

Operating Instructions



Zone 2/22 Bluetooth Handheld Scanner
iSCAN212
iSCAN212PDF
iSCAN2122D

Revision date: 04.03.2020



Contents

Revision control	2
1. iSCAN2x2 product range overview	3
2. Important notes on the operating instructions	4
2.1 Safety information	4
2.2 Notes on the operating instructions	4
2.3 General notes of caution	5
3. Product Information	7
3.1 Manufacturer	7
3.2 Certification	7
3.3 Serial numbers	7
3.4 Technical data for base/charging station	8
4 System assembly	9
4.1 Assembly USB in Hazardous Area	9
4.2 Assembly RS232 in Hazardous Area	10
4.2 Cable range for Hazardous Area	11
5 Step by step guide to installation and operation	14
5.1 General connection of handheld scanner	14
5.2 Using the base station in hazardous areas	15
5.3 Using the base station in non-hazardous areas	16
5.4 Pin assignment supply cable RS232	17
5.5 Pin assignment supply cable USB	19

Revision control

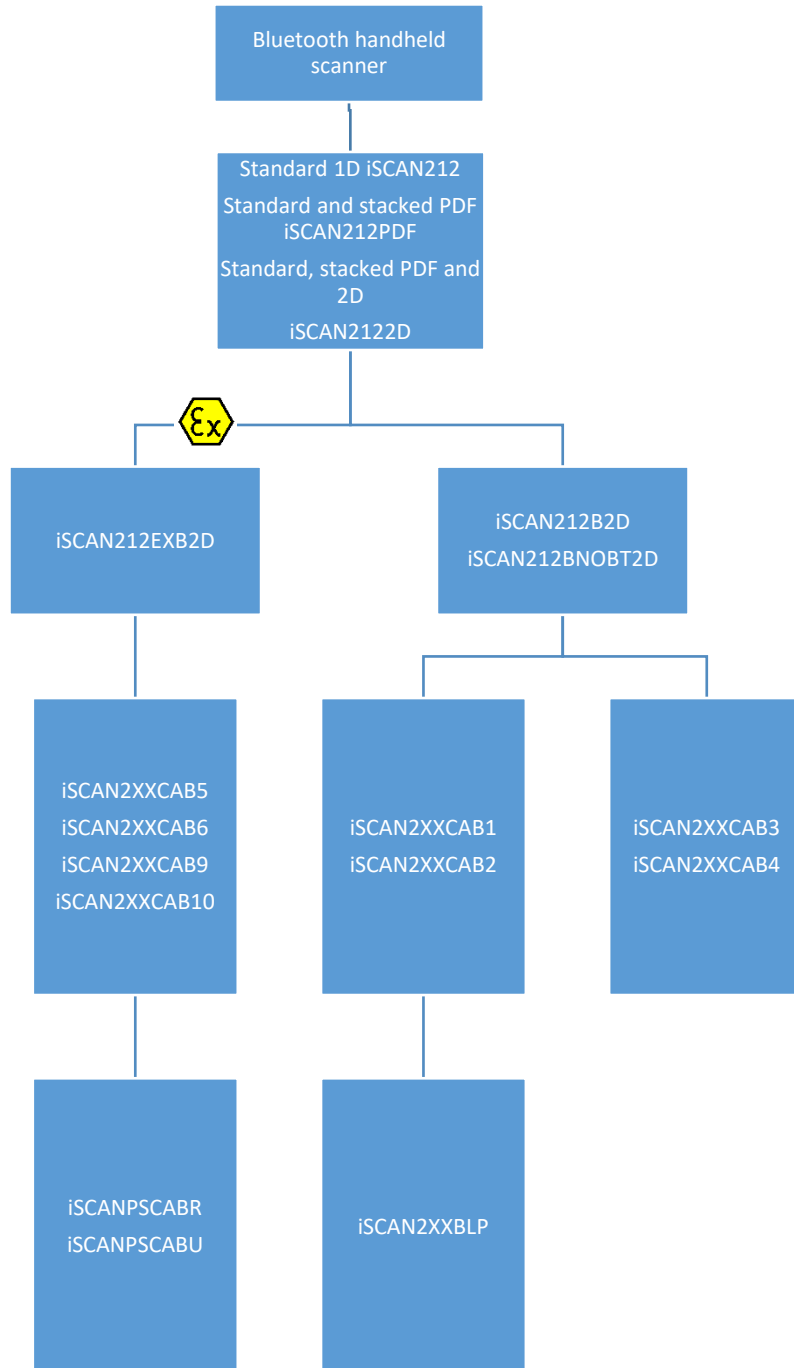
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1. iSCAN2x2 product range overview



2. Important notes on the operating instructions

2.1 Safety information

Warnings are highlighted by a special symbol and a different font colour:



Danger

**Non-compliance may result in life-threatening situations.
This warning must be heeded.**



Warning

This type of warning concerns dangerous situations that may result in minor injuries.



Info

Important and helpful notes and information.

2.2 Notes on the operating instructions

Before starting up the equipment please read the Manual thoroughly.

The Operating Instructions contain important information on functionality as well as safety rules. If these are not heeded, normal operations within hazardous areas cannot be guaranteed.

The notes contained in this manual are important for starting up and operating the product.

These instructions may be updated at any time. Extronics Limited reserves the right to make changes to this document. Before they use the product, users must ensure that they have the most up-to-date version of the operating instructions. To make sure this is the case, please check Extronics' website, www.extronics.com, or contact one of the company's staff.

The drawings contained in these operating instructions are for illustration purposes only and may differ somewhat from the actual design.



No changes may be made to the device that were not intended or approved by Extronics Limited.



If the handheld scanner is not used properly, the operating permission for hazardous areas may lapse for the device in question.

Non-adherence to the instructions will void any warranty.



For the full commission of the handheld scanner, the programming information contained in the manual issued by SICK AG (www.SICK.com) is also required.

2.3 General notes of caution

Caution / Notes



- The devices may only be operated when fully assembled.
- In hazardous areas, the devices must not be wiped or cleaned with a dry cloth.
- The device must be switched off immediately if it is likely that it can no longer be operated safely as a result of damaging impact or general peculiarities (such as ingress of water or other fluids, temperatures outside of the specified range, etc.).
- General statutory requirements or health and safety rules and accident prevention guidelines and environmental laws must be adhered to (e.g. the German Occupational Health and Safety regulation).
- Users must not open the device.
- Users must not make any changes to the device. Components may not be exchanged or replaced. If non-specified components are used, explosion protection is no longer guaranteed.
- Ensure safe handling with firm footing and sufficient room for movement.
- If the enclosure is in any way damaged the device must be removed from the hazardous area immediately.
- In accordance with IEC 60079-19 and IEC 60079-17, operators of electrical installation in hazardous areas are obliged to have them serviced by qualified electricians.
- Do not insert any sharp objects into the enclosure or any other openings of the handheld barcode scanner. Any openings at the device may not be covered or blocked.
- The device and any accessories must be properly disposed of, i.e. as legally specified, for example by a certified company.



Notes on installation

- Electrical plants are subject to certain regulations concerning installation and operation (e.g. RL 99/92/EG, RL 94/9EG, or the national rules such as IEC 60 079-14 and VDE 0100).
- In the hazardous area it is the operator's responsibility to carry out any repair and maintenance in compliance with applicable rules.

Caution on laser devices



Devices fitted with laser fall under standards US 21 CFR 1040.10 and EN 60825-1. The laser's classification is stated on a plate affixed to the device. Class 1 lasers are deemed inherently safe during normal use, but users must not look directly into the light source. The following declaration is required by American and international laws:

Usage of control elements, adaptations or the use of procedures that differ from these instructions may result in a dangerous exposure to laser beams. Class 2 lasers use a visible low-voltage LED. As with any source of bright light, such as the sun, the user should avoid looking directly into the light. Brief exposure to a class 2 laser is deemed not dangerous.

Maintenance

Provided the device is operated and assembled according to instructions and the ambient requirements are being met continuous maintenance is not necessary.

Servicing

Operators of electric equipment in hazardous areas are obliged to have them serviced by qualified electricians (IEC 60079-19 and IEC 60079-17).

Repairs

Repairs may only be carried out by the manufacturer or by persons trained and commissioned for this purpose by the manufacturer.

The device is closed ex-factory. It may only be opened in the factory by specifically trained personnel.

Software installation

For instructions on how to install the software at the PC please refer to the manual issued by SICK.

Operation

Before operating the device, you must ensure that all necessary components are available.






3. Product Information

3.1 Manufacturer

Extronics Limited
 1 Dalton Way
 Midpoint 18
 Middlewich
 CW10 0HU



3.2 Certification

iSCAN212		II 3 G Ex ic IIB T4
iSCAN212PDF		II 3 G Ex ic IIB T4 Gc
iSCAN2122D:		II 3 D Ex ic IIIC T135°C
		II 3 D Ex ic IIIC T135°C Dc

Test certificate IBExU19ATEXB010 X
 IECEx IBE 19.0023X

Protection rating: IP65
Battery: 3.6V; less than 3000mAh
Scan rate: 500 scans per second
Reader distance: 50mm bis 800mm (0.5mm)
weight:

3.3 Serial numbers

Serial key:	Year of manufacture (2 numbers)	Serial number (4 numbers)
Example:	19001	



3.4 Technical data for base/charging station

Operation
Base charging station zone 2/22: The base charging station zone 2/22 iSCAN212EXB2D may be operated in hazardous areas. Its purpose is to receive data captured by the associated handheld scanner zone 2/22 via bluetooth.

Nominal values of hazardous area base station iSCAN212EXB2D:	• Maximum input voltage	Ui	6.5 V
	• Maximum internal inductance	Li	Negligible
	• Maximum internal capacitance	Ci	<144 µF
Nominal values of safe area base station:	• operating voltage	U	5 V
	• power requirement	I	85 mA in standby mode

Ambient temperature for base station zone 2/22: -20°C to +50°C

Storage temperature for base charging station zone 2/22: -30°C to +70°C

Bluetooth: Bluetooth V4.0 EDR, Class 1
2.4...2.4835 GHZ (ISM band)

Bluetooth Operational area: Up to 100m (line of sight), Batch function for increasing the range

Terminal assignment (Handheld scanner)

USB cable

USB/D+ green
 USB/D- white
 GND black
 +UB brown

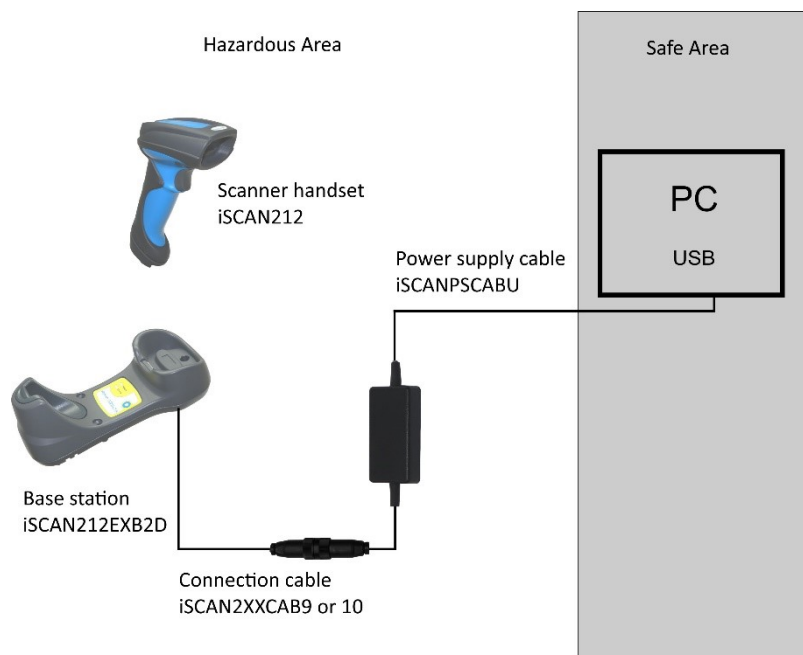
RS232 cable

RS232-TXD white
 GND brown
 +UB yellow



4 System assembly

4.1 Assembly USB in Hazardous Area



The Bluetooth handheld scanner zone 2/22 is designed for use with battery in hazardous areas. Normal operation requires a base charging station, a connection cable between base station and power supply cable. For connection to the PC in the non-hazardous area, a mini USB plug is attached to the USB-supply cable so that the cable can be routed through a cable gland.

For connection to the USB port of the PC, a corresponding adapter is included.

External connection cables:

Data-/ Power supply cable: USB 2.0

The Bluetooth handheld scanner zone 2/22, the base charging station zone 2/22 and the supply unit can be connected and operated in the hazardous area. The current rating of the connection cables must be checked before use. The USB connection must be connected outside the hazardous area



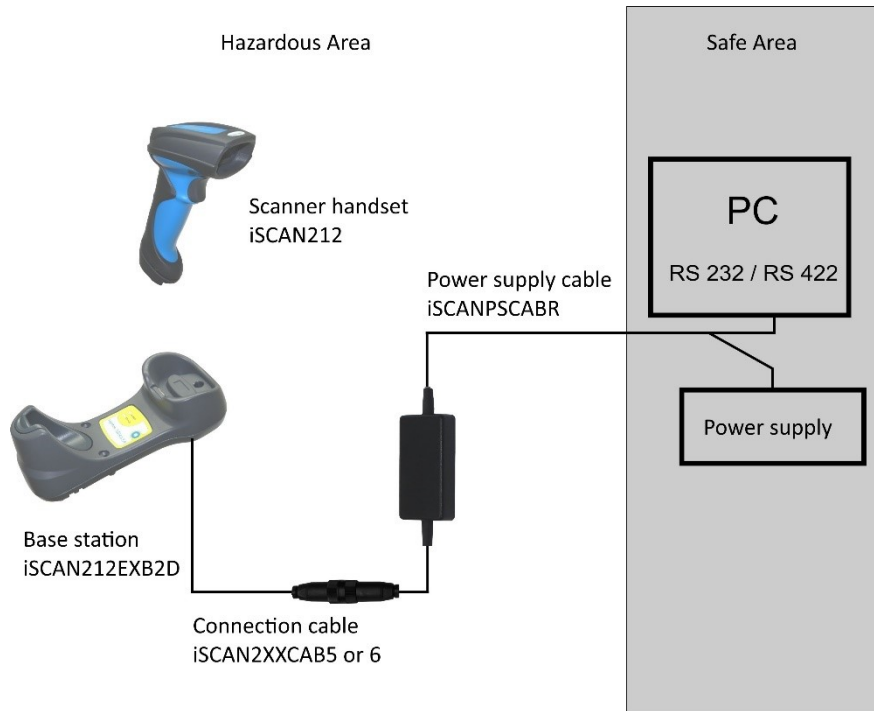
The warnings and notes of caution contained in these operating instructions and in the manual issued by SICK AG (www.SICK.com) must be adhered to.



For the professional use of the power supply iSCANPS the operating instructions of the manual of the power supply are necessary.



4.2 Assembly RS232 in Hazardous Area



The Bluetooth handheld scanner zone 2/22 is designed for use with battery in hazardous areas. Normal operation requires a base charging station, a connection cable between base station and power supply cable.

For connection to the RS232 port of the PC, a corresponding adapter is included.

External connection cables:

Data cable: RS232/RS422: 0.14mm² 2-wire
Supply Cable: RS232/RS422: 0.14mm² 2-wire

The Bluetooth handheld scanner zone 2/22, the base charging station zone 2/22 and the supply unit can be connected and operated in the hazardous area. The current rating of the connection cables must be checked before use.

The RS232 connection must be connected outside the hazardous area







The warnings and notes of caution contained in these operating instructions and in the manual issued by SICK AG (www.SICK.com) must be adhered to.



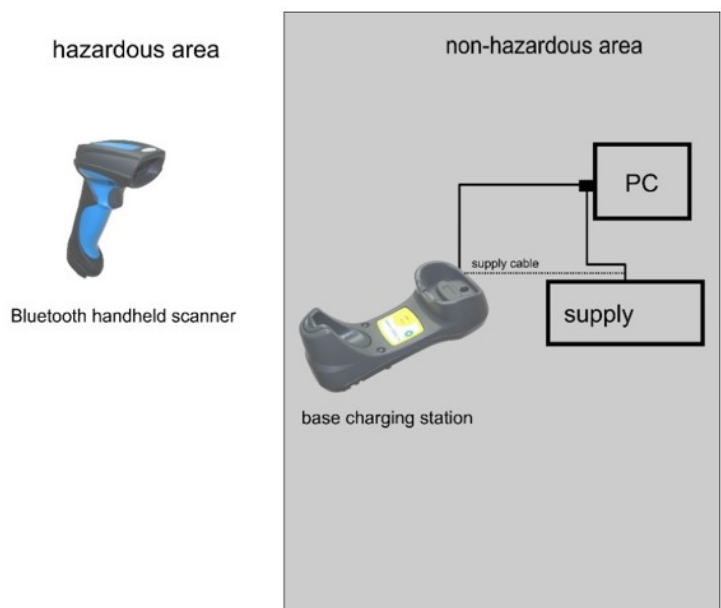
For the professional use of the power supply iSCANPS the operating instructions of the manual of the power supply are necessary.



4.2 Cable range for Hazardous Area

					
RS232	iSCAN212EXB2D	1.8m iSCAN2XXCAB5 3.8m iSCAN2XXCAB6	iSCANCABR	Up to 15m	Host
USB	iSCAN212EXB2D	1.8m iSCAN2XXCAB9 3.8 m iSCAN2XXCAB10	iSCANCABU	Up to 5m	Host

4.3 Assembly RS232 in Non-Hazardous Area



The Bluetooth handheld scanner zone 2/22 can also be used separately in the hazardous area.

The base non-ex base station/charging station is then operated in the non-hazardous area.

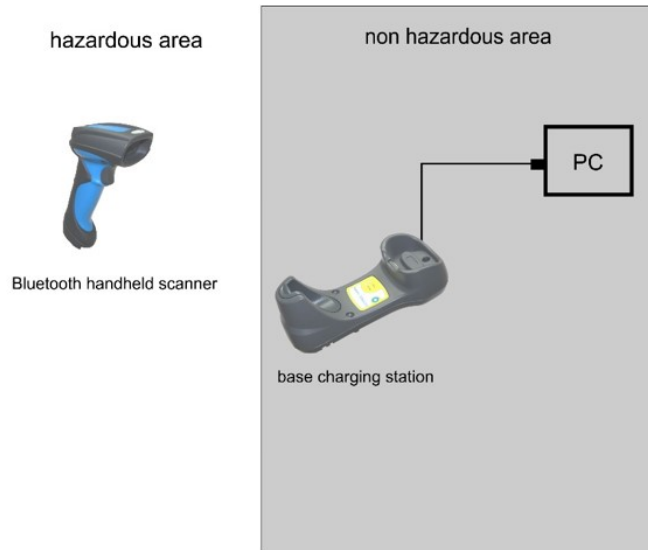
Use an RS232 cable (iSCAN2XXCAB1 or 2) to connect the station directly to a power supply and a PC.



The warnings and notes of caution contained in these operating instructions and in the manual issued by SICK AG (www.SICK.com) must be adhered to.



4.3 Assembly USB in Non-Hazardous Area



The Bluetooth handheld scanner can also be used separately in the hazardous area. The base or charging station is then operated in the non-hazardous area.

Use USB cable (iSCAN2XXCAB3 or 4) to connect the station directly to a power supply and a PC.



The warnings and notes of caution contained in these operating instructions and in the manual issued by SICK AG (www.SICK.com) must be adhered to.







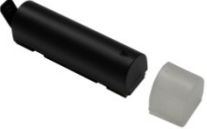



4.4 Cable range in Non-Hazardous Area

				
RS232	iSCAN212B2D iSCAN212BNOBT2D	1.8 iSCAN2XXCAB1 3.8m iSCAN2XXCAB2	 Up to 15m	Host
USB	iSCAN212B2D iSCAN212BNOBT2D	1.8 iSCAN2XXCAB3 3.8 m iSCAN2XXCAB4	 Up to 5m	Host








5 Step by step guide to installation and operation

5.1 General connection of handheld scanner

	<p>Do not replace the battery in hazardous areas.</p> <p>Incorrect handling may result in the termination of the operating permit.</p>
	<p>The battery compartment is located at the bottom of the Bluetooth handheld scanner. Loosen the screw to remove the lid.</p>
	<p>Open the battery compartment.</p> <p> After the screw has been loosened, the removal of the lid requires a certain amount of force.</p>
	<p>An iSCAN2X2BATT is required to operate the Bluetooth handheld scanner.</p> <p> Use only this battery for the Zone 2/22 Bluetooth scanner.</p> <p>Before placing the battery inside the scanner, remove its protective cap.</p>
	<p>Insert the battery into the battery compartment of the scanner. The end of the removal strap must protrude from the opening.</p> <p> If the battery has been correctly inserted and connected to the contacts, this will be indicated by an acoustic and a visible signal.</p> <p>Close the compartment. Check that the screw has been tightened properly.</p>









5.2 Using the base station in hazardous areas

	<p>The device has been closed ex-factory.</p> <p>Incorrect handling may result in the termination of the operating permit.</p>
	<p>The cable connecting the base charging station to the power supply is iSCAN2XXCAB5, 6, 7, 8, 9 or 10.</p>
	<p>Insert the cable in the opening at the bottom of the base charging station.</p> <p>i If the cable has been inserted fully you can hear a "click". Check if the cable fits firmly.</p>
	<p>Insert the plug of the connection cable into the power supply's plug connector.</p> <p>i Ensure that the connection is fully secured with the screw cap after the plug has been inserted.</p>
	<p>Place the Bluetooth handheld scanner onto the charging station. Insert the lower part of the handle to ensure that the contacts for charging are connected properly.</p> <p>i The LED at the head of the scanner will come on to indicate successful charging.</p>



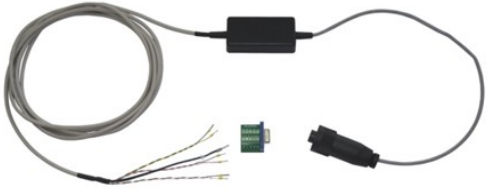


5.3 Using the base station in non-hazardous areas

	<p>Charge the handheld scanner in the safe area with a non-explosion-protected base charging station. Use a safe area power supply for supply to the base charging station.</p> <p>The cable is inserted in the corresponding opening at the bottom of the base charging station.</p> <p> This connection is closed ex-factory for a base charging station for hazardous areas.</p>
	<p>To connect the base charging station in a non-hazardous area, the connection cable for the power supply and the PC is inserted in the opening at the bottom of the base charging station. Use iSCAN2XXCAB1, 2, 3 or 4.</p> <p> If the cable has been inserted fully you can hear a "click". Check that the cable fits firmly.</p>
	<p>Place the handheld scanner onto the charging station. Insert the lower part of the handle to ensure that the contacts for charging are connected properly.</p> <p> The LED at the head of the scanner will come on to indicate successful charging.</p>




5.4 Pin assignment supply cable RS232

Supply of the base charging station zone 2/22 with plug connection – plug/coupling

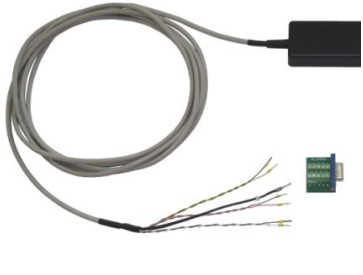
	<p>Caution! Do not open this enclosure!</p> <p> Before operating the device in hazardous area you have to ensure that the housing has been closed fully and is not damaged.</p> <p> Any changes to the pin assignment may only be carried out by trained staff.</p>
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Connection base charging station zone 2/22 to the RS232 power supply with plug connection – plug/coupling

 <p>Ex i connection</p>	Base connection cable RS232		Supply cable	
	Pin assignment connection coupling		Connecting coupling	
	Pin	Definition	Pin	Wire
	2	GND (brown)	2	GND (brown)
	3	TxD (white)	3	RS232 – TxD (white)
1	+UB (yellow)	1	Supply (yellow)	



Supply and data transmission with RS232 interface to the higher-level system outside the hazardous area

Ex e connection 	Supply cable		
	Wire		
	wire	Definition	9 pin Sub-D RS232 pin
	1 (white)	TxD / RS232	2
	2 (brown)	GND / RS232	5
	3 (yellow)	TxD + / RS422	
	4 (green)	TxD - / RS422	
	5 (grey)	GND	
	6 (pink)	+UB	
	7	Shielding	SHL






The wires are connected with the enclosed Sub-D plug. Supply via wires 5 and 6. When connecting without Sub-D, the shield is set to GND. The wires of the RS422 connections must remain twisted to the contact.




5.5 Pin assignment supply cable USB

Supply of the base charging station zone 2/22 with plug connection – plug/coupling

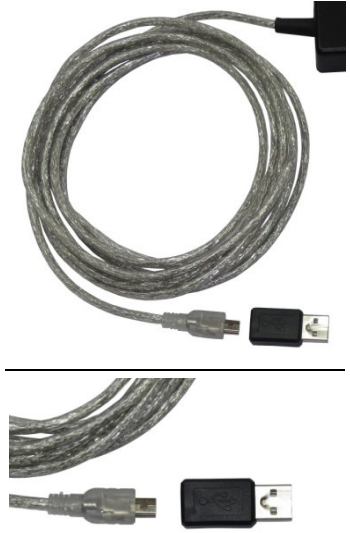
	<p>Caution! Do not open this enclosure!</p>  <p>Before operating the device in hazardous area you have to ensure that the housing has been closed fully and is not damaged.</p>  <p>Any changes to the pin assignment may only be carried out by trained staff</p>
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Connection base charging station zone 2/22 to the USB supply cable with plug connection - plug/coupling

 Ex i Connection	Base connection cable USB		Supply cable	
	Pin assignment connection coupling		Connecting coupling	
	Pin	Definition	Pin	Definition
	1	+UB (brown/red)	1	+UB (red)
	2	D- (white)	2	D- (white)
	3	D+ (green)	3	D+ (green)
4	GND (black)	4	GND (black)	



Supply and data transfer with USB interface to the higher-level system outside the hazardous area

<p>Ex e connection</p> 	Supply cable	
	wire	
	Definition	Mini USB Pin
	+ UB	1 (red)
	D -	2 (white)
	D +	3 (green)
	ID	4
	GND	5 (black)



There is an adapter from mini USB to USB A included. If the supply voltage of the USB interface is not able to supply a current > 500mA for corresponding barcode system assemblies, the enclosed Y-cable can be used. The operating instructions of the host system must be observed.

