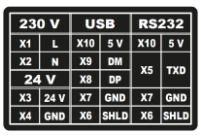
1	Type label *(here: BCS3678ex-NI)*	
2	Laser warning	
3	Product designation BCS3678ex-IS BCS3608ex-IS	
	Product designation BCS3678ex-NI BCS3608ex-NI	
4	*Only Bluetooth version:* Warning opening battery compartment	

4.5.2 Battery

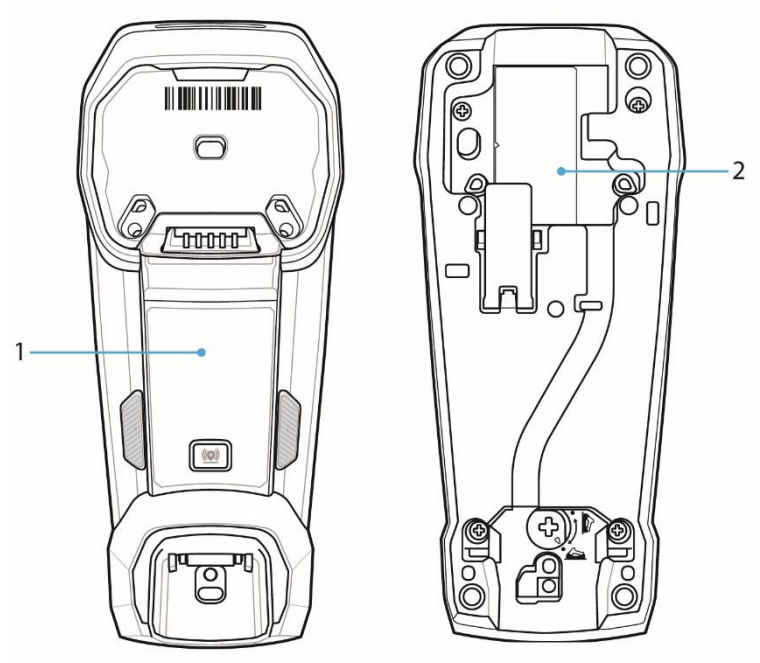
	Zone 0/20, Div 1 (Type 17-A1Z0-0012) Zone 2/20; Div 2 (Type B7-A2Z0-0036)	
5	*Only for Zone 1:* Information on the use	
5	*Only for Zone 2:* Information on the use	

4.5.3 Supply module



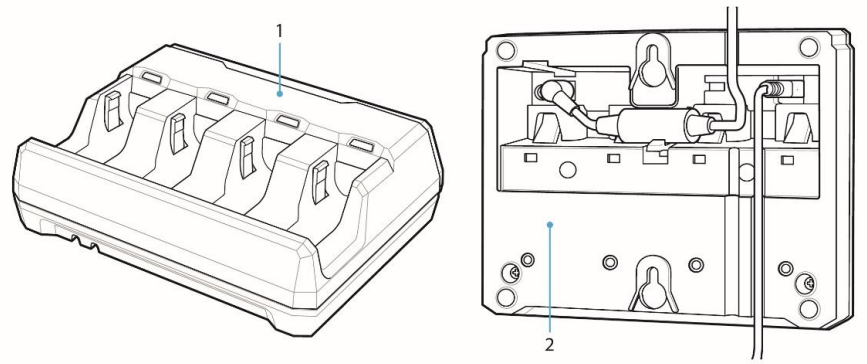
1	Type label *(here: Universal supply module, Bluetooth, for BCS3678ex-IS)*	
2	Product designation IS Bluetooth corded	
	Product designation NI Bluetooth corded	
3	*Only for Bluetooth-Version:* Scan to Connect Barcode For connecting the supply module with the scanner	
4	In the supply module: Serial number barcode	
5	*Only Generation 1 - with DIP switch:* Label for terminal assignment Label for setting the DIP switch	
	Only Generation 2 - without DIP switch: Label for terminal assignment Programming barcode for interfaces	
	Only supply module Ex i: Label for terminal assignment	
6	*Only Bluetooth version:* Master Barcode	

4.5.4 Base station



1	Product designation IS	
	Product designation NI	
2	*Only for Zone 1:* Type label	

4.5.5 Battery charging station



1	Product designation IS	BARTEC 4-slot battery charging station Type 17-A1Z0-0013 Only for charging battery Type 17-A1Z0-0012
	Product designation NI	BARTEC 4-slot battery charging station Type G7-A0Z0-0013 Only for charging battery Type B7-A2Z0-0036/-0058
2	*Only for Zone 1:* Type label	4-slot battery charging station Type 17-A1Z0-0013 Input: 12 V ⎓ 1 A Output: 4.2 V ⎓ 0.65 A SN: 20xx20xx00xx04 Read user manual before use Only for charging the battery Type 17-A1Z0-0012 Only use the Power supply with DC connecting cable Type G7-A0Z0-0019 BARTEC 97980 Bad Mergentheim Germany www.bartec.com Made in Germany MFD: APR20 CE 0044

5 Transport and storage

5.1 Transport

Report any transport damage or incomplete deliveries immediately after receipt in writing to the forwarding company and BARTEC GmbH.

Any damage caused through incorrect storage shall not be covered by the warranty provisions of BARTEC GmbH.

Battery is UN38.3 conform.

Due to the transport guidelines for air freight, all batteries are delivered ex works charged to max. 30 %.

Further information, like MSDS, can be found at

http://automation.bartec.de/indexE.htm

5.2 Storage

ATTENTION

Property damage through incorrect storage!

- ▶ Observe storage temperatures.
- ▶ Keep humidity away from the Hand-held scanner.

Additional information on the batteries

The batteries from BARTEC are developed and manufactured in accordance with the highest industrial standards. The operating time or storage period of a battery is restricted, however. The actual life of a battery is influenced by different factors, e.g. hot, cold, rough operating environment and falling from a great height. If a battery is kept longer than six months, the performance may be impaired on a permanent basis. Keep the batteries in a dry, cool place. For longer periods of storage, remove the batteries from the device to prevent self-discharge, rusting of the metallic and the escape of electrolyte.

Batteries kept for a duration of six months or longer should be charged and discharged again at least every three months. If electrolyte has escaped, do not touch the areas affected and dispose of the batteries as prescribed. Replace the battery if the operating time has shortened considerably.

The standard warranty period for all BARTEC batteries is six months, whereby it is irrelevant whether the battery was acquired separately or was contained in the scope of the delivery of the Hand-held scanner.

6 Commissioning

DANGER

Avoid electrostatic charging in potentially explosive atmosphere.

Danger to life in explosive atmosphere!

- ▶ Do not dry wipe or clean the devices.
- ▶ Wear suitable clothing and shoes.
- ▶ Do not use rubber gloves or similar.

DANGER

Unintended use endangers explosion protection.

Danger to life in explosive atmosphere!

- ▶ Do not make any changes to the Hand-held scanner.
- ▶ In the case of function disturbances or damage to the enclosure, the device should be removed immediately from the potentially explosive atmosphere to a safe place. Remove battery to decommission the device!
- ▶ Do not use any battery replicas or batteries from other manufacturers.

ATTENTION

No mixing of accessories!

- ▶ Only use accessories specified by BARTEC for the corresponding zones

  Accessories that are specified for zone 1 should only be used with the corresponding hand-held scanners.

  Accessories that are specified for zone 2 should only be used with the corresponding hand-held scanners.
- ▶ Mixing the accessories can result in irreparable damage to the hand-held scanner or accessories. In this case, the explosion protection of the hand-held scanner and the Ex-certified accessories cannot be guaranteed.

6.1 Requirements in potentially explosive atmosphere

⚠ WARNING - Explosion Hazard / ADVERTISSEMENT - Risque d'explosion

Special conditions of use for secure operation within the potentially explosive atmosphere!

Conditions particulières d'utilisation pour un fonctionnement sûr dans une atmosphère potentiellement explosive!

Hand-held scanner

- The Hand-held scanner may not be opened.
  Le scanner portatif ne doit pas être ouvert.
- Do not use, swap or replace any non-specified components.
  Utilisez, échangez ou remplacez aucun composant non spécifié.
- Substitution of components may impair intrinsic safety.
  La substitution des composants peut nuire à la sécurité intrinsèque.
- Protect the Hand-held scanner from impact!
  Protégez le scanner portatif contre les chocs!
- Do not expose the Hand-held scanner to caustic/aggressive liquids, vapours, mists!
  Ne pas exposer le scanner portatif à des liquides corrosifs/agressifs, des vapeurs, des brouillards!
- Avoid the impact of moisture outside the specifications.
  Évitez l'exposition à l'humidité en dehors des spécifications.
- Avoid thermal impact outside the specified temperature range.
  Évitez les influences thermiques en dehors de la plage de température spécifiée.

Accessories

- Only install or replace accessories outside the potentially explosive atmosphere.
  Installez ou remplacez les accessoires uniquement en dehors de l'atmosphère potentiellement explosive.
- User accessories exclusively which have been tested or certified by BARTEC for this purpose.
  Les accessoires de l'utilisateur exclusivement qui ont été testés ou certifiés par BARTEC à cette fin.

Battery

- Do not short circuit the battery!

  Ne court-circuitez pas la batterie!

- Only charge and change the battery outside the potentially explosive atmosphere.

  Ne chargez et ne changez la batterie qu'en dehors de l'atmosphère potentiellement explosive.

- Only use the battery for the purpose listed in this Quick Start Guide and they are only suitable for the hand-held scanner type 17-A1S*-****/****.

  Utilisez la batterie uniquement pour l'usage indiqué dans ce guide de démarrage rapide et elle ne convient qu'au scanner portatif de type 17-A1S-****/****.*

- To charge the battery, the charging temperature must be between 0°C and 40°C (32°F and 104°F).

  Ideal charging temperature is between 5°C and 35°C (41°F and 95°F).

  Pour charger la batterie, la température de charge doit être comprise entre 0°C et 40°C (32°F et 104°F).

  La température de charge idéale se situe entre 5°C et 35°C (41°F et 95°F).

- The battery must be locked within the potentially explosive atmosphere.

  La batterie doit être enfermée dans l'atmosphère potentiellement explosive.

- The battery may present a risk of fire or chemical burn if mistreated.

  La batterie peut présenter un risque d'incendie ou de brûlure chimique en cas de mauvais traitement.

- Do no disassemble, heat above +50 °C (+122 °F) or incinerate.

  Ne pas démonter, chauffer au-dessus de +50 °C (+122 °F) ou incinérer.

- Replace battery with battery type 17-A1Z0-0012 only. Use of another battery may present a risk of fire or explosion.

  Remplacez la batterie par une batterie de type 17-A1Z0-0012 uniquement. L'utilisation d'une autre pile peut présenter un risque d'incendie ou d'explosion.

- Dispose of used battery promptly. Keep away from children. Do not disassemble and do not dispose of in fire

  Mettez rapidement au rebut la batterie usagée. Tenir hors de portée des enfants. Ne pas démonter et ne pas jeter au feu".

- Defective batteries must be disposed of immediately, whereby the provisions on battery disposal applicable in the respective region must be observed.

  Les batteries défectueuses doivent être éliminées immédiatement, en respectant les dispositions relatives à l'élimination des batteries en vigueur dans la région concernée.

6.2 First steps

▶ Unpack the Hand-held scanner.

▶ **Corded Hand-held scanner:**

Connect the corded hand-held scanner.

▶ **Bluetooth Hand-held scanner:**

Insert and charge the battery into the hand-held scanner.

or

charge the battery and then insert it into the Bluetooth handheld scanner.

Use one of the following accessories to charge:

Description	Charging process	
	Battery (in the hand-held scanner)	Spare battery
Zone 0/20, Div 1		
Base station **Type: 17-A1Z0-0014**	Yes	No
4-slot battery charging station **Type: 17-A1Z0-0013**	No	Yes
Zone 2/20; Div 2		
Base station **Typ: G7-A0Z0-0010**	Yes	No
4-slot battery charging station **Type: G7-A0Z0-0013**	No	Yes

ACHTUNG

Damage to the battery when using non-specified chargers!

▶ Only use chargers and accessories specified by BARTEC for charging the battery, because the batteries and chargers are ex technically modified.

.

6.3 Corded hand-held scanner BCS3608ex-NI / BCS3608ex-IS

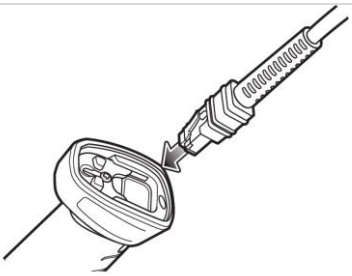
6.3.1 Connecting the connection cable to the hand-held scanner

DANGER

Spark formation when connecting a cable!

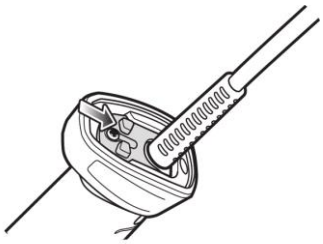
- ▶ Always have cables connected by a qualified electrician.
- ▶ Only connect or disconnect a cable in the potentially explosive atmosphere when the cable is not connected to the power supply.
- ▶ If the cable cannot be disconnected from the power supply, only connect or disconnect the cable outside the potentially explosive atmosphere.

1. Insert the connection cable completely in the hand-held scanner.



2. Insert the plug until it lies flush with the surface of the hand-held scanner.
3. Unscrew the Phillips screw on the safety lock.

4. Push the safety lock into the closed position.

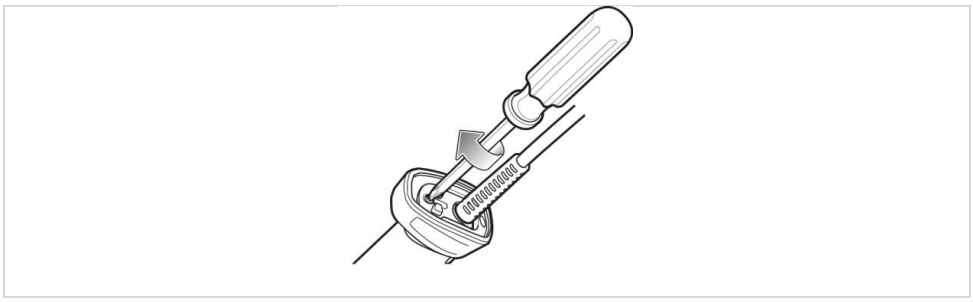


DANGER

Spark formation caused by the connection cable coming unplugged!

- ▶ Close the safety lock carefully.

5. Screw the Phillips screw on the safety lock tight.



6.4 Bluetooth Hand-held scanner BCS3678ex-NI / BCS3678ex-IS

6.4.1 Insert/change battery

DANGER

- **Mixing up the batteries!**
  Only use batteries that have been specified by BARTEC.
  Utilisez uniquement la batterie qui a été spécifiée par BARTEC.
- **Spark formation when changing the battery!**
  Only insert or remove the battery outside the potentially explosive atmosphere.
  Insérez ou retirez la batterie uniquement en dehors de tout risque d'explosion.
- **Spark formation when charging the battery!**
  Only charge the battery outside the potentially explosive atmosphere.
  Chargez la batterie uniquement en dehors des zones à risque d'explosion

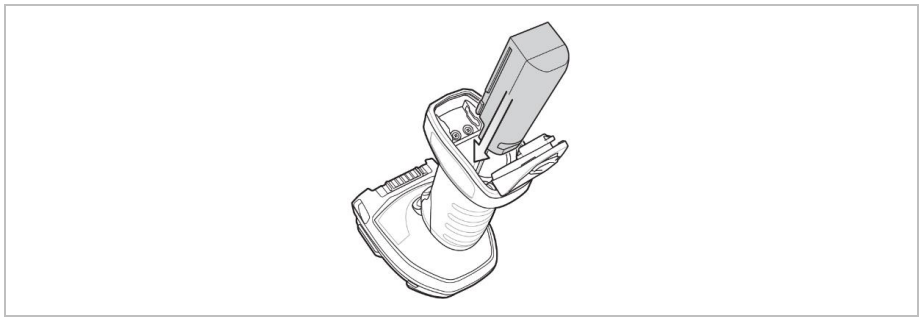
Only the following batteries are approved:

Zone / Div	Battery type
Zone 0/20, Div 1	17-A1Z0-0012
Zone 2/20; Div 2	B7-A2Z0-0036

1. Using the special tool, open the safety lock to unlock the battery compartment cover, rotating the safety lock by approximately one quarter in either direction.

2. If a battery has been inserted: remove the battery.

3. Slide the battery into the battery compartment with the battery contacts first. Make sure that the rounded side of the battery is facing the rear of the hand-held scanner.



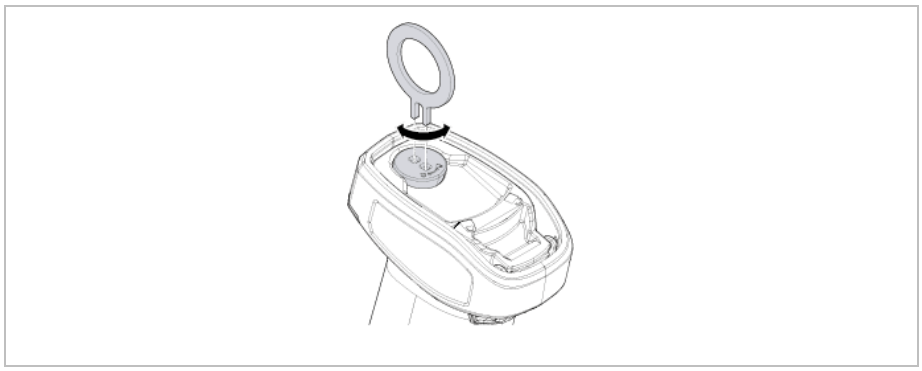
4. Close the battery compartment cover.

DANGER

Spark formation caused by the battery falling out!

▶ Close the safety lock carefully.

5. Turn the safety lock by approximately one quarter in either direction to lock the battery compartment cover.



6.4.2 Connecting the base station on the host PC and power source

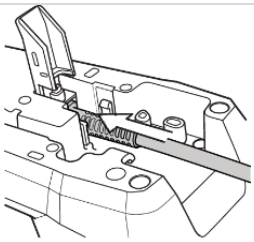
DANGER

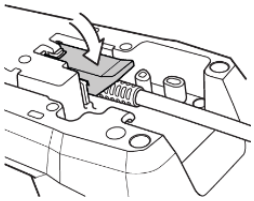
Spark formation when connecting a cable!

▶ Only use the base station outside potentially explosive atmosphere.

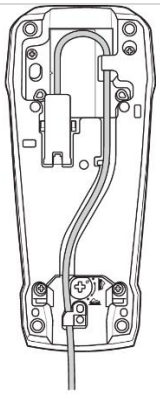
- The base station is supplied with power via the connection cable to the host PC. There is a separate socket on the connection cable to establish the power connection via the power supply (type G7-A0Z0-0019). Further information about the power supply to the base station can be found in the ZEBRA Product Reference Guide.
- Make sure that the power supply is disconnected from the power source before connecting the connection cable/data cable to the host PC. Otherwise, the base station may not be able to establish a connection with a new host PC.

1. Connect the data cable to the host PC.
2. Open the cover, connect the data cable and close the cover.

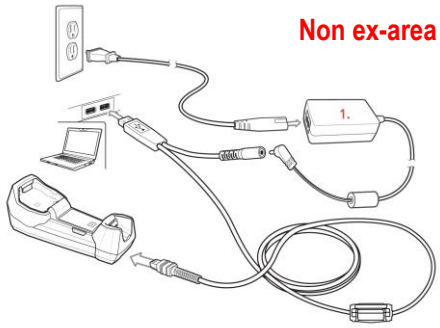
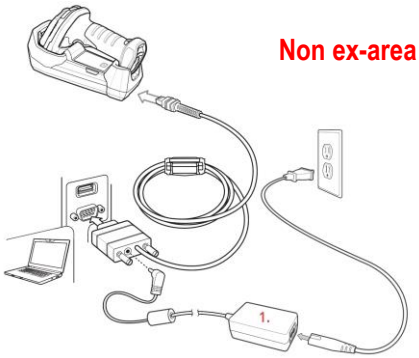




3. Feed the connection cable through the cable gland.



4. Connect the base station to the power source.

Connection via USB	Connection via RS232
	

Needed power supply:

Part	BCS3678ex-IS ATEX / IECEx Zone 0/20 NEC Class I, II, III Division 1	BCS3678ex-NI ATEX / IECEx Zone 2/22 NEC Class I, II, III Division 2
Base station for hand-held scanner BCS3678ex Bluetooth	Type: 17-A1Z0-0014	Type: G7-A0Z0-0010
Connecting cable ▪ Connection between base station and PC ▪ With terminal for 12V power supply	RS232; 1.9 m (plain) ▪ Type: 17-A1Z0-0026 RS232; 4.5 m (plain) ▪ Type: 17-A1Z0-0027 USB; 1.9 m (plain) ▪ Type: 17-A1Z0-0020 Identical with programming cable	RS232; 2 m (plain) ▪ Type: G7-A0Z0-0014 RS232; 4.6 m (plain) ▪ Type: G7-A0Z0-0015 RS232; 2.8 m (spiral) ▪ Type: G7-A0Z0-0016 USB; 2 m (plain) ▪ Type: G7-A0Z0-0018
Power supply with DC connecting cable	Type: G7-A0Z0-0019	

Note on the power supply of the base station via the PC/Host:

RS232:

The RS232 does not provide a supply voltage to operate the base station functionally.

External power supply of type G7-A0Z0-0019 is mandatory.

USB:

The supply voltage via the USB interface is not sufficient to use a base station for data transmission and as a charging station.

It is absolutely necessary to use an external power supply (type G7-A0Z0-0019).

The charging current via the USB interface is too low to enable charging of the battery.

6.4.3 Placing and charging the hand-held scanner in the base station

DANGER

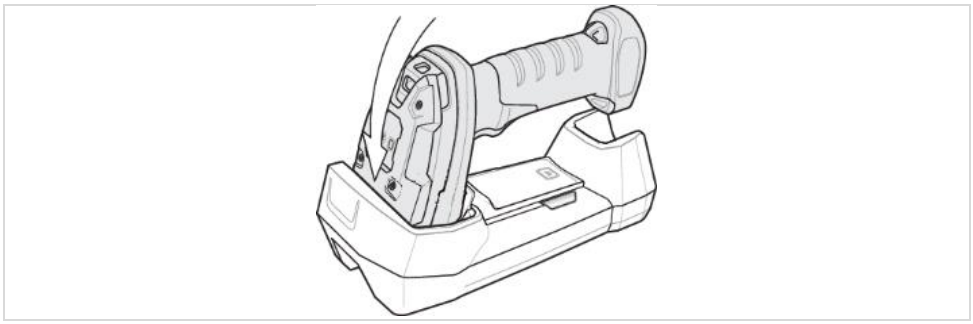
Non-approved base station!

▶ Only use the base station that has been specified for the relevant configuration by BARTEC.

Spark formation!

▶ Only use the base station outside the potentially explosive atmosphere.

1. Place the head of the hand-held scanner in the base station.



2. Press the underneath of the hand-held scanner into the base station until you hear the hand-held scanner click into place.

➥ LEDs on the base station flash yellow to indicate the start of the charging process.

➥ LEDs on the base station flash green to indicate the end of the charging process.

Charging time:

Battery Type for Zone 2/22; Div 2	**Base station Type: G7-A0Z0-0010**
B7-A2Z0-0036	Up to 3 hours
Battery Type for Zone 0/20; Div1	**Base station Type: 17-A1Z0-0014**
17-A1Z0-0012	Up to 8 hours

6.4.4 Connecting the hand-held scanner to the base station (optional)

1. The Bluetooth hand-held scanner sends data to the base station. The base station sends these data to a host PC. To exchange data / receive data, the base station must be connected to the hand-held scanner via Bluetooth.
2. To connect the hand-held scanner to the base station, place the hand-held scanner in the base station.
   –or–
   Scan the connection code (Pairing Barcode) on the base station.
   If the display is illuminated in red, the transfer has failed.
   If the status LEDs are lit up in green, the hand-held scanner is connected to the base station.

6.4.5 Inserting and charging the battery in the battery charging station

DANGER

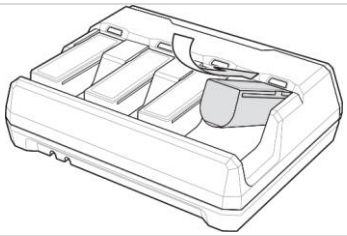
Non-approved battery charging station!

▶ Only use the battery charging station that has been specified for the relevant configuration by BARTEC.

Spark formation!

▶ Only use the battery charging station outside the potentially explosive atmosphere.

1. Point the contacts of the battery upwards.
2. Slide the battery underneath the edge of the LED indicator ledge of the 4-slot charging station.



3. Press the battery into the 4-slot charging station.

➥ You can hear the battery click into place

➥ LED on the 4-slot charging station flashes yellow, indicating the start of the charging process.

➥ Battery is charged.

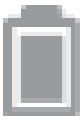
➥ LED on the 4-slot charging station flashes green, indicating the end of the charging process.

Charging time:

Battery Type for Zone 2/22; Div 2	**4 slot battery charging station Type: G7-A0Z0-0013**
B7-A2Z0-0036	Up to 5 hours
Battery Type for Zone 0/20; Div1	**4 slot battery charging station Type: 17-A1Z0-0013**
17-A1Z0-0012	Up to 8 hours

6.5 Meaning of LED display / beeps

6.5.1 Hand-held scanner

LED display	Colour	Beep sequence	Meaning
Status LEDs (on switching on)	Green flashes	Low – medium – high	Hand-held scanner is switched on
Status LEDs (when scanning)	Red	High (4 short beeps)	Transmission error Data are ignored
	Green	Medium	Barcode has been read successfully
On Bluetooth hand-held scanners: 	Red	–	Battery charge less than 20 %
	Yellow	–	Battery charge 20 - 50 %
	Green	–	Battery charge over 50 %
On Bluetooth hand-held scanners: 	Red	Low (4 long beeps)	No Bluetooth pairing
	Green	2 short beep sequences	Paired to Bluetooth device

When searching the scanner with the paired base station, the search LED on the scanner lights.

Hand-held scanner BCS3678ex-IS (Zone 1) – red or blue (depending on the revision level)
Hand-held scanner BCS3678ex-NI (Zone 2) – blue

Note that when using the BCS3678ex-IS (Zone 1), the status LED display can be adjusted using a programming code.

Note:

The setting will be reset with "Factory Default" and must be set again.

Other LED displays and beeps are described in the ZEBRA Product Reference Guide.

6.5.2 Base station and 4-slot battery charging station

LED display	Meaning
Lights up green	Base station or battery charging station is switched on
Lights up blue	Page button is pressed
Flashes yellow	Battery is being charged
Flashes green	Battery has been fully charged
Flashes quickly, yellow	Fault during charging

Note for battery Zone 1:

A broken battery is not detected by the charging station.

The LED display flashes yellow and indicates that the battery is being charged.

A defective battery can be expected if the maximum specified charging time is clearly exceeded.

Other LED displays and beeps are described in the ZEBRA Product Reference Guide.

6.6 Supply module

6.6.1 Establishing universal supply module connections

In the following, the universal supply module and the supply module Ex i are generally referred to as supply module.

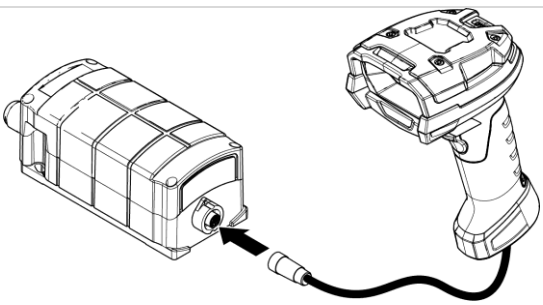
DANGER

Non-approved accessories!

- ▶ Only use supply modules that have been specified for the relevant configuration by BARTEC.

➥ The universal supply module is mounted to a secure base.

1. When using the corded hand-held scanner: connect the connection cable of the hand-held scanner to the supply module, turning the connection cable clockwise to screw tight



2. When using the Bluetooth hand-held scanner: connect the hand-held scanner via pairing to the supply module.
3. Feed the connection cable for the power supply through the cable gland into the supply module.
4. Feed the data cable between the PC and supply module through the cable gland into the supply module.
5. when connecting the data cable to the USB-SPP interface, the ferrite core must be connected as described in chapter: Commissioning.
6. Connect the connection cable for the power supply to the supply module according to the terminal assignment plan.
7. Connect the data cable between the PC and supply module to the supply module according to the terminal assignment plan and interface type.
8. Check connections and terminal assignments.
9. Connect data cable between the PC and supply module to the PC.
10. Set interface via DIP switch or programming barcode.
11. Close the cover of the supply module. Observe torque.
12. Connect the connection cable for the power supply to the power source.
13. For connection to an HID device to PC or to a PLC: note further information on the interfaces.

6.6.2 Connecting the supply module as HID device

All used interfaces of the Universal supply module (USB-SPP, RS232, RS422 and RS485) or Supply Module Ex i (USB-SPP and RS232) can be connected to a PC or a system with a corresponding interface.

All interfaces are serial. A serial interface has no own intelligence and cannot process the incoming data independently.

A PC or system with a software wedge application is required to operate the system (hand-held scanner and supply module) as a HID device. The software wedge application converts the serial port data to USB HID. Software wedge applications are not supplied by BARTEC, but are available on the market (e.g. T-Wedge).

6.6.3 Connecting the supply module to a PLC

All used interfaces of the Universal supply module (USB-SPP, RS232, RS422 and RS485) or Supply Module Ex i (USB-SPP and RS232) can be connected to a PLC.

There are a number of different manufacturers for SPS/PLC. The connection of a hand-held scanner depends on the availability of an interface to the SPS/PLC and the ability of the SPS/PLC to process the incoming data. The SPS/PLC must support the open ASCII protocol.

There is no compatibility list.

The following must be observed when connecting to a PLC:

- What interfaces are available on the SPS/PLC?
  The Universal supply module supports the following interfaces:
  - USB-SPP (virtual serial interface)
  - RS232
  - RS422
  - RS485

  The Supply module Ex i supports the following interfaces:
  - USB-SPP (virtual serial interface)
  - RS232
- The SPS/PLC supports the open ASCII protocol.
- What interface parameters are set on the SPS/PLC?
  All interconnected components must be set to the same parameters. Otherwise a communication cannot function correctly or not at all.
  - Baud Rate
  - Parity
  - Stop Bit
  - Data Bit
  - Hardware-/Software Handshaking

How the data is processed at the SPS/PLC and what has to be set at the scanner is the responsibility of the plant operator.

For example, a serial interface has no intelligence of its own and cannot process incoming data independently. This means that the controller must monitor the serial interface and process incoming data (read/write routine).

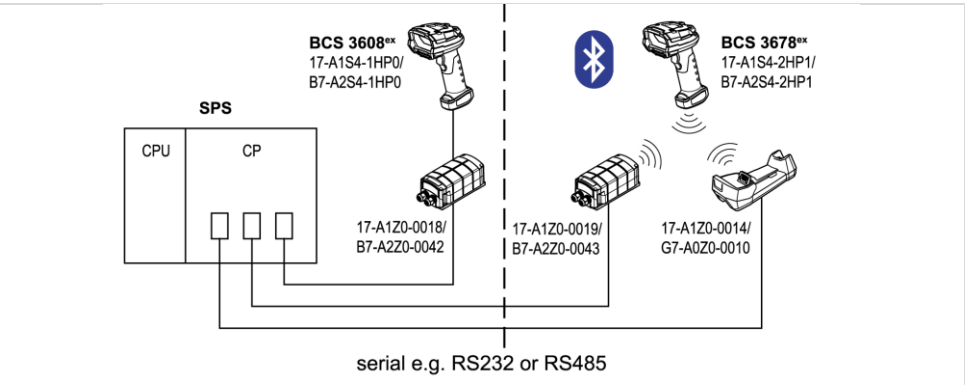
An example project for scanner connection to a Siemens Simatic-S7 SPS/PLC is available on the BARTEC Support Download page.

http://automation.bartec.de/indexE.htm

Content:

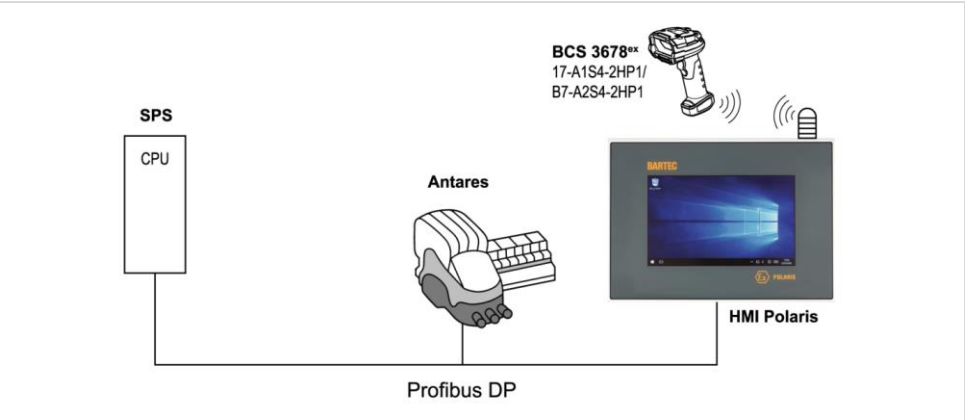
- Description with components used
- Sample project for use as a project template

Solution 1: Availability on the SPS/PLC side



- Communication controller / processor (CP)
- Open ASCII driver

Solution 2: Availability on the PROFIBUS DP side



- PROFIBUS DP converter to serial

OR

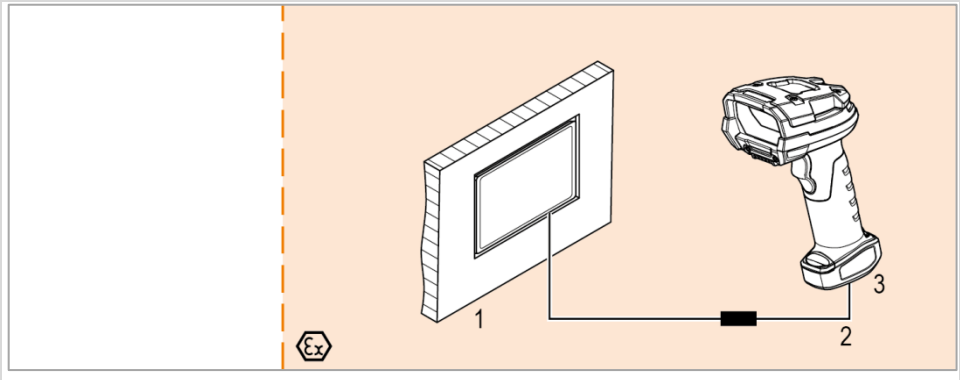
- PROFIBUS compatible terminal equipment such as HMI Polaris with the possibility of connecting the scanner

6.7 Connecting the hand-held scanner BCS3608ex-NI to the HMI (only Zone 2/22)

The function is only guaranteed if the cables you connect for your configuration have been specified by BARTEC.

- ▶ Pay attention to the manual of the HMI.
- ▶ Pay attention to the chapter: Ex-relevant values

When connecting to an HMI or other device, it must be ensured that the Ex-technically relevant values are not exceeded or undercut.



Pos.	Description
1	HMI (approved for use in potentially explosive atmospheres)
2	HMI limiting cable USB (B7-A2Z0-0041 or B7-A2Z0-0054) or HMI limiting cable RS232 (B7-A2Z0-0040 or B7-A2Z0-0050)
3	Hand-held scanner BCS3608ex-NI

▶ Connect the connection cable of the hand-held scanner in the HMI to the terminals provided for this purpose.

The listed cables have been modified for use in the following potentially explosive atmospheres:

- ATEX/ IECEx Zone 2 and Zone 22
- Class I, II, III DIV 2

Typical application:

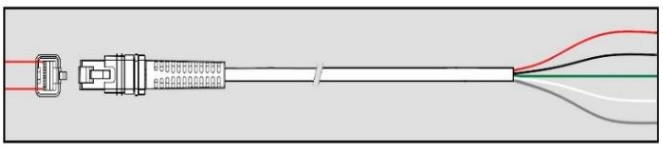
HMI limiting cable USB: Connection to HMI in zone 2 version.

HMI limiting cable RS232: Connection to weighing systems in zone 2 version.

6.7.1 HMI limiting cable USB

Specified cables	Version	Length	BARTEC Order-No.
HMI limiting cable	USB	1,9 m	B7-A2Z0-0041
HMI limiting cable	USB	4,5 m	B7-A2Z0-0054

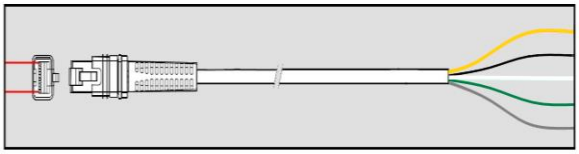
The HMI limiting cable USB can be connected directly to the HMI or the USB connection (BARTEC Order no. B7-A2Z0-0074) can be used optional.

RJ-50 (10 Pin) Connector	HMI limiting cable Version: USB	USB connection (optional)	Description of the cores
			Red = V+
Pin 1			Black= GND
Pin 10			Green = D-
			White = D+
			Grey = Shield

Internal power supply at the HMI USB module must be at least 5V DC / 500 mA.

6.7.2 HMI limiting cable RS232

Specified cables	Version	Length	BARTEC Order-No.
HMI limiting cable	RS232	1,9 m	B7-A2Z0-0040
HMI limiting cable	RS232	4,5 m	B7-A2Z0-0050

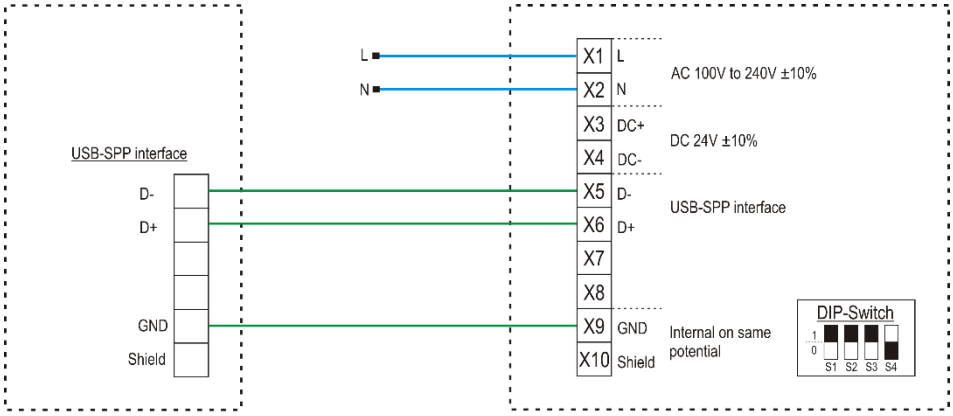
RJ-50 (10 Pin) Connector	HMI limiting cable Version: RS232	Description of the cores
		Yellow = V+ (12V DC)
Pin 1		Black = GND
Pin 10		White = TxD/RxD
		Green = RxD/TxD
		Grey = Shield

An external power supply is necessary to supply the hand-held scanner.
The RS232 interface itself is not able to provide the necessary power supply.
The external power supply has to be at least 5V DC / 500 mA to operate the hand-held scanner at a RS232 interface.

6.8 Wiring diagram for Universal supply module (USM)

6.8.1 Universal supply module with USB-SPP Interface

USM - corded with USB-SPP



PC/Host with USB Interface USB-SPP = Serial Port Profile USB = virtual serial COM port	**Max. cable length is 5 m**	UVM - corded (1st generation with DIP switch)

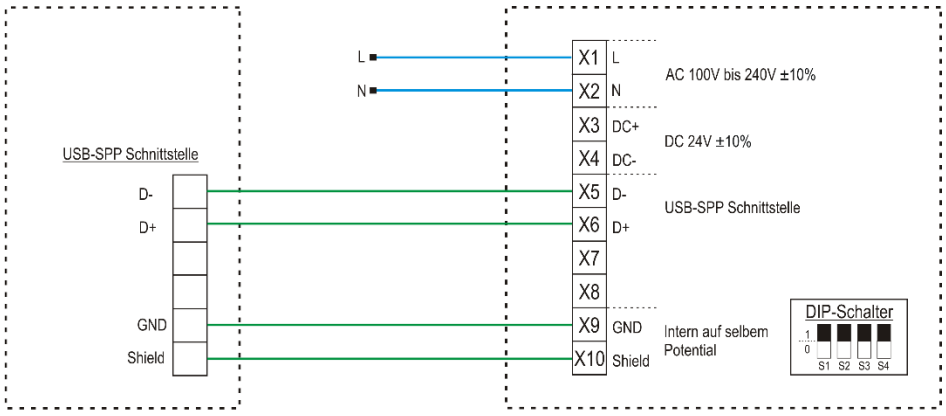
Wiring:

Blue wire => necessary (example connection to AC)

Green wire => necessary

For data cables, we strongly recommend to use shielded (e.g. CAT5, similar or higher quality) cables.

USM - Bluetooth with USB-SPP



PC/Host with USB Interface USB-SPP = Serial Port Profile USB = virtual serial COM port	**Max. cable length is 5 m**	UVM - Bluetooth (1st generation with DIP switch)

Dip-Switch:

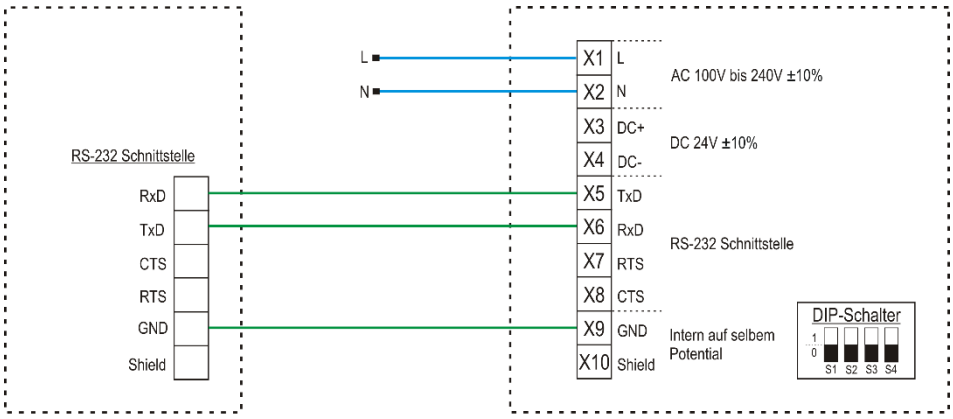
S1 to S3 = Setup for interface

S4 = 0 = Corded Version

S4 = 1 = Bluetooth Version

6.8.2 Universal supply module with RS232 Interface

USM - corded with RS232



PC/Host with serial RS232-interface	**Max. cable length is 15 m**	UVM - corded (1st generation with DIP switch)

Wiring:

Blue wire => necessary (example connection to AC)

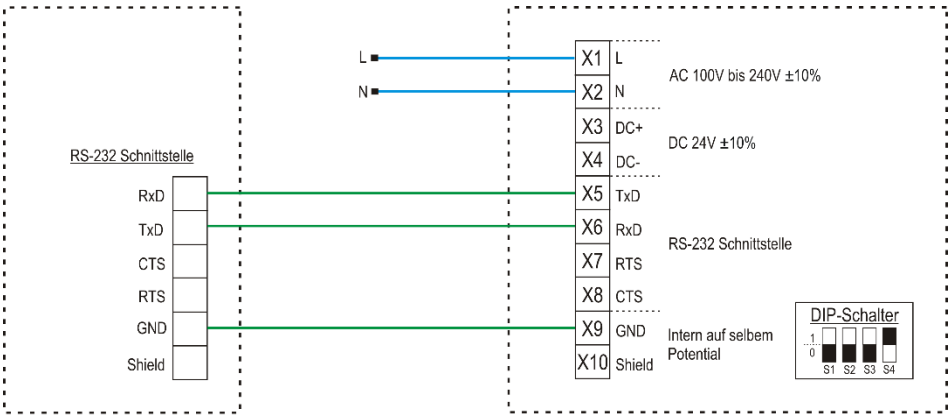
Green wire => necessary

The signals RTS and CTS are not in use/no function internally.

The terminals can only be used to connect the wires.

For data lines (green and orange) we strongly recommend to use shielded (e.g. CAT5, similar or higher quality) cables.

USM - Bluetooth with RS232



PC/Host with serial RS232-interface	**Max. cable length is 15 m**	UVM - Bluetooth (1st generation with DIP switch)

Dip-Switch:

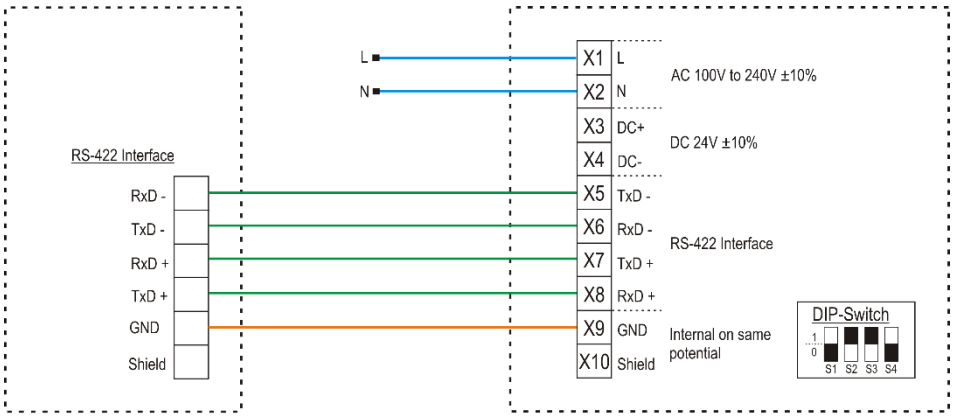
S1 to S3 = Setup for interface

S4 = 0 = Corded Version

S4 = 1 = Bluetooth Version

6.8.3 Universal supply module with RS422 Interface

USM - corded with RS422



PC/Host with serial RS422-interface	**Max. cable length is 1000 m**	UVM - corded (1st generation with DIP switch)

Wiring:

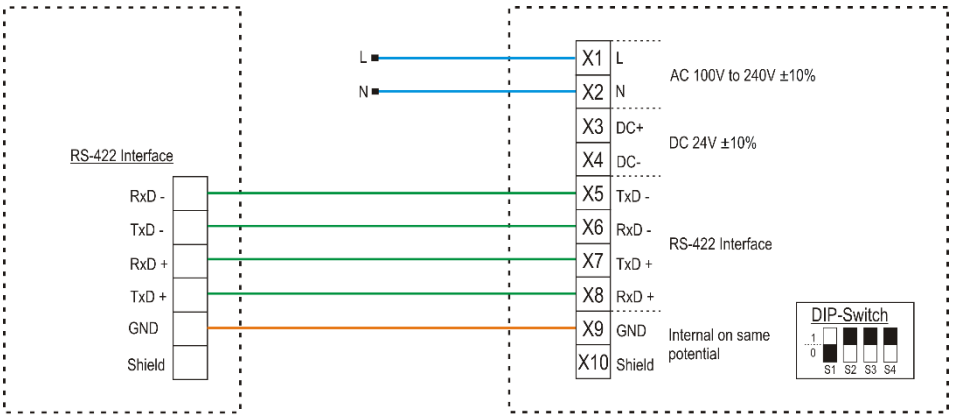
Blue wire => necessary (example connection to AC)

Green wire => necessary

Orange wire => optional to use only for large potential differences.

For data lines (green and orange) we strongly recommend to use shielded (e.g. CAT5, similar or higher quality) cables.

USM - Bluetooth with RS422



PC/Host with serial RS422-interface	**Max. cable length is 1000 m**	UVM - Bluetooth (1st generation with DIP switch)

Dip-Switch:

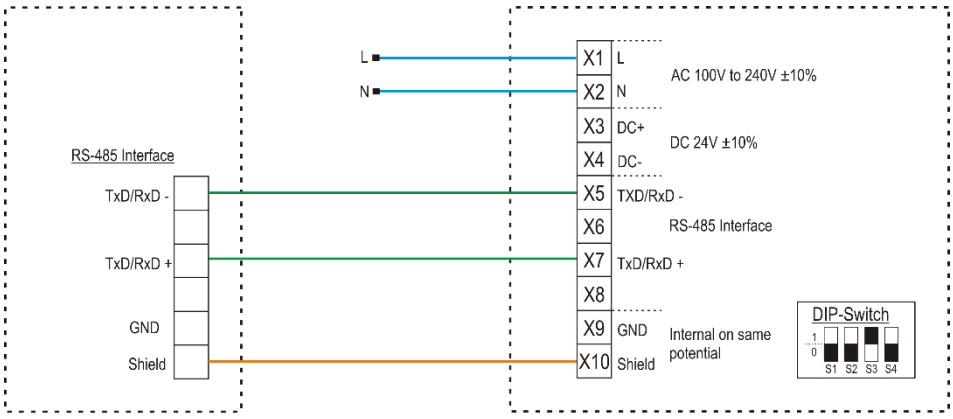
S1 to S3 = Setup for interface

S4 = 0 = Corded Version

S4 = 1 = Bluetooth Version

6.8.4 Universal supply module with RS485 Interface

USM - corded with RS485



PC/Host with serial RS485-interface	**Max. cable length is 1200 m**	UVM - corded (1st generation with DIP switch)

Wiring:

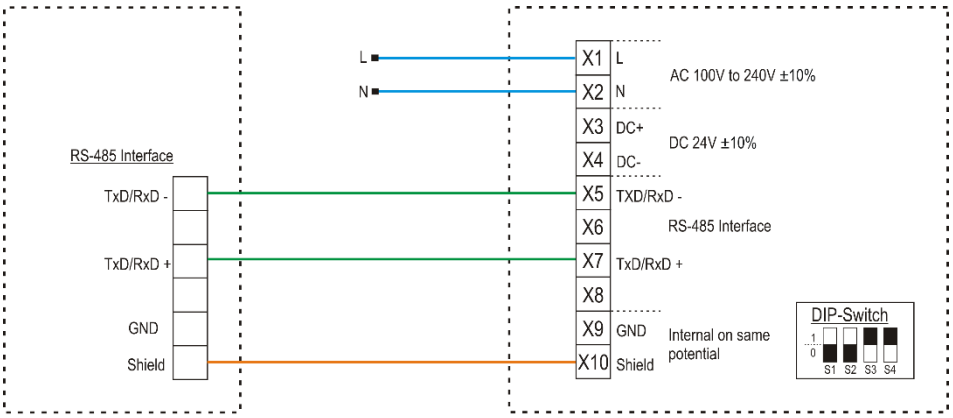
Blue wire => necessary (example connection to AC)

Green wire => necessary

Orange wire => connect shield to equipotential bonding

For data lines (green and orange) we strongly recommend to use shielded (e.g. CAT5, similar or higher quality) cables.

USM - Bluetooth with RS485



PC/Host with serial RS485-interface	**Max. cable length is 1200 m**	UVM - Bluetooth (1st generation with DIP switch)

Dip-Switch:

S1 to S3 = Setup for interface

S4 = 0 = Corded Version

S4 = 1 = Bluetooth Version

6.8.5 Explanation of the interfaces

- **USB HID (Human Interface Device)**

The hand-held scanner establishes a connection to the base station via Bluetooth. The base station is connected to a PC / host with a USB connection cable and data sent from the hand-held scanner (via the base station) to the PC / host is processed like a keyboard entry.
The data transmission is done via 2 lines (D+ and D-). Two further lines are used for the power supply of the connected devices.

- **USB SPP (Serial Port Profile)**

The hand-held scanner is connected to a base station or universal supply module. Data sent from the hand-held scanner to the PC / host arrives at the PC at a COM interface. A software application that processes incoming data is required to process the data.

- **RS232 (Recommended Standard 232 – differential serial interface)**

The hand-held scanner establishes a serial connection with a PC / host via a base station or universal supply module.

In automation technology, only three lines are usually used from the RS-232 interface.
TxD (Transmit Data) for transmitting
RxD (Receive Data) for reception
GND cable for the common reference potential
There is no data transmission without connection of the GND line.
The RS-232 interface is not bus-capable and can only be used for point-to-point connections.
Functionally ranges up to 15m are possible.

- **RS422 (Recommended Standard 422 – symmetric serial interface)**

The hand-held scanner establishes a serial connection with a PC / host via a base station or universal supply module.

Data transmission is via a four-wire line.
All participants transmit via the data lines TxD+ and TxD- and receive via RxD+ and RxD-.
The GND line is only to be used for large potential differences and should not be absolutely necessary.
The RS422 interface is less sensitive to interference than the RS232 interface. The reason for this is that the difference is always considered in the line levels. An electromagnetic interference would increase the potential on both lines to the same extent. Thus the interference would have no influence on the differential signal. (For comparison: With the RS232 interface, the interference would only have an influence on the signal lines, but not on the reference potential).
The RS422 interface is bus-capable.
Functionally, ranges of up to 1000m are possible. It may also be possible to install repeaters in the bus for power amplification.

- **RS485 (Recommended Standard 485 – asynchronous serial interface)**

The hand-held scanner establishes a serial connection with a PC / host via a base station or universal supply module.

Data transmission is via a two-wire line.
The RS485 interface has similar characteristics to the RS422 interface.
Ranges of up to 1200m can be achieved.
The RS485 interface is bus compatible.
The same applies to repeaters, immunity to interference and voltage levels as described via the RS422 interface.
The big difference and big advantage of the RS485 interface is that only 2 data lines are needed. The participants send and receive via the lines TxD/RxD+ and TxD/RxD-. This results in less installation effort.

- **Keyboard Wedge**

This interface connects the hand-held scanner between the keyboard and the host computer and translates barcode data into keyboard input. The host computer accepts the data as if it came from the keyboard.

When using the serial interfaces, please note that software is required to process the data on the PC/host.

BARTEC does not offer its own software solution.

Background:

The serial interface does not have its own intelligence. This means that all data arriving at the interface is lost if it is not collected and processed by a software application.

Possible solution:

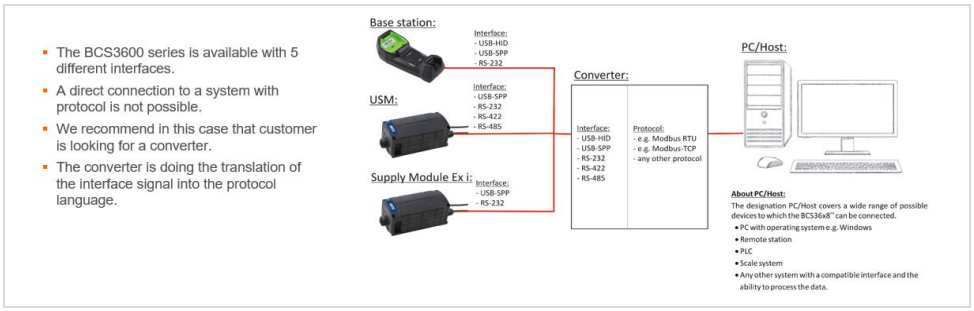
Use of a software keyboard wedge.

6.8.6 Declaration on protocols

Protocols such as Modbus or Profibus are not directly supported by the hand-held scanner or the supply module.

However, the hand-held scanner can be connected to systems running such protocols by using 3rd party converters.

When selecting the converters, it is important to note which interfaces are available on the selected hand-held scanner system.



6.9 Testing the communication (RS232 or USB-SPP)

The serial communication can be checked with the help of a terminal program.

A serial interface does not have its own intelligence.

This means that incoming data at the serial interface will be lost if there is no application available that can process incoming data.

There is a large number of terminal programs on the market. E.g. Hyperterminal, Tera Term, Putty or others.

BARTEC does not distribute any terminal program or software keyboard wedge application.

When using a universal supply module, a software wedge or other application must be installed on the host PC for data transfer.

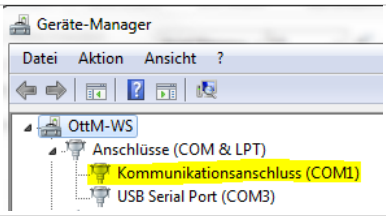
The software wedge or other application serves to convert/processing the incoming data as keyboard input and to enter the data into the currently active field on the host PC.

Terminal Program

The test described below with a terminal program was performed with the H-Term application. Any other terminal program that supports serial communication can be used alternatively.

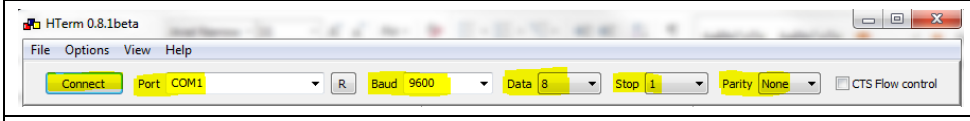
Test communication/data transmission

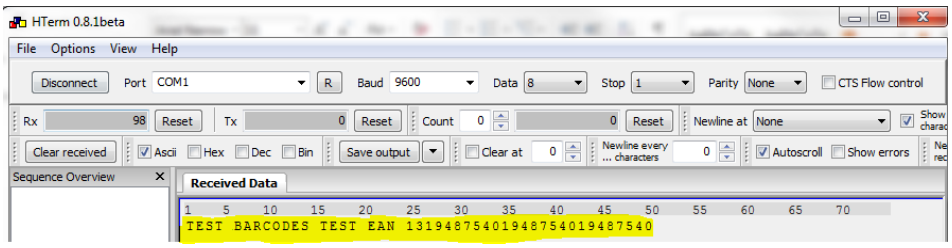
1. Open Terminal Program
2. Select the serial interface to which the universal supply module with coupled BCS36x8ex is connected (In the example COM1).
   Can be checked in Device Manager.



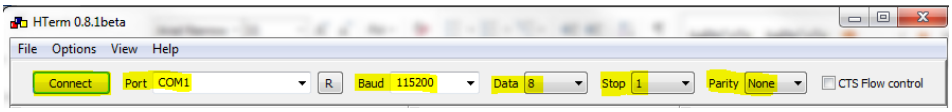
3. Make settings in the terminal program and connect with Connect.

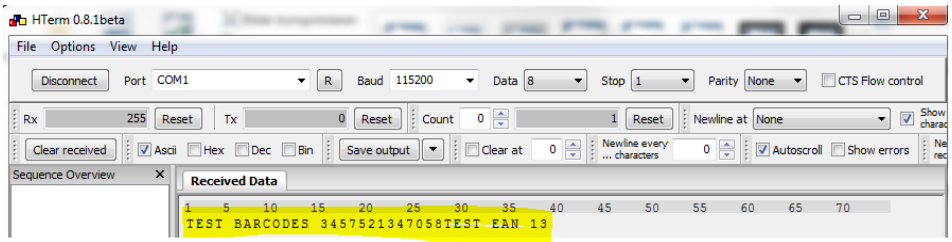
Example for BCS3608ex





Example for BCS3678ex - Baud rate of universal supply module Zone 2 (1st generation with DIP switch)



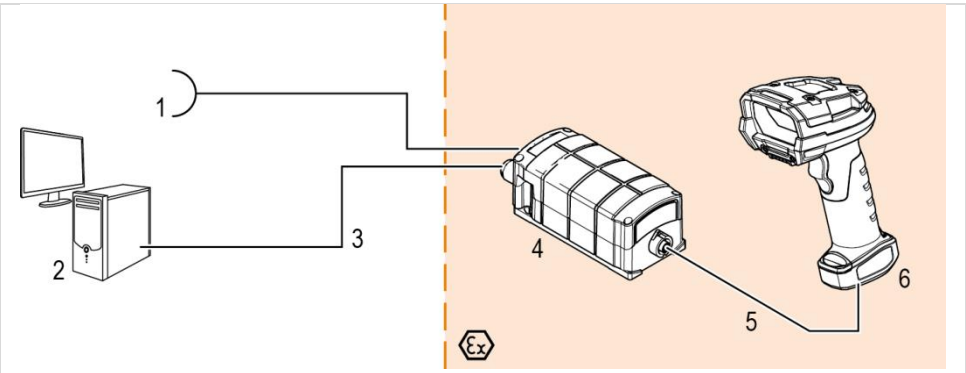


4. Read the barcode with the scanner and check in the terminal program whether the data are displayed correctly.
5. Data transfer is OK if the barcode data is displayed in the "Received Data" window. Otherwise check connection and programming.

6.10 Possible system configurations

6.10.1 Corded Hand-held scanner BCS3608ex

6.10.1.1 Corded Hand-held scanner BCS3608ex-NI / BCS3608ex-IS with universal supply module



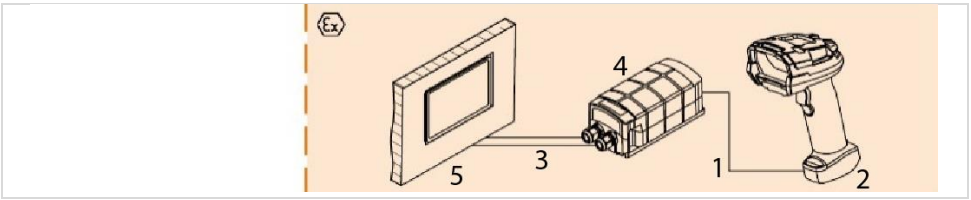
Pos.	Description
1	Power supply for Zone 2/22 and Zone 1/21: ▪ 100 V_{AC} to 240 V_{AC} ±10% / 50/60 Hz / 0.1 A / 6 W or 24 V_{DC} ±10% / 0.2 A / 5 W Power supply for Division 2: ▪ 24 VDC ±10% / 0.2 A / 5 W The voltage input on the universal supply module is designed in Ex e.
2	Host-PC
3	Data cable host PC – universal supply module (RS232, RS422, RS485 or USB) →this cable has to be provided by the customer The input on the universal supply module is designed in Ex e.
4	Universal supply module for hand-held scanners
5	Connecting cable BCS3608ex-NI / BCS3608ex-IS
6	Hand-held scanner BCS3608ex-NI / BCS3608ex-IS

The universal supply module can be operated in a potentially explosive atmosphere. The universal supply module is used for data transfer and power supply. The power source for the universal supply module and the system to which the data are to be transferred must lie outside the potentially explosive atmosphere.

3 different cables can be used to connect the hand-held scanner to the universal supply module. The universal supply module and connection cables are not included with delivery.

The universal supply module for US and Canada can only be used with DC 24 V ±10% / 0.2 A / 5 W.

6.10.1.2 Corded Hand-held scanner BCS3608ex-NI / BCS3608ex-IS with universal supply module



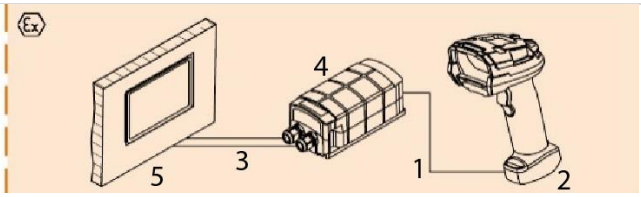
Pos.	Description
1	Connection cable BCS3608ex-NI / BCS3608ex-IS
2	Hand-held scanner BCS3608ex-NI / BCS3608ex-IS
3	Data cable HMI – universal supply module (RS232, RS422, RS485 or USB-SPP) → this cable has to be provided by the customer The input on the universal power supply module is designed in Ex e.
	Power supply for Zone 2/22 and Zone 1/21: ▪ 100 V_{AC} to 240 V_{AC} ±10% / 50/60 Hz / 0.1 A / 6 W or 24 V_{DC} ±10% / 0.2 A / 5 W Power supply for Division 2: ▪ 24 VDC ±10% / 0.2 A / 5 W The voltage input on the universal supply module is designed in Ex e.
4	Universal supply module for hand-held scanners
5	HMI (approved for a potentially explosive atmosphere)

The hand-held-scanner can be connected with 3 different cables to the universal supply module.

Universal supply module and connecting cable are not included into the scope of delivery.

The universal supply module for US and Canada can only be used with DC 24 V ±10% / 0.2 A / 5 W.

6.10.1.3 Corded Hand-held sacnner BCS3608ex-IS via supply module Ex i

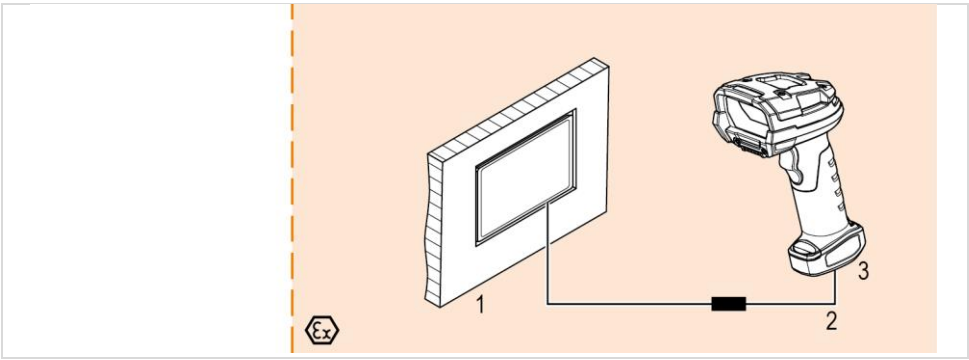


Pos.	Description
1	Connecting cable BCS3608ex-IS
2	Hand-held scanner BCS3608ex-IS
3	Data cable host PC - universal supply module (RS232 (only TxD) or USB-SPP) → this cable has to be selected customer specific The input on the supply module Ex i is designed in Ex i. The interfaces are in passive design.
	Power supply for Zone 1/21: ▪ 100 V_{AC} to 240 V_{AC} ±10% / 50/60 Hz / 0.1 A / 6 W or 24 V_{DC} ±10% / 0.2 A / 5 W The voltage input on the supply module Ex i is designed in Ex e.
4	Supply module Ex i for corded hand-held scanner BCS3608ex-IS
5	Ex-HMI device **Important:** Ex-relevant data must be compatible with the BARTEC components! See chapter: Ex-relevant values

The supply module Ex i can be operated in hazardous areas. Data transmission and power supply are provided via the supply module Ex i. The power source for the supply module and the data line must also be designed in a compatible Ex i version.

The hand-held scanner can be connected to the supply module Ex i with 3 different cables. Supply module Ex i and connection cable are not included in the scope of delivery.

6.10.1.4 Corded Hand-held scanner BCS3608ex-NI with HMI and HMI limiting cable (only Zone 2 and 22)



Ex-relevant and functional parameters necessary for the function:

- USB interface must provide 5 V/500 mA on the output side.
- RS232 interface needs a separate power supply with 5 VDC/500 mA.

If these values are not provided by the interface, the connection can be realized via a universal supply module.

Pos.	Description
1	HMI (approved for a potentially explosive atmosphere)
2	HMI Limiting cable USB (B7-A2Z0-0041 or B7-A2Z0-0054) or HMI Limiting cable RS232 (B7-A2Z0-0040 or B7-A2Z0-0050)
3	Hand-held scanner BCS3608ex-NI

The limiting cable that is connected to the HMI is used for data transfer and power supply.

This connection is only approved for Zone 2, 22 and Division 2.

Requirements

Cable for power supply and data line in Ex e:

Must be mechanically protected for installation.

Plug connection (USB or RS232):

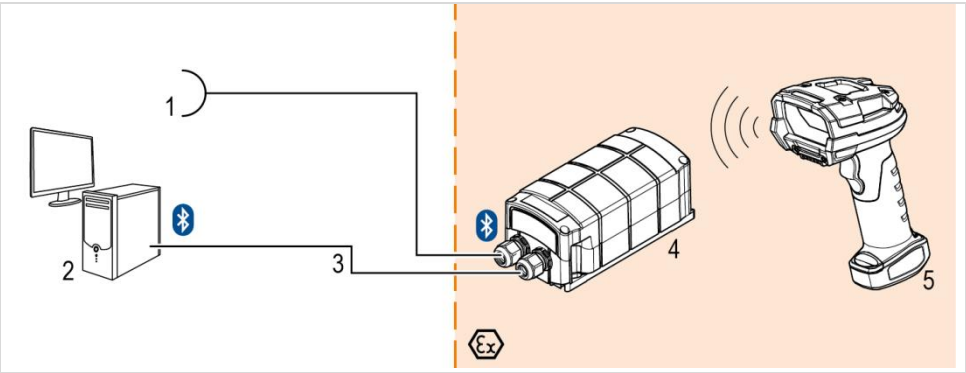
Must be mechanically protected against accidental loosening/pulling.

Connection:

The connection must be made in an Ex-tested terminal compartment.

6.10.2 Bluetooth Hand-held scanner BCS3678ex

6.10.2.1 Bluetooth Hand-held scanner BCS3678ex-NI / BCS3678ex-IS via universal supply module Bluetooth



The universal supply module for US and Canada can only be used with DC24V

Pos.	Description
1	Power supply for Zone 2/22 and Zone 1/21: ▪ 100 V_{AC} to 240 V_{AC} ±10% / 50/60 Hz / 0.01 A / 1 W or 24 V_{DC} ±10% / 0.05 A / 0.7W Power supply for Division 2: ▪ 24 VDC ±10% / 0.05 A / 0.7 W The voltage input on the universal supply module is designed in Ex e.
2	Host-PC
3	Data cable host PC – universal supply module (RS232, RS422, RS485 or USB) → this cable has to be provided by the customer The input on the universal supply module is designed in Ex e.
4	Bluetooth universal supply module
5	Bluetooth hand-held scanner BCS3678ex-NI / BCS3678ex-IS

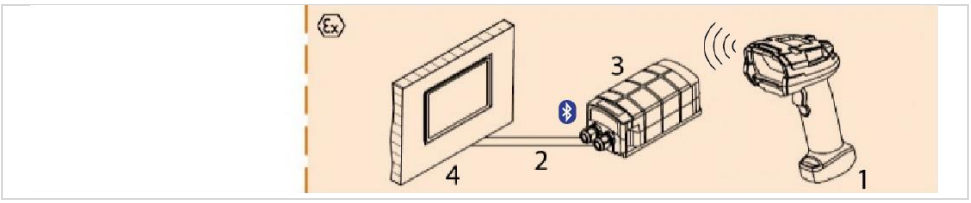
The universal supply module can be operated in a potentially explosive atmosphere. The universal supply module is used for data transfer.

The power supplies for the universal supply module and the system to which the data are to be transferred must lie outside the potentially explosive atmosphere.

The universal supply module is not included in the scope of delivery.

The universal supply module for US and Canada can only be used with
DC 24 V ±10% / 0.05 A / 0.7 W.

6.10.2.2 Bluetooth Hand-held scanner BCS3678ex-IS via supply module Ex i

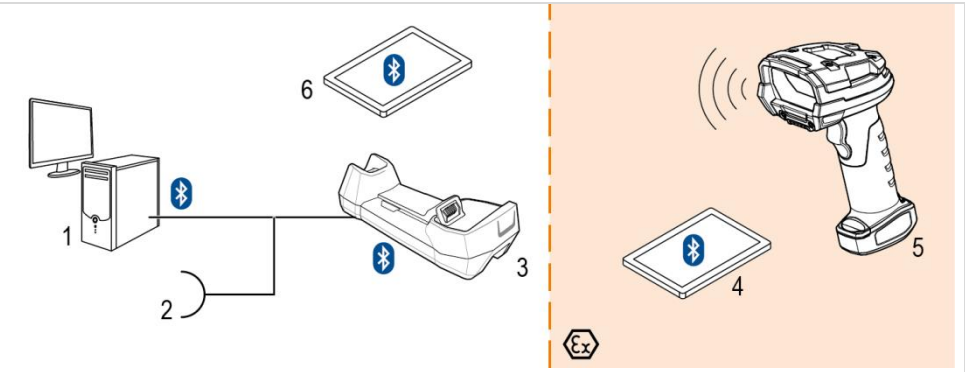


Pos.	Description
1	Bluetooth Hand-held scanner BCS3678ex-IS
2	Data cable host PC - universal supply module (RS232 (only TxD) or USB-SPP) → this cable has to be selected customer specific The input on the supply module Ex i is designed in Ex i.
	Power supply for Zone 1/21: ▪ 100 V_{AC} to 240 V_{AC} ±10% / 50/60 Hz / 0.01 A / 1 W or 24 V_{DC} ±10% / 0.05 A / 0.7 W The voltage input on the supply module Ex i is designed in Ex e. The interfaces are in passive design.
3	Supply module Ex i for Bluetooth hand-held scanner BCS3678ex-IS
4	Ex-HMI device **Important:** Important: Ex-relevant data must be compatible with the BARTEC components! See chapter: Ex-relevant values

The supply module Ex i can be operated in hazardous areas. Data transmission and power supply are provided via the supply module Ex i. The power source for the supply module and the data line must also be designed in a compatible Ex i version.

The hand-held scanner is connected to the supply module Ex i via Bluetooth. The supply module Ex i is not included in the scope of delivery.

6.10.2.3 Bluetooth Hand-held scanner BCS3678ex-NI / BCS3678ex-IS with base station and bluetooth-enabled device



Pos.	Beschreibung
1	Host-PC
2	Power supply (12 V_{DC})
3	Base station (Cradle) only for the use in safe areas
4	Bluetooth-enabled device (approved for a potentially explosive atmosphere): Example: ▪ Agile X IS for Zone 1/21 / Division 1 ▪ Agile S NI for Zone 2/22 / Division 2 ▪ TC7x-NI series for Zone 2/22 / Division 2
5	Bluetooth hand-held scanner BCS3678ex-NI / BCS3678ex-IS
6	Bluetooth-enabled device (outside the potentially explosive atmosphere)

The BCS3678ex-NI / BCS3678ex-IS Bluetooth hand-held scanners can optionally communicate with the following devices:

- Outside the potentially explosive atmosphere:
- Host-PC (1)
- Bluetooth-enabled base station (3)
- Bluetooth-enabled device (6)

- In the potentially explosive atmosphere (4):
- Agile X IS for Zone 1/21 / Division 1
- Agile S NI for Zone 2/22 / Division 2
- Other Ex-certified devices

6.11 Universal supply module and supply module Ex i

6.11.1 Electrical values of the supply modules

The following table lists the electrical input and output values of the available supply modules.

1. Input (Power Connection AC or DC)
2. Data line
3. Output (Scanner connection)

1. Input (Power connection AC or DC)

Supply module	AC			DC		
	U	I	P_{wirk}	U	I	P_{wirk}
Universal supply module corded for hand-held scanner BCS3608ex-IS Type:17-A1Z0-0018	AC 100-240 V 50/60 Hz	0.1 A	6 W	DC 24 V	0.2 A	5 W
Universal supply module Bluetooth for hand-held scanner BCS3678ex-IS Type: 17-A1Z0-0019		0.01 A	1 W		0.05 A	0.7 W
Universal supply module corded for hand-held scanner BCS3608ex-NI Type: B7-A2Z0-0042		0.1 A	6 W		0.2 A	5 W
Universal supply module Bluetooth for hand-held scanner BCS3678ex-NI Type: B7-A2Z0-0043		0.01 A	1 W		0.05 A	0.7 W
Supply module Ex i corded for hand-held scanner BCS3608ex-IS Type: 17-A1Z0-0025		0.1 A	6 W		0.2 A	5 W
Supply module Ex i Bluetooth for hand-held scanner BCS3678ex-IS Type: 17-A1Z0-0028		0.01 A	1 W		0.05 A	0.7 W
Universal supply module corded for hand-held scanner BCS3608ex-NI VERSION: US + CANADA Type: B7-A2Z0-004200US	**no AC voltage input**				0.2 A	5 W
Universal supply module Bluetooth for hand-held scanner BCS3678ex-NI VERSION: US + CANADA Type: B7-A2Z0-004300US					0.05 A	0.7 W

2. Data line

Supply module	Interface	Version
Universal supply module corded for hand-held scanner BCS3608ex-IS Type:17-A1Z0-0018	USB-SPP RS232 RS422 RS485	Unidirectional in Ex e
Universal supply module Bluetooth for hand-held scanner BCS3678ex-IS Type: 17-A1Z0-0019		
Universal supply module corded for hand-held scanner BCS3608ex-NI Type: B7-A2Z0-0042		
Universal supply module Bluetooth for hand-held scanner BCS3678ex-NI Type: B7-A2Z0-0043		
Supply module Ex i corded for hand-held scanner BCS3608ex-IS Type: 17-A1Z0-0025	USB-SPP RS232	Unidirectional in Ex i
Supply module Ex i Bluetooth for hand-held scanner BCS3678ex-IS Type: 17-A1Z0-0028		
Universal supply module corded for hand-held scanner BCS3608ex-NI VERSION: US + CANADA Type: B7-A2Z0-004200US	USB-SPP RS232 RS422 RS485	Unidirectional in Ex e
Universal supply module Bluetooth for hand-held scanner BCS3678ex-NI VERSION: US + CANADA Type: B7-A2Z0-004300US		

3. Output (Scanner connection)

Supply module	DC	
	U	I
Universal supply module corded for hand-held scanner BCS3608ex-IS Type:17-A1Z0-0018	8 V	0,5 A
Universal supply module Bluetooth for hand-held scanner BCS3678ex-IS Type: 17-A1Z0-0019	Bluetooth	
Universal supply module corded for hand-held scanner BCS3608ex-NI Type: B7-A2Z0-0042	5 V	0,5 A
Universal supply module Bluetooth for hand-held scanner BCS3678ex-NI Type: B7-A2Z0-0043	Bluetooth	
Supply module Ex i corded for hand-held scanner BCS3608ex-IS Type: 17-A1Z0-0025	8 V	0,5 A
Supply module Ex i Bluetooth for hand-held scanner BCS3678ex-IS Type: 17-A1Z0-0028	Bluetooth	
Universal supply module corded for hand-held scanner BCS3608ex-NI VERSION: US + CANADA Type: B7-A2Z0-004200US	5 V	0,5 A
Universal supply module Bluetooth for hand-held scanner BCS3678ex-NI VERSION: US + CANADA Type: B7-A2Z0-004300US	Bluetooth	

6.11.2 Terminal assignment universal supply module

Terminal assignment for the installation of power supply cables and connection cables on the host PC side.

The following interfaces are supported: USB-SPP, RS232, RS422 und RS485

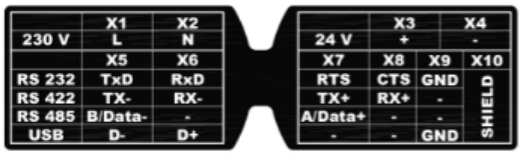
ATTENTION

The supply module can be destroyed if the terminals are incorrectly assigned!

▶ Note the correct assignment of the terminals.

Terminal block

Possible marking
(depending on selected version and interface)



Terminal	Marking	Input voltage range			
		USB-SPP	RS232	RS422	RS485
X1	L	L = 100 V_{AC} bis 240 V_{AC} ±10% / 50/60 Hz			
X2	N	N = Neutral conductor			
X3	+	24 V_{DC} ±10%			
X4	–	GND			
		Supported data interface			
		USB-SPP	**RS232**	**RS422**	**RS485**
X5		Data- (D-)	TxD	TxD-	TxD/RxD– (B/Data-)
X6		Data+ (D+)	RxD	RxD-	–
X7		–	–	TxD+	TxD/RxD+ (A/Data+)
X8		–	–	RxD+	–
X9		GND	GND	–	–
X10		Placing the shield			

The wire mesh of the data cable must be inserted into the shield clamp and the mesh must also be connected to terminal for the shield.

When using the USB-SPP interface, the ferrite core must be used.

6.11.3 Terminal assignment Supply module Ex i

Terminal assignment for the installation of power supply cables and connection cables on the host PC side.

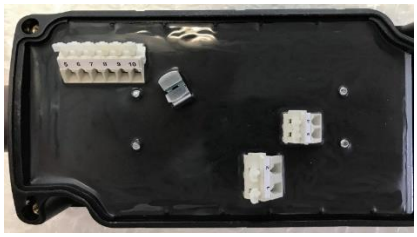
The following interfaces are supported: USB-SPP und RS232

ATTENTION

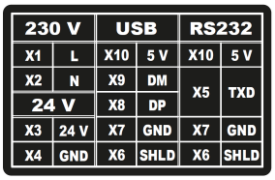
The supply module can be destroyed if the terminals are incorrectly assigned!

▶ Note the correct assignment of the terminals.

Terminal block



Possible marking
(depending on selected version and interface)



Terminal	Marking	Input voltage range	
		USB-SPP	RS232
X1	L	L = 100 V_{AC} bis 240 V_{AC} ±10% / 50/60 Hz	
X2	N	N = Neutral conductor	
X3	+	24 V_{DC} ±10%	
X4	–	GND	
		Supported data interface	
		USB-SPP	**RS232**
X5		–	TxD
X6		Placing the shield	
X7		GND	GND
X8		Data+ (D+)	-
X9		Data- (D-)	-
X10		5 V	5 V

The wire mesh of the data cable must be inserted into the shield clamp and the mesh must also be connected to terminal for the shield.

When using the USB-SPP interface, the ferrite core must be used.

6.11.4 Setting the interface with DIP switch (1st generation; Zone 2/22 and Div 2)

The DIP switches must be set as follows depending on the interface used.

The correct setting of the used interface must be made, because the respective interface parameters are set internally accordingly.

For trouble-free operation in the installation, however, it is necessary to make correct settings to avoid communication and functional problems.

Note:

In an office environment, data may be displayed correctly on the PC even if a different interface than the one connected is set.

	Setting Interface (Dipp switch S1, S2 and S3)			
Interface	**S1**	**S2**	**S3**	**S4**
RS232	0	0	0	-
RS422	0	1	1	-
RS485	0	0	1	-
USB-SPP	1	1	1	-
	Settings Universal supply module (Dipp switch S4)			
Version	**S1**	**S2**	**S3**	**S4**
corded	-	-	-	0
Bluetooth	-	-	-	1

The DIP switch S4 is already set at the factory to the corresponding version for the corded or Bluetooth scanner.

6.11.5 Setting the interface with programming code (2nd generation; without DIP switches)

The supply modules are pre-configured in the factory (default) to USB-SPP and are hardware pre-configured for corded or Bluetooth handheld scanners.

The interfaces are set via programming barcodes.

The correct setting of the used interface must be made, because the respective interface parameters are set internally accordingly.

For trouble-free operation in the installation, however, it is necessary to make correct settings to avoid communication and functional problems.

Note:

In an office environment, data may be displayed correctly on the PC even if a different interface than the one connected is set.

USB-SPP	Activation of the USB-SPP interface. The USB-SPP (Serial Port Profile) is functionally a virtual serial COM port.
Activation of the RS232 interface.	RS232
RS422	Activation of the RS422 interface.
Activation of the RS485 interface.	RS485

6.11.6 Communication via supply modules to host or PC

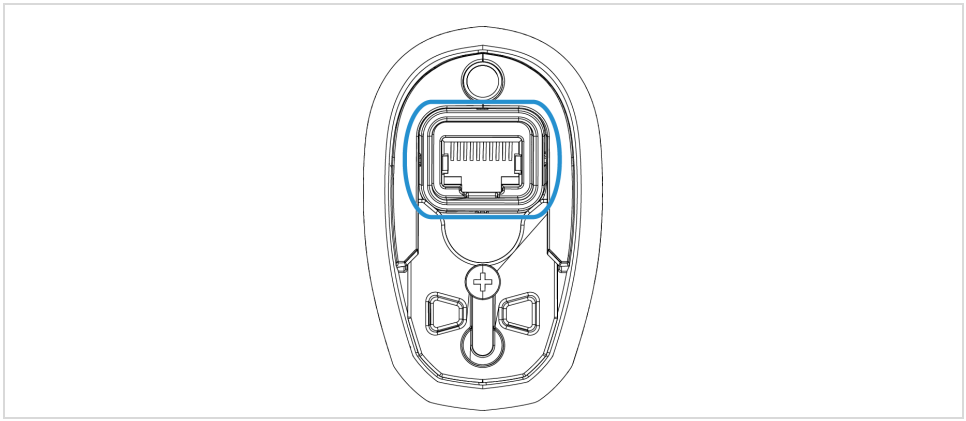
Only one communication direction is supported by the supply modules:

Unidirektional (Uni):

Only data from the hand-held scanner over a supply module can be sent to a host/PC. Sending data from the host/PC to the hand-held scanner (remote control) is not supported.

6.11.7 Connecting cable (hand-held scanner to supply module)

The function is only guaranteed if the cables you connect for your configuration have been specified by BARTEC.



Connection of hand-held scanners to a universal supply module or supply module Ex i

The Hand-held scanners BCS3608ex-NI and BCS3608ex-IS can be connected to the following universal supply module or supply module Ex i:

Version	Zone 1	Zone 2 / Zone 22	Division 2
USM - Bluetooth	17-A1Z0-0019	B7-A2Z0-0043	B7-A2Z0-004300US
USM - corded	17-A1Z0-0018	B7-A2Z0-0042	B7-A2Z0-004200US
Ex i - Bluetooth	17-A1Z0-0028	-	-
Ex i - corded	17-A1Z0-0025	-	-

The hand-held scanners BCS3608ex-NI and BCS3608ex-IS can be connected by the following cables to the universal supply module and the supply module Ex i

Version	Length	Zone 1	Zone 2 / Zone 22 Division 2
Plain	1,9 m	17-A1Z0-0015	B7-A2Z0-0037
Plain	4,5 m	17-A1Z0-0016	B7-A2Z0-0038
Spiral	2,7 m	17-A1Z0-0017	B7-A2Z0-0039

The listed cables have been modified for use in the following potentially explosive atmospheres:

ATEX/ IECEx Zone 1 and Zone 21

ATEX/ IECEx Zone 2 and Zone 22

Class I, II, III DIV 2

If a universal supply module must be installed in a housing, then the connection cable must be passed through a cable gland.

For this purpose, it is necessary to remove the 7-pin round plug.

The table describes the connector pin assignment to reconnect the cable correctly.

The connection using the 7-pin round plug is configured as following:

Terminal	Marking	Color cabel version 1	Color cabel version 2
1	+UB	Yellow	Red
2	RxD	Green	Green
3	TxD	White	White
4	–	Brown	Brown
5	–	Orange	Orange
6	–	Grey	Grey
7	GND	Red / Black	Black

Version 1 and version 2 are different in the colour of the sealing on the RJ45 plug.

- Version 1: black sealing
- Version 2: green sealing

6.11.8 Data cable and power supply (Universal supply module to PC/Host)

Data line:

BARTEC recommends the use of the following cables:

- Commercially available shielded data cable to avoid external interference into the data cable e.g. min. CAT5 cable or other shielded cable to avoid external interference into the data cable
- The following core cross-sections and number of cores:

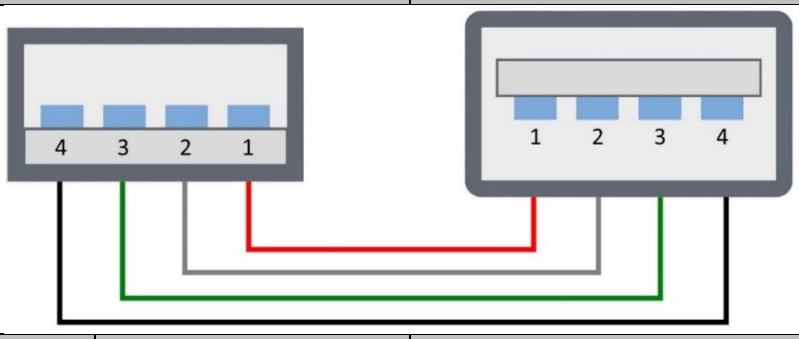
Interface	Recommended wire cross section	Number of conductor
RS232	0,2 mm² to 2,5 mm² 24 – 14 AWG	5
RS422		4
RS485		4
USB-SPP		4

This connection to the host PC is done by the customer.
No cables manufactured by BARTEC are used.
The connection is made by customer-specific cable connections.

Note for use of USB connection cables

The color assignment of the USB cables is not standardized.
Which colour is used for USB wires D+ and D- depends on the USB cable manufacturer.
Tip: Before wiring, measure the cable to know which wires are D+ and D-.

Connector Type A	Socket connector Type A



Pin	Color	Signal
1	Red	V_{CC} 5 V_{DC}
2	Grey	Daten (D-)
3	Green	Daten (D+)
4	Black	Ground (GND)

Power supply:

To connect the outer conductors to the terminals in hazardous areas, observe EN 60079-14 (Explosive atmospheres - Part 14: Design, selection and installation of electrical systems).

In particular Chapter 10 - Cable entry systems and closure elements

- ▶ Connect the conductors according to the terminal assignment. Equipotential bonding is not necessary because the power supply is electrically isolated.
- ▶ Select suitable wire/cable according to national regulations.
- ▶ Make sure that the wire cross-section is suitable.
- ▶ Cable laying in accordance with national regulations.

Example of a suitable power supply cable:			
Cable type:	**Technical data:**	**Standard:**	**Marking(s) of conformity**
e.g. Ölflex SF	VDE PVC Maximum permissible conductor temperature: up to 70° degrees H05VVV-F 2x0,75 Voltage: U_0/U = 300/500V Current: Wire cross section 0,75 mm² = 12 A Wire cross section 1,00 mm² = 15 A Wire cross section 1,50 mm² = 18 A (also 2x1 or 2x1.5) without PE Alternative H05RN-F	Actual: DIN EN 50525-2-11 Old: DIN VDE 0281-5	VDE Kema <HAR>

General information about the data line and the power supply:

- ▶ Connection and signal lines must be installed in such a way that inductive and capacitive interference does not impair the automation functions.

  When using the USB-SPP interface, make sure to use the ferrite core according to the instructions.
- ▶ To ensure that a wire or wire break on the signal side cannot lead to undefined states in the automation equipment, appropriate safety precautions must be taken on the hardware and software side of the I/O coupling.
- ▶ Voltage fluctuations or deviations of the power supply voltage from the nominal value must not exceed the tolerance limits specified in the technical data, otherwise functional failures and hazardous conditions cannot be avoided.

6.11.9 Range/maximum cable length of the connected cables from the supply module to host or PC

Supported interface	Universal supply module	Supply module Ex i	Range	
USB-SPP	Yes	Yes	5 m	16 ft.
RS232	Yes	Yes	15 m	50 ft.
RS422	Yes	No	1000 m	3280 ft.
RS485	Yes	No	1200 m	3937 ft.

6.11.10 Permissible wire cross-sections and stripping length

Description of the conductor	Permissible core cross-section (terminal X1 to X10)	
Single-wire conductor	0,08 mm^2 to 2,5 mm^2	28 – 14 AWG
Fine-wire conductor	0,08 mm^2 to 2,5 mm^2	28 – 14 AWG
Fine-wire conductor; with wire end ferrule without plastic sleeve	0,25 mm^2 to 1,5 mm^2	24 – 16 AWG
Fine-wire conductor; with wire end ferrule with plastic sleeve	0,25 mm^2 to 1,5 mm^2	24 – 16 AWG
Wire diameter (AWG)	28 to 12 mil	36 – 39 AWG
	Permissible stripping length	
Stripping length	5 to 6 mm	0,2 to 0,24 inch

6.11.11 Permissible connection cable diameters

Possible cable dimensions for the cable gland on the supply module			
Power supply Terminals X1 to X2	**Cable gland**	**Cable diameter**	
100 V_{AC} to 240 V_{AC} ±10% 50/60 Hz	Ex e M16x1,5 (black)	4,5 - 9 mm	
Power supply Terminals X3 to X4	**Cable gland**	**Cable diameter**	
24 V_{DC} ±10%	Ex e M16x1,5 (black)	4,5 - 9 mm	
Interface Terminals X5 to X10	**Cable gland**	**Cable diameter**	**Shield diameter**
USB-SPP	Ex e M16x1,5 (black)	4,5 - 5,7 mm	3 - 6 mm
RS232		4,5 - 9 mm	3 - 6 mm
RS422		4,5 - 9 mm	3 - 6 mm
RS485		4,5 - 9 mm	3 - 6 mm

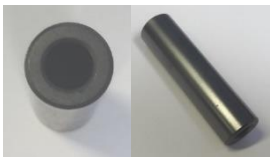
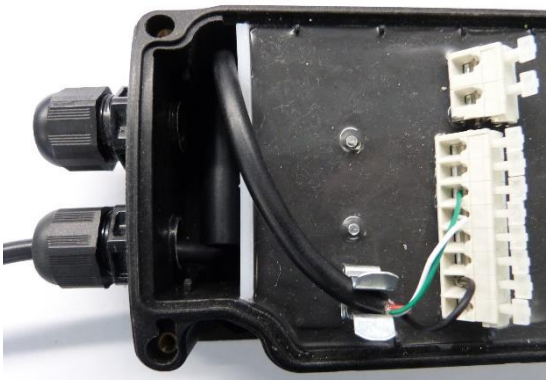
6.11.12 Ferrite core for data line (only when using the USB-SPP interface)

A plastic bag with a ferrite core is supplied with each supply module.

The ferrite core is only needed when using the USB-SPP interface.
It is used for shielding and avoiding external interferences on the data line.

The ferrite core must be mounted as follows:

- Strip the insulation of data cable
- Push the ferrite core over the data cable.
- Place the data cable with bare shield in the shield terminal (on the board).
- Connect the data line to the terminal.

Ferrite core for shielding external interference signals

Installation in a supply module


6.11.13 Cover screws

The four cover screws M4 x 30 are tightened with a defined tightening torque.

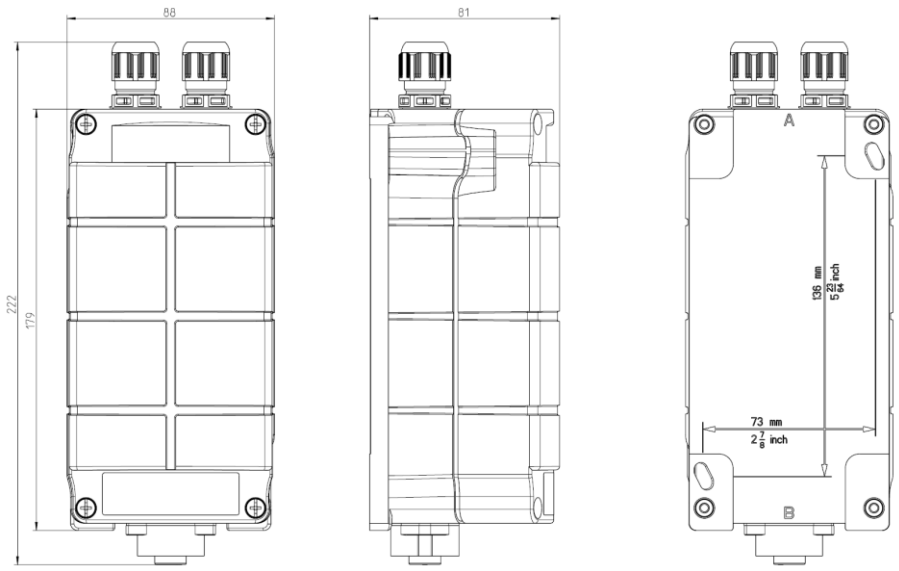
Tightening torque: 0.7 Nm - 1.2 Nm

Ensure that the cover is placed correctly on the bottom part and tightened with a suitable torque.

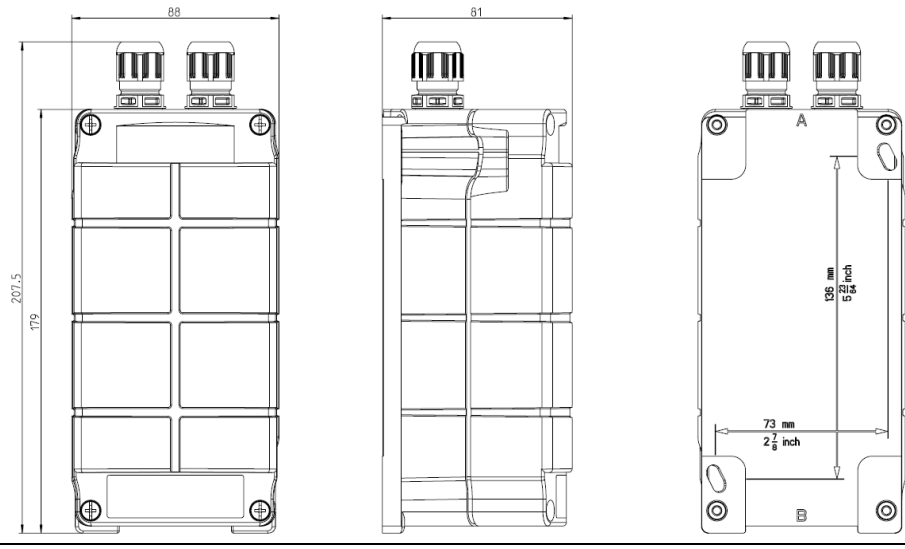
6.11.14 Dimensions and drilling plan

All supply modules are based on the same housing, therefore dimensions and drilling plan are identical for all supply modules.

Corded version:



Bluetooth version:



7 Operation

7.1 Inspection to be conducted prior to use

DANGER

Spark formation caused by the connection cable or the battery falling out!

▶ Ensure that the safety lock has been correctly closed prior to use in the potentially explosive atmosphere.

Check the following points before operating the device:

Final inspection of BCS3608ex-NI / BCS3608ex-IS (corded)

Check points
Scan window free from damage, e.g. scratches
Enclosure free from damage, e.g. crack or break
Temperature in the area in which the hand-held scanner is used corresponds to the specified temperature range
Cables are not damaged
Cables have been certified
Cable on the hand-held scanner is securely engaged and locked
Cables on the supply module are securely engaged, locked or screwed tight

Final inspection of BCS3678ex-NI / BCS3678ex-IS (Bluetooth)

Check points
Scan window free from damage, e.g. scratches
Enclosure free from damage, e.g. crack or break
Temperature in the area in which the hand-held scanner is used corresponds to the specified temperature range
If cables are present: cables are not damaged
If cables are present: cables have been certified
Battery is certified for the corresponding hand-held scanner
Battery compartment cover has been correctly locked
Cables on the supply module are securely engaged, locked or screwed tight

Final inspection of the supply modules

Check points
Supply module is not damaged
Supply module has been certified
Supply module has been certified for use with the hand-held scanner
Terminal connection chamber of the supply module has been correctly closed
Supply module has been correctly connected

7.2 Handling accessories

DANGER

Non certified accessories endanger explosion protection.

Danger to life exists in potentially explosive atmospheres!

▶ Only use original accessories from BARTEC.

Only permitted outside the potentially explosive atmosphere:

▶ Insert/charge battery.

▶ Use base station and battery charging station.

7.2.1 Battery

7.2.1.1 Battery runtime

Battery	Runtime = Scans per load
Battery for Zone 2/22; Div 2 Type: B7-A2Z0-0036	Up to 100.000
Battery for Zone 0/20; Div1 Type: 17-A1Z0-0012	Up to 15.000 or Up to 100.000 with updated main board => Identifiable by the revision level of the type label 

Battery life depends on various factors.

- Ex version of the BCS3678ex
- Device Settings
- Quality of the Bluetooth connection
- Device usage (frequency of data transmission)
- Battery care
- Age of the battery

7.2.1.2 Battery Statistics

With the Zebra 123 Scan Utility it is possible to read out device data and statistics of the hand-held scanner and the used battery.

Battery	Runtime
Battery for Zone 2/22; Div 2 Type: B7-A2Z0-0036	Zebra evaluation can be used 1 to 1
Battery for Zone 0/20; Div1 Type: 17-A1Z0-0012	Other cell installed, so the battery statistics of Zebra can not be used.

The battery type 17-A1Z0-0012 for the BCS3678ex-IS is modified for Ex-technical reasons.
and can therefore not be evaluated via Zebra Diagnostics/Statistics Tools 1 to 1.
The battery and the tools are not aligned.

7.2.1.3 Threshold values for battery level BCS3678ex-NI (Zone 2)

The thresholds for displaying the battery status are defined as follows:

Status	Factory settings
High – green LED	50 %
Middle – orange LED	20 %
Low – red LED	10 %
Overall condition Low	60 %

However, you can change the threshold values individually within the value range from 0 to 99 %.
For configuration information, see the ZEBRA Product Reference Guide.

7.2.1.4 Threshold values for battery level BCS3678ex-IS (Zone 1)

The barcode is required to correctly adjust the LED status of the BCS3678ex-IS.

If this adjustment is not made, the LED status display is not correctly displayed.

The device will switch off although the device still shows a green LED (battery status >50%).

By scanning the following barcode the correct LED status will be displayed.

Barcode to adjust the status LED display of the BCS3678ex-IS version:

Due to the Ex modifications of the BCS3678ex-IS series, the default values of Zebra can no longer be adopted 1 to 1.

With the help of the barcode the values for the different LED statuses are adapted.

For the handheld scanners BCS3678ex-IS with updated main board, the LED status display can be adopted 1 to 1.

=> Recognizable by the revision level of the type label

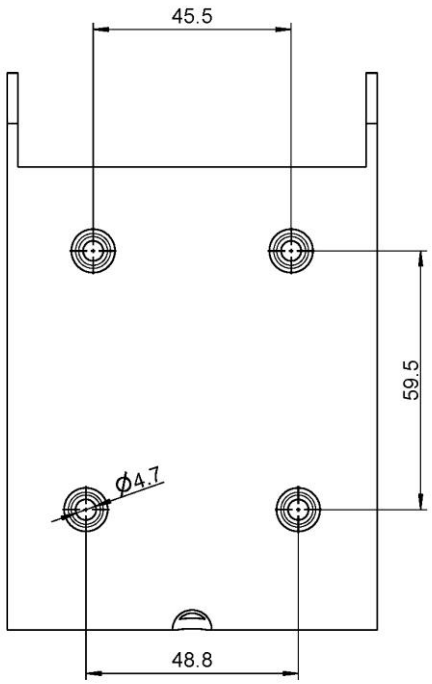
The setting of the threshold values must also be reset after a "Factory Reset".

7.2.2 Leather holster

BARTEC offers a leather holster to protect the hand-held scanner.

This can be attached to belt or wall.

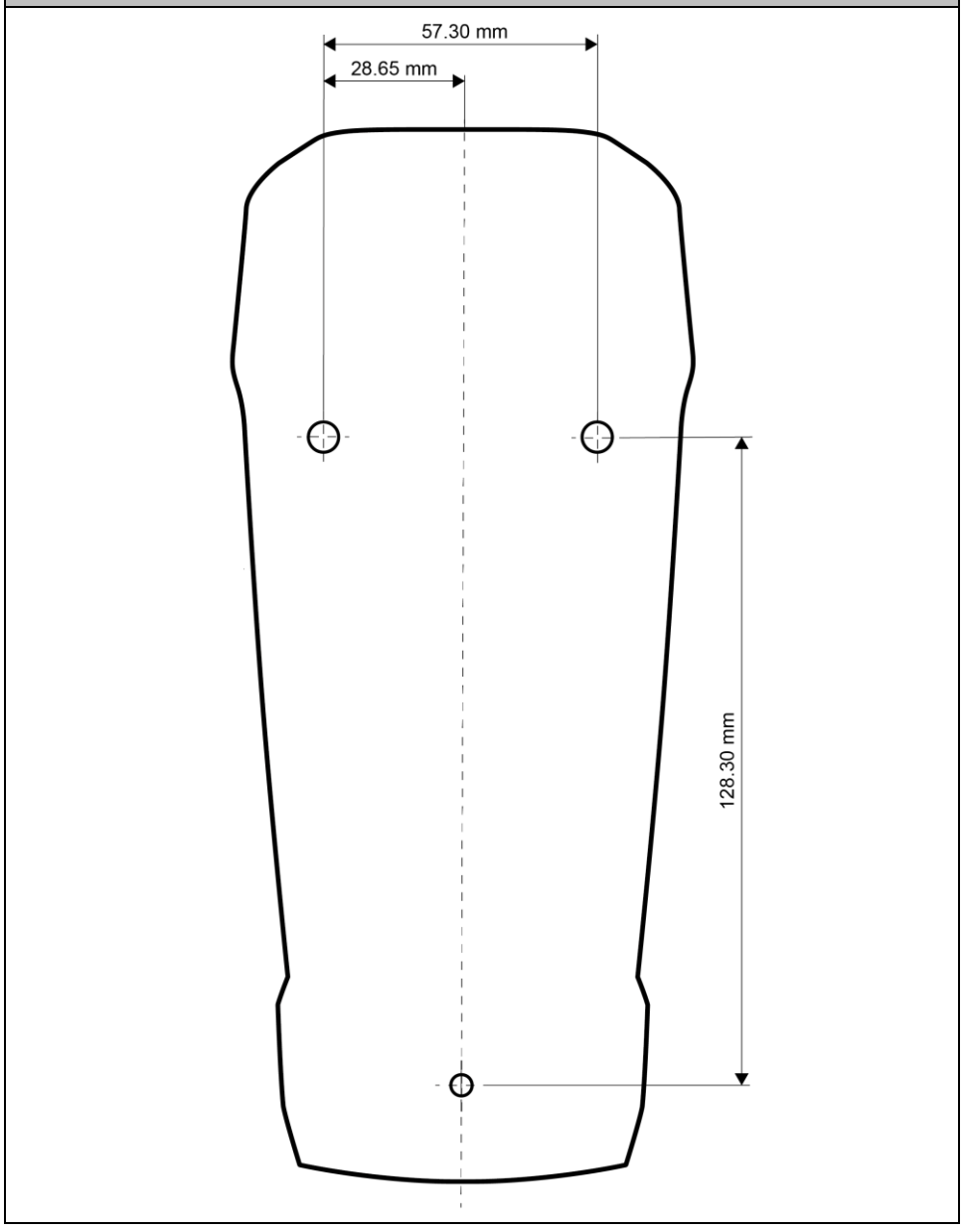
Drilling plan



7.2.3 Base station

The Base station can be attached to wall.

Drilling plan



8 Barcode capture

8.1 Scan Engines

The BCS36x8ex series is available with two different scan engines.

Scan Engine SE4750-HP - with standard range

Scan engine with standard range for decoding/capturing 1D barcodes, 2D barcodes, PDF barcodes, postcodes, OCR, documents&photos and IUID.

Scan Engine SE4850-ER - with extended range

Scan engine with extended range for decoding/capturing 1D barcodes, 2D barcodes, PDF barcodes, postal codes, documents&photos (basic capture only), IUID and Digimarc.

		Available for hazardous area	
Scan Engine	**Zebra Type**	**ATEX / IECEx Zone 0/20 NEC Class I, II, III Division 1**	**ATEX / IECEx Zone 2/22 NEC Class I, II, III Division 2**
Scan Engine SE4750-HP with standard range	DS36x8-HP with SE4750-HP	Yes	Yes
Scan Engine SE4850-ER with extended range	DS36x8-ER with SE4850-ER	No	Yes

For detailed information on the scan engine used, see the Product Reference Guide from ZEBRA.

8.2 Laser/LED Safety

Scan Engine SE4750-HP – with standard range

BARTEC Type	Zebra Type	Laser/LED Safety
17-A1S4-*HP*/****	DS36x8-HP	International LED Safety: IEC 62471: 2006 (Ed.1.0); EN62471: 2008 (LED); UL, VDE and CU recognized laser components.
B7-A2S4-*HP*/****		

Scan Engine SE4850-ER – with extended range

BARTEC Type	Zebra Type	Laser/LED Safety
B7-A2S4-*ER*/****	DS36x8-ER	Complies with 21 CFR1040.10 and 1040.11 except for deviations pursuant to laser notice no. 50, dated june 24, 2007 and IEC/EN 60825-1:2007 and/or IEC/EN 60825-1:2014.

8.3 Decode ranges

Due to the Ex modifications, the decode ranges of the BCS36*8ex-IS are up to 45% lower than the ranges of ZEBRA.

The minimum and maximum reading range of the various scan engines depends on the used barcode type, the print quality and the module width (in mil).

The decoding range depends on the quality and size of the barcode and the settings of the scan engine.

For detailed information on the scan engine used, see the Product Reference Guide from ZEBRA.

Scan Engine SE4750-HP – with standard range

BARTEC Type	Zebra Type	Barcode	Resolution	Range	
				Near	Far
17-A1S4-*HP*/**** B7-A2S4-*HP*/****	DS36x8-HP	Code 128	5 mil	15.2 cm	35.6 cm
			20 mil	12.7 cm	114.3 cm
			40 mil	7.1 cm	203.2 cm
		Data Matrix	7.5 mil	17.8 cm	27.9 cm
			10 mil	15.2 cm	38.1 cm
		Code 39	20 mil	5.1 cm	109.0 cm
		100% UPC	13 mil	2.8 cm	91.0 cm
		PDF417	5 mil	20.3 cm	29.2 cm

Note:
The table shows the original ranges from ZEBRA.

Scan Engine SE4850-ER – with extended range

BARTEC Type	Zebra Type	Barcode	Resolution	Range	
				Near	Far
B7-A2S4-*ER*/****	DS36x8-ER	Code 128	15 mil	12.7 cm	254.0 cm
			40 mil	8.9 cm	660.4 cm
			100 mil reflective	50.8 cm	2133.6 cm
		Data Matrix	10 mil	10.1 cm	111.76 cm
			55 mil	10.1 cm	635.0 cm
			100 mil	12.7 cm	1016.0 cm
			200 mil	25.4 cm	1270.0 cm
		Code 39	100 mil	50.8 cm	1778.0 cm(1)

Note:

The table shows the original ranges from ZEBRA.

(1) The range is reduced at lower ambient brightness.

8.4 Decoding options

Due to the Ex modifications, the decoding options of the BCS36*8ex-IS are limited.

For more information on decodable barcode types, see the ZEBRA Product Reference Guide for the SE4750-HP and SE4850-ER Scan Engine.

		Code type supported by scanner	
Decoding options	**Code type**	**SE4750-HP with standard range**	**SE4850-ER with extended range**
1D-Barcodes	UPC/EAN/JAN (UPC-A, UPC-E, UPC-E1, EAN-8, EAN13, JAN-8, JAN-13, UPC/EAN/JAN with supplementals, Bookland EAN (ISBN), UCC Coupon Extended Code, ISSN EAN)	Yes	Yes
	Code 128 (GS1-128 formerly UCC/EAN-128), ISBT 128, ISBT Concatenation)		
	Code 39 (Code 39 Full ASCII, Trioptic Code 39, Code 32)		
	Code 93		
	Code 11		
	Interleaved (Standard) 2 of 5 (ITF)		
	Discrete (Industrial) 2 of 5 (DTF) Discrete 2 of 5 IATA		
	Chinese 2 of 5		
	Matrix 2 of 5		
	Codabar (NW-7)		
	MSI (Plessey)		
	Korean 3 of 5		
	GS1 DataBar variants (GS1 Databar - 14 (RSS-14), GS1 Databar – Limited, GS1 Databar – Expanded, GS1 Databar to UPC/EAN)		

2D-Barcodes (PDF barcodes are part of the 2D barcode family)	PDF417	Yes	Yes
	MicroPDF417		
	Data Matrix		
	GS1-Data Matrix		
	Maxicode		
	QR Code		
	GS1-QR Code		
	Micro QR Code		
	Aztec		
	Han Xin (Chinese Sesible)		
	Composite (Composite CC-C, Composite CC-A/B, Composite TLC-39, Composite - GS1-128 Emulation Mode for UCC/EAN Composite)		
Postcodes	US Postnet	Yes	Yes
	US Planet		
	UK Postal		
	Japan Postal		
	Australia Post		
	KIX Code (Dutch)		
	Royal Mail 4 State Customer		
	UPU 4 State Postal FICS (Post US4)		
	USPS 4 State Postal (Post US3) USPS 4CB/One Code/Intelligent Mail		
OCR optical character recognition (6 to 60 point OCR font)	OCR-A/B, MICR-E13B, serial number from US currency	Yes	No
Document & Photos (1)	Basic – Captur	Yes	Yes
	Advanced – Captur	Yes	No
IUID	Supports IUID parsing, the ability to read and separate IUID fields according to application requirements.	Yes	Yes
Digimarc	Digital watermarking technology	No	Yes

Note:
(1) Document & photo capture is not possible with the BCS36x8ex-IS version due to the modifications for explosion protection.

IATA Code:

The International Air Transport Association (IATA) has approved several types of barcodes, as far as known, all of them are based on standard barcodes.

e.g. I2of5, Aztec, Datamatrix, QR Codes or others.

8.4.1 Barcode – general

The hand-held scanner can decode all common types of barcodes.

Not all barcode types are activated in the basic settings (default).

In the Product Reference Guide or the 123 Scan Utility of Zebra all barcode types can be activated, deactivated and barcode specific settings can be made.

For a list of the default settings, see the Zebra Product Reference Guide.

8.4.2 OCR – optical character recognition

OCR fonts can only be captured with the following hand-held scanner:
BCS36x8ex with SE4750-HP - Standard range

The hand-held scanner can read 6 to 60 point OCR fonts. It supports the following fonts

OCR-A, OCR-B, MICR-E13B and serial number of US currency

OCR is not as secure as a barcode. To reduce OCR error decoding and speed up OCR reading, an accurate OCR template and character subset should be set.

It is recommended to use a check digit.

All OCR fonts are disabled by default. Enabling OCR may slow down barcode decoding. Enabling more than one OCR font could also slow down OCR decoding and affect the accuracy of OCR decoding.

For more information on OCR types, see the Zebra Product Reference Guide for the SE4750-HP Scan Engine.

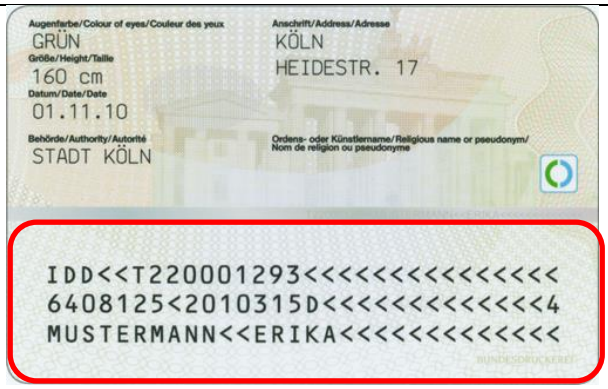
Recommendation:

Activate only the OCR font that is needed.

This prevents the process from taking too long and causing misinterpretations.

Test example to test OCR

A simple test is possible e.g. with a passport or identity card.

1. Activate “OCR-B“ OCR is deactivated in the default settings.	**Enable OCR-B (1)**
2. Activate “OCR-B ICAO Travel Documents”	**OCR-B ICAO Travel Documents (11)**
3. Test transmission with an identity card. On the back is the red marked text in an OCR-B font for travel documents.	

8.4.3 Document and photos

Documents and photos can be decoded with the BCS36x8ex-NI.

Standard Range Scan Engine SE4750-HP: Supports Basic and Advanced Capture

Extended Range Scan Engine SE4850-ER: Supports only basic capture

Document and photos cannot be decoded with the BCS36x8ex-IS due to modifications for explosion protection.

Documents and photos can be easily captured with Zebra Data Capture Tool “Intelligent Document Capture (IDC)”. Images are captured, resharpened and corrected to make them easier to read.

Information, explanations and instructions on how document and photo capture works and what has to be observed can be found in the Product Reference Guide from ZEBRA.

8.4.4 IUID – Item Unique Identification

A UID or Unique Identifier is used to identify and track data specified by the U.S. Department of Defense (e.g., manufacturer, distribution, product life cycle and other information) for all imported packages containing goods with a value of $5,000.00 or greater. Suppliers are required to provide a legible and permanent UID marking in the form of a Data Matrix barcode.

Information, explanations and instructions on how IUID works and what has to be observed can be found in the Product Reference Guide from ZEBRA.

8.4.5 Digimarc - Digital watermark recognition

Digimarc can only be decoded with the BCS36x8ex with Extended Range Scan Engine SE4850-ER.

The conversion of the code types reported by Digimarc into other barcode types is not supported.

Digimarc barcode is an invisible, machine-readable code.

Digimarc Symbology Digimarc codes are shown as UPC-A, UPC-E, EAN-13 or GS1 DataBar Expanded.

Information, explanations and instructions on how Digimarc works and what has to be observed can be found in the Product Reference Guide from ZEBRA.

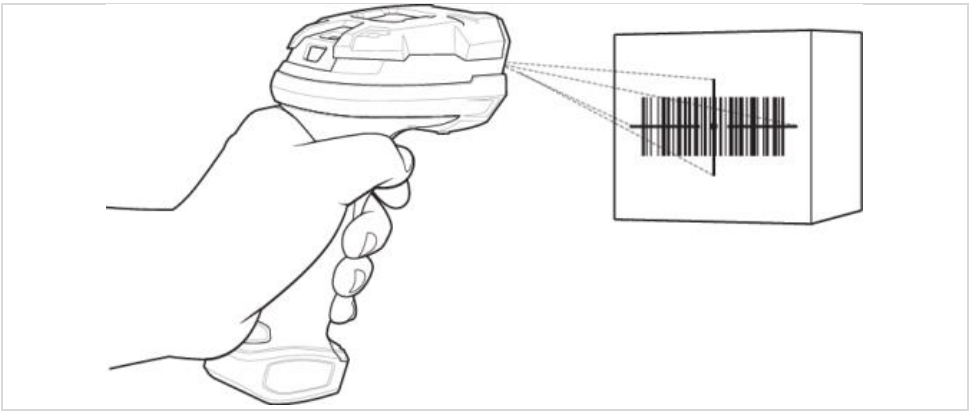
Test example to test Digimarc

1. Activate Digimarc Digimarc is deactivated in the default settings.	**Enable Digimarc Digital Watermarks (1)**
2. Testing Digimarc	**Digimarc Barcode** Scan Logo with Enabled Device Available on all Designated Models:
3. Deactivate Digimarc	***Disable Digimarc Digital Watermarks (0)**

8.5 Scanning

CAUTION / *ATTENTION*
LASER LIGHT - DO NOT STARE INTO BEAM CLASS 2 LASER PRODUCT *LUMIÈRE LASER - NE PAS REGARDER DANS LE FAISCEAU APPAREIL À LASER DE CLASSE 2* (630-680nm, 1mW)
(Invisible) Laser Radiation when open (and interlock defeated). *Rayonnement laser (invisible) lorsqu'il est ouvert (et que le verrouillage est désactivé).*
Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous LED light exposure. *L'utilisation de commandes ou de réglages ou l'exécution de procédures autres que celles spécifiées dans le présent document peut entraîner une exposition dangereuse à la lumière LED.*

During scanning, the hand-held scanners in the BCS3600ex series emit a scanner beam.



1. To scan a barcode, direct the scanner beam onto the barcode so that it captures the whole width of the barcode. While doing so, pay attention to the optimal scan position.
2. Align the hand-held scanner centrally on the barcode.
3. Press the trigger button.

▶ White LEDs on the hand-held scanner are switched on to illuminate the barcode.

▶ Scanner emits a beep to signalise the successful decoding of the barcode.

Right:

The hand-held scanner can also read barcodes when the scanner beam is not directly centred on the barcode.

Wrong:

The hand-held scanner cannot decode/scan a barcode if the scanner beam does not capture the whole width of the barcode.

Due to the Ex modifications, deviations in the positioning of the scanner beam are possible with the BCS36*8ex-IS.

9 Configuration

9.1 Programming tools

Zebra offers a range of different tools for the programming and simple connection of the hand-held scanners.

All tools are available to download from Zebra at the following address:

Scanner SE4750-HP:

https://www.zebra.com/us/en/support-downloads/scanners/ultra-rugged-scanners/ds3608-hp-ds3678-hp.html

Scanner SE4850-ER:

https://www.zebra.com/us/en/support-downloads/scanners/ultra-rugged-scanners/ds3608-er-ds3678-er.html

The different tools can be found under the following sections:

- UTILITIES
- DEVELOPER TOOLS
- MANUALS

9.1.1 Required USB programming cables

When using the Zebra 123 Scan Utility or a configuration tool via a PC, only USB programming cables specified by BARTEC have to be used.

For programming on a PC (via 123 Scan Utility) in the safe area, the USB programming cables specified by BARTEC are required:

USB programming cable	Ex area
17-A1Z0-0020 A power supply (G7-A0Z0-0019) is also recommended.	BCS36x8ex-IS (Zone 1)
B7-A2Z0-0046	BCS36x8ex-NI (Zone 2 / Div 2)

9.1.2 Programming manuals

Various programming manuals for simple programming are available from Zebra. The scanner can be set up with the help of the programming barcodes.

- DS36X8 Product Reference Guide
- Advanced Data Formatting Programmer Guide
- Multicode Data Formatting and Preferred Symbol User Guide

Advantage: Programming via programming barcodes also possible without PC in the field (hazardous area).

9.1.3 Zebra 123Scan Utility

BARTEC recommends using the Zebra 123Scan Utility for programming with the aid of a PC.

Zebra 123Scan Utility offers the following advantages:

- Simple and fast configuration of hand-held scanners
- Creation of profiles and saving the configurations on the PC
- Converting the configuration into programmable codes
- Duplication of configurations on further hand-held scanners
- Firmware updates
- Other

Detailed help on how to use the 123 Scan Utility can be found in the Zebra "Product Reference Guide" or the "How-To videos".

The Zebra 123 Scan Tool only supports USB connection.

Direct programming via the supply modules is not possible.

Programming is possible with:

- Corded BCS3608ex series requires USB programming cable
- Bluetooth BCS3678ex series requires base station with USB cable

To use the Ex-certified hand-held scanners, plug-ins are required so that the 123Scan Utility recognizes the connected scanners and a software update or configuration is possible.

In the currently available versions of the 123 Scan Utility the plugins are already implemented.

When using older, non-updated 123 Scan Utility applications, the plugin must be manually installed.

The 123 Scan Utility can be kept up to date with an existing internet connection via the update function.

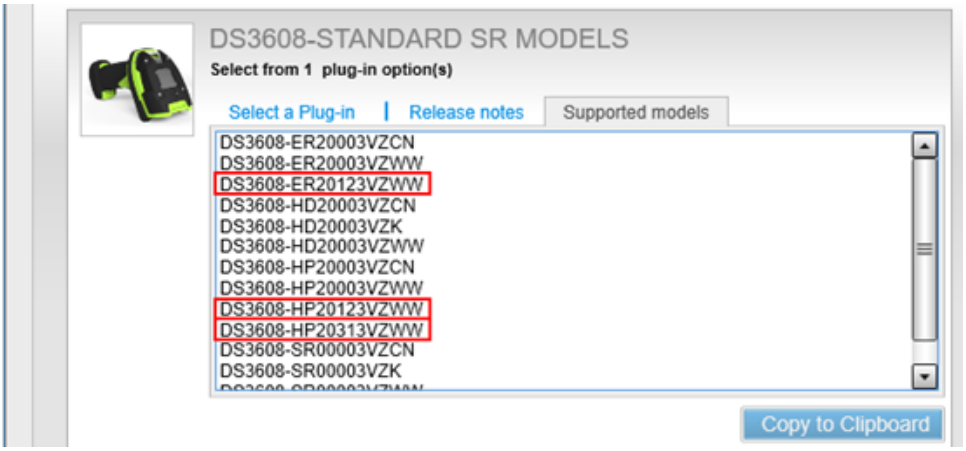
The plug-ins are available for download on request from BARTEC:

Contact: https://www.bartec.de/en/contact/

Identification of the plugins:

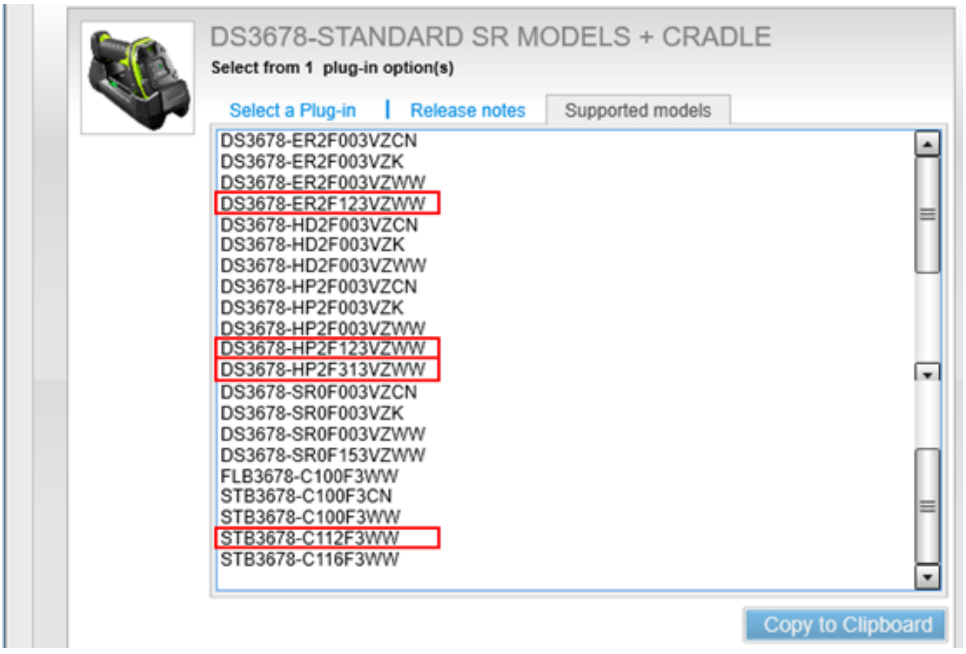
Plugin for BCS3608ex corded hand-held scanner supports the following configurations

- DS3608-HP20313VZWW => with Scanner: SE4750-HP
- DS3608-HP20123VZWW => with Scanner: SE4750-HP
- DS3608-ER20123VZWW => with Scanner: SE4850-ER



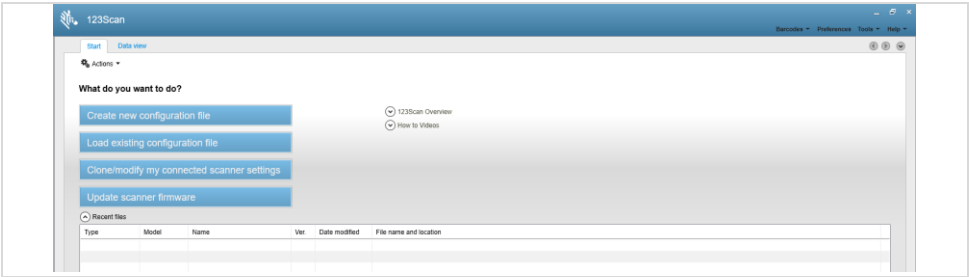
Plugin for BCS3678ex Bluetooth handheld scanner and base station supports the following configurations

- DS3678-HP2F313VZWW => with Scanner: SE4750-HP
- DS3678-HP2F123VZWW => with Scanner: SE4750-HP
- DS3678-ER2F123VZWW => with Scanner: SE4850-ER
- STB3678-C112F3WW => base station



Install Plugin

1. Start 123Scan Utility.



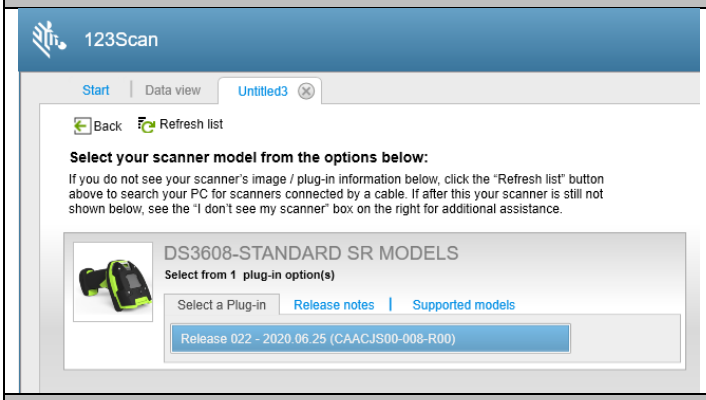
2. Select the Import plug-in into 123Scan² function in the Tools menu.
3. Select and install plugin.

The hand-held scanners are recognized by 123 Scan Utility as follows:

Corded hand-held scanner BCS3608ex

with Scanner SE4750-HP or SE4850-ER

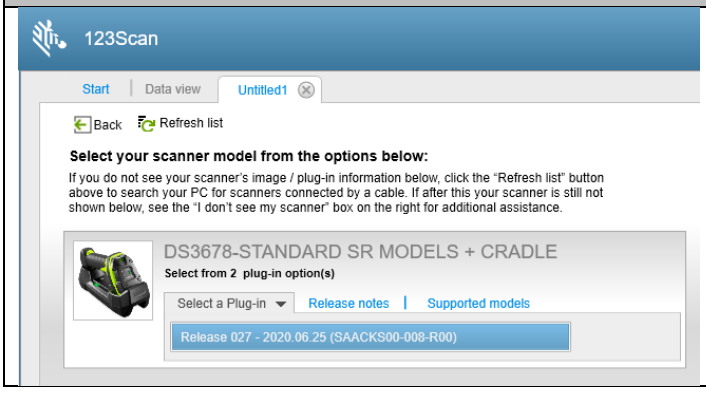
The release number depends on the currently available firmware version.



Corded hand-held scanner BCS3608ex

with Scanner SE4750-HP or SE4850-ER

The release number depends on the currently available firmware version.



9.1.4 Further tools

Further tools can be found on the Zebra support page. One example is the "ScanToConnect Utility for Android". Using this tool, you can connect the Bluetooth hand-held scanner to a smartphone or tablet in a single step without changing the configuration.

9.2 Programming for software developers

The following programming tools are available to software developers.

The programming tools are available online at the following address:

https://www.zebra.com/us/en/support-downloads/scanners/ultra-rugged-scanners/ds3608-hp-ds3678-hp.html

9.2.1 Programming manuals

- Simple Serial Interface – Programmer's Guide
- Cordless Simple Serial Interface – Programmer's Guide
- Zebra Scanner SDK for Android - Developer Guide
- Zebra Scanner SDK for iOS - Developer Guide

Area: MANUALS

9.2.2 Developer tools

- Scanner SDK for Windows
- Scanner SDK for Android
- Scanner SDK for iOS
- EMDK for Xamarin (designed for Visual Studio or Xamarin Studio with Xamarin.Android)

Area: DEVELOPER TOOLS

9.2.3 Drivers

Details of the various drivers provided by Zebra can be found on the Zebra support page.

Area: DRIVERS

9.3 Functions

The certified hand-held scanners from BARTEC are based on the original hand-held scanners from ZEBRA and are mostly functionally compatible.

With a few exceptions, the functions can be applied one-to-one as with Zebra.

When implementing a HID solution, a software wedge application must be installed on the PC / host when using a universal supply module (not distributed by BARTEC).

The software wedge application is used for further processing of the incoming data.

For example, a software keyboard wedge application (not distributed by BARTEC) can further process incoming serial data and pass them on to other applications on the PC/host like a keyboard input.

The complete list of all functions with a detailed functional description can be found in ZEBRA's Product Reference Guide.

Some important functions are explained in the following chapters.

9.3.1 General Device Settings (User Preferences)

A variety of settings on how the device should behave can be made using the Zebra Product Manual or the 123 Scan Utility.

Examples:

- Beeper - Adjusts the sound, duration, and volume of the beeper.
- Consumption Mode - Enables or disables the Low Consumption Mode.
- Trigger Mode - Sets various trigger modes such as "Standard", "Presentation", "Auto Aim" and others.
- Picklist Mode - The Picklist mode allows the hand-held scanner to decode only barcodes aligned below the LED target.

Detailed and full list of information and programming barcodes about “user preferences” can be found in Zebra product reference guide “chapter 5 – user preferences”.

9.3.2 Prefix and Suffix

Detailed information and programmable codes for "Prefix" and "Suffix" can be found in the Zebra Product Reference Manual "Chapter 5 - User Settings & Other Options --- User Settings --- Prefix/Suffix Values".

Another way to set up prefix and suffix is to use the Zebra 123 Scan Utility.

Data chain

Start	Data length	Prefix	Scanned data	Suffix	End

Präfix: Add a character or string before the scanned data.

Suffix: Adds a character or string after the scanned data.

9.3.3 Adding an Enter key

To add an Enter key (carriage return/line feed) after the scanned data, scan the following barcode.

To program other prefixes and/or suffixes, refer to the Zebra Product Reference Guide.

Adding an Enter field (Carriage Return/Line Feed)	

9.3.4 Advanced Data Formatting (ADF)

The Ex-relevant safety regulations can lead to restrictions of the function with regard to reading range and scanner performance with the hand-held scanners Zone 1.

For an ADF tutorial and a 123Scan programming example, go to the 123Scan section of our How To Videos:

http://www.zebra.com/ScannerHowToVideos

For additional information, refer to the “Advanced Data Formatting” Programmer Guide

Advanced Data Formatting (ADF) - Scan one bar code per trigger pull

Advanced Data Formatting (ADF) is a means of customizing data from before transmission to the host device. Use ADF to edit scan data to suit your host's requirements. With ADF you scan one bar code per trigger pull. ADF is programmed using 123Scan.

9.3.5 Multicode Data Formatting (MDF)

The Ex-relevant safety regulations can lead to restrictions of the function with regard to reading range and scanner performance with the hand-held scanners Zone 1.

For an MDF tutorial and a 123Scan programming example, go to the 123Scan section of our How To Videos: http://www.zebra.com/ScannerHowToVideos

For more information and some examples described in detail refer to the ”Multicode Data Formatting and Preferred Symbol” User Guide.

Multicode Data Formatting (MDF) - Scan many bar codes in one trigger pull

Multicode Data Formatting (MDF) enables a 2D imaging scanner to scan all bar codes on a label with a single trigger pull, and then modify and transmit the data to meet host application requirements. MDF supports programming up to nine unique labels into one scanner. MDF also supports scanning multiple bar codes on opposite sides of a box by holding the trigger.

Programming options include:

- Output all or specific bar codes
- Control the bar code output sequence
- Apply unique multicode data formatting (MDF) to each output bar code
- Discard scanned data if all required bar codes are not present

Programming Options

Using 123Scan, programming an MDF Group is similar to setting an ADF rule. MDF programming is saved in the 123Scan configuration file.

MDF can be deployed to a fleet of 2D imaging scanners using the Scanner Management Service (SMS) through a traditional SMS package.

MDF Terms and Definitions

- **Multicode** - Industry term for the ability to scan multiple bar codes with one trigger pull.
- Multicode Data Formatting (MDF) - Zebra's name for Multicode.
- **MDF Session** - The act of decoding a label from trigger pull to either data transmission or decode session termination.
- **MDF Group** - The complete set of commands for processing a single label which contains multiple bar codes. 123Scan can program from one to nine MDF Groups.
- **MDF Rule** - The programming steps for processing a single bar code. Similar to an ADF Rule, the MDF Rule contains both criteria and actions. One MDF Rule identifies a single bar code and how to format its data; more bar codes require more MDF Rules.
- **Pattern Match -** The criteria used to determine if a set of scanned bar codes qualify for Multicode Data Formatting. If the pattern match criteria are not met, Multicode Data Formatting is not applied.

Each barcode within the pattern match is defined according to the bar code criteria identified below.

- **Code Type -** This is a required field when specifying a bar code within the pattern match.
- **Code Length -** This is an optional field when specifying a bar code within the pattern match.
- **String -** This is an optional field when specifying a bar code within the pattern match.
- **String Starting Position -** Specific location: This is an optional field when specifying a bar code within the pattern match.

Preferred Symbol

Preferred Symbol is a bar code prioritization technique that enables favored decoding of user designated high priority bar code(s). The Preferred Symbol is the only bar code that is decoded and output within the preset Preferred Symbol Timeout. During this time, the scanner attempts to decode the prioritized bar code and reports only this bar code.

For more information, refer to the MDF and Preferred Symbol User Guide.

Programming Options

To program Preferred Symbol via 123Scan, select 123Scan > Configuration Wizard > Symbologies screen, and then select Preferred Symbol from the drop-down menu. Preferred Symbol programming is saved in the 123Scan configuration file.

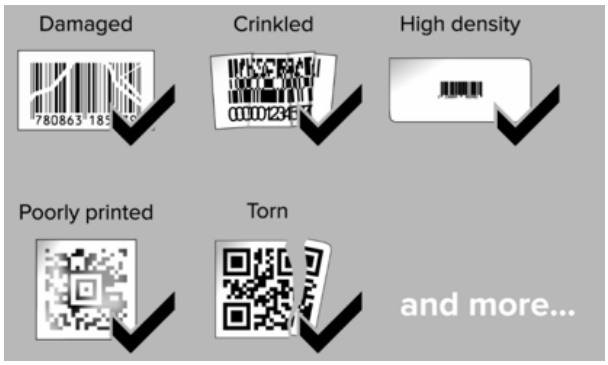
Preferred Symbol can be deployed to a fleet of 2D imaging scanners using the Scanner Management Service (SMS) through a traditional SMS package.

9.3.6 PRZM Intelligents Imaging

The Ex-relevant safety regulations can lead to restrictions of the function with regard to reading range and scanner performance with the hand-held scanners Zone 1.

PRZM sets the bar for 2D imaging by improving decoding performance, speed and user experience.

Enables the capture of bar codes that are no longer in the best condition.



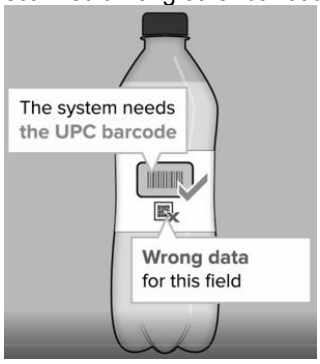
Further information about "PRZM Intelligent Imaging" is available on the Zebra Homepage.

https://www.zebra.com/us/en/products/software/scanning-systems/przm-intelligent-imaging-platform.html

9.3.7 Prefered Symbol

The Ex-relevant safety regulations can lead to restrictions of the function with regard to reading range and scanner performance with the hand-held scanners Zone 1.

Zebra's preferred symbol is a bar code prioritization technique that allows one bar code scanned among other bar codes to be selected for decoding while excluding the others.



More information about "Prefered Symbol" is available on the Zebra homepage.

https://www.zebra.com/us/en/products/software/scanning-systems/preferred-symbol.html

9.3.8 Intelligent Document Capture

The Ex-relevant safety regulations can lead to restrictions of the function with regard to reading range and scanner performance with the hand-held scanners Zone 1.

Intelligent Document Capture is supported only with the scanner SE4750-HP.

The scanner SE4850-ER does not support this feature.

Eliminate the cost and space requirements of a document scanner. Capture an image while processing barcode data and automatically optimize the appearance of the image by deskewing and brightening.

More information about "Intelligent Document Capture" is available on the Zebra Homepage.

https://www.zebra.com/us/en/products/software/scanning-systems/intelligent-document-capture.html

9.4 Pairing options for Bluetooth hand-held scanner (only for BCS3678ex)

9.4.1 Radio Communication General

This chapter provides information about the operating modes and functions available for the Bluetooth communication between the BCS3678ex Bluetooth Hand-held Scanner, Base Station (Cradle), Supply Modules, and other Bluetooth enabled devices.

Associated with this section is the Zebra "Product Reference Guide" for the DS36X8.

Available on the BARTEC or Zebra Support website.

Contents:

- General information on radio communication
- programmable codes
- Detailed instructions on all available settings
- Default settings of the radio communication parameters
- Host types of radio communication
- Bluetooth Friendly Name
- Wi-Fi friendly mode
- radio output power
- Bluetooth radio status
- HID host parameters
- Try reconnecting the beeper feedback.
- Overrange indicator
- Hand-held scanner for charging station (base station) Support
- paddocks
- batch mode
- Bluetooth security
- Bluetooth radio, linking and batch operation

9.4.2 Number of Bluetooth Connections

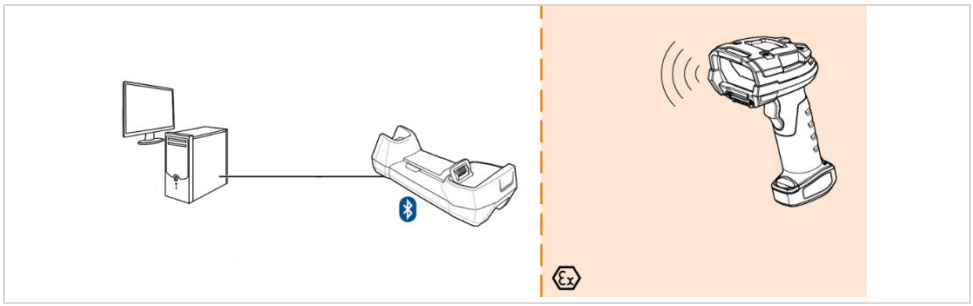
Connection with	Number of connections	Comments
Base station	Up to 7	Up to 7 BCS3678ex can be connected to one base station. A point-to-point connection is activated in the basic settings. A multipoint connection can be activated via the programming manual. Chapter 4 "Radio Communications Point-to-Point Mode: (Default)  Multipoint-to-Point Mode: 
Supply module (USM)	1	One hand-held scanner can be connected to a supply module. A multipoint connection is not supported.
Bluetooth devices	Depends on the used device	How many hand-held scanners can be connected to a Bluetooth device depends on the Bluetooth module installed. Please refer to the product descriptions of your Bluetooth enabled device for more details.

9.4.3 Pairing between Bluetooth hand-held scanner and base station (cradle)

Base station is installed in the safe area and connected to a PC.

The following interfaces are supported:

Interfaces	Range	Connection cable
USB (HID or SPP)	4.5 m*	Yes, see accessories list for the respective Ex-version of the scanner.
RS232	4.5 m**	
Maximum functional ranges: * Maximum working range for USB is 5 m. ** Maximum working range for RS232 is 15 m. Extension cables are not included in the product range.		



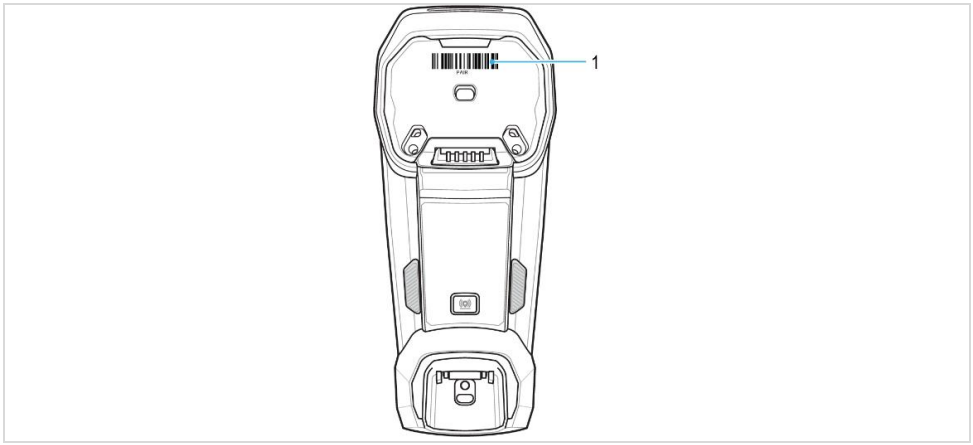
There are two methods to realize the pairing with the base station

Pairing – Methode 1

Each base station has an individual barcode for pairing.

The MAC address of the base station is stored in the barcode.

By scanning the pairing barcode in the default setting, a scanner can establish a point-to-point connection with a base station.



▶ Use the hand-held scanner to scan the barcode (1) attached to the base station.

▶ The hand-held scanner is connected to the base station and ready for use.

The barcode can be recreated using the Zebra 123Scan tool in case the barcode is damaged or detached.

The required MAC address can be found on the type label of the base station.

Pairing - Method 2

With this method, the scanner automatically connects to the contacts when inserted into the base station.

It is not necessary to scan the base station barcode.

If the pairing is successful, a low/high connection beep will sound a few seconds after the hand-held scanner is inserted into the base station. More audio sequences can be found in the Zebra "Product Reference Guide" under Beeper and LED Definitions.

In the default settings, pairing via the base station contacts (Enable Pair on Contacts) is enabled.

	Enable Pair On Contacts Default = activated (Enabled)
Disable Pair on Contacts	

If the BCS3678ex is paired with other Bluetooth devices (not with the base station) we recommend to deactivate the function "Pair on Contacts".

Otherwise the BCS3678ex may establish the connection with the base station.

This will disconnect the connection with other Bluetooth devices

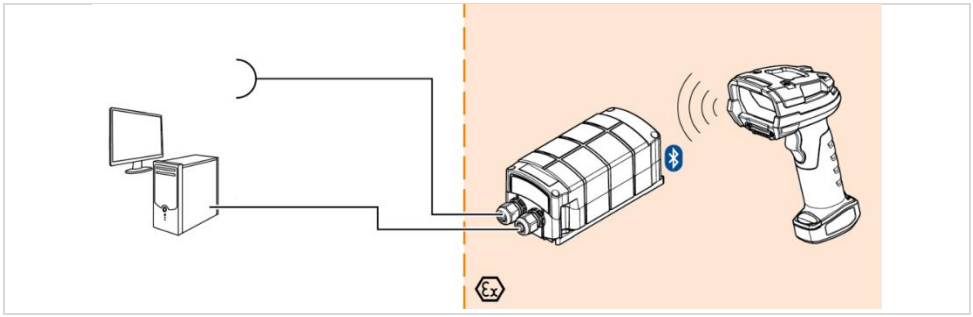
9.4.4 Pairing between Bluetooth hand-held scanner and universal supply module

The USM can be installed in hazardous areas and connected to a PC.

The following interfaces are supported:

Interfaces	Max. Range	Connection cable (USM to PC/Host)
USB (SPP)	5 m	Yes Connection cables are not included in the scope of delivery and are not offered by BARTEC. Use commercially available shielded data cables to avoid external interference. Recommendation: e.g. min. CAT5 cable or other shielded cable
RS232	15 m	
RS422	1000 m	
RS485	1200 m	

USB-HID is not supported!



Pairing

Two barcodes are attached to each Universal supply module.

The "Master Barcode" is located in the cover.

Bluetooth Serial Port Profile (Master)

If the hand-held scanner is configured as Master (SPP), the radio connection to a Slave device is established. The connection is initiated by scanning a pairing barcode for the remote device.

The pairing barcode for the remote device is attached to the outside of the universal supply module (USM).

Pairing Barcode

D88039FBC66D

▶ Use the hand-held scanner to scan the barcodes in the following order.

1. Scan the Bluetooth Serial Port Profile (Master) in the cover.
2. Scan the pairing barcode (Scan To Connect) on the outside of the cover.

➥ The hand-held scanner is connected to the USM and ready for use.

The barcode for the pairing contains the MAC address of the installed Bluetooth module.

The MAC address is printed on the cover.

The barcode can be recreated using the Zebra 123Scan tool in case the barcode is damaged or has become detached

The necessary MAC address is located:

Base station:

On the type label of the base station.

Universal supply module:

The MAC address can be read out with the help of a terminal program.

The manual is available in a separate description on the BARTEC Support & Download page.

http://automation.bartec.de/scanner.htm

9.4.5 Pairing between Bluetooth hand-held scanner and Bluetooth enabled device

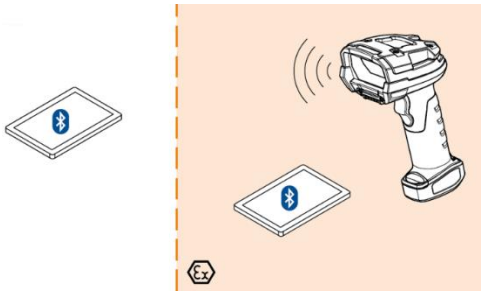
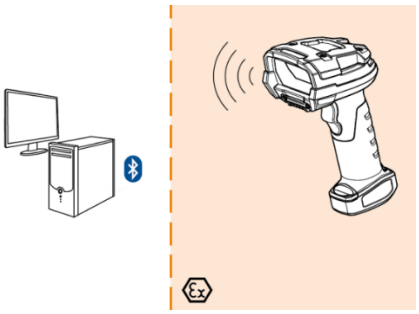
The hand-held scanner can also be connected directly to any Bluetooth enabled device via Bluetooth (pairing).

The following interfaces are supported:

Interfaces	Explanation
USB (HID)	Keyboard Emulation (HID) / Keyboard Emulation (HID) Select this host type when connecting to a PC / Tablet / Phone that simulates a Bluetooth keyboard. Available Modes: ▪ HID Bluetooth Classic ▪ HID BT LE (Discoverable) **Note:** This function is not supported for connection via Universal supply module.
USB (SPP)	Serial Port Profile (SPP) Select this host type when connecting to a PC / Tablet / Phone via a Bluetooth serial connection. ▪ SPP BT Classic (Non-Discoverable) ▪ SPP BT Classic (Discoverable)
USB (SSI)	Simple Serial Interface (SSI) / Simple Serial Interface (SSI) Select this host type when connecting to a mobile Zebra device or a PC / Tablet / Phone with Zebra scanner SDK app. ▪ SSI BT Classic (Non-Discoverable) ▪ SSI BT Classic (Discoverable) ▪ SSI BT LE

For more information and detailed descriptions, refer to the Zebra "Product Reference Guide" for the DS36X8.

Chapter 4 - "Radio Communication

Explanation	Explanation
The hand-held scanner can be connected to other Bluetooth capable BARTEC devices in Ex-areas and safe areas. In the example with the Tablet PC's of the Agile X series. (Also possible with devices of other Ex device manufacturers)	
The hand-held scanner can be connected to all Bluetooth enabled device.	

There are the following methods to realize pairing with Bluetooth enabled device.

Pairing – Programmable codes for different host types

Scanning the respective programmable code from the corresponding Zebra "Product Reference Guide" for the DS36X8.

Chapter 4 - "Radio Communication" - "Host Types

- Keyboard Emulation
- Simple Serial Interface (SSI)
- Serial Port Profile (SPP)

Detailed explanations of the individual host types can be found in the Zebra manual.

Pairing – Keyboard Emulation

The most common method to connect the hand-held scanner to a Bluetooth enabled device is described in detail below.

Prepare the hand-held scanner for pairing with other Bluetooth enabled device. Scanning the barcode: **Keyboard Emulation (HID) "HID BT LE (Discoverable)"** Enables the host PC to establish an HID (Human Interface Device) connection to the hand-held scanner via Bluetooth low-energy radio. The hand-held scanner can be recognized on the host PC (slave mode). How to establish a connection (initial setup only): ▪ Scan the barcode HID BT LE (Discoverable). ▪ In the Bluetooth Manager on your host PC, find the hand-held scanner as a "DS36xx" device. ▪ Select your hand-held scanner and establish the connection.	**HID BT LE (Discoverable)**

For more information and detailed descriptions, refer to the Zebra "Product Reference Guide" for the DS36X8.

Chapter 4 - "Radio Communication

Pairing – Scan-To-Connect Application from Zebra

Another way to create a simple pairing is to use the Scan-To-Connect application from Zebra.

The application can be downloaded from the Zebra Support page or from the Google Play Store.

Zebra Support page: https://www.zebra.com/us/en/support-downloads.html

- Barcode Scanners
- Ultra Rugged Scanners --- DS3608-HP/DS3678-HP
- Utility - Select Scan-To-Connect for Android or Windows

The applications are compatible with the following systems:	
Android	v4.4 v5.x v6.x v7.x v8.0
Windows	Windows 7 Windows 8.1 Windows 10 Installation requirements hardware requirements Pentium Dual-Core E214 1.6 GHz or Pentium Mobile Dual Core T2060 or Pentium Celeron E1200 1.6 GHz 2 GB RAM 1.2 GB free hard disk space Minimum display resolution = 1024 x 768 pixels Operating system requirements Scan-To-Connect is compatible with the native Bluetooth driver of your Windows PC / Tablet operating system

The latest versions, requirements and further information can be found in the corresponding Zebra product descriptions.

With the Scan-To-Connect application, a Bluetooth scanner can be connected directly to a PC/Tablet/Smartphone by scanning a barcode on the display. No printed pairing barcode is required. This paperless pairing solution connects the scanner directly to the host without the need for a docking station.

Once a scanner and host are paired, no rescanning of the Scan-To-Connect Pairing barcode is required, even if the device is woken up/activated (Wake Up), provided automatic reconnection has been enabled.

Unlike the standard HID keyboard, the STC utility supports the extended HID keyboard, which ensures that your data is received by your Windows PC. If it is damaged, it will be retransmitted. If it is lost, you will hear an error tone to rescan the object.

9.4.6 Check if pairing is OK

Whether the scanner is paired can be checked in the following way.

At the scanner:

Not paired		Not paired	
			
Bluetooth - LED flashes red		Bluetooth – LED flashes green	

9.4.7 Scanning when out of range - Out of Range & Batch Mode

If there is a radio link between the hand-held scanner and the base station, the hand-held scanner transmits all scanned data immediately after scanning the barcode.

If there is no radio connection, the scanning of barcode data is not possible (basic setting).

If the Out-of-Range Scanning function is enabled, barcode data can also be scanned outside the radio range of the base station. All scanned data is buffered in the hand-held scanner until the radio link is available.

The hand-held scanner supports five versions of the batch mode. If the hand-held scanner is configured for one of the batch modes, it will attempt to store barcode data (not parameter barcodes) until transmission is initialized or the maximum number of barcodes is stored. When a barcode has been successfully saved, a decoding tone sounds and the LED flashes green. If the hand-held scanner cannot save a new barcode, a beep sounds.

In all modes, calculate the amount of data (number of barcodes) that the hand-held scanner can store as follows:

The hand-held scanner has an on-board memory to store barcodes.

Number of barcodes that can be stored:

30,720 Byte memory / (number of characters in barcode + 3)

Example:

Barcode contains 7 characters (7+3 = 10) => 30,720 bytes / 10 = 3072 barcodes, which can be stored in the internal memory.

The storing of barcodes is deactivated by default in order not to reduce the lifetime of the memory unnecessarily. The function must be activated if required.

If the batch mode selection is changed while data is in batch mode, the new batch mode will not take effect until all previously stacked data has been sent.

Detailed information and programmable codes for "out of range" and "batch mode" can be found in the Zebra product reference system "Chapter 4 - Radio Communication".

Some of the available operating modes can only be used in combination with a base station.

Operating modes

Detailed explanations and notes on the operating modes can be found in the Zebra user manual.

- **Normal (Standard)**

No batch data. The hand-held scanner attempts to transfer each scanned barcode.

- **Batch mode out of range**

The hand-held scanner starts storing barcode data when it loses its connection to a remote device (e.g. when a user holding the hand-held scanner goes out of range). The data transfer is triggered by re-establishing the connection with the remote device (e.g. when a user holding the hand-held scanner returns to range).

- **Standard Batch Mode**

The hand-held scanner starts saving barcode data after the batch mode has been activated. Data transmission is triggered by scanning transmission batch data.

- **Cradle Contact Batch Mode**

The hand-held scanner starts saving barcode data when batch mode is activated. Data transfer is initiated by inserting the hand-held scanner into the base station.

- **Batch Mode Only**

The scanner radio is turned off and the scanner stores all barcode data. The data transfer is triggered by inserting the scanner into the base station.

- **Batch Mode Parameters**

When parameter batch mode is enabled and there is no connection to the base station, the scanner starts saving parameter barcode data intended for the base station. The transfer of the parameter barcode is triggered by inserting the scanner into the base station. The Batch Mode parameter is exited at the end of the transfer. Alternatively, the dosing of parameter barcodes can be aborted by scanning the output parameter batch mode before inserting the scanner into the holder.

The parameter batch mode can be used when the base station and/or hand-held scanner is configured with the radio turned off or the hand-held scanner is not connected to a base station.

9.4.8 Radio ranges

The Bluetooth hand-held scanner BCS3678ex has a Bluetooth Class 1 radio module that achieves a range of up to 100m (in the open air with a clear view). The actual range is affected by the presence of other radio devices (WiFi, Bluetooth and other devices using the 2.4 GHz band), the room layout (shelves, machinery, wall and ceiling materials and many other factors) and the type of installation. The environmental conditions and external interference generally varies a lot and has a direct influence on the radio ranges.

It is therefore not possible to make a general statement about the radio range without measurement or on-site testing.

The hand-held scanner BCS3678ex is equiped with a class 1 Bluetooth module.

(Bluetooth 4.0 LE, Class 1)

Bluetooth Class	**Transmission range**
Class 1	Up to 100 m
Class 2	Up to 10 m
Class 3	Up to 1 m

NOTE:

The maximum range is determined by the Bluetooth class that has the lowest possible transmission range. For example, if you connect a BCS3678ex (Bluetooth Class 1) to a Class 2 device, the maximum transmission range is 10 meters.

Information on range always refers to ideal conditions and trouble-free operation.

Bluetooth Device	**Bluetooth Class**	**Maximum transmission range**
Universal supply module (all variants with Bluetooth)	Class 1	Up to 100 m
Base station	Class 1	Up to 100 m
Other Bluetooth devices *Transmission range depends on the Bluetooth class*	Class 1	Up to 100 m
	Class 2	Up to 10 m
	Class 3	Up to 1 m

9.4.9 Creating Pairing Barcodes with Zebra 123 Scan Utility

Start the Zebra 123Scan Utility application.

Select the following menu items in the upper right corner of the home screen (red marked):

- Barcodes
- Bluetooth bar codes
- Serial port profile (master) pairing bar code

In the field "Pairing value": enter the MAC address of the Bluetooth module.

"Select "generate bar code.

Then scan the two barcodes in sequence for pairing.

- Bluetooth Serial Port Profile (Master)
- xxxxxxxxxxx (Bluetooth Address of the remote device)

9.4.10 Unpairing the Bluetooth hand-held scanner

▶ Scan the unpairing barcode with the hand-held scanner.

➥ The hand-held scanner is unpaired from the supply module.

When resetting the scanner to factory default, existing Blutooth connections are not reset.

To completely reset a device, it is recommended that you also scan the "Unpairing" barcode.

9.5 Default parameters

9.5.1 Default values of the hand-held scanners

A list of all default values of the hand-held scanners can be found in the Zebra product manual.

Zebra Product Reference Guide - Apendix A - Standard Default Parameters

Further information on the hand-held scanner default values and the reset options can be found under:

Zebra Product Reference Guide - Chapter 5 - User Preferences & Miscellaneous Options --- User Preferences --- Default Parameters

9.5.2 Default values of the universal supply modules

The following table lists the factory-set (default) values of the serial interfaces and is valid for the following universal supply modules:

Type	Description	Ex area
B7-A2Z0-0042	Universal supply module corded	Zone 2/22
B7-A2Z0-004200US	Universal supply module corded VERSION: US + CANADA	Division 2
B7-A2Z0-0043	Universal supply module Bluetooth	Zone 2/22
B7-A2Z0-004300US	Universal supply module Bluetooth VERSION: US + CANADA	Division 2
17-A1Z0-0018	Universal supply module corded	Zone 1/21
17-A1Z0-0019	Universal supply module Bluetooth	Zone 1/21

Interface parameters	Universal supply module		
	corded for BCS3608ex	Bluetooth for BCS3678ex	
		1st generation (with DIP switch)	2nd Generation (without DIP switch)
USB-HID interface			
Not supported			
USB-SPP interface			
Baud Rate	9600 Baud	115200 Baud	9600 Baud
Parity	None	None	None
Stop bits	1 Bit	1 Bit	1 Bit
Data bits	8 Bit	8 Bit	8 Bit
Hardware handshake	None	None	None
Software handshake	None	None	None
RS232 interface			
Baud Rate	9600 Baud	115200 Baud	9600 Baud
Parity	None	None	None
Stop bits	1 Bit	1 Bit	1 Bit
Data bits	8 Bit	8 Bit	8 Bit
Hardware handshake	None	None	None
Software handshake	None	None	None
RS422 interface			
Baud Rate	9600 Baud	115200 Baud	9600 Baud
Standard RS422 interface			
RS485 interface			
Baud Rate	9600 Baud	115200 Baud	9600 Baud
Standard RS485 interface			

The interface parameters (baud rate, parity, stop bits, data bits and software/hardware handshaking) of the Universal supply modules are fixed at the factory.

Exception only for Universal supply module - Bluetooth:

The baud rate can be reprogrammed using a terminal program.

The Baud rate can be changed between 9600 and 115200 Baud.

The manual is available in a separate description on the BARTEC Support & Download page: http://automation.bartec.de/scanner.htm

- Category: Programming
- Description for programming the serial interfaces

9.5.3 Default values of the supply module Ex i

The following table lists the factory-set (default) values of the serial interfaces and is valid for the following supply modules Ex i:

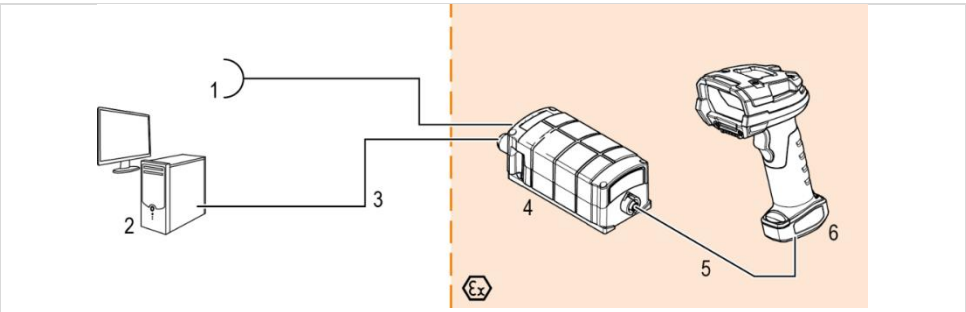
Type	Description	Ex area
17-A1Z0-0025	Supply module Ex i corded	Zone 1/21
17-A1Z0-0028	Supply module Ex i Bluetooth	Zone 1/21

Interface parameters	Supply module Ex i	
	corded for BCS3608ex	Bluetooth for BCS3678ex
USB-HID interface		
Not supported		
USB-SPP interface		
Baud Rate	9600 Baud	9600 Baud
Parity	None	None
Stop bits	1 Bit	1 Bit
Data bits	8 Bit	8 Bit
Hardware handshake	None	None
Software handshake	None	None
RS232 interface		
Baud Rate	9600 Baud	9600 Baud
Parity	None	None
Stop bits	1 Bit	1 Bit
Data bits	8 Bit	8 Bit
Hardware handshake	None	None
Software handshake	None	None
RS422 interface		
Not supported		
RS485 interface		
Not supported		

The interface parameters of the Supply module Ex i are fixed and cannot be changed.

9.6 Programming the interface parameters

9.6.1 Programming BCS3608ex with universal supply module – corded



Pos.	Description
1	Power supply → this cable has to be provided by the customer
2	Host-PC
3	Data cable Host-PC – Universal supply module → this cable has to be provided by the customer
4	Universal supply module corded Type: B7-A2Z0-0042/**** (Zone 2/22 or Division 2) Type: 17-A1Z0-0018/**** (Zone 1/21)
5	Connecting cable BCS3608ex-NI / BCS3608ex-IS
6	Corded hand-held scanner BCS3608ex-NI / BCS3608ex-IS Type: B7-A2S4-1HP0/**** (Zone 2/22) Type: B7-A2S4-1ER0/**** (Zone 2/22) Type: 17-A1S4-1HP0/**** (Zone 1/21)

The corded universal supply module transmits the data of the serial interface of the hand-held scanner transparently (1 to 1) and therefore changes of the settings on the module are not necessary.

To create a connection to a PC, the interface parameters on the hand-held scanner and the PC/host must be identical.

Adjustment on the hand-held scanner:

The interface parameters of the hand-held scanner can be adjusted using programming codes in the Zebra product manual (chapter 7 or 9) or when using the Zebra 123 Scan Utility (only when using a programming cable).

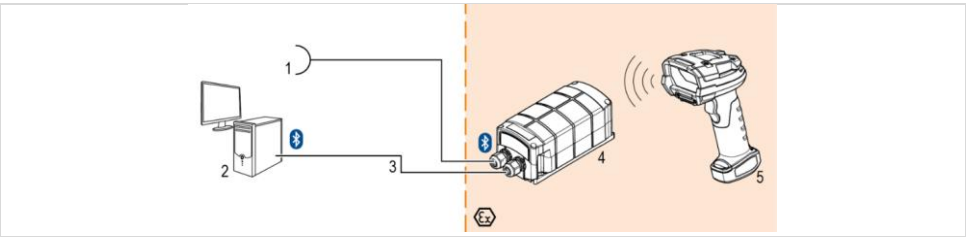
Adjustment on the universal supply module - corded:

No adjustment necessary, because the universal supply module transparently transmits the data from the hand-held scanner to the PC/host.

Adjustment on PC/host:

The interface parameters of the PC/host can be adjusted via the settings e.g. in the device manager, terminal program or application software.

9.6.2 Programming BCS3678ex with universal supply module – Bluetooth



Pos.	Description
1	Power supply → this cable has to be provided by the customer
2	Host-PC
3	Data cable Host-PC – Universal supply module → this cable has to be provided by the customer
4	Universal supply module Bluetooth Type: B7-A2Z0-0043/**** (Zone 2/22 or Division 2) Type: 17-A1Z0-0019/***** (Zone 1/21)
5	Bluetooth Hand-held scanner BCS3678ex-NI / BCS3678ex-IS Type: B7-A2S4-2**1/**** (Zone 2/22) Type: 17-A1S4-2HP1/**** (Zone 1/21)

The hand-held scanner is paired/connected via Bluetooth with the universal supply module Bluetooth and the supply module takes over the data transfer to a PC / host.

The interface parameter settings are made directly on the Bluetooth universal supply module and cannot be adjusted on the hand-held scanner (e.g. by scanning in programming codes or via 123 Scan Utility).

It is possible to change the baud rate using a terminal program.

For programming, separate instructions are available on the BARTEC support download page: http://automation.bartec.de/indexE.htm

- Category: Programming
- Description for programming the serial interfaces

This manual describes how to program the baud rate. A terminal program is required on the PC and the UVM must be connected to a PC via RS232 or USB-SPP.

Adjustment on the hand-held scanner:

No adjustment of the interface parameters possible, because hand-held scanner is connected to USM via Bluetooth.

Adjustment on the universal supply module - corded:

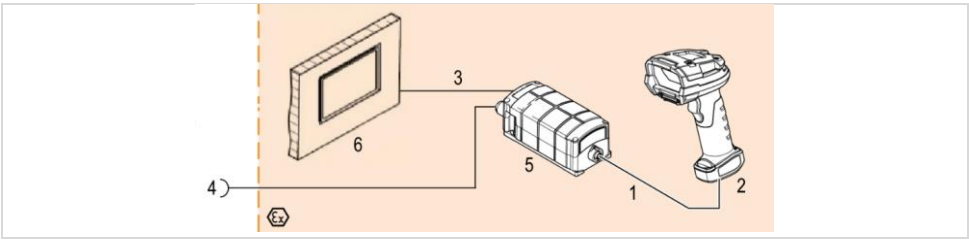
Adjustment of the baud rate is possible with the help of a terminal program.

Other interface parameters (data bits, stop bit, parity, software/hardware handshaking) are fixed and cannot be changed.

Adjustment on PC/host:

The interface parameters from the PC/host can be adjusted via the settings e.g. in the device manager, terminal program or application software.

9.6.3 Programming BCS3608ex with supply module Ex i - corded



Pos.	Description
1	Connecting cable BCS3608ex-IS
2	Hand-held scanner BCS3608ex-IS Type: 17-A1S4-1HP0/**** (Zone 1/21)
3	Data cable in Ex i version between Ex-HMI (or other Ex device) and supply module Ex i → this cable has to be provided by the customer ▪ RS232 ▪ USB-SPP
4	Power supply → this cable has to be provided by the customer
5	Supply module Ex i corded for hand-held sanner Type: 17-A1Z0-0025 (Zone 1/21)
6	Ex-HMI or other Ex device with Ex i interface (approved for hazardous areas)

The supply module Ex i - corded transmits the data of the serial interface of the hand-held scanner transparently (1 to 1), therefore changes of the settings on the module are not necessary.

In order to establish a connection with a PC, it is necessary that the interface parameters on the hand-held scanner and the PC/host are identical.

Adjustment on the hand-held scanner:

The interface parameters of the hand-held scanner can be adjusted using programming codes in the Zebra product manual (chapter 7 or 9) or when using the Zebra 123 Scan Utility (only when using a programming cable).

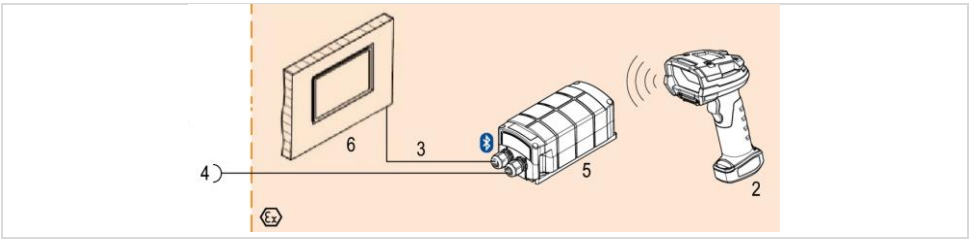
Adjustment on the supply module Ex i - corded:

No adjustment necessary, because UVM transparently forwards the data from the hand-held scanner to PC/host.

Adjustment on PC/host:

The interface parameters from the PC/host can be adjusted via the settings e.g. in the device manager, terminal program or application software.

9.6.4 Programming BCS3678ex with supply module Ex i - Bluetooth



Pos.	Description
2	Hand-held scanner BCS3608ex-IS Type: 17-A1S4-1HP0/**** (Zone 1/21)
3	Data cable in Ex i version between Ex-HMI (or other Ex device) and supply module Ex i → this cable has to be provided by the customer ▪ RS232 ▪ USB-SPP
4	Power supply → this cable has to be provided by the customer
5	Supply module Ex i Bluetooth for hand-held scanner Type: 17-A1Z0-0025 (Zone 1/21)
6	Ex-HMI or other Ex device with Ex i interface (approved for hazardous areas)

The hand-held scanner is paired/connected via Bluetooth with the supply module Ex i - Bluetooth.

The supply module Ex i - Bluetooth takes over the data transfer to a PC/host via Bluetooth connection.

The interface parameters of the supply module Ex i - Bluetooth are factory set and a later change of the programming is not possible.

The values of the supply module Ex i - Bluetooth must therefore be accepted on the PC/host page 1 to 1 so that a correct data transmission can be done.

Adjustment on the hand-held scanner:

No adjustment of the interface parameters possible, because hand-held scanner is connected to USM via Bluetooth.

Adjustment on the supply module Ex i - Bluetooth:

Interface parameters are fixed and cannot be changed.

Adjustment on PC/host:

The interface parameters from the PC/host can be adjusted via the settings e.g. in the device manager, terminal program or application software.

10 Cleaning

10.1 Suitable cleaning agents

Component	Cleaning agent
Scan window	Cleaning wipes for glasses or for camera lenses
Contacts of the hand-held scanner	Cotton wool buds, isopropyl alcohol (70 %)
Housing of the hand-held scanner	Damp cleaning cloths Moisten cleaning cloth with water or, in the case of heavy soiling, with isopropyl alcohol (70 %).
Housing of the supply modules	

10.2 Cleaning the housing

The housing of the hand-held scanner and the supply module consists of polypropylen (PP) and have only limited chemical resistance.

Questions about the chemical resistance of the products cannot be answered in general. We advise to check the resistance of the respective product under the planned conditions of use.

1. Moisten a soft, fluff-free cloth with a suitable cleaning agent and carefully wipe the housing of the hand-held scanner or the supply module.
2. Use a cotton wool bud to clean difficult to reach parts.
3. Allow the device to dry naturally until completely dry.

10.3 Cleaning the scan window

Aggressive cleaning agents can attack and fade the scan window, thereby impairing the scanning functionality. In extreme cases scanning is no longer possible.

The scan window must be cleaned at regular intervals to ensure that barcodes are correctly decoded.

1. Clean the scan window with a cleaning wipe for glasses or camera lenses or with comparable cleaning wipes.
2. Dry the scan window immediately to prevent smear formation, using a soft, fluff-free cloth to do so.

10.4 Cleaning the contacts

Take the following steps to clean the battery contacts, contacts on the hand-held scanner, contacts on the base station and the cable connectors for the hand-held scanner:

1. Soak cotton wool buds in isopropyl alcohol.
2. Remove grease and dirt deposits from the contacts using the cotton wool buds.

- Wipe the cotton wool bud over the contacts at least three times.

3. Dry the contacts using a dry cotton wool bud.

- Wipe the cotton wool bud over the contacts at least three times.

11 Maintenance, inspection, repair

The hand-held scanners may only be maintained, inspected and repaired by trained and qualified personnel:

The personnel are familiar with the maintenance and inspection of the device.

The personnel are familiar with the maintenance, inspection and repair of the accessories.

The personnel have been informed about the risks when carrying out these activities and have the necessary qualifications for this work.

11.1 Maintenance intervals

The maintenance intervals depend on the ambient conditions. Regular maintenance is not necessary if the device is operated according to the installation instructions and the ambient conditions are taken into consideration.

- ▶ Check the hand-held scanner regularly for external damage.
- ▶ Check the supply modules regularly for external damage.

11.2 Returning faulty devices

The following information is required for a repair:

- Serial number of the device (see type label)
- Model number or product name (see type label)

We are unable to guarantee processing within the contractually agreed period for any returns received without RMA number (Return Merchandise Authorization).

The processing guidelines and the RMA form can be downloaded from our website:

Europe: http://www.bartec.com

USA: http://bartecus.repairshopr.com/wf/rma-2/start.com

1. Read the processing guidelines for the RMA (Return Merchandise Authorization) process before sending a faulty device in for repair.
2. Complete the RMA form, sign it and send it to our “Returns Centre”.
   Europa: Email: services@bartec.com
   Fax: +49 7931 597-119
   USA: Email: service@bartec.us

In the event of questions

- ▶ Please send us an email or call us:

Europe: Email: service@bartec.us
Phone: +49 7931 597-444

USA: Email: service@bartec.us

12 Faults – causes and remedies

Information about the configuration of host parameters and barcode types can be found in the ZEBRA Product Reference Guide.

If none of the solutions listed leads to the elimination of a fault, please contact the BARTEC Enterprise Mobility Support:

https://support.pixavi.com/support/home

Fault	Possible cause	Solution
Scanner beam does not appear when the trigger button is pressed	No power is supplied to the hand-held scanner	Connect the power supply to the corded hand-held scanner. Replace the battery or insert a full battery in the Bluetooth hand-held scanner.
	Wrong interface cable is being used	Connect the correct interface cable.
	Hand-held scanner has been deactivated	Activate the hand-held scanner. Further information about this can be found in the ZEBRA Product Reference Guide.
	Scanner beam has been deactivated	Activate the scanner beam. Further information about this can be found in the ZEBRA Product Reference Guide.
Hand-held scanner emits a scanner beam, but does not decode barcodes	Barcode is not legible	1. To test the scan engine, scan barcodes of the same type. 2. Print the barcode out again if it is damaged.
	Scanner beam is not capturing the whole width of the barcode	Select the optimal scan position for the barcode. Move the barcode into the field of vision of the hand-held scanner.
	Distance between barcode and hand-held scanner is wrong	Position the hand-held scanner closer to or farther away from the barcode.

Hand-held scanner decodes barcodes, but does not send these to the host	Hand-held scanner has not been correctly programmed for the host type	Program the hand-held scanner for the host type. Further information about this can be found in the ZEBRA Product Reference Guide.
	Interface cable has not been correctly connected	Connect the interface cable correctly.
	Base station has not been programmed for the host type	Check the host parameters of the hand-held scanner or change the parameters.
	Hand-held scanner is not connected to the base station	Connect the hand-held scanner to the base station.
	Base station has lost the connection to the host	Restore the connection between the hand-held scanner and base station.
Host displays the scanned data incorrectly	Hand-held scanner has not been configured for communication with the host	Configure the hand-held scanner for the host type. ▪ Interface parameters set correctly ▪ Country setting for keyboard layout set correctly
Hand-held scanner emits the following sequence of beeps: short low, short medium, short high (switch-on process)	With power supply via USB, the hand-held scanner is repeatedly switched on and off	No action. Normal when the host is reset.
Hand-held scanner emits 4 short high beeps while decoding a barcode	USB initialisation has not been completed	Wait a few seconds then start the scan process again.
Hand-held scanner emits the following sequence of beeps: 3 low beeps, 1 very low beep	Receive error during communication via RS232	Normal when the host is reset.
The hand-held scanner emits the following sequence of beeps when changing the USB connection: short low, short medium, short high (switch-on process)	Power transmission via USB is being restored	No action. Normal when changing the USB connection.

Hand-held scanner emits beeps at regular intervals	Wrong interface cable is being used	1. Check the interface cable. 2. If the wrong interface cable is being used: connect the correct interface cable.
	Interface cable or mains cable is loose	1. Check cable connections. 2. Connect loosely connected cables correctly.
Only for BCS3678ex-IS Hand-heldheld scanner does not respond / hangs up	Battery is in the sleep mode. If the battery or the device are not in operation, the battery switches to sleep mode after a few seconds. The full voltage can then no longer be measured at the battery contacts. Depending on the capacity between 3.4 V and 3.6 V.	The "sleep mode" is cancelled as soon as the trigger key or another action is executed on the BCS3678ex.
	The battery is in shutdown mode. If the battery is deep-charged or is unused for a longer period (longer than 3 months), the battery switches to shutdown mode. A battery in shutdown mode shows 0 V at the battery contacts.	The battery can be switched out of the shutdown mode in the following way: ▪ Insert the battery for at least 5 seconds into an associated 4-slot battery charging station with 12 V power supply. ▪ Insert the BCS3678ex with inserted battery for at least 5 seconds into an associated base station with a 12 V power supply. The battery is reactivated in this way. A voltage of at least 2.6 V can be measured.at the battery contacts. It is recommended that the battery is then fully charged.

Only for BCS3678ex Base station or 4-slot battery charging station flashes all the time orange and no green LED appears when charging is complete.	Power supply not connected correctly. *Only for BCS3678ex-IS* Associated base station and 4-slot battery charging station require a 12 V power supply. Charging only via the USB interface is not possible. *Only for BCS3678ex-NI* Connect associated base station and 4-slot battery charging station via USB or additionally with 12 V power supply. Charging via the USB interface is possible, but takes longer.	*Only for BCS3678ex-IS* Check the power supply. 12 V power supply must be connected. *Only for BCS3678ex-NI* Check the power supply. USB and 12 V power supply must be connected
	Only use specified charging stations *For BCS3678ex-IS* ▪ Base station Type: 17-A1Z0-0014 ▪ 4-slot battery charging station Type: 17-A1Z0-0013 *For BCS3678ex-NI* ▪ Base station Type: G7-A0Z0-0010 ▪ 4-slot battery charging station Type: G7-A0Z0-0013 **ATTENTION:** Irreparable defect of the battery by using an unspecified charging station. e.g. Zebra base station or Zebra 4-slot battery charging station	Replace battery / order new battery

	Battery has internal defect and the explosion protection circuit is activated. **Check:** 0 V can be measured at the battery contacts. The procedure for exiting the shutdown mode did not work. **Cause:** ▪ Short circuit at the battery contacts ▪ Use of an unspecified charging station *Only for BCS3678ex-IS* A battery with an internal defect is not detected in the charging station. The charging station permanently displays charging.	Replace battery / order new battery
Only for BCS3678ex Bluetooth connection breaks off.	BCS3678ex and/or receiving device have no power supply	1. Check if the battery in the BCS3678ex is charged 2. Check if power supply is available at the receiving device.
	Distance to the receiving device too large	1. Check the range between the BCS3678ex and the receiving device 2. Reduce range if distance is too large.
	Reception/connection is disturbed	Check whether reception is reduced/disturbed by structural or external interference. e.g. concrete wall, machines, electromagnetic interference from outside or from machines or other influences
		Disturbance from other devices using the 2.4 GHz band. As a workaround, use the WiFi Friendly Mode of Zebra. For more information, refer to the Zebra Product Reference Guide, Chapter 5 Radio Communication - Section “Wifi Friendly Mode”

12.1 Restoring the connection between Bluetooth hand-held scanner and base station

If the hand-held scanner is not transferring any data to the base station, restore the connection as follows:

✓ All cables on the host and on the base station are securely connected.

1. Unplug the power cable from the base station.
2. Unplug the connecting cable from the base station.
3. Wait 3 seconds.
4. Connect the connecting cable to the base station.
5. Connect the power cable to the base station.
6. Connect the hand-held scanner to the base station.

12.2 Resetting the hand-held scanner

The hand-held scanner can be reset to two types of default settings:

- Scanning barcodes for factory settings (see ZEBRA Product Reference Guide, Chapter 5 - Section "User Preferences - Default Parameters" --- Appendix A lists all standard default parameters)
- Reset to factory default using Zebra 123 Scan Utility Tool.

The following reset (default) options are available:

- Factory settings (Factory Default)
- User-Defined Standard (Custom Default)

Scan the appropriate barcode below to reset the hand-held scanner to its factory settings and/or set the current hand-held scanner settings as the user-defined default.

Restore Defaults - Reset hand-held scanner to default settings

With the barcode "Restore Defaults" the hand-held scanner is reset to the following default settings:

- Restore Defaults - Resets all default parameters as follows:
  If custom defaults have been configured (see "Write to Custom Defaults"), the custom defaults will be set for all parameters each time the Restore Defaults barcode specified below is scanned.
- If no user-defined defaults have been configured, the factory defaults will be used for all parameters when the Restore Defaults barcode specified below is scanned.
  (For Factory Default, see Zebra "Product Reference Guide" for DS36X8. "Appendix A, Standard Default Parameters")

▶ Scanning the “Restore Defaults” barcode.

12.2.1 Set Factory Default - Remove Custom Defaults (Reset to Factory Defaults)

Set Factory Default - Scan the "Set Factory Default" barcode below to remove all user-defined defaults and reset the hand-held scanner to the factory defaults.

(For Factory Default, see the Zebra "Product Reference Guide" for the DS36X8. "Appendix A, Standard Default Parameters")

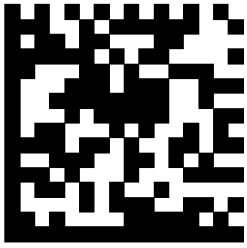
▶ Barcode “Set Factory Defaults” scanning

12.2.2 Write to Custom Defaults - Set user-defined default values

Setting custom default values is described in ZEBRA's Product Reference Guide

Write custom defaults

Custom defaults can be configured to set unique defaults for all parameters. After changing all parameters to the desired values, scan the following Write to Custom Defaults barcode to accept/save the new custom default setting.



▶ Barcode “Write to Custom Defaults” scanning.

12.2.3 Notes on resetting the hand-held scanners (only valid for BCS3678ex - Bluetooth)

When using "Set Factory Default" the following settings are not reset.

- Multipoint-to-Point connection is not reset.
  May have to be reset manually e.g. when updating the scanner firmware via Zebra 123 Scan Utility (only possible with activated point-to-point connection).
- Existing pairing connections are not reset/deleted.
  Must be done manually by using the barcode "Unpairing" in the Zebra "Product Reference Guide".

When using "Set Factory Default" the following settings are reset.

- When using the BCS3678ex-IS the barcode for the status LED has to be scanned to adapt the LED display to the Ex modifications.
  (Not necessary for devices with revision level 2 on the label)

Barcode to adjust the status LED display on the BCS3678ex-IS version:

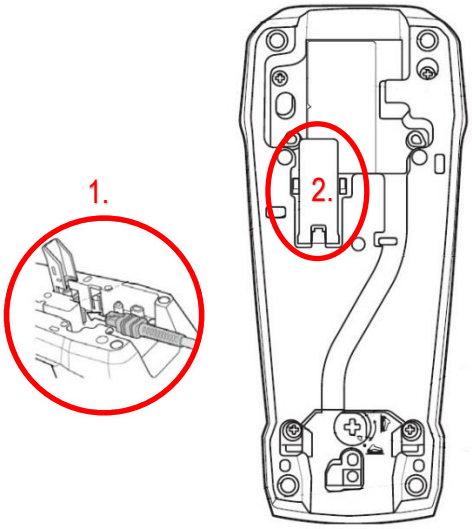
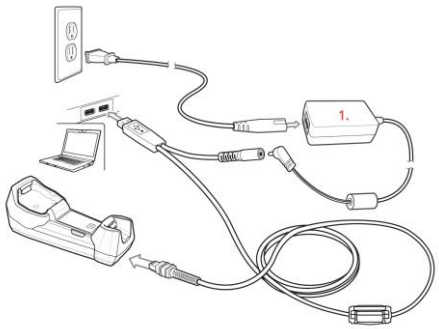
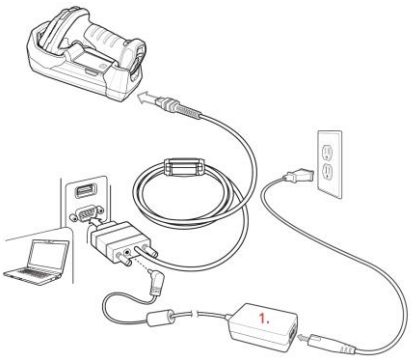
12.3 Pairing with base station doesn't work

Possible cause	Hand-held scanner is already connected to another base station.
Possible solution	Unpair the hand-held scanner from the base station or from the PC/host to make the base station available for pairing with another digital device. Scan the barcode below to disconnect all existing hand-held scanner connections to base station/PC host/other Bluetooth devices. **Unpairing**

Further information on pairing methods can be found in the corresponding Zebra "Product Reference Guide" in Chapter 4 - "Radio Communication".

When "Factory Default Barcode" is scanned, all data is reset to factory settings but no existing pairing connection is deleted.

12.4 Base station does not work

Possible cause	Power supply not connected correctly.
Possible solution	Check whether the connecting cable (1.) is correctly connected to the base station. Insert the cable firmly and the cover (2.) will close slightly. 
	Check if power supply (type G7-A0Z0-0019) is connected correctly. **RS232:** The power supply (1) must be connected to the socket of the RS232 cable.  **USB:** The power supply (1) must be connected to the Y-connector of the USB cable. 

12.5 USB-SPP is detected as unknown interface

Possible cause	When using the USB-SPP interface of the Universal supply module (USM), it is recognized as an unknown device on the Windows PC. The driver for the USM can also not be installed.
Possible solution	The UVM is recognized as virtual COM port when using the USB-SPP. Check the wiring. If the D+ and D- data lines are switched, the UVM is detected as an unknown USB device. Communication is not possible in such a case because the wiring is not correct. It is also important that GND and Shield are connected correctly. ▪ Ferrite core must be used when using the USB-SPP according to the manual. If this is not done correctly, problems and disturbances in the communication with the USB-SPP may result **Note:** The color assignment of USB cables is not standardized. Which color is used for USB wires D+ and D- depends on the USB cable manufacturer **Tip:** Measure the cable to know before wiring which wires correspond to D+ and D-.

13 Disposal

Hand-held scanner and accessories contains metallic and plastic parts and electronic components.

WEEE registration number of the BARTEC GmbH:
DE 95940350

TAs professional electrical devices, our devices are intended exclusively for commercial use, so-called B2B devices, in accordance with the WEEE Directive. The WEEE Directive provides the framework for the treatment of old electrical equipment throughout Europe. This means that you may not dispose of these devices in usual household waste but must dispose of them separately in an environmentally compatible manner and can also bring them to the collection points of public disposal companies. All products purchased from us can be returned to us by our customers for disposal. We will ensure disposal in accordance with the applicable laws. The sender shall bear the costs of postage and packaging.

14 Annex

14.1 Recommended converters

BARTEC has used converters for testing in the laboratory and can recommend them.

- The installation and setup is according to the manufacturer's instructions.
- Install the drivers according to the instructions.
- It is important that the interface parameters on the PC and on the BCS36x8ex system are set identically.

  On the PC, the settings can be made using the Device Manager or a software application.

  On the scanner or universal supply module, the settings can be made as described in this user manual.
- On the PC side a software application (e.g. Software Keyboardwedge) or a terminal program is required to display the serial data.

Based on the principle of operation, it should be possible to use all commercially available converters.

However, BARTEC cannot guarantee this, as not all properties and their effects can be considered and tested.

The basic requirement for a converter to function is that it supports one of the available BCS36x8ex system interfaces.

- Conversion from interface (e.g. USB-SPP, RS232, RS422 or RS485) to interface (e.g. USB-HID, TTY, and others)
- Conversion from interface (e.g. USB-SPP, RS232, RS422 or RS485) to protocol (e.g. Modbus; Profibus, and others)

The available interfaces depend on the selected system of the BCS36x8ex.

Please refer to the relevant product/part specification to find out which interfaces are available.

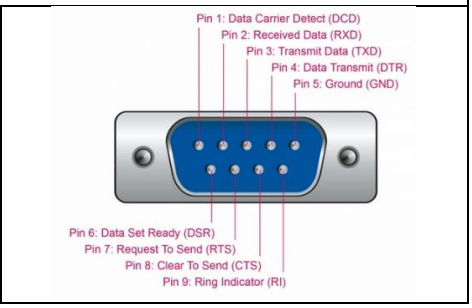
Converter RS232 to USB2.0

As a converter RS232 to USB2.0 the following part can be used for example:

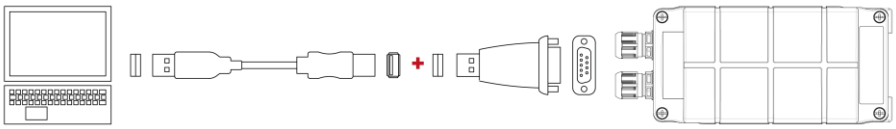
Delock - Adapter USB 2.0 Type-A > 1x Serial DB9 RS-232 - Part number: 61425

Experience shows that there are no problems when using converters that use the FTDI chipset.

Pin assignment on serial RS232 DB9 (M)



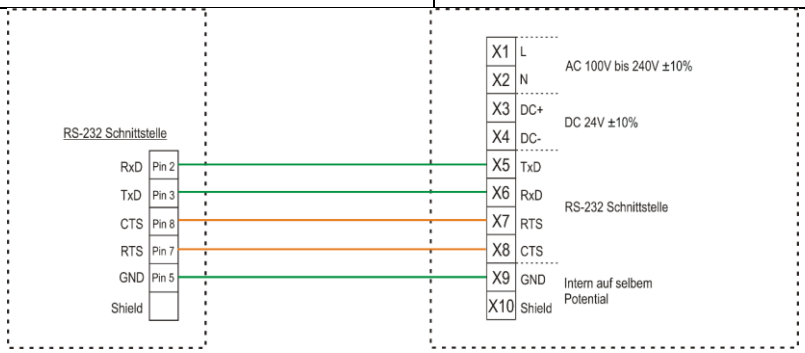
Principle circuit diagram



PC with USB interface	USB connecting cable Accessories of the Delock Converter	Delock Converter		Universal supply mdoule
		USB2.0 Type-A (M)	serial RS232 DB9 (M)	

Wiring

Delock Converter Pin assignment on serial RS232 DB9 (M)	Universal supply mdoule RS232 Interface



Note

- Maximum range of the RS232 connecting cable is 15 m.
- The maximum range depends on various factors and is influenced by the components used and external interference.
- Connect power supply AC or DC to the universal power supply module.
- Set the RS232 interface on the universal supply module using the dip switch or the programming barcode(depending on the version).
- Connect shield to terminal.

Converter RS422 to USB2.0

As a converter RS422 to USB2.0 the following part can be used for example:

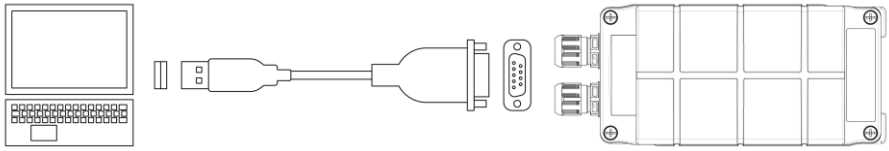
Delock - Adapter USB 2.0 Type-A > 1x Serial DB9 RS-422/485 - Part number: 62406

Experience shows that there are no problems when using converters that use the FTDI chipset.

Pin assignment on serial RS422/485 DB9 (M)

62406	DB9 Buchse/Male		Terminalblock/Terminal Block
PIN	RS-422	RS-485	RS-422/RS-485
1	Transmit (A-)	T/R (A-)	T/R (A-)
2	Transmit (B+)	T/R (B+)	T/R (B+)
3	Receive (A-)	NC	Receive (A-)
4	Receive (B+)	NC	Receive (B+)
5	Signal GND (SG)	Signal GND (SG)	Signal GND (SG)
6	NC	NC	NC
7	NC	NC	NC
8	NC	NC	NC
9	NC	NC	NC

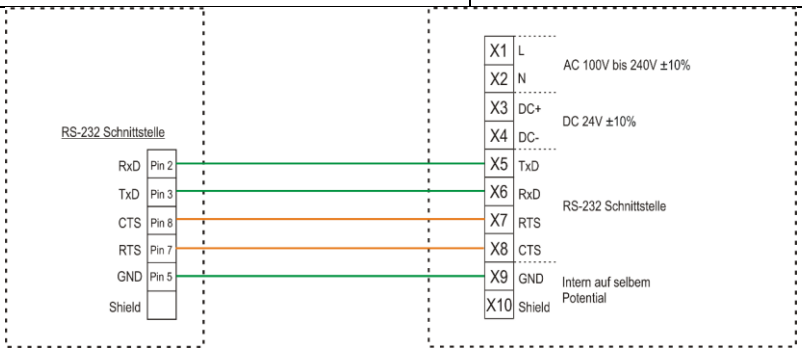
Principle circuit diagram



PC with USB interface	Delock Converter		Universal supply mdoule
	USB2.0 Type-A (M)	serial RS422/485 DB9 (M)	

Wiring

Delock Converter Pin assignment on serial RS422/485 DB9 (M)	Universal supply mdoule RS422 Interface



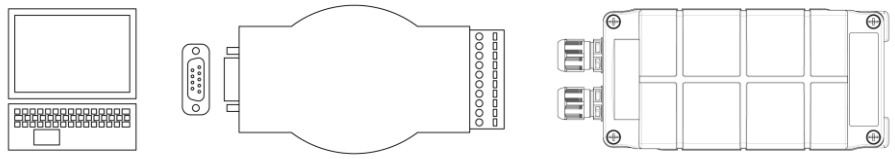
Note

- Maximum range of the RS422 connecting cable is 1000 m.
- The maximum range depends on various factors and is influenced by the components used and external interference.
- Connect power supply AC or DC to the universal power supply module.
- Set the RS232 interface on the universal supply module using the dip switch or the programming barcode(depending on the version).
- Connect shield to terminal.

Converter RS232 to RS422

As a converter RS232 to RS422/485 the following part can be used for example: Advantech - ADAM4510

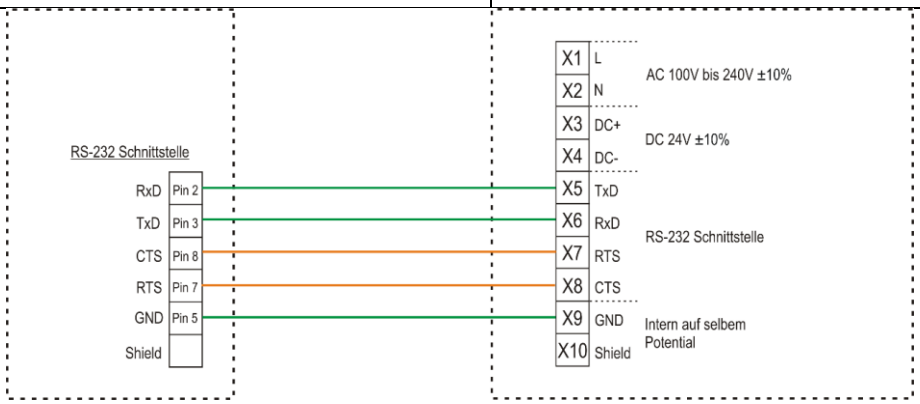
Principle circuit diagram



PC with USB interface	Advantech ADAM4510 converter		Universal supply mdoule
	RS232 DP9 (F)	Connector strip for RS422/485	

Wiring

Advantech ADAM4510 converter Pin assignment on serial RS422 terminals	Universal supply mdoule RS232 Interface



Note

- Maximum range of the RS422 connecting cable is 1000 m.
- The maximum range depends on various factors and is influenced by the components used and external interference.
- Connect power supply AC or DC to the universal power supply module.
- Set the RS232 interface on the universal supply module using the dip switch or the programming barcode(depending on the version).
- Connect shield to terminal.

15 Declaration of Conformity

15.1 EU Declaration of Conformity

EU Konformitätserklärung
EU Declaration of Conformity
Déclaration UE de conformité
№ 11-A1S0-7C0001

BARTEC

Wir	We	Nous
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erklären in alleiniger Verantwortung, dass das Produkt	declare under our sole responsibility that the product	attestons sous notre seule responsabilité que le produit
BCS3608 ex-IS	**BCS3608 ex-IS**	**BCS3608 ex-IS**
	Typ 17-A1S4-1HP0	
auf das sich diese Erklärung bezieht den Anforderungen der folgenden **Richtlinien (RL)** entspricht	to which this declaration relates is in accordance with the provision of the following **directives (D)**	se référant à cette attestation correspond aux dispositions des **directives (D)** suivantes
ATEX-Richtlinie 2014/34/EU **EMV-Richtlinie 2014/30/EU** **RoHS-Richtlinie 2011/65/EU** **RoHS-Richtlinie 2015/863/EU**	**ATEX-Directive 2014/34/EU** **EMC-Directive 2014/30/EU** **RoHS-Directive 2011/65/EU** **RoHS-Directive 2015/863/EU**	**Directive ATEX 2014/34/UE** **Directive CEM 2014/30/UE** **Directive RoHS 2011/65/UE** **Directive RoHS 2015/863/UE**
und mit folgenden Normen oder normativen Dokumenten übereinstimmt	and is in conformity with the following standards or other normative documents	et est conforme aux normes ou documents normatifs ci-dessous

EN IEC 60079-0:2018
EN 60079-11:2012
EN 60079-18:2015
EN 60079-28:2015
EN 60950-1:2006 + A11:2009 + A1:2010 + A12:2011 + A2:2013 + AC:2011
EN 62471:2008 (LED)
EN 60825-1:2014 (Laser)

EN 61000-3-2:2014 (Class A)
EN 61000-3-3:2013
EN 60601-1-2:2015
47 CFR Part 15, Subpart B, Class B
ICES-003 Issue 5, Class B
EN 50581:2012
EN 55024:2010
EN 61000-6-2:2005 + AC:2005
EN 55032:2012 + AC:2013 (Class B)

Verfahren der EU-Baumusterprüfung / Benannte Stelle	Procedure of EU-Type Examination / Notified Body	Procédure d'examen UE de type / Organisme Notifié
	EPS 18 ATEX 1 199 X Rev. 0 **2004, Bureau Veritas Germany GmbH, 86842 Türkheim**	

CE 0044

Bad Mergentheim, 09.10.2019

i.V. Michael Krüger
VP Quality & Control

i.V. Cristian Olareanu
Team Leader Certification Center

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EU Konformitätserklärung
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Déclaration UE de conformité
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BCS3678ex-IS	**BCS3678ex-IS**	**BCS3678ex-IS**
	Typ 17-A1S4-2HP1	
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EN 60079-0:2012 + A11:2013
EN IEC 60079-0 :2018-07
EN 60079-11:2012
EN 60079-18:2015
EN 60079-28:2015
EN 60950-1:2006+A11:2009+ A1:2010+A12:2011+A2:2013+ AC:2011
IEC 60950-1:2005+A1:2009+ A2:2013
UL 60950-1:2015+A1:2009+ A2:2013
UL 60950-1, second edition
CAN/CSA-C22.2 No. 60950-1-07
EN 62479:2010
FCC 47CFR Part 2. 1093
RSS 102 Issue 5
IEC 62471:2006 (Ed.1.0)
EN 62471:2008 (LED)

EN 301 489-1 V2.1.1
EN 301 489-17 V3.1.1
EN 55032:2015+ AC:2016 (Class B)
EN 55024:2010
EN 61000-6-2:2005+AC:2005
EN 60601-1-2:2015
IEC 60601-1-2:2014
21CFR1040.10
47 CFR Part 15, Subpart B, Class B
ICES-003 Issue 6, Class B
EN 300 328 V2.1.1
EN 50581:2012

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EU Konformitätserklärung
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Déclaration UE de conformité
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Verfahren der EU-Baumuster-prüfung / Benannte Stelle	Procedure of EU-Type Examination / Notified Body	Procédure d'examen UE de type / Organisme Notifié
	EPS 17 ATEX 1 177 X 2004, Bureau Veritas Germany GmbH, 86842 Türkheim	

CE 0044

Bad Mergentheim, 29.08.2019

i.V. Michael Krüger
VP Quality & Control

i.V. Cristian Olareanu
Team Leader Certification Center

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EU Konformitätserklärung
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Déclaration UE de conformité
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erklären in alleiniger Verantwortung, dass das Produkt	declare under our sole responsibility that the product	attestons sous notre seule responsabilité que le produit
Universal Versorgungsmodul / HMI Versorgungsmodul (Exi)	**Universal supply module / HMI supply module (Exi)**	**Module d'alimentation universel / Module d'approvisionnement IHM (Exi)**

Typ 17-A1Z0-0018 / 17-A1Z0-0019
Typ 17-A1Z0-0025 / 17-A1Z0-0028

auf das sich diese Erklärung bezieht den Anforderungen der folgenden **Richtlinien (RL)** entspricht	to which this declaration relates is in accordance with the provision of the following **directives (D)**	se référant à cette attestation correspond aux dispositions des **directives (D)** suivantes
ATEX-Richtlinie 2014/34/EU	**ATEX-Directive 2014/34/EU**	**Directive ATEX 2014/34/UE**
EMV-Richtlinie 2014/30/EU	**EMC-Directive 2014/30/EU**	**Directive CEM 2014/30/UE**
RoHS-Richtlinie 2011/65/EU	**RoHS-Directive 2011/65/EU**	**Directive RoHS 2011/65/UE**
WEEE-Richtlinie 2012/19/EU	**WEEE-Directive 2012/19/EU**	**Directive WEEE 2012/19/UE**
und mit folgenden Normen oder normativen Dokumenten übereinstimmt	and is in conformity with the following standards or other normative documents	et est conforme aux normes ou documents normatifs ci-dessous

EN IEC 60079-0:2018
EN 60079-7:2015/A1:2018
EN 60079-11:2012
EN 60079-18:2015/A1:2017
EN 60079-31:2014
EN 301 489-1:V2.1.1(2017)

EN 61000-4-2:2009
EN 61000-4-3:2006/A1:2008/ A2:2010
EN 61000-4-4:2012
EN 61000-4-5:2006
EN 61000-4-6:2009
EN 61000-4-11:2004
EN 61010-1:2010

Verfahren der EU-Baumusterprüfung / Benannte Stelle	Procedure of EU-Type Examination / Notified Body	Procédure d'examen UE de type / Organisme Notifié
	EPS 18 ATEX 1 013 X	
	2004, Bureau Veritas CPS Germany GmbH, Businesspark A96, 86842 Türkheim	

CE 0044

Bad Mergentheim, 03.06.2020

i.V. Michael Krüger
VP Quality & Control

i.V. Cristian Olareanu
Team Leader Certification Center

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EU Konformitätserklärung
EU Declaration of Conformity
Déclaration UE de conformité

№ B1-A2S0-7C0001_A

BARTEC

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	BARTEC GmbH Max-Eyth-Straße 16 97980 Bad Mergentheim Germany	
erklären in alleiniger Verantwortung, dass das Produkt **BCS3608ex –NI** **BCS3678ex –NI**	declare under our sole responsibility that the product **BCS3608ex –NI** **BCS3678ex –NI**	attestons sous notre seule responsabilité que le produit **BCS3608ex –NI** **BCS3678ex –NI**

Typ **B7-A2S4-1HP0 / B7-A2S4-1ER0**
B7-A2S4-2HP1 / B7-A2S4-2ER1

auf das sich diese Erklärung bezieht den Anforderungen der folgenden **Richtlinien (RL)** entspricht	to which this declaration relates is in accordance with the provision of the following **directives (D)**	se référant à cette attestation correspond aux dispositions des **directives (D)** suivantes
ATEX-Richtlinie 2014/34/EU	**ATEX-Directive 2014/34/EU**	**Directive ATEX 2014/34/UE**
EMV-Richtlinie 2014/30/EU	**EMC-Directive 2014/30/EU**	**Directive CEM 2014/30/UE**
RED-Richtlinie 2014/53/EU	**RED-Directive 2014/53/EU**	**Directive RED 2014/53/UE**
RoHS-Richtlinie 2011/65/EU	**RoHS-Directive 2011/65/EU**	**Directive RoHS 2011/65/UE**
RoHS-Richtlinie 2015/863/EU	**RoHS-Directive 2015/863/EU**	**Directive RoHS 2015/863/UE**
WEEE-Richtlinie 2012/19/EU	**WEEE-Directive 2012/19/EU**	**Directive WEEE 2012/19/UE**
und mit folgenden Normen oder normativen Dokumenten übereinstimmt	and is in conformity with the following standards or other normative documents	et est conforme aux normes ou documents normatifs ci-dessous

EN IEC 60079-0:2018
EN 60079-28:2015
EN 60079-11:2012
EN 55032:2012+AC:2013 (Class B)
EN 55032:2015+AC:2016 (Class B)
EN 55024:2010
EN 55032:2015 (Class B)
EN 55024:2010+A1:2015
EN 61000-6-2:2005+AC:2005
EN 61000-3-2:2014 (Class A)
EN 61000-3-3:2013
EN 60950-1:2006 +A11:2009 +A1:2010 +A12:2011 +A2:2013 +AC:2011
EN 62471:2008 (LED)
EN 60825-1:2014 (Laser)
EN 50581:2012
EN 62479:2010
EN 300 328 V2.1.1
EN 301 489-1 V2.1.1
EN 301 489-17 V3.1.1
EN 60601-1-2:2015
EN IEC 63000:2018

Verfahren der internen Fertigungskontrolle	Procedure of internal control of production	Procédure de contrôle interne de fabrication
	EPS 16 ATEX 1113 X **2004, Bureau Veritas CPS Germany GmbH, Businesspark A96, 86842 Türkheim**	

CE

Bad Mergentheim, 23.07.2020

i.V. Michael Krüger
VP Quality & Control

i.V. Cristian Olareanu
Team Leader Certification Center

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EU Konformitätserklärung
EU Declaration of Conformity
Déclaration UE de conformité

№ B1-A2Z0-7C0005

BARTEC

Wir	We	Nous
	BARTEC GmbH Max-Eyth-Straße 16 97980 Bad Mergentheim Germany	
erklären in alleiniger Verantwortung, dass das Produkt **BCS3678ex –NI Batterie**	declare under our sole responsibility that the product **BCS3678ex –NI Battery**	attestons sous notre seule responsabilité que le produit **BCS3678ex –NI Batterie**
	Typ B7-A2Z0-0036	
auf das sich diese Erklärung bezieht den Anforderungen der folgenden **Richtlinien (RL)** entspricht **ATEX-Richtlinie 2014/34/EU** **RoHS-Richtlinie 2011/65/EU** **WEEE-Richtlinie 2012/19/EU** und mit folgenden Normen oder normativen Dokumenten übereinstimmt	to which this declaration relates is in accordance with the provision of the following **directives (D)** **ATEX-Directive 2014/34/EU** **RoHS-Directive 2011/65/EU** **WEEE-Directive 2012/19/EU** and is in conformity with the following standards or other normative documents	se référant à cette attestation correspond aux dispositions des **directives (D)** suivantes **Directive ATEX 2014/34/UE** **Directive RoHS 2011/65/UE** **Directive WEEE 2012/19/UE** et est conforme aux normes ou documents normatifs ci-dessous
	EN IEC 60079-0: 2018 **EN 60079-11: 2012** **EN 62133: 2013**	
Verfahren der internen Fertigungskontrolle	**Procedure of internal control of production**	**Procédure de contrôle interne de fabrication**
	EPS 16 ATEX 1 113 X **2004, Bureau Veritas CPS Germany GmbH, Businesspark A96, 86842 Türkheim**	

CE

Bad Mergentheim, 03.06.2020

i.V. Michael Krüger
VP Quality & Control

i.V. Cristian Olareanu
Team Leader Certification Center

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EU Konformitätserklärung
EU Declaration of Conformity
Déclaration UE de conformité

№ B1-A2Z0-7C0006

BARTEC

Wir	We	Nous
	BARTEC GmbH Max-Eyth-Straße 16 97980 Bad Mergentheim Germany	
erklären in alleiniger Verantwortung, dass das Produkt **Universal Versorgungsmodule Kabel/ Bluetooth**	declare under our sole responsibility that the product **Universal supply module Corded/ Bluetooth**	attestons sous notre seule responsabilité que le produit **Module d'approvisionnement universel filaire/ bluetooth**

Typ: B7-A2Z0-0042 / B7-A2Z0-0043

auf das sich diese Erklärung bezieht den Anforderungen der folgenden **Richtlinien (RL)** entspricht	to which this declaration relates is in accordance with the provision of the following **directives (D)**	se référant à cette attestation correspond aux dispositions des **directives (D)** suivantes
ATEX-Richtlinie 2014/34/EU **EMV-Richtlinie 2014/30/EU** **RoHS-Richtlinie 2011/65/EU** **WEEE-Richtlinie 2012/19/EU**	**ATEX-Directive 2014/34/EU** **EMC-Directive 2014/30/EU** **RoHS-Directive 2011/65/EU** **WEEE-Directive 2012/19/EU**	**Directive ATEX 2014/34/UE** **Directive CEM 2014/30/UE** **Directive RoHS 2011/65/UE** **Directive WEEE 2012/19/UE**
und mit folgenden Normen oder normativen Dokumenten übereinstimmt	and is in conformity with the following standards or other normative documents	et est conforme aux normes ou documents normatifs ci-dessous

EN IEC 60079-0: 2018
EN 60079-7:2015+A1:2018
EN 60079-11:2012
EN 60079-31:2014
Draft EN 301 489-1:V2.2.0 (partly)
Draft EN 301 489-17:V3.2.0 (partly)
EN 61000-6-3:2007+A1:2011
EN 61000-6-2:2005
EN 61000-3-2:2014
EN 61000-3-3:2013
EN 61010-1:2010

Verfahren der internen Fertigungskontrolle	Procedure of internal control of production	Procédure de contrôle interne de fabrication
	EPS 16 ATEX 1 113 X	
	2004, Bureau Veritas CPS Germany GmbH, Businesspark A96, 86842 Türkheim	

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Bad Mergentheim, 05.06.2020

i.V. Michael Krüger
VP Quality & Control

i.V. Cristian Olareanu
Team Leader Certification Center

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BARTEC

BARTEC GmbH
Max-Eyth-Str. 16
97980 Bad Mergentheim
Germany

Phone: +49 7931 597 0
info@bartec.com

bartec.com

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