



Ultrasonic Transmitter
SONAPHONE T Version 2.0
Operating Manual

Manufacturer: SONOTEC Ultraschallsensorik Halle GmbH
Model: Ultrasonic transmitter
Type: SONAPHONE T
Version 2.0

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1 Notes on the operating manual




1.1 General

Thank you for choosing the SONAPHONE T.

This manual forms part of the SONAPHONE T and should therefore be stored in its immediate vicinity where it can be accessed by all operators at any time. It contains all the information needed to ensure proper and efficient use, along with all the instructions to ensure safe operation of the SONAPHONE T.

1.2 Symbols used


Hazards or special information can be indicated in the following ways:

	Warning! This information warns of possible personal injury and damage to property.
	Caution! This information warns of possible damage to property.
	Note This symbol provides information or draws attention to special features.


2 Safety

2.1 Safety information

The SONAPHONE T is a state of the art product that complies with all applicable safety regulations. The manufacturer has taken every possible action to guarantee safe operation. The user must ensure that safe use is not impaired. The device is factory tested and was delivered in a safe operating condition.

	<p>Warning!</p> <p>Incorrect operation and use of the SONAPHONE T ultrasonic transmitter and its accessories can present a hazard for the user.</p> <ul style="list-style-type: none">• The SONAPHONE T may only be operated with power sources in the operating voltage range specified in the technical data.• Operation and storage of the SONAPHONE T outside the temperature ranges specified in the technical data is not permitted.• The SONAPHONE T may not be immersed.• The SONAPHONE T may only be exposed to a minimal risk of mechanical hazard. If there is visible damage, the SONAPHONE T must be taken out of operation immediately.• It is not permitted to open the SONAPHONE T or accessories or to undertake repair work on them without authorisation. This may only be carried out by the manufacturer.
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2.2 User qualifications

	<p>Warning!</p> <p>The SONAPHONE T ultrasonic transmitter may only be installed and operated by users who have read and understood the entire operating manual.</p>
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3 Device description

3.1 Designated use

The SONAPHONE T is a special ultrasonic transmitter and serves as an auxiliary device for ultrasonic detectors in the SONAPHONE series for leak testing. The device provides detection of seal failures in windows, doors, cabins, climatic cabinets, vehicles or containers, which have sealing surfaces or rubber profile seals.

3.2 Measuring method and functioning

The SONAPHONE T transmits high-frequency signals in the ultrasonic range. If you place the ultrasonic transmitter for leak detection in a closed system, the ultrasonic signals escape via leaks in the system and can be identified there using an ultrasonic detector in the SONAPHONE series. Modulation of the signal is used in cases where it is expected that background noise will interfere with the sounds being analysed. The sound intensity can be set individually, so that both small and large leaks can be located.

3.3 Device construction

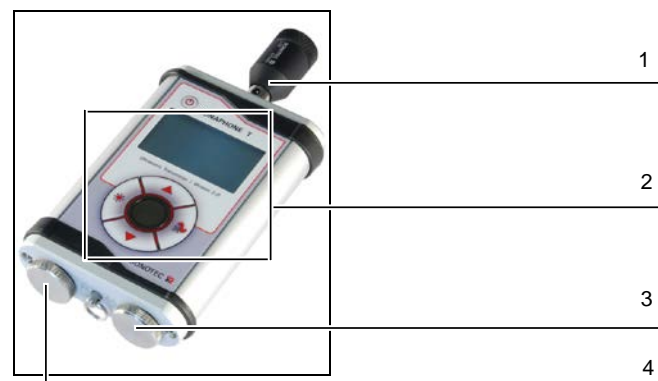


Figure 1: SONAPHONE T ultrasonic transmitter

Item number	Function
1	Slot for ultrasonic probes
2	Display and operating buttons
3	Connection for power supply unit
4	Battery compartment

Table 1: SONAPHONE T device elements

3.4 Display and operating buttons

Description of the display elements:

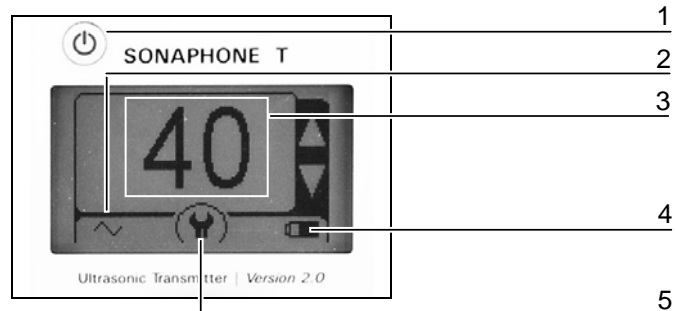


Figure 2: Display




Function/view on the display	
1	Device: On/Off button 
2	Signal type view: Modulation On  or Off 
3	View of the current sound intensity
4	Battery status view
5	Function of the enter key in the menu

Table 2: Description of the display elements

Description of the operating buttons:

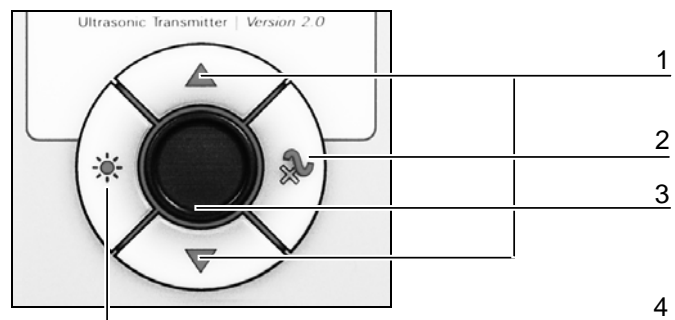


Figure 3: Operating buttons






Function	
1	Settings in the menu: Increase  or decrease  value
2	Modulation: On/Off 
3	Enter key:  Switch to menu or confirm value
4	Light: On/Off 

Table 3: Description of the operating buttons

3.5 L50 ultrasonic air transducer

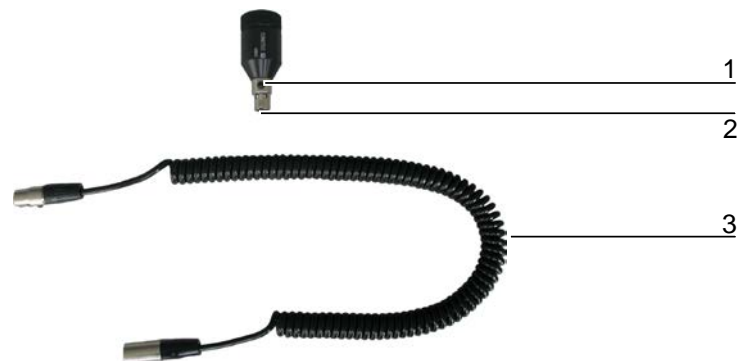


Figure 4: L50 airborne sound probe and extension

	Function
1	Button for unlocking
2	Connector
3	Extension (optional)

Table 4: Elements of the airborne sound probe

3.6 SONOSPHERE spherical transmitter (optional)

The SONOSPHERE spherical transmitter is used to test large and contorted areas. Depending on requirements, it can be used as a semi-sphere with 7 transmitters or as a full sphere with 14 transmitters.




Figure 5: SONOSPHERE spherical transmitter

	Function
1	Connecting cable
2	Plug-in connector for the sphere halves
3, 4	Fixing: with suction cup, magnet or stand (without fig.)

Table 5: Elements of the spherical transmitter

4 Commissioning and installing

4.1 Inserting the batteries

	<p>Caution!</p> <p>Make sure you install the batteries in the correct position. The device may be damaged if they are not properly fitted.</p>
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The correct position for installing the batteries is shown on the device.

⇒ Unscrew the battery compartment cover.

⇒ Insert the batteries into the battery compartment according to the illustration on the bottom of the device.

↳ When the device is operational, the battery (1.5 V) status is shown on the display.

Appropriate accumulators can also be used to operate the device. The charge status for the accumulators (1.2 V) is then shown approximately.

4.2 Connecting the power supply unit


The power supply unit has no charging function.

⇒ Unscrew the protective cover for the power supply connection.

⇒ Connect the power supply unit.

↳ The device recognises the connection of the power supply unit – even when it is operating – and automatically switches over to mains power operation.

4.3 Installing probes

	<p>Caution!</p> <p>Make sure the probe connector is in the correct position. The device and the probe may be damaged during installation.</p>
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The slot for probes is provided with a notch which indicates the correct position for insertion.

⇒ Install the required probe in the specified position. You must feel the connector click into place.


↳ The probe is installed and ready to use.

4.4 Uninstalling probes

- ⇒ Press the button to unlock the connector.
- ⇒ Pull the probe carefully and straight to remove it from the slot.

5 Operating the SONAPHONE T



5.1 Switching the SONAPHONE T on and off

⇒ Switch the device on or off by pressing the On/Off  button.

↳ The screen shows the device name and version number for a short time. The device is ready to use and during operation displays the current sound intensity.

5.2 Setting the sound intensity


The sound intensity can be varied between 0 and 120 in regular steps of 5. 40 is the standard setting.

⇒ Press the arrow buttons to increase the sound intensity  or to decrease it .


↳ The current sound intensity is shown on the display.

5.3 Switching on modulation

To dissociate the transmission signal from potential background noise, the signal type can be changed.

⇒ Press the modulation button  to switch the modulation of the signal on and off.

↳ The current setting is always shown on the display.

 Modulation On

 Modulation Off

5.4 Switching on the light

⇒ Press the light button  to switch the light on and off.

The light automatically switches off after approx. 20 seconds.

5.5 Setting the display contrast and time






Note

Contrast and time can be selected individually. The points are dealt with one after the other via the menu navigation.

To adapt the view to individual ambient conditions, the display contrast can be altered.



The preset value is 50 %.

⇒ Press the enter key  once to go to the "contrast" menu option.

⇒ Press the arrow buttons   to set the display contrast value between 0 and 100 %.

⇒ Confirm the value with the enter key  to go to the "time" menu option.


To save energy, you can define the time period after which the device will switch itself off via the settings.

Via the arrow keys   the following times can now be set:


Minimum running time = 1 minute to

Maximum running time = 10 minutes


∞ = Continuous running

Confirm the setting with the enter key  to quit the menu.

6 Cleaning and care

	<p>Caution!</p> <p>Incorrect cleaning of the SONAPHONE T and its parts may damage the device.</p> <p>Cleaning is prohibited</p> <ul style="list-style-type: none">• with abrasive and aggressive cleaning agents• by immersion in liquids.
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7 Maintenance and troubleshooting

	<p>Caution!</p> <p>When there are errors or problems, it is not permitted to open the SONAPHONE T or accessories or to undertake repair work on them without authorisation. This may only be carried out by the manufacturer.</p>
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The SONAPHONE T is practically maintenance free.

If errors or problems do occur, please contact the manufacturer.

8 Technical data

SONAPHONE T, Version 2.0	
Ultrasonic transmitter	
Transmission frequency	Approx. 40 kHz
Functionality	Adjustable transmission power Switchable frequency modulation Auto power-off function
Display	Illuminated LC display
Connections	For various transmitters
Power supply	2 AA batteries or accumulators (optionally via power supply unit)
Running time	Approx. 100 hours with battery operation
Operating temperature	-10 °C ... +60 °C
Storage temperature	-20 °C ... +60 °C
Protection type	Device: IP54
	Probe: IP20
Dimensions	Without probe: LWH 130 x 85 x 30 mm With L50 probe: Length ~170 mm Probe: Length ~ 52 mm, Ø ~ 22 mm
Items supplied	Ultrasonic transmitter, L50 transmitter
Optional accessories	Laptop carrying bag with foam plastic Extension for the probes Power supply unit SONOSPHERE spherical transmitter

Table 6: Technical data for SONAPHONE T

SONOSPHERE	
Half or full spherical transmitter	
Dimension	Ø 100 mm
Weight	620 g without accessories
Operating temperature	-10 °C ... +60 °C
Storage temperature	-20 °C ... +60 °C
Items supplied	Separable spherical transmitter with integrated connection cable, case, stand, suction cup, magnet

Table 7: Technical data for SONOSPHERE transmitter