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scemtec Transponder Technology GmbH

Manual
SBS-1000 / SBS-2000
Base Station for Bluetooth Devices

Product name	Version	
SBS-1000/2000	1.0	
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25.03.21	Kalbitzer/Pauls	02.03

Contents

1 General

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2 System Requirements

- SIH-2100, SIH-900 or SHT-9000
- SBS-1000 or SBS-2000
- PC
- Windows 7,8.1 or 10 (Windows 10 recommend)
- HandHeldManager
- There might be issues with installed Bluetooth software shipped with the Bluetooth dongle. It is recommended to de-install such software in case of connection problems and use Microsoft's Bluetooth Stack installed by default.

3 Operation Modes

3.1 SIH-2100/900

The SIH devices have 4 pre defined operation modes.

- STX/ETX Mode
- Read Mode
- Collect Mode
- Compare Mode

Additional user defined modes can be created by SMART Read. Please see SMART Read Manual for details.

3.2 SHT-9000

The SHT-9000 device has only two operation modes.

- Host mode (STX/ETX Mode)
- Hand held mode (similar to Read mode for SIH)

3.3 STX/ETX Mode

For STX/ETX USB connection is recommended. This Mode will be used to configure the device, up and download Transponder Ids, read and write Tags.

The HandHeldManager can be used for this

3.4 Read Mode (Hand held mode)

In Read Mode or Hand held Mode Transponder will be read and transmitted to the PC. For this the SIH or SHT-9000 has to be configured with the HandHeldManager and paired with SBS base station. Once it is configured the SIH/SHT.9000 will transmit the data the base station after reading. The base station will transmitted the data to the PC using the configured interface.

3.5 Collect and Compare Mode

In this mode the SIH will work with it's internal memory. This means all tag data will be stored in the internal memory for the SIH so a PC connection is only necessary for up and down load the data from and into the SIH.

As USB and Bluetooth can be used together with the HandHeldManager.

4   Installation and first time setup

- Install HandHeldManager
- Connect SBS-1000/SBS-2000 to power and PC. (USB is recommend)
- Switch on the SIH/SHT-9000

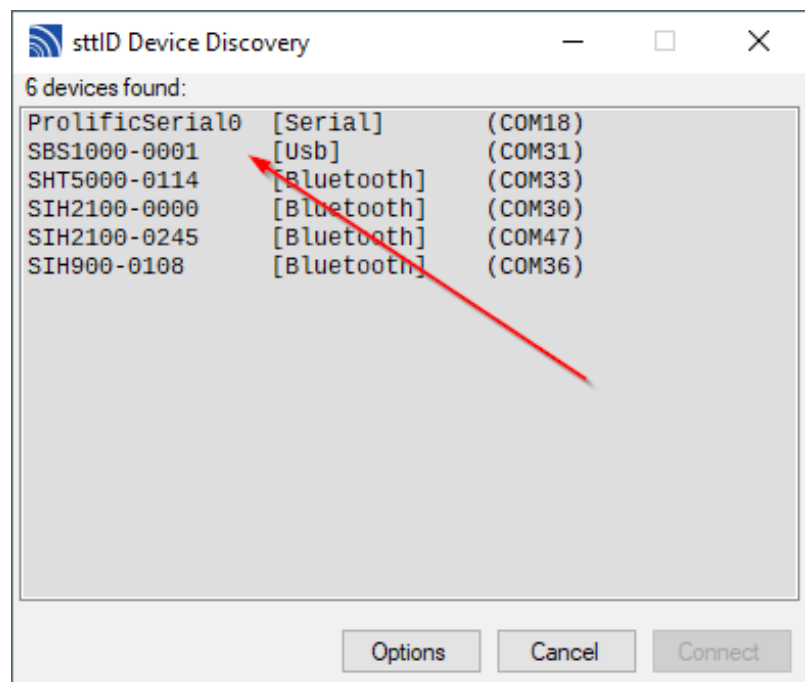⚠️ It may take some time to install the device driver, specially under Windows 7 without Internet connection.

After connection of the base station to USB, a comport will be shown in the device manager.

4.1 Pairing SIH/SHT-9000 and base station

Switch on the SIH

Start HandHeldManager.exe

Select the SBS-2000 or SBS-1000 and press *"Connect"*

> **sttID Device Discovery**   — ☐ ✕
>
> 6 devices found:
>
> ```
> ProlificSerial0  [Serial]      (COM18)
> SBS1000-0001     [Usb]         (COM31)
> SHT5000-0114     [Bluetooth]   (COM33)
> SIH2100-0000     [Bluetooth]   (COM30)
> SIH2100-0245     [Bluetooth]   (COM47)
> SIH900-0108      [Bluetooth]   (COM36)
> ```
>
> Options   Cancel   Connect

Press *Yes*

> **No device connected!**   ✕
>
> ❓ The Bluetooth Base Station is not connected to a handheld device.
>
> Would you like to connect to a remote device before proceeding?
>
> Ja   Nein

Select your SIH device and press the "Connect" button
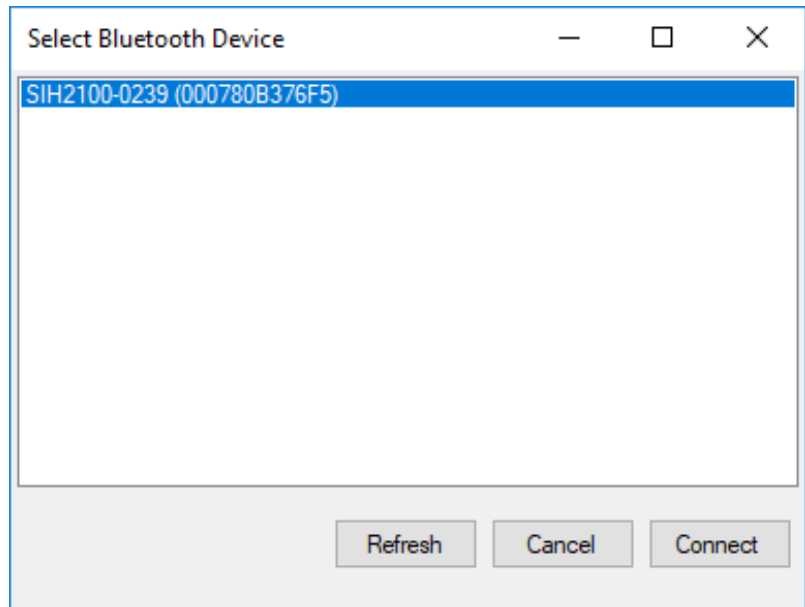
Load Factory Defaults to the hand held device (optional)

Configure base station and device

Press "*Update*" to start the search of available bluetooth devices. Please be sure, that the power of the hand held is switched on.

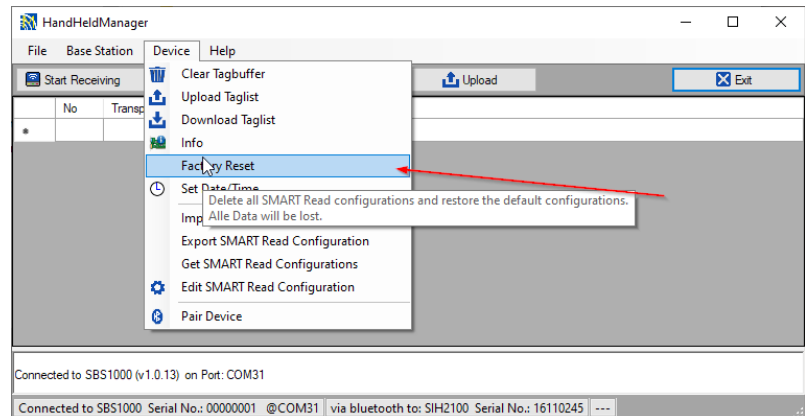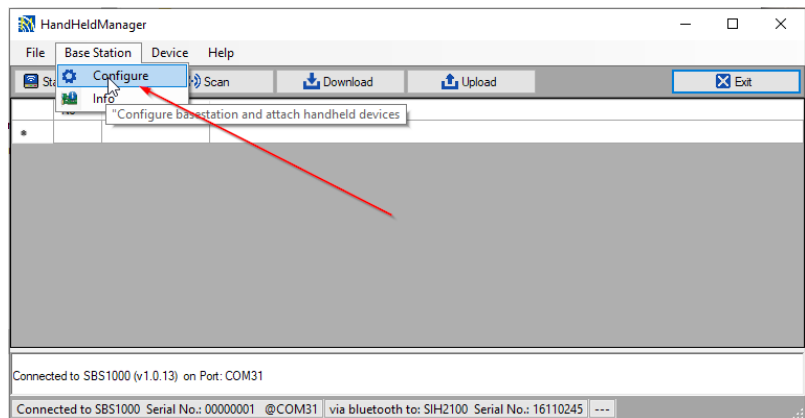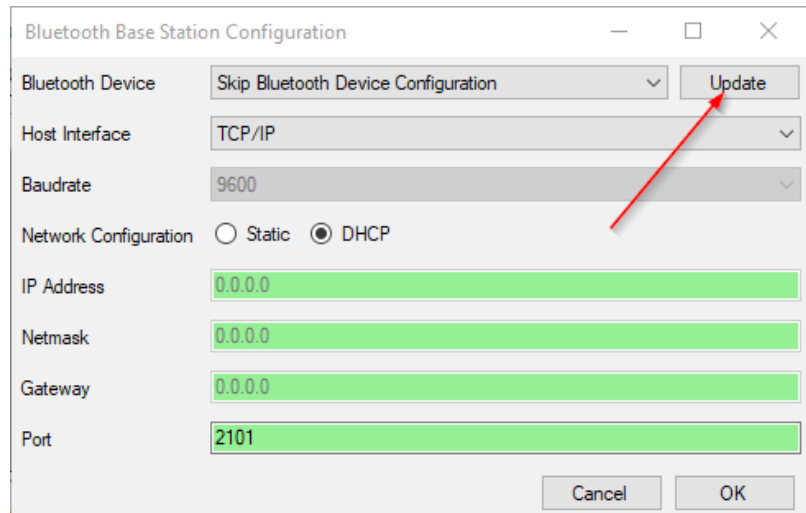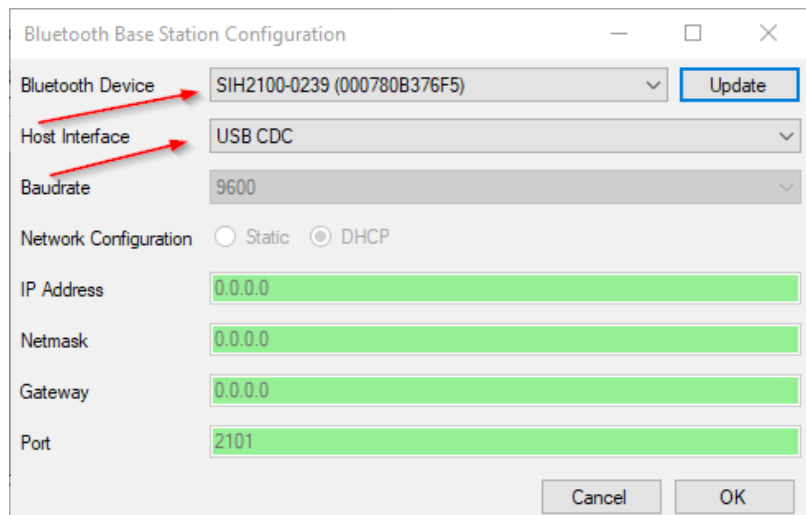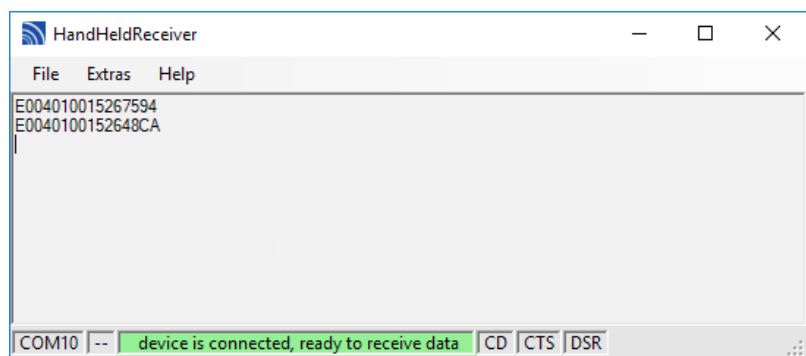| Bluetooth Base Station Configuration			— ☐ ✕
Bluetooth Device	Skip Bluetooth Device Configuration	⌄	Update
Host Interface	TCP/IP		⌄
Baudrate	9600		⌄
Network Configuration	○ Static ● DHCP		
IP Address	0.0.0.0		
Netmask	0.0.0.0		
Gateway	0.0.0.0		
Port	2101		
		Cancel	OK

Select your device and the interface where the data has to be send to e.g. CDC for USB virtual comport or HID for keyboard emulation.

Bluetooth Base Station Configuration			— ☐ ✕
Bluetooth Device	SIH2100-0239 (000780B376F5)	⌄	Update
Host Interface	USB CDC		⌄
Baudrate	9600		⌄
Network Configuration	○ Static ● DHCP		
IP Address	0.0.0.0		
Netmask	0.0.0.0		
Gateway	0.0.0.0		
Port	2101		
		Cancel	OK

Receiving data
To receive data press the button "Start Receiving Data", or start the *HandHeldRecevier.exe* or an other application of your choice.
Please be sure, that the *HandHeldManager* is closed before opening the application.

HandHeldReceiver	— ☐ ✕
File Extras Help	
E004010015267594 E0040100152648CA	
COM10 -- device is connected, ready to receive data CD CTS DSR	

5 Hand Held Manager and Receiver

After installing HandHeldManger there are two programs on the disk:

- HandHeldManager.exe
- HandHeldReceiver.exe

5.1 HandHeldManager

It is mainly used to configure your hand held device.

The main functions are:

- Configure Hand Held and PC to receive Data in "Read Mode"
- Load and store SMART Read Configurations
- Im- and export Tag-Ids to EXCEL or CSV files
- Set Date and Time
- Up and download of Tag-Ids

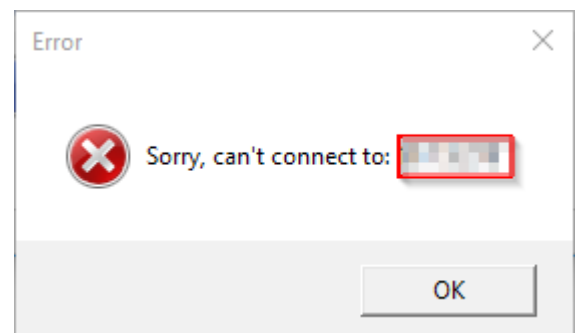Please also look at page 6 chapter 4 Installation and first time setup.

5.2 HandHeldReceiver

It's mainly used to receive data transmitted from the handheld in read mode over Bluetooth connection. It has also the capability to sent the data via key board emulation to e.g. Excel.

It's recommend to use the HandHeldManager first. It will save the needed parameters for the operation of the HandHeldReceiver.

If you try to connect to a device via USB or Network that not exists or which is switched off, you will receive an error message.

Pressing "*OK*" allows you to discover for other devices or interfaces ([File/Discover]).
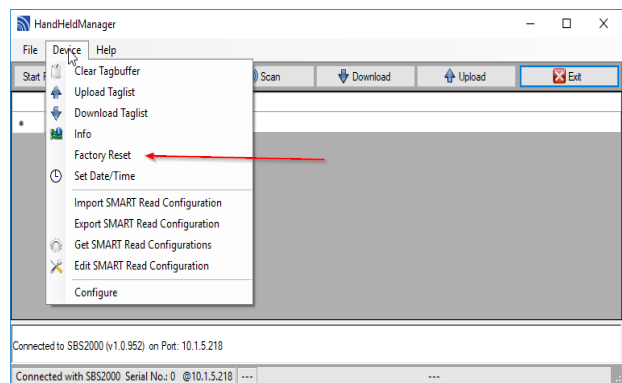
5.3 Samples

5.3.1 Read Mode Sample

To use the read mode the device has to be configured first. Please be sure, the device is paired. See page 6 chapter 4 Installation and first time setup.
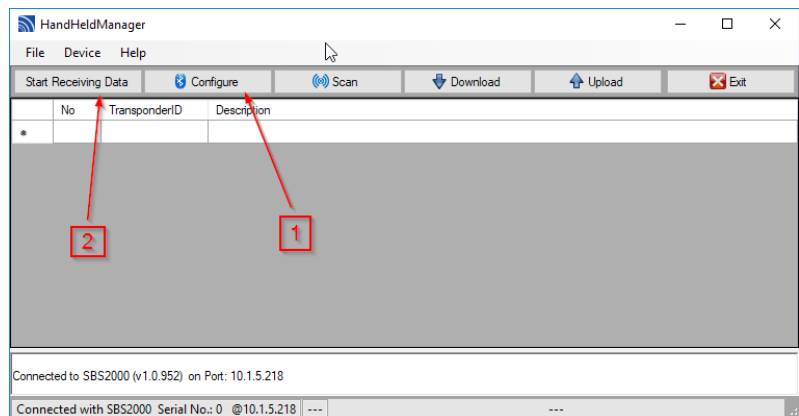
Start HandHeldManager

On the discovery window select the device and press Connect button

Factory Reset

Configure and Start Receiving Data

Receiving Data

Now the SIH is in Read Mode. To read Transponder and transmit it to the PC please press *Read* button on the device. For the first time it may take some seconds, because the Bluetooth connection has to be opened. If the SIH is configured once, you can start HandHeldReceiver direct without HandHeldManager.
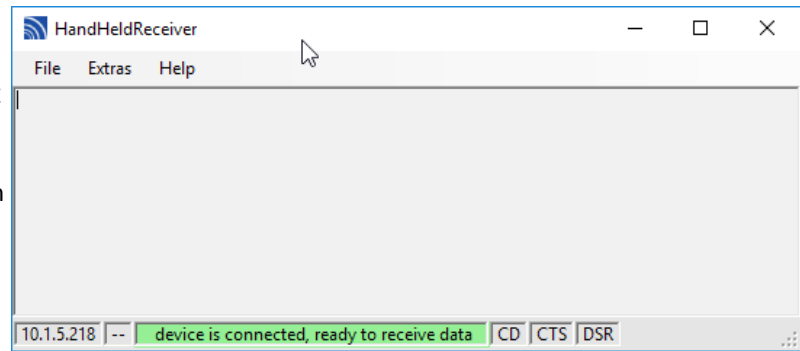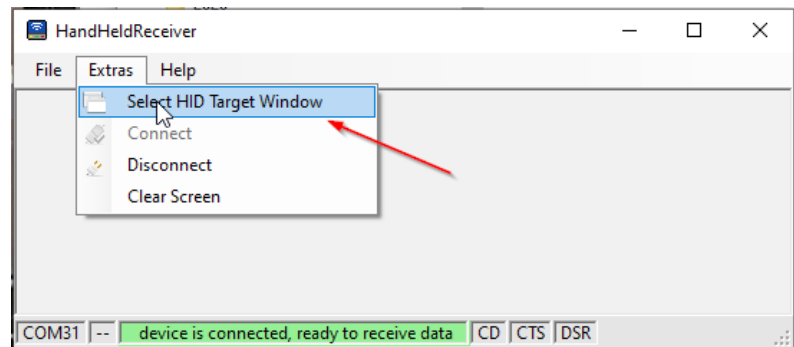
5.3.2 Keyboard Emulation via HandHeldReceiver (HID) sample

The HandHeldReceiver can also be used to foreword the data received by serial, USB interface to an other application window by emulating keyboard input.
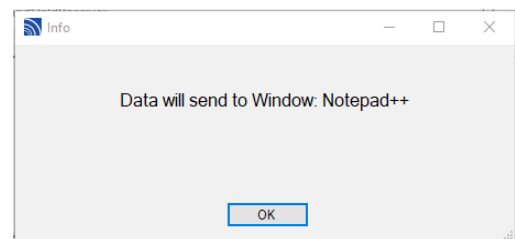
Start HandHeldReceiver

Open Target application window

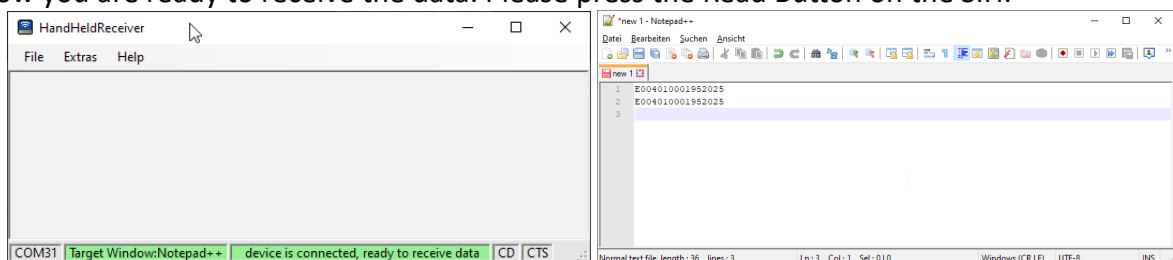On HandHeldReceiver select "*Select HID Target Window*"

Select Target Window

Within 5 seconds, with the mouse please click into the target window. After the 5 seconds confirm the Info message.

Now you are ready to receive the data. Please press the Read Button on the SIH.

⚠️ Warning: Closing the application window while HID emulation is on, will have unpredictable results.

5.3.3 Keyboard Emulation (HID) sample

It's also possible to configure the Base station in this way, that their USB port acts like a keyboard.

To enable this, please set the "*Host Interface*" to **USB HID**

Don't forget to configure the hand held also, if not done. Pressing the "*Update*" button will scan fore available Bluetooth devices.
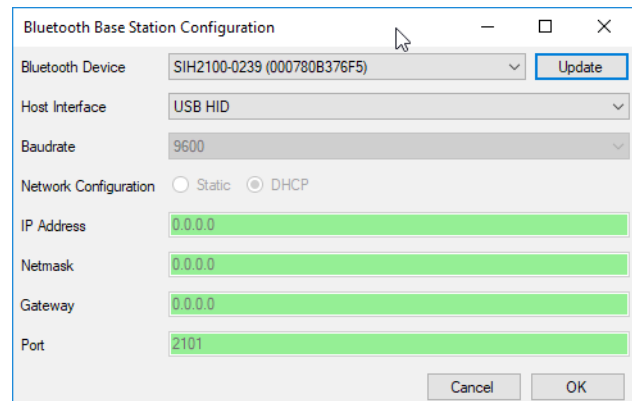
⚠️ Be sure, that your handheld is switched on, before scanning for devices.

6 SBS-1000 Base Station

6.1 Power supply

5V, 500mA via USB connector

6.2 LED's

6.2.1 Top LED

- green: Power on
- blue: Bluetooth connection established
- red: Error

6.2.2 Front LED

- green: Power on
- blue: USB connected

6.3 USB Interface

	USB 2.0 full speed (12 Mbits/sec)
Supported profiles	CDC-ACM (virtual COM-Port), HID (Keyboard emulation)

6.4 Mechanic

Dimensions	
Width	100 mm
Height	25 mm

Dimensions	
Depths	66 mm
Weight	
Without package	90 g

7 SBS-2000 Base Station

7.1 Power supply

12V – 24V DC, 1A

7.2 Interfaces

One the font panel are connectors for 3 interfaces. It is highly recommended only to connect one of them at the same time.

7.2.1 USB

	USB 2.0 full speed (12 Mbits/sec)
Supported profiles	CDC-ACM (virtual COM-Port), HID (Keyboard emulation)

7.2.2 RS 232 Interface

Terminal designation:	SUB-D Connector Pin	Terminal Function
TxD	2	Transmit Data
RxD	3	Receive Data
GND	5	Ground

The data transfer rate is adjustable via STX-ETX commands.

Configuration	8 Data Bits, 1 Stop Bit, no Parity, no flow control
Supported Data Rates [baud]	1200, 2400, 4800, 9600 (default), 19200, 38400 57600, 115200, 230400

7.2.3 Network

	1 Fast Ethernet 10/100Base-TX
Protocol	TCP/IP, IPv4
IP Configuration	IPv4 (DHCP, manually)

7.3 LED's

- green: Power
- yellow: Bluetooth connection established
- red: Error

7.4 Mechanic

Aluminium housing protection type IP 20 (in acc. with DIN EN 60529). This housing is equipped with two lateral covers attached with screws. For mounting the mounting latches can be used.

Dimensions	
Width	185 mm (without connectors 160mm)
Height	131 mm (without flanges 105)
Depths	38 mm

Weight	
Without package	550 g

Environment	
Temperature Range	0 – 50°C
Protective Systems	IP20

8 Troubleshooting

HandheldManager fails to find any Bluetooth relates COM ports	• Check if the device is paired properly. • Check if the COM-Ports are listed in the device manager. • Avoid using a third party Bluetooth stack and use Microsoft's implementation.
HandheldReceiver opens the Port, but the reader fails to connect.	• Check if a Bluetooth related third party software like ASUS Bluetooth Software