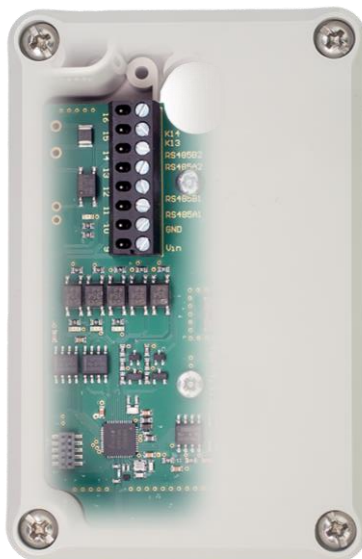


CX2936

Clex private wireless switch module
with Bluetooth® Low Energy



Operating and
installation instructions

Legal Notice

Operating and installation instructions (original language)
Clex private wireless switch module with Bluetooth® Low Energy CX2936

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1 About this document

These operating and installation instructions describe the CX2936 Clex private wireless switch module with Bluetooth® Low Energy (short: CX2936). They are part of the product and contain important information required for correct operation and maintenance.

These operating and installation instructions apply for all versions of the CX2936 and are intended both for specialist personnel responsible for assembly and disassembly and for end customers.

- ▶ To ensure trouble-free and safe operation, read these operating and installation instructions carefully and observe the information contained there before putting the door handle into operation.
- ▶ Keep the operating and installation instructions.
- ▶ After installation, give the instructions to the end customer and familiarize them with operation.

Uhlmann & Zacher GmbH accepts no liability for malfunctions, such as impossible access to injured persons, operational malfunctions, damage to property or other damage resulting from non-observance of these operating and installation instructions or from incorrectly configured door handles.

- ▶ If you still have any questions after reading these operating and installation instructions, please contact your specialist dealer or Uhlmann & Zacher GmbH directly.

1.1 Warnings

Warning notices warn of hazards that may occur when using the door handle. There are two hazard levels, recognizable by the signal word:

Signal word	Meaning
CAUTION	Indicates a low-risk hazard that may result in minor or moderate injury if not avoided
ATTENTION	Indicates a hazard that results in damage to property

1.2 Symbols

The following symbols may appear in this manual:

- ▶ This symbol marks an instruction that has to be carried out by the user.
- This symbol marks an entry in a list.



This symbol indicates useful and important information.

2 Safety

2.1 Proper use

The product is intended for use solely with Bluetooth® -capable devices. It is determined for use in the system Clex private. The device is designed for the surface mounting in secured indoor areas. Only components approved by Uhlmann & Zacher may be used for installation and maintenance.

Installation may only be carried out by trained specialist personnel. Any other use is considered improper and may result in damage to property or even personal injury.

2.2 Improper use

- The product must not be used to lock up aids that are vital in an emergency (for example, defibrillators, emergency medication, fire extinguishers, etc.).
- The product must not be used in potentially explosive atmospheres.
- If the housing or the electronics are damaged, the product must not be operated any longer. Modifications or additions to the product are not permitted. Usage outside the stated specifications is not permitted.

2.3 General safety information

Observe the following basic safety instructions when handling the wall mounted reader:

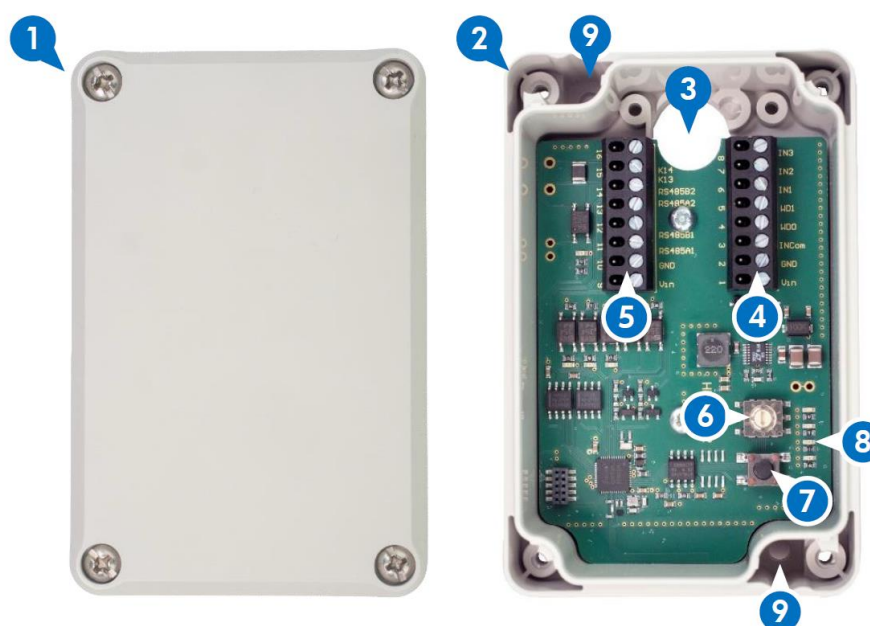
- No modifications of any kind are permitted to the product, with the exception of those described in this manual.
- Installation may only be carried out by trained specialists in accordance with these instructions.
- The product must only be operated in the defined temperature range.
- There is an increased risk of injury (electric shock!) if the connecting cables are touched when the power supply is switched on. Only perform installation and maintenance work when the power supply is switched off. Observe VDE guidelines!
- These instructions should be passed on to the user by the person carrying out the installation.
- The product must not be brought into contact with paints or acids
- To avoid malfunctions and damage, only use original parts and accessories from Uhlmann & Zacher GmbH.

3 Product description

3.1 Functional description

The wireless switch module is an extension of the Clex private locking system with a wireless switch unit to control the Clex private locking cylinder or other Clex private locking units. The wireless switch module can be controlled via the wall reader of the Clex private system or via external readers (RFID reader, finger print, PIN keyboard, etc.). The electronic locking units of the system Clex private receive an opening command from the wireless switch module via the 2.4 GHz range. There is a 1:1 assignment between the wireless switch module and the locking unit. Layout and scope of delivery.

Layout using the example of the grey housing version. Other housing versions similar:



1. Housing cover and screw(s)
1 screw for Part number 8936 0000 0000
4 screws for Part numbers 8936 0000 0004 and 8936 0000 0005
2. Housing bottom with electronics
3. Opening for cable feeding
4. Screw terminal for connection pins 1-8 (connection block pluggable)
5. Screw terminal for connection pins 9-16 (connection block pluggable)
6. Rotary switch
7. Button
8. LEDs
9. Mounting holes screws not included in the scope of delivery)

3.2 Versions

Housing versions:

- Housing in grey
- Oval housing in white
- Rectangular housing in white

3.3 Technical data

3.3.1 General technical data

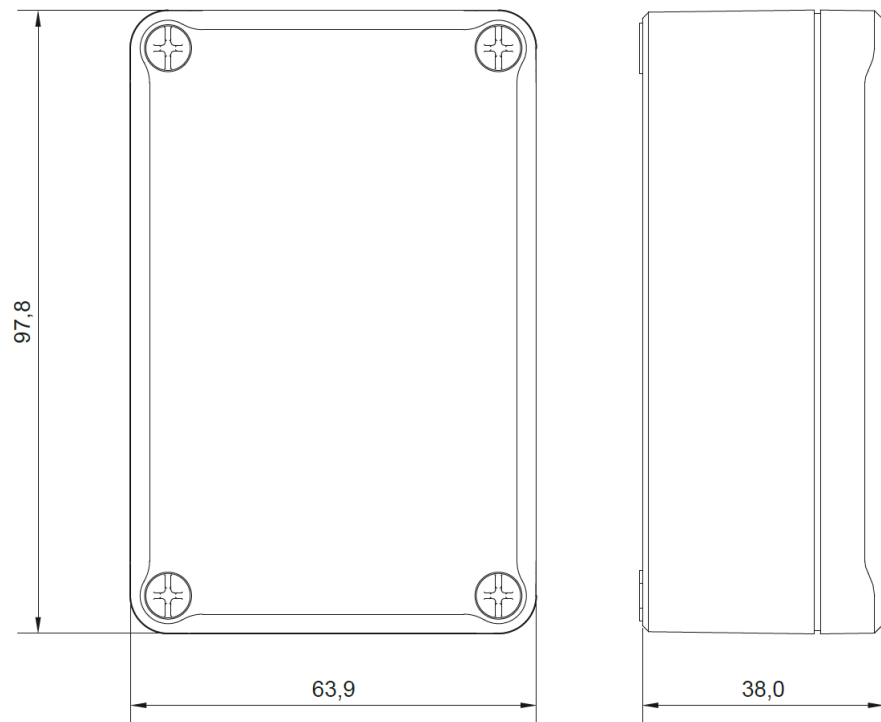
Designation	Value
Number of coupleable locking units	1
Frequency range	2402 to 2480 MHz
Power supply	Supply voltage 5-24 VDC
Power consumption	Max. 0.4 W
Switching input	High: 5-24 VDC Low: 0 VDC

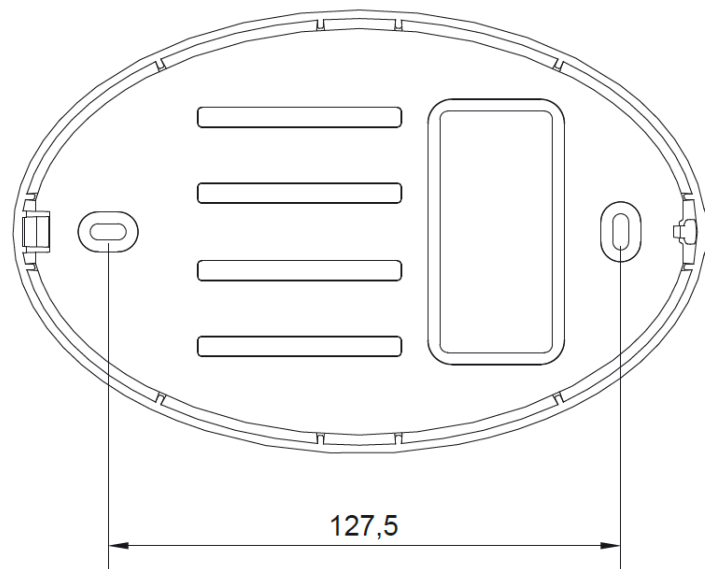
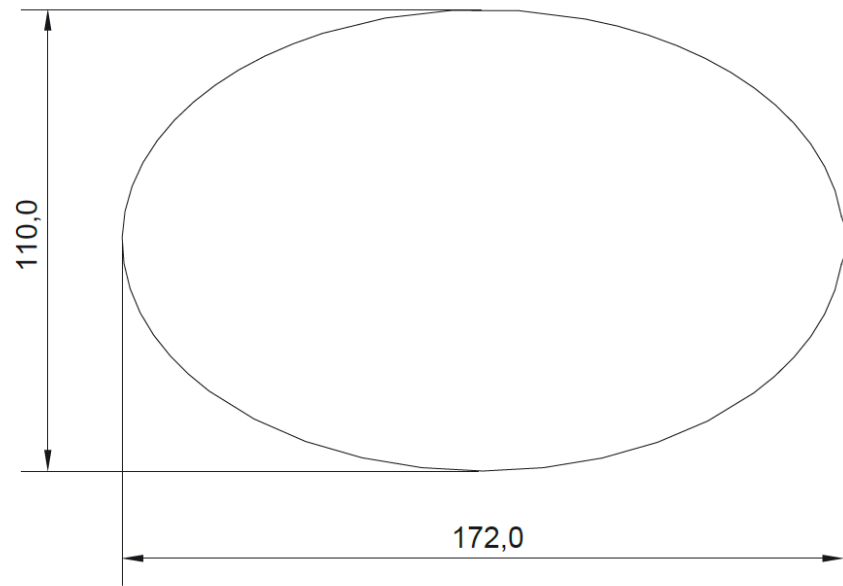
3.3.2 Ambient conditions

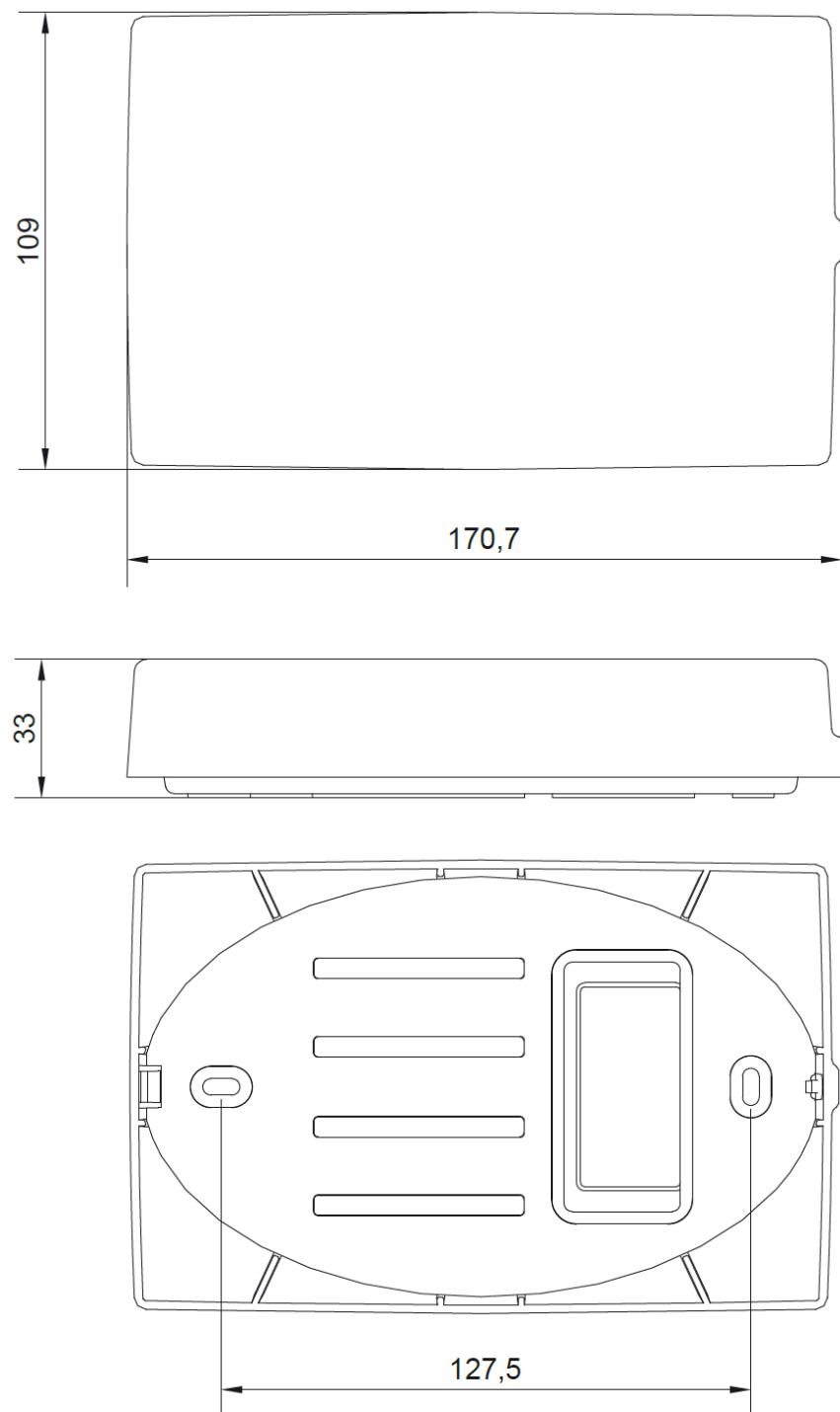
Designation	Value
Operating temperature	+10 °C to +55 °C
Storage temperature	-40 °C to +65 °C
Installation location	Indoors

3.4 Dimensions

Grey housing



**White oval
housing**

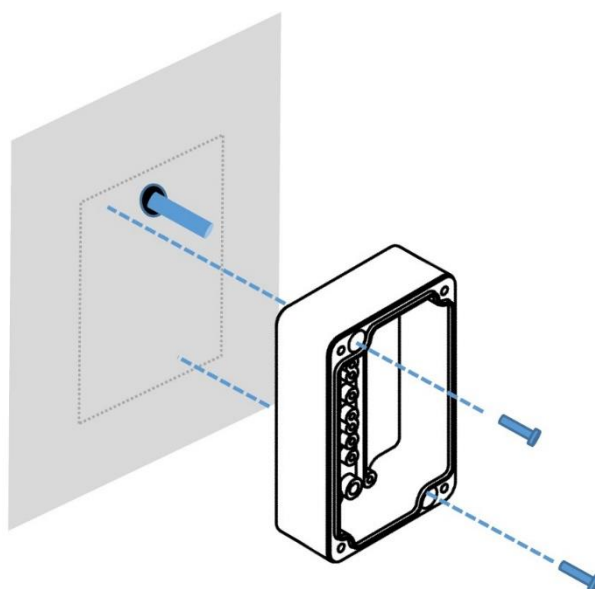
White rectangular housing

4 Installation

4.1 General installation information

- The valid national regulations for electronic installations (e.g. VDE regulations) must be observed.
- The connecting cables must be available and laid.
- Only operate the device at the correct operating voltage.
- If possible, disconnect the load and operating circuits.
- In the case of installation on metal surfaces or in direct proximity to metals, the range as well as the communication between product and connected locking units may be influenced negatively.
- Avoid direct exposure to strong electromagnetic fields
- Do not paint over, paste on or cover the wireless switch module.

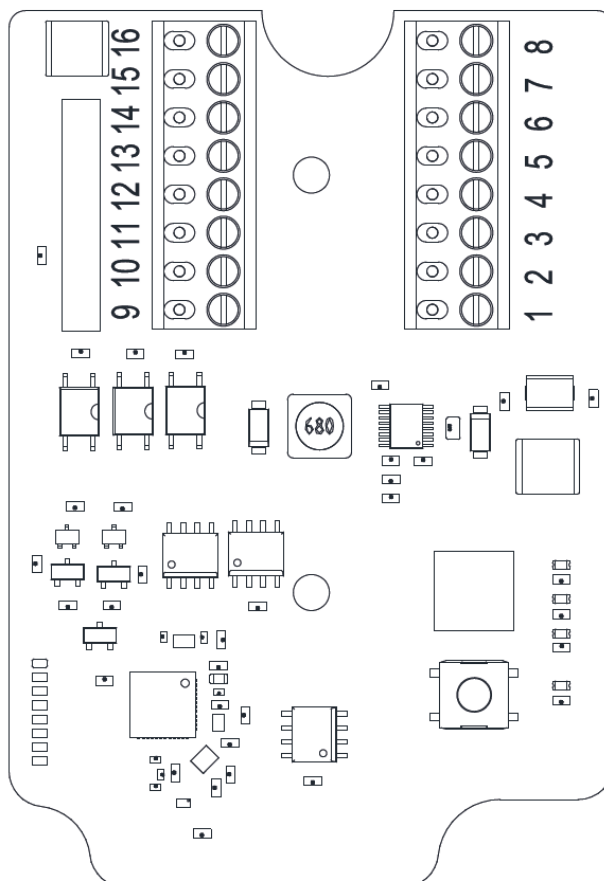
4.2 Installation



- ▶ Specify the mounting position. Ensure that the surface is smooth, dry and firm enough. Do not place the units close to each other to avoid radio interferences.
- ▶ Mark the fastening points through the bottom of the housing (No. 9 in layout diagram).
- ▶ If required, drill mounting holes into the mounting surface.
- ▶ Insert the connection cables through the opening on the bottom into the housing and cut and strip to a suitable length.
- ▶ Hand-tighten the lower part of the device at the intended location using suitable flat-head screws. Installation material is not included in the scope of delivery. In case of cable feeding from the side, use additional fitting rubber or plastic spacers. Ensure that the cable is not pinched.
- ▶ Wire cables according to the respective pin assignment specified in the next chapter. The two 8-pin connection blocks can be removed for easier installation.
- ▶ Perform commissioning (see the "Commissioning" chapter).
- ▶ Put on the housing cover and screw it tight.

4.3 Pin assignment

Contact number	Pin assignment
1	+ power supply 5-24 VDC
2	- power supply (ground)
3	Input ground (isolated from the supply ground together with Pin 6/7/8)
4	Wiegand 0 (not used)
5	Wiegand 1 (not used)
6	Input (not used)
7	Input (not used)
8	Input + (potential 5-24 VDC)
9	+ power supply 5-24 VDC (can be used alternatively to 1)
10	- power supply (ground) (can be used alternatively to 2)
11	RS485A (not used)
12	RS485B (not used)
13	RS485A (not used)
14	RS485B (not used)
15 + 16	Relay (not used)

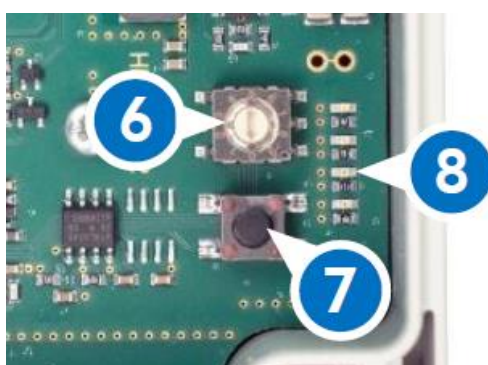


5 Commissioning and operation

5.1 Connecting the locking unit

Perform the following steps to connect a locking unit with the wireless switch module:

- ▶ Bring the locking unit which you want to connect into the service mode by holding the service key in front of the locking unit.
- ▶ Use a screwdriver or a similar tool to turn the rotary switch (6) so that the arrowhead points to Position 8. Then briefly press the button (7) to switch to the pairing mode and teach in the locking unit within reach.



- 6) Rotary switch
- 7) Button
- 8) LEDs

If successful, the green LED lights up several times and the lock leaves the service mode directly. If not successful, the red LED lights up several times and the lock remains in the service mode.

The yellow LED flashes additionally to confirm the button input. The blue LED flashes to signal the BLE activity.

- ▶ Turn the rotary switch back to the home position.

Rotary switch position	Function
0	Home position
4	Briefly press the button (7) to set the wireless switch module into service mode.
8	Briefly press the button (7) to perform the pairing of the wireless switch module with the locking unit that is in reach and in service mode or to delete an existing paired locking unit.
9	Briefly press the button (7) to delete all the saved locking units and parameters.
Any	If you keep the button (7) pressed longer than 4 s and then release it, the wireless switch module switches to the service mode (as at Position 4).

5.2 Operation

Trigger the opening of the connected locking unit via the third-party system connected to connections 3 and 8. Connection 3 serves as ground.

Switching input: High: 5-24 VDC
Low: 0 VDC

The high level must be present for at least 25 ms to trigger the switching operation.

5.3 Resetting

Disconnect the device from the power supply.

5.4 Resetting the configuration (factory reset)

If you want to reset all the settings, proceed as follows:

Use a screwdriver or a similar tool to turn the rotary switch (6) so that the arrowhead points to Position 9. Briefly press the button (7) to delete all the saved locking units and parameters.

5.5 Firmware updates

The update tool "Clex FW Prog" is available to update the firmware. Contact your respective dealer or Integration partner.

5.6 Signaling

LED	Meaning
Blue slow flashing	Device scans for paired locking unit
Blue flashing	BLE activity with connected locking unit
Blue constant lighting up	Paired locking unit is connected
Blue rapid flashing	Device tries to wake up a locking unit in the "wake on radio" mode (WOR)
Yellow	Button input
Red/green flashing alternately	Connected with the locking unit in service mode
Green constant lighting + blue flashing	Service mode
After reset: One-time all colors consecutively	Device has completed the initialization

5.7 Malfunctions during operation/error signaling

LED	Meaning
Red and yellow flash after a reset; after that service mode	Mode wrong for the available firmware: Perform a firmware update or set the mode manually.
Yellow lights constantly after a reset	Micro-controller of the device is in the boot loader. Perform a suitable firmware update.

6 Maintenance and cleaning

6.1 Maintenance

Since the device is not protected specially against dust, the product should be checked regularly for dust deposits. The frequency depends on the dust level at the operation site.

6.2 Cleaning

Clean the housing with a soft, lint-free and only slightly moistened cloth. When cleaning do not use corrosive liquids or liquids that decompose plastic such as benzine, turpentine, etc. Sharp detergents may damage or discolor the surface. Do not use any detergents which act on a mechanical basis (e.g. scouring milk, scouring sponge).

Free the electronics from dust with a suitable brush or by careful use of compressed air at a sufficient distance.

7 Disposal



- ▶ Do not dispose of the device with household waste, but at a municipal collection point for special electrical waste in accordance with European Directive 2002/96/EC.
- ▶ Dispose of packaging as environmentally friendly recycling.

8 Glossary

Term	Meaning
BLE	Bluetooth® Low Energy
VDE	German "Verband der Elektrotechnik" [Registered Association of the Electrical, Electronic and Information Technology]