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Endress+Hauser
People for Process Automation

Brief Operating Instruction en

CDBT100

Connection device for commissioning and service

1. About this document

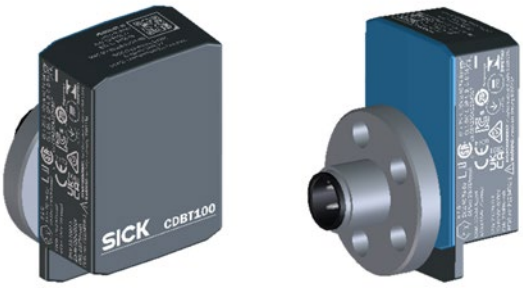
These User Instructions contain essential information on the function, installation, start-up, and maintenance of the CDBT100.

2. Intended use

The CDBT100 connection device is intended for temporary use during commissioning and service. It provides a wireless communication channel between a flow meter and a mobile device. With a mobile device and suitable software (e. g. FLOWgate mobile), it is possible to commission, maintain and service a flow meter.

3. Product identification

Product name	CBT100
Manufacture	Endress+Hauser SICK GmbH+Co. KG Bergener Ring 27 01458 Ottendorf-Okrilla Germany



4. Operation in potentially explosive atmospheres

EX	The CDBT100 is suitable for use in potentially explosive atmospheres	
	IECEx	Ex ia IIC T4 Ga
	ATEX	Ⓔx II 1 G Ex ia IIC T4 Ga
	UKEX	Ⓔx II 1 G Ex ia IIC T4 Ga
	cCSAus	Ex ia IIC T4 Ga CL I ZN 0 AEx ia IIC T4 Ga CL I DIV 1 GRP A, B, C, D T4

5. Restrictions of use

- Do not operate the CDBT100 until you have read the operating instructions.
- Observe all safety information.
- If anything is not clear: Please contact Endress+Hauser customer service.

6. Specific condition of use

- The device may be used in gas group IIA or IIB or IIC depending on the entity parameters in the intrinsically safe circuit connected to the M12 connector.
- The device may be used in Class I groups A or B or C and D depending on the entity parameters of the intrinsically safe circuit connected to the M12 connector.
- Temperature at the point of connection of the M12 connector shall not exceed allowed ambient temperature range.
- The device is designated for use in the ambient temperature range from -40 °C to +70 °C (-40 °F to 158 °F).
- The resistance of the M12 connector metallic collar to earth shall not exceed 1 GΩ measured at 500 (±25) V DC, when installed on the host device.
- Plastic parts of the electronics enclosure: Under certain extreme circumstances, in Gas Group IIC, exposed plastic and unearthed metal parts of the enclosure may accumulate an ignition-capable level of electrostatic charge. Therefore, the user / installer shall implement precautions to prevent the buildup of electronic charging e. g. install the equipment where a charge-generating mechanism (such as wind-blown dust) is unlikely to be present and to clean the equipment with a damp cloth.
- The device enclosure is not type rated and it may affect the type rating of the host equipment to which it is connected. The type rating must be confirmed when the connection device is installed at the connector of the host equipment.

7. Installation

The CDBT100 can only be connected to a suitable interface via an M12 connector. CDBT100 conforms with the dielectric strength requirement of IEC 60079-11.
The connection setup between the mobile end device and the meter is described in the corresponding operating instructions.

WARNING:
- The following intrinsically safe parameters must be observed.

Documentation code
(KA 8029783 / EHS / EN / 02.00)

Parameter	IIA GRP D	IIB GRP C,D	IIC GRP A,B,C,D
U_i	14 V	10.5 V	6.9 V
I_i	500 mA	500 mA	500 mA
P_i	900 mW	900 mW	900 mW
C_i	16.74 µF	16.74 µF	16.74 µF
L_i	2.65 µH	2.65 µH	2.65 µH

Exemplary connection on a flow meter SPU via M12 connector

8. Technical data

Electrical connection	
Power supply	3.3 V DC, max. 13 mA < 100 mW
Ambient conditions	
T_{amb}	-40 °C to 70 °C (-40 °F to 158 °F)
Ambient pressure	80 kPa ... 110 kPa (0.8 bar ... 1.1 bar) Altitude up to 2000 m
Ambient humidity	95% relative humidity; non-condensing
Ex approvals	
IECEx	IECEx CSA 24.0002X
	IEC 60079-0:2018 (Ed. 7) IEC 60079-11:2011 (Ed. 6)
ATEX	CSANe 24ATEX1001X
	EN IEC 60079-0:2018
	EN 60079-11:2012
cCSAus	CSAE 24UKEX1001X
	EN IEC 60079-0:2018 EN 60079-11:2012
Ingress protection	IP66

Dimensions and weight	
Dimensions (H x L x D)	44 x 30 x 33 mm (1.7 x 1.1 x 1.3 inch)
Weight	80 g (0.18 lbs)

9. Radio approvals

The CDBT100 contains the pre-certified BT module: BGM220S22A

Country/Region	Description
Description	Contains IC: 5123A-BGM220S2 Contient le circuit: 5123A-BGM220S2
USA	Contains FCC ID: QOQ-BGM220S2
Japan	Contains: R 209 – J00429 Figure 11.2. GITEKI Mark and ID (BGM220S22A)
EU + EFTA + UK	EU countries: Belgium (BE), Bulgaria (BG), Denmark (DK), Germany (DE), Estonia (EE), Finland (FI), France (FR), Greece (GR), Ireland (IE), Italy (IT), Latvia (LV), Lithuania (LT), Luxembourg (LU), Malta (MT), Nether- lands (NL), Aus- tria (AT), Poland (PL), Portugal (PT), Romania (RO), Sweden (SE), Slovakia (SK), Slovenia (SI), Spain (ES), Czech Republic (CZ), Hungary (HU), Republic of Cyprus (CY). EFTA countries: Iceland, Liechtenstein, Norway, Swit- zerland. United Kingdom: (UK)

Japan – MIC

This equipment contains specified radio equipment that has been certified according to the Technical Regulation Conformity Certification under the Radio Law.

当該機器には電波法に基づく、
技術基準適合証明等を受けた
特定無線設備を装着している。

USA – FCC / Canada – ISED

This device complies with Part 15 of the FCC Rules and with Industry Canada license exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes: (1) l'appareil ne doit pas produire de brouil-lage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Changes or modifications made to this equipment not expressly approved by SICK Engineering GmbH may void the FCC authorization to operate this equipment. This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a residential or light industrial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the Instruction Manual, may cause harmful interference to radio communications.

Malfunctions may occur during operation in industrial environments with increased EMC interference. In such a case, it is recommended to reduce the distance or alignment to the device.

10. Wireless® technical data

Feature	Value
Wireless® sensing range	10 m on sight
Radio type	BLE 5.2
Wireless® module	BGM220S22A
Wireless® module manufacturer	SILICON LABORATORIES FINLAND OY Alberga Business Park, Bertel Jungin aukio 3, 02600 Espoo, Finland
RF band	2,402 MHz ... 2,480 MHz
Output power	up to 6 dBm

11. Control drawing