

BCS 160 DATASHEET

JUNHO 2013



Radio hand-held scanner
BCS 160^{ex} BT for 1D and PDF barcodes

Features

- Insensitive to direct sunlight (100 000 lux)
- High level of impact resistance
- Reads a wide range of barcodes
- All standard 1D and PDF barcodes
- 500 scans per second
- RS232/RS422 or USB interface via base station
- Good-read feedback with LED signal, acoustic signal and vibration
- Base station also usable in hazardous areas
- Connection of up to 7 BCS 160^{ex} BT Radio hand-held scanners to one base station

Description

The sturdy radio hand-held scanner BCS 160^{ex} BT from BARTEC offers all the highly developed ergonomic and functional features required in industrial applications.

The scan line is wider than in conventional laser scanners and therefore easier to see. This makes aiming at the barcode much easier – even on hard-to-access objects. Its high scanning and decoding frequency of 500 Hz enables easy scanning of a large number of barcodes in quick succession.

The BCS 160^{ex} BT has a robust enclosure that can withstand use even in the toughest conditions. Even dropping onto the ground several times from a height of 2 m will not damage this scanner.

Design

The Radio hand-held scanner BCS 160^{ex} BT with integrated decoder is designed for wireless data capture in real time and ensures a highly efficient operation in manufacturing halls, warehouses and other sites.

When capturing data, the user can move freely up to a radius of 30 m around the base station. The Radio hand-held scanner BCS 160^{ex} BT is produced with the "intrinsically safe" type of protection and can be used directly in hazardous areas Zone 1, 2 and Zone 21, 22.

Base station

The base station is the charging station (cradle) and also serves as a radio receiver station and can be installed in either hazardous or non-hazardous areas. The RS232 or USB cable enables a connection to all standard hosts.

Explosion protection

Ex protection type

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

Ex II 2D Ex ib IIC T135 °C Db

Certification

IBExU 13 ATEX 1084

Technical data

Ambient temperature

-20 °C to +50 °C

Storage temperature

-30 °C to +70 °C

Charging temperature

0 °C to +50 °C

Decoding capabilities

all standard 1D barcodes,
PDF barcodes only with PDF scan engine

Scan rate

ca. 500 scans per second

Good-read feedback

LED signal, acoustic signal and vibration

Light source

630 nm laser diode

Reading distance

up to 80 cm (for 0.5-mm code)

Connection of

Ex base station to the supply unit

RS232	maximum length	9.8 m
USB	maximum length	3.8 m

Non-Ex base station to the host

RS232	maximum length	9.8 m
USB	maximum length	3.8 m

Supply unit to the host

RS232	maximum length	20 m
RS422	maximum length	1000 m
USB	maximum length	5 m

Radio specifications

Radio range

max. 30 m (with unobstructed view)

Frequency

Bluetooth V2.1 EDR Class 2
2.4 to 2.4835 GHz (ISM Band)

Weight

approx. 266 g incl. battery

Air humidity

5 % to 95 % (non-condensing)

Dimensions (height x width x depth)

104 mm x 76 mm x 185 mm

Protection class

IP 65



Radio BCS 160^{ex} hand-held scanner BT for ATEX Zone 1 and 21

BARTEC

Operating voltage Bluetooth base station

4.9 V to 5.6 V

Supply to the Ex version via corresponding power pack

Battery

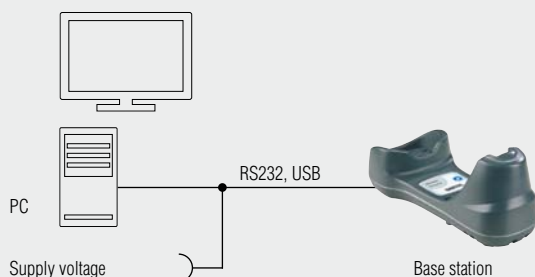
Lithium-ion battery 3.6 V, 2250 mAh

BARTEC Type: 17-21BE-M040/0000

Accessories for BCS 160BT^{ex}

- Base station with data transmission and charging function in Ex or non-Ex
- charging station
- Supply unit
- Connecting cable
- Bracket for wall/desk installation

Connection possibility



Safe area

Ex area

BCS 160^{ex} BT



1D barcodes captured:

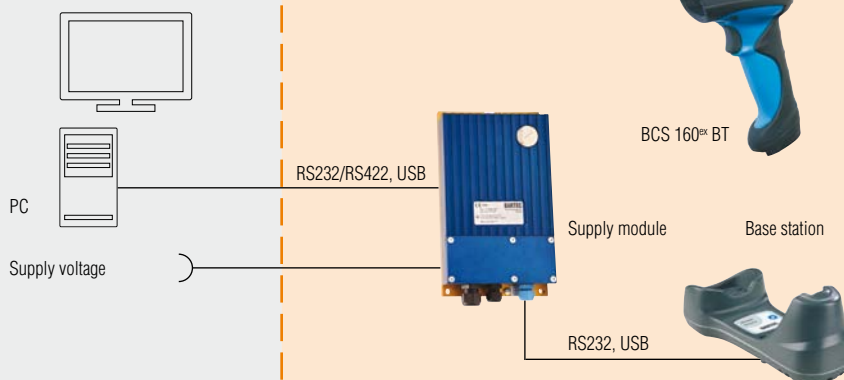
Codabar	Mainland China
Code 11	Postal Code
Code 32	MSI/Plessey
Code 39	UK/Plessey
Code 93	Standard and
Code 128	Industrial 2 of 5
German ITF Postal Code	Telepen
Interleaved & Matrix 2 of 5	UPC-A
Limited/Expanded	UPC-E
GS1 DataBar	UCC/EAN-128

PDF barcodes captured:

(only with PDF Scan Engine)

Composite (type-dependent)
PDF417
MicroPDF417
Codablock F

Connection possibility



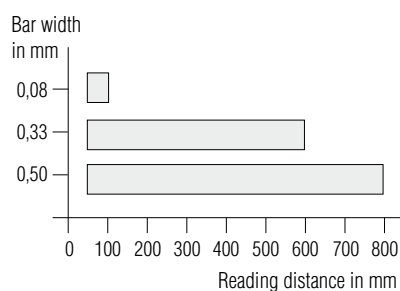
Safe area

Ex area

BCS 160^{ex} BT



Reading field





Hand-held scanner BCS 160^{ex}
for 1D and PDF barcodes

Features

- Insensitive to direct sunlight (100 000 lux)
- High level of impact resistance
- Wide range of decoding capabilities
- All standard 1D and PDF barcodes
- 500 scans per second
- RS232/RS422 or USB interface via power pack
- Good-read feedback with signal LED, acoustic signal and vibration

Description

The sturdy wired Hand-held scanner BCS 160^{ex} offers the highly developed ergonomic and functional features required in industrial applications.

The scan line is wider than in conventional laser scanners and therefore easier to see. This makes aiming at the barcode much easier – even on hard-to-access objects. Its high scanning and decoding frequency of 500 Hz enables easy scanning of a large number of barcodes in quick succession.

The BCS 160^{ex} has a robust enclosure that can withstand use even in the toughest conditions. Even dropping it onto the ground several times from a height of 2 m will not damage this scanner.

Design

The BCS 160^{ex} hand-held scanner with integrated decoder is suitable for a plug-in connection to the power pack. The power pack is installed directly in the hazardous area. It contains a module for the intrinsically safe supply (barrier) for the hand-held scanner and an isolator (evaluation barrier) for the data lines.

The data lines can be connected directly in hazardous areas to non-Ex systems, e.g. PCs, PLC or microprocessors. This applies to Zone 1, 2 and to Zone 21, 22.

➤ Explosion protection

Ex protection type

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

Ex II 2D Ex ib IIC T135 °C Db

Certification

IBExU 13 ATEX 1083

➤ Technical data

Ambient temperature

-20 °C to +50 °C

Storage temperature

-30 °C to +70 °C

Code reading capabilities

all standard 1D barcodes,
PDF barcodes only with a PDF scan engine

Good-read feedback

LED signal, acoustic signal and vibration

Scan rate

500 scans per second

Light source

visible red light 630 nm

Reading distance

up to 80 cm (for 0.5 mm code)

Connection of

scanner to the supply unit

can be plugged in using connection cable

RS232 maximum length 9.8 m

USB maximum length 3.8 m

Supply unit to the host

RS232 maximum length 20 m

RS422 maximum length 1000 m

USB maximum length 5 m

Weight

ca. 200 g without cable

Air humidity

5 % to 95 % (non-condensing)

Dimensions (height x width x depth)

104 mm x 76 mm x 185 mm

Protection class

IP 65

Operating voltage/power requirements

U = 4.9 V

supply via corresponding power pack.

Accessories for BCS 160^{ex}

- power pack
- extension cable plug/socket 4.5 m or 6 m
- connection cable with 1.8 m or 3.8 m
- bracket for wall/desk-top installation



Hand-held scanner BCS 160^{ex} for ATEX Zone 1 and Zone 21

BARTEC

1D barcodes captured:

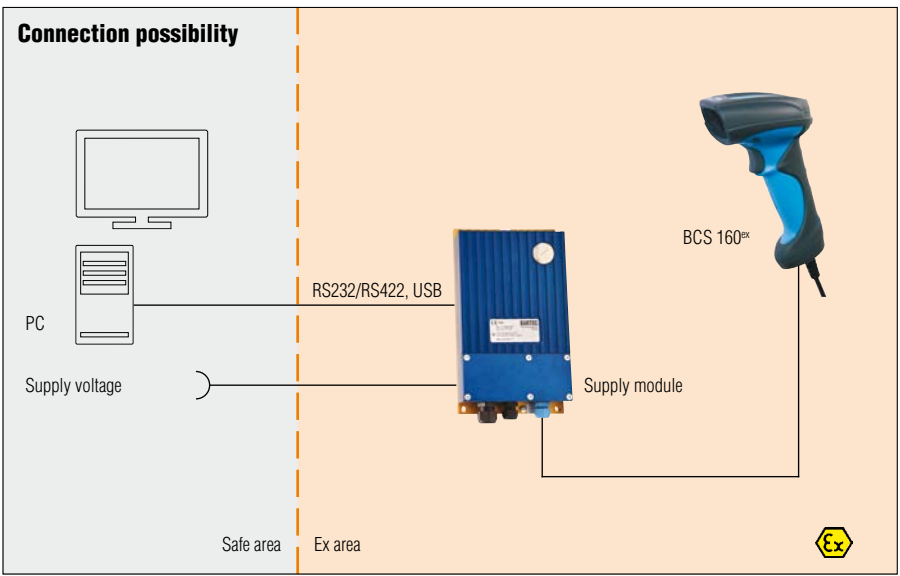
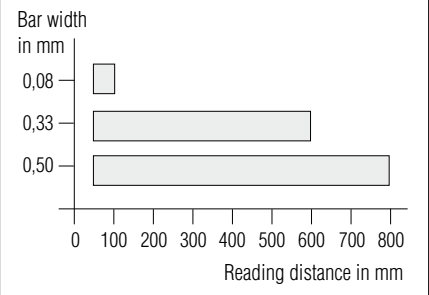
Codabar	Mainland China
Code 11	Postal Code
Code 32	MSI/Plessey
Code 39	UK/Plessey
Code 93	Standard and Industrial 2 of 5
Code 128	
German ITF Postal Code	Telepen
Interleaved & Matrix 2 of 5	UPC-A
Limited/Expanded GS1 DataBar	UPC-E
	UCC/EAN-128

PDF barcodes captured:

(only with PDF Scan Engine)

Composite (type-dependent)
PDF417
MicroPDF417
Codablock F

Reading field





Supply Module for Hand-held Scanner

for RS232/RS422 and USB interfaces

Features

- No external isolators required
- Direct mounting in ATEX Zone 1 and 21

Description

The supply module ensures an intrinsically safe supply and it isolates the data line for the BCS 160^{ex}.

Two variants of the supply module are available for the hazardous (potentially explosive) area:

- AC 100 V to AC 250 V
- DC 24 V

All variants are equipped with an RS232/RS422 interface or USB interface.

In the hazardous areas of Zone 1 and 21, the supply module is joined to the hand-held scanner by means of a plug-in connection.

Explosion protection

Ex protection type ATEX Zone 1 und 21

Ex II 2G Ex e q [ib] IIC T4 Gb
Ex II 2D tb IIIC T135 °C Db

Certification

IBExU 09 ATEX 1091

Technical data

Ambient temperature

-25 °C to +60 °C

Storage temperature

-40 °C to +60 °C

Maximum range

Supply module to the host

RS232 interface

up to 20 m

RS422 interface

up to 1000 m

USB interface

up to 5 m

Nominal voltage/power consumption

AC 100 V to AC 250 V/approx. 3.3 W

DC 24 V/approx. 4.0 W

Input voltage range

AC 90 V to AC 253 V, 50 to 60 Hz

DC 18 V to 30 V

Maximum fault voltage

$U_m = 253 \text{ V}$

Maximum output voltage

$U_o = 4.9 \text{ V}$

Maximum output current

$I_o = 440 \text{ mA}$

Maximum output power

$P_o = 1.20 \text{ W}$

Maximum external capacitance

$C_o = 113 \mu\text{F}$

Maximum external inductance

$L_o = 0.1 \text{ mH}$

Dimensions (height x width x depth)

250 mm x 140 mm x 56 mm

Weight

approx. 3.1 kg

Enclosure material

Aluminium

Protection class (EN 60529)

IP 65

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