



# SAT Finder

**SCHWAIGER**

SF 9003 BT



 **Bluetooth<sup>®</sup>**

**DIGITAL SATELLITE**



**EQUIPMENT CONTROL**

**DVBS2<sup>®</sup>**  
SATELLITE

SAT

**ULTIMATE**



**USER GUIDE**

SAT Finder HD  
for 12 satellite positions

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# 1. INITIAL OPERATION

## 1.1 Contents

- SAT Finder HD
- 1m connection cable
- 2x BNC adapter
- Adapter cable
- Retaining strap
- Bag
- Instruction Manual

## 1.2 Safety instructions

Please read the safety instructions carefully before using the SAT-Finder HD for the first time in order to be able to exclude possible sources of error and dangers. Pay attention to your safety at the installation site of the system (e.g. a slippery roof which can lead to a risk of falling).

Do not operate the SAT-Finder HD if there is visible damage to the unit or the connecting cables (e.g. cable crushing). Take care that the connecting cables do not become a trip hazard or become pinched or crushed during use. You should also make sure that the antenna used is earthed.

The SAT-Finder HD is only designed for setting up a satellite system for a short time; continuous operation can damage the device. The unit must not be operated in the immediate vicinity of flammable material. Have repairs carried out only by our qualified personnel. Unauthorised opening and attempted repairs will invalidate the warranty.

** WARNING**

Handle the unit with care! Do not throw or drop the unit! If the unit is damaged, it must not be put into operation.

Replace damaged cables immediately with new ones in good condition. Do not immerse the unit in water! If water gets inside the unit, do not operate the unit.

The operating instructions are part of the product and must be passed on to the future owner if the product is sold!

**Usable LNB types:**

- Single LNB
- Twin LNB
- Quad LNB
- Quattro-LNB
- Monoblock LNBs
- Unicable LNB (legacy-port)

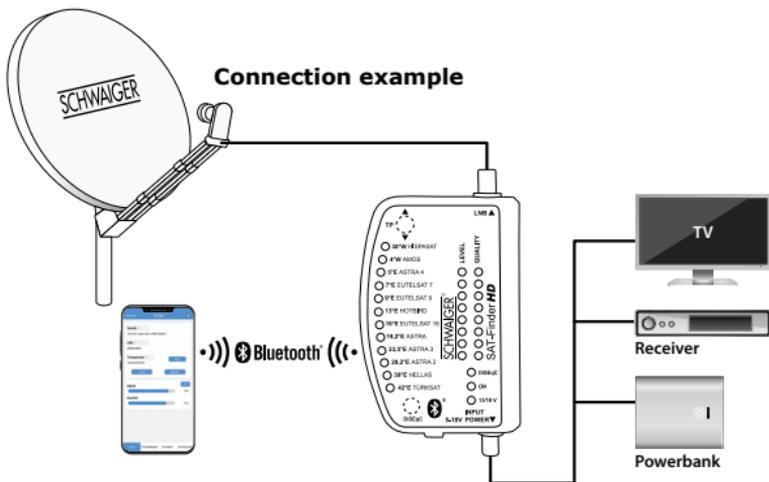
**1.3 Mounting and connecting the SF9003BT**

1. Mount your antenna on a mast or wall bracket provided for this purpose. Wall bracket.
2. Tighten the screws on the antenna only enough so that it can still be turned.
3. Connect a connection cable from the LNB connection with the BNC adapter to the LNB input of the SAT-FINDER.
4. Now connect your SAT receiver to the DC 5-18V output of the SAT-FINDER with the input. (see connection example). This output can also be connected to an 18V power supply unit (DC) or to a USB power bank using the adapter cable.
5. When all cables are properly connected, the device connected to the DC 5-18V output can be switched on.

**i IMPORTANT**

The SAT signal is **not** passed through to the receiver.

If the SAT-Finder HD is to be connected directly to a Quattro LNB, please check the current setting at [www.schwaiger.de](http://www.schwaiger.de).



**1.4 Start-up procedure**

Start the SAT-Finder HD by connecting the power supply to the input socket; the boot process of the unit will then begin (power LED "on").

The entire start-up process takes approx. 12 seconds.

## 2. SEARCHING AND FINDING

### 2.1 Automatic satellite search

When the green ON LED lights up, the SAT-Finder HD is ready for operation and you can align the satellite dish. Be careful not to tilt the satellite dish **too far** otherwise you could easily skip the satellite you are looking for.

In this, the following applies: Pre-adjusting the dish vertically beforehand will make the subsequent search much easier. Tilt the SAT dish vertically, depending on your location.

As soon as the SAT-Finder HD has detected the satellite, it is displayed with a green LED on the satellite overview and the signal quality and level are displayed.



**QR code online calculator**

**[https://satlex.de/de/azel\\_calc.html](https://satlex.de/de/azel_calc.html)**

1. Turn the antenna **slowly** in the desired direction. As soon as the antenna detects a satellite, this is indicated by the LEVEL and QUALITY LEDs.
2. If a satellite has been detected but it is not the one you are looking for, you now know which orbit position / direction the SAT dish is pointing to. This makes it possible to search relatively specifically for the desired satellite. To do this, turn the SAT dish in the corresponding direction until the SAT-Finder HD switches back to automatic search mode and thus searches again for the signal of a satellite.

Repeat this procedure until you have found the desired satellite.

3. Now turn the antenna very slowly to the right or left until as many LEDs as possible light up.
4. Then tighten the antenna evenly.
5. Next slightly loosen the screws of the elevation (tilt angle) and align the antenna again according to the LEDs.
6. Tighten all screws and check that the level and quality do not deteriorate. To prevent the antenna from twisting when tightening, we recommend tightening the screws crosswise. (alternately tighten one screw on the top left and then one screw on the bottom right).

## **2.2 Fine tuning**

Depending on the size of the dish, all LEDs at LEVEL and QUALITY may light up. Use the TP button to switch to other transponders until the LEDs no longer show a full beam. Now the fine tuning can be done, see point 3.1. and 3.2.

## **2.3 Disassembly**

To avoid a short circuit when dismantling the SF9003BT, first disconnect the connection cable from the 5/18 V output. Now you can unscrew the satellite finder and connect the antenna cable (down conductor) directly to your LNB.

## **2.4 Selecting the DiSEqC Position**

To control monobloc LNBs, the manual search has been extended by the DiSEqC switching frequencies A, B, C and D.

By pressing the "DiSEqC" key once, the DiSEqC signal for position A, B, C or D is transmitted and the satellite search begins as described under "Automatic search".

## **2.5 Restart**

The SAT finder can be restarted in operation by pressing the TP button for 5 seconds (the ON LED goes off). Then briefly press the TP button again.

## **2.6 Automatic switch-off**

The satellite finder switches off if there is no satellite signal within 7 minutes.

## **3. LED DISPLAYS**

### **3.1 LEVEL (signal strength)**

To ensure that the signal strength is determined as accurately and finely as possible, the SAT-Finder has 8 yellow LEDs. Each of these has 3 different light states (off, flashing, permanently on). This indicates to the user the signal strength at which the input signal is being received.

Practical example: The stronger the signal, the more LEDs of the SAT-Finder flash or light up permanently; the weaker the signal, the fewer LEDs light up.

### **3.2 QUALITY (signal quality)**

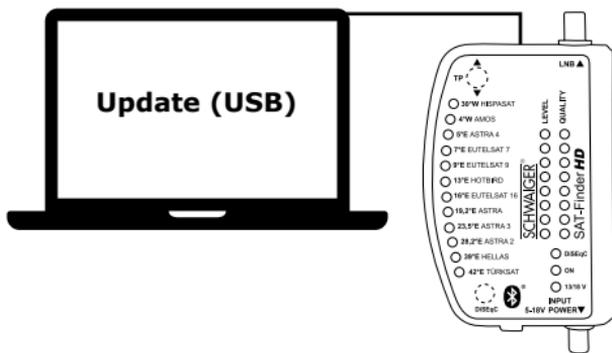
The signal quality is displayed to the user via a maximum of 8 yellow LEDs.

### **3.3 Position display of the satellite in orbit**

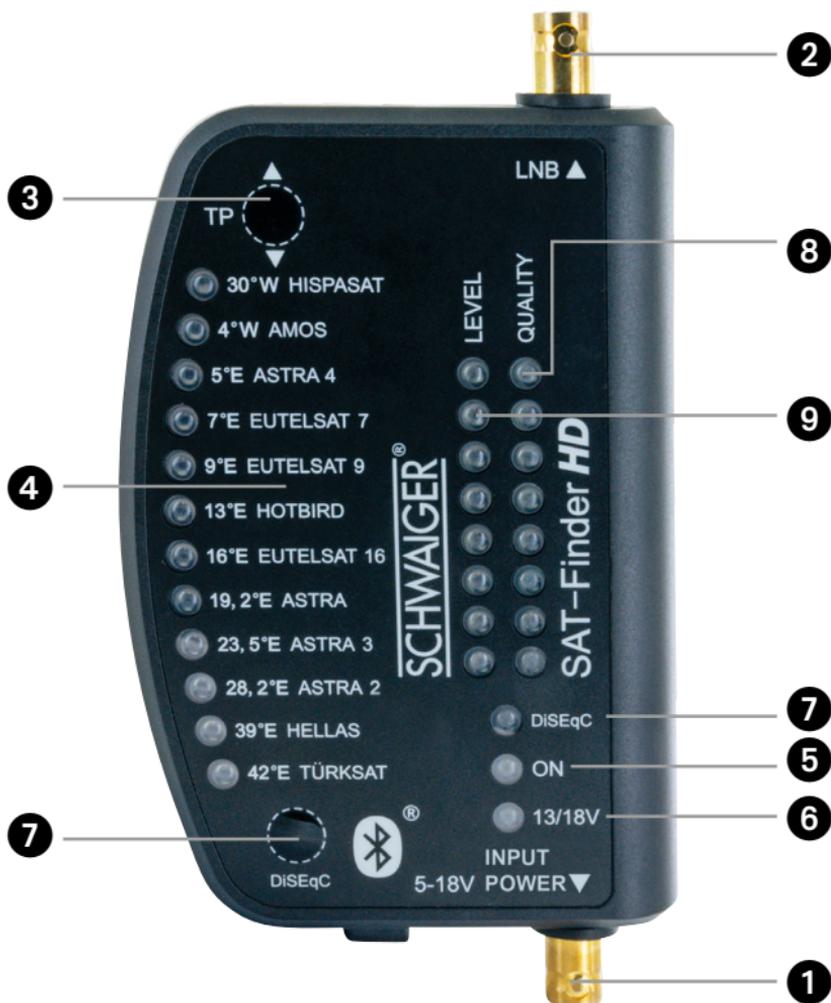
The satellite is displayed with the states "off" and "on".

## 4. UPDATING THE SAT-FINDER HD

The SAT-Finder HD recognises the satellites on the basis of various data, in some cases using satellite tables. Since satellite operators or media companies can make changes, the SAT-Finder HD can be updated. The SAT-Finder HD Updater is a software for Windows that does this. This allows both the satellite tables and the firmware to be kept up to date (update at [www.schwaiger.de](http://www.schwaiger.de)).



## 5. DESCRIPTION OF UNIT



<b>Connectors</b>	<b>1</b>	DC 5 - 18 V	Connection for power supply (power adapter, receiver, power bank ...)
	<b>2</b>	LNB:	Connection to the LNB
<b>Buttons</b>	<b>3</b>	TP	Short press switches between the transponders
	<b>4</b>	SAT	Display Position
<b>LEDs</b>	<b>5</b>	ON	Operating voltage is present, the unit is ready for operation.
	<b>6</b>	13/18 V	Yellow = Horizontal band active Red = Vertical band active
	<b>7</b>	DiSEqC	A = Yellow B = Yellow flashing C = Red D = Red flashing
	<b>8</b>	QUALITY	The more LEDs light up, the better the quality
	<b>9</b>	LEVEL	The more LEDs are lit, the better the reception

### **i** **IMPORTANT**

If **only** the LEVEL LEDs are lit, the antenna is pointing at the wrong satellite. Only when the QUALITY **and** LEVEL LEDs light up is a satellite being received.

## 5.1 Technical data

Frequency range	950 - 2150 MHz
Operating Voltage	5 - 18V DC
Demodulation	QPSK / 8PSK / 16APSK / 32APSK
Impedance	75 Ohm
Symbol rate	45 Msps (QPSK,8PSK,16APSK) 37 Msps (32APSK)
Input level range	44 - 110 dB $\mu$ V
Frequency band and max. Transmit power of Bluetooth® 4.0 interface	2402 - 2480 MHz 2.5 mW / 4 dBm
Operating temperature range	0° C ~ +60° C
Dimensions	160 x 89 x 27 mm

## 6. REQUIREMENTS

**Before operating the SAT-FINDER, please note the following points:**

- The SAT-FINDER is designed exclusively for measuring satellite TV signals.
- Minimum requirement for app support for Android and iOS devices: Android 4.4 / iOS 9.0
- You can also acquire all preset satellites without a smartphone or app ( for preset satellites, see point 6.1 ).
- Download the appropriate app to your smartphone. You will find this in the corresponding App Store under the name "Schwaiger Sat-Finder". Your smartphone must support Bluetooth® 4.0 / Bluetooth® Low Energy (BLE) support

## 6.1 Satellite positions

12 satellites are already pre-programmed by the manufacturer. You can switch between four different frequencies per satellite with the "TP" button.

Satellite	Orbit position
HISPASAT	30°W
AMOS	4°W
ASTRA 4	5°E
EUTELSAT 7	7°E
EUTELSAT 9	9°E
HOTBIRD	13°E
EUTELSAT 16	16°E
ASTRA	19.2°E
ASTRA 3	23.5°E
ASTRA 2	28.2°E
HELLAS	39°E
TURKSAT	42°E

## 7. BLUETOOTH® AND APP FUNCTION

The Satfinder SF 9003 BT has a Bluetooth® interface and can be set and used via this App.

The app adds the following functions to the Satfinder:

- Sound signal can be switched on or off
- Additional measured values such as level (in dBμV), C/N
- Preset satellites can be changed
- Selection of the individual transponders of the respective satellites
- Many other satellites are available and can be selected
- LNB oscillator frequency can be changed
- Individual transponders of the respective satellites are available
- Existing transponders can be changed
- New transponders can be added to the respective satellites
- Direct selection of the desired satellite on the smartphone

### 7.1 Download App

Open the App Store (Google Play Store or iTunes App Store) on your smartphone.



Enter "Schwaiger SAT-Finder" as the search term:



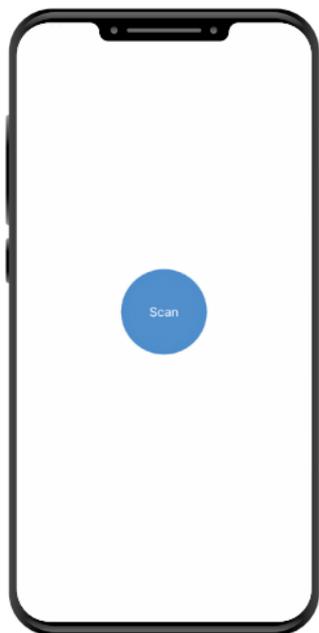
After the search, the "Schwaiger SAT-Finder" app should appear and can be installed free of charge.

## 7.2 Start app

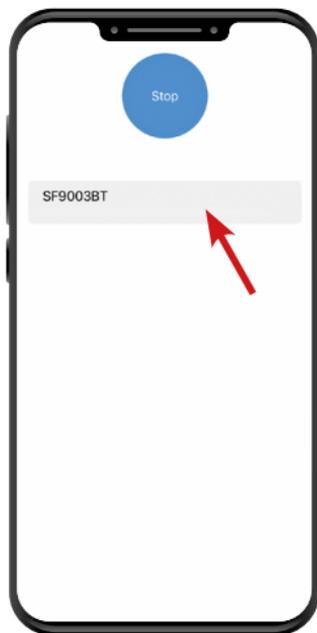
Before starting the app, you should activate "Bluetooth®" on your smartphone and put the satellite finder into operation.

**IMPORTANT:** The satellite finder must **NOT** be paired. Only open the app! Close the Bluetooth window opened on the smartphone.

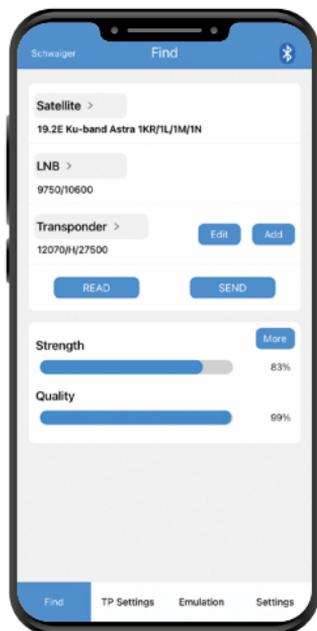
After starting the app, the following menu appears:



Click on "Scan" to search for the satellite finder.



Click on the satellite finder you have found.



## 7.3 Use app to set up the antenna.

After successful connection, the following main menu now appears:

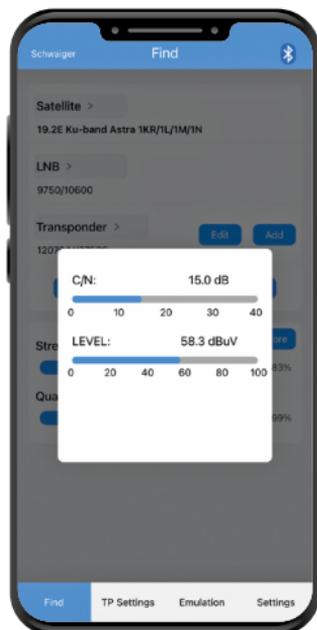
As soon as the app is connected, the set satellite and transponder data are downloaded from the satellite finder.

### To change the satellite and transponder data:

- Select the desired satellite under "Satellite".
- For LNB, the oscillator frequency can be set. For most satellites it should be "9.750/10.600" (universal).
- Under "Transponder", any frequency of the satellite set above can be selected.
- With "Edit" you can change an already stored transponder.
- "New" allows you to add a new frequency (transponder) to the satellite.
- With "Send" the parameters just set are sent to the satellite finder.
- Adjust your antenna as described in point 2.1.
- If "Strength" and "Quality" indicate reception, you can open the menu for fine tuning by pressing "More". This allows you to optimally adjust your antenna.

## 7.4 Explanation of the individual App menu items

### 7.4.1 "More"



#### **C/N:**

(level difference between the usable signal and the background noise). This value indicates how much the wanted signal is above the background noise of the LNB. The higher the C/N value, the better the signal. A good value is between 5 and 10. (10 = very good) If the value is 4 or less, reception is impaired.

#### **LEVEL:**

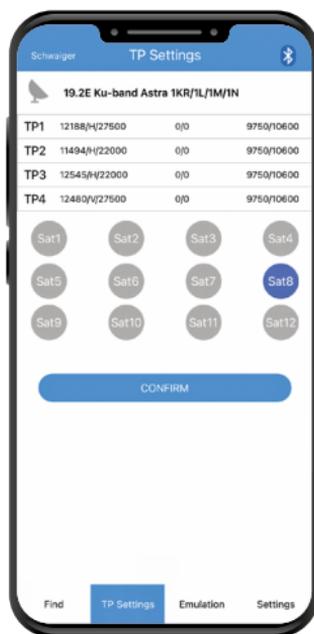
(Level) Indicates the level in the unit dBuV. The higher, the better.

### 7.4.2 "TP Settings"

The transponders stored in the Satfinder from the factory are displayed here. Here you can set freely selectable satellites. Each satellite can be assigned 4 transponders (TP1 to TP4). In addition, the oscillator frequency of the LNB can also be set. Press "Confirm" to transmit this data to the satellite finder.

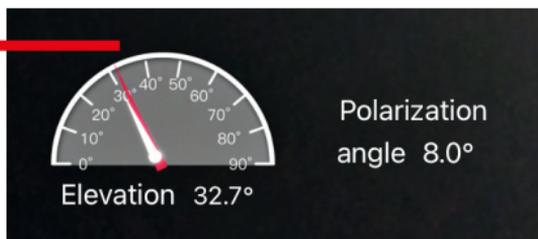
#### **CAUTION:**

If this data is changed, the factory setting will be overwritten!



### 7.4.3 Emulation

The display of the elevation angle depends on the location and the selected satellite.





### 7.4.4 "Settings"

#### **Change device**

To disconnect the satellite finder (in order to be able to connect another satellite finder).

#### **Restore**

Reset Satfinder to factory settings Attention: The data stored in the app is also reset.

#### **Sound**

Here you can switch the signal tone of the satellite finder on or off.

#### **DiSEqC**

Switching A-B-C-D

#### **Version**

Indicates which App version is used

### **Language**

The App supports several languages and is automatically set to the system language of the smartphone.

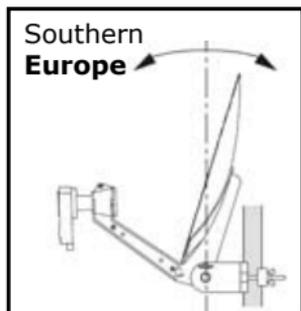
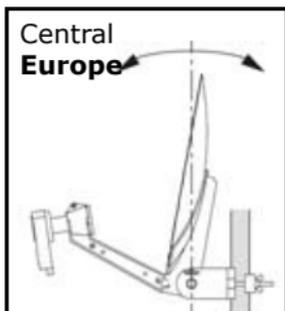
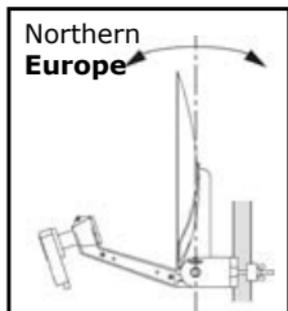
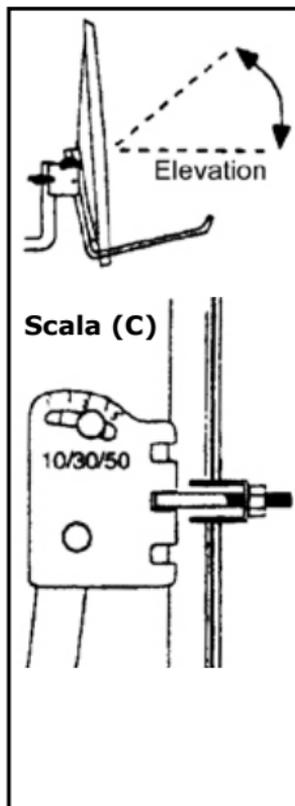
### **Updates**

As we regularly improve our products, changes may also be made to the app function. These instructions are therefore only intended to help you understand the functions.

## 8. TROUBLESHOOTING

<b>Problem</b>	<b>Possible cause</b>	<b>Possible solution</b>
Only the LEVEL LEDs are lit	You are aiming at the wrong satellite	Turn the antenna further until the QUALITY LEDs also light up.
All LEDs are off.	The satellite finder is not receiving any supply voltage.	Check whether the power supply connected to the connection "DC5 V-18V" is switched on.
Antenna rotates, but the satellite finder shows no deflection.	Antenna tilt not set correctly or direction incorrect.	Check the settings and the orientation of the antenna as described in point 2.1.
No Bluetooth® connection.	Bluetooth® is not switched on at the smartphone or the satellite finder is not ready.	Make sure that you have activated Bluetooth® on your smartphone. The satellite finder must be supplied with power (receiver/power bank), otherwise the Bluetooth® interface is not activated.
Smartphone requests Bluetooth pairing		Close the pairing prompt and execute the connection via the app. See 7.2
Device accidentally paired		Delete Bluetooth® pairing on smartphone
Switching the sound signal on/off		Switch off the sound signal in the app (point 7.4.4).
Satfinder is not recognised by the App		See item "Device accidentally paired".

## 9. ELEVATION TABLE FOR EUROPE



## **Warranty conditions**

The statutory warranty period is 2 years. During this period, all damage caused by material or manufacturing defects will be repaired free of charge. Our warranty does not cover natural wear and tear, parts subject to wear and tear or transport damage, nor does it cover damage resulting from non-compliance with the operating instructions or improper installation.

The response of protective elements that have been destroyed due to overvoltage that has occurred as well as the improper connection of unsuitable consumers are also excluded from the warranty. Compliance with the claim period must be proven by proving the date of purchase by means of the enclosed invoice, delivery note or similar documents.

## **Simplified declaration of conformity as per the RED Directive**

Schwaiger GmbH hereby declares that the described radio system product complies with Directive 2014/53/EU and other directives applicable to the product. The complete EU declaration of conformity is available online at: <http://konform.schwaiger.de>

## Disposal



Never disassemble an SF9003BT. Packaging and packaging aids are recyclable and should always be recycled. Packaging materials such as plastic bags should not be left in the hands of children. User information on the disposal of electrical and electronic equipment in private households. This symbol on products and/or accompanying documents means that electrical and electronic products must be disposed of separately from household waste at the end of their working life. Please take these products for treatment, raw material recovery and recycling to the established municipal collection points or recycling centres. These collection points accept appliances free of charge. Proper disposal of this product will help protect the environment and prevent any potential negative effects on people and the environment that could result from improper handling of the equipment at the end of its life. For more detailed information, please contact your nearest collection point or recycling centre.

At SCHWAIGER, customer satisfaction is our top priority. If you have any questions, suggestions or problems in connection with your SCHWAIGER product, please contact us at the address below.

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Scan this QR code and you will be taken directly to the product. Further information on the product and the current operating instructions can be found on the Internet at **www.schwaiger.de**.