PREMIUM
ALPINE
PERFORMANCE

Firmware v1.0

PIEPS PRO IPS

M20252_a_11/23

ENGLISH

www.pieps.com

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1. FOREWORD

We are pleased that you have decided to purchase a PIEPS PRO IPS!

Register your **PIEPS PRO IPS** in the PIEPS app (iOS, Android) and get:

- a free warranty extension to 5 years
- important information about future firmware and software updates

GOOD TO KNOW

PIEPS app

With the purchase of your PRO IPS, you not only own the most powerful avalanche beacon, but also have access to our extensive training program with the PIEPS app. Owning this high-performance avalanche beacon is half the battle. To be optimally prepared for an emergency, you must complete the package as follows: Having a sound knowledge of handling the PRO IPS, as well as knowing

- the correct behavior after an avalanche accident
- the strategy for a successful rescue of those buried,
- how to efficiently and rapidly probe and excavate a buried person.

Your PIEPS PRO IPS has all the proven PIEPS functions:

- 3-antenna technology
- Mark function
- Extensive self-check
- Extensive group-check
- Auto Search-to-Send
- SCAN function
- Analog mode
- Burial selection
- Deep burial detection
- Device management with the PIEPS app

In addition, your PIEPS PRO IPS is based on the best possible electronic hardware platform for an avalanche beacon (avalanche transceiver). The result is:

- Maximum circular reception range for fast and stable first reception due to **D**ual **A**ntenna **S**ignal **P**rocessing(DASP).
- Perfect signal processing (DASP), even in difficult situations such as multiple burials.
- PIEPS **I**nterference **P**rotection **S**ystem (IPS) as the best possible protection against interference.

WARNING

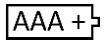
An avalanche beacon does not protect you from avalanches! Intensive study of the subject of avalanche prevention is just as essential as regular practice in the event of an avalanche. The procedures and instructions described below relate only to the specific application in conjunction with your PIEPS PRO IPS. Basic rules of conduct in an emergency – in accordance with relevant professional publications and the contents of avalanche courses – must be observed at all times.

With the PIEPS PRO IPS you have a product that is state-of-the-art in terms of safety and user-friendliness. Nevertheless, improper handling and improper use of the PIEPS PRO IPS may result in hazards. We point out possible dangers in the 2 "Safety" chapter and through safety instructions throughout the operating instructions. These operating instructions are intended to ensure the safe use of the PIEPS PRO IPS. Please observe the safety instructions in this document and make sure you have read and understood these operating instructions.

Pieps GmbH shall not be liable for any technical or typographical defects in these operating instructions, nor shall any liability be assumed for damages that are directly or indirectly attributable to the delivery, performance or use of these operating instructions.

1.1 MARKING

The PIEPS PRO IPS is marked on the device and on the packaging according to the applicable guidelines.

CE	CE marking of conformity according to the following standards: EMC 2014/30/EU, RED 2014/53/EU, RoHS 2011/65/EU.
UK CA	The UKCA conformity mark indicates that the relevant UK guidelines have been met.
R-NZ E6561	The R-NZ is an exclusively New Zealand label for radio products that are not harmonized with Australia. "E6561" is a unique identifier of suppliers and stored in the National Registration Database (NRD).
	Crossed out garbage can: The product must not be disposed of with household waste. Disposal via public waste management authorities is not possible.
FCC ID	FCC ID: Reference to compliance with part 15 of the FCC Rules.
IC ID	IC ID: Reference to compliance with Industry Canada's license-exempt RSS standard(s).
	Bluetooth® logo: The Bluetooth® word mark and logos are registered trademarks owned by Bluetooth SIG, Inc., and any use of such marks by Pieps GmbH is under license. Other trademarks and band names are the property of their respective owners.
SN	12-digit serial number: identifies the avalanche beacon and is used for device registration.
	Recycling symbol.
	Battery symbol: indicates the battery type and correct position.
	Instruction manual symbol: Note to users to read the operating instructions and warnings.
PIEPS	PIEPS brand name.
	PIEPS logo.
PRO IPS	Example of model name.

1.2 LIABILITY

The information in these operating instructions describes the properties of the product without guaranteeing them.

No liability is accepted for damage caused by:

- Improper use
- Disregarding the operating instructions

- Unauthorized modifications of the PIEPS PRO IPS
- Improper work on and with the PIEPS PRO IPS
- Continued use of the PIEPS PRO IPS despite signs of wear and tear
- Unauthorized, improperly performed repairs
- Catastrophic events, foreign bodies and force majeure

GOOD TO KNOW

Changes or modifications

Changes or modifications not expressly approved by the manufacturer could void your authority to operate the equipment!

1.3 WARRANTY CONDITIONS

The manufacturer guarantees the PIEPS PRO IPS against defects in workmanship and material for a period of two years from the date of purchase. Battery, carrying system, hand strap and bag as well as damage caused by incorrect use (e.g. leaking battery) or disassembly of the device by unauthorized persons are excluded. Any further warranty and any liability for consequential damages are expressly excluded. For warranty claims, please contact the respective point of sale, enclosing the purchase receipt and a description of the fault.

1.4 MANUFACTURER ADDRESS & SUPPORT

Pieps GmbH, Parkring 4, 8403 Lebring, Austria

In case of technical problems, please contact our customer support: support@pieps.com

1.5 INTENDED USE

The PIEPS PRO IPS serves as an avalanche beacon to locate people buried in avalanches and must not be used for any other purpose than that for which it is intended. Any other use requires the written consent of Pieps GmbH. Improper use may endanger people and damage the device. The PIEPS PRO IPS is not an independently functioning device with partially automated functionalities - for this reason, the PIEPS PRO IPS may only be put into operation after the documentation has been read and understood. In addition, liability and warranty claims are excluded in the event of non-compliance with the intended use. The PIEPS PRO IPS may only be operated under the operating conditions specified in the documentation.

1.6 TARGET GROUP AND PREVIOUS KNOWLEDGE

An avalanche beacon serves as part of the avalanche emergency equipment of all persons who venture into open, unsecured terrain away from secured slopes (e.g. winter mountaineering, ski tourers, freeriders, mountain rescuers, snowshoe hikers, etc.).

Users of the PIEPS PRO IPS must fulfill the following requirements:

- Read and understand this manual.
- Users with visual impairments must ensure that they can easily read the labels and display indications on the device as well as the instructions in the documentation.
- If users with hearing impairments cannot hear the audible signal, they must ensure that they can correctly interpret the display indications according to the information in the operating instructions.
- Regular training ensures the safe and efficient use of the PIEPS PRO IPS.

GOOD TO KNOW

PIEPS app

With your PIEPS PRO IPS you also have access to the PIEPS app and thus to our extensive training program. By having the best PIEPS PRO IPS, paired with a sound knowledge of its handling, as well as

- the correct behavior after an avalanche accident,
- the strategy for a successful rescue of those buried,
- the efficient probing and rapid excavation of a buried person,

you are optimally prepared in case of emergency.

1.7 PRINCIPLE

The PIEPS PRO IPS complies with the latest technology and applicable health and safety regulations. Nevertheless, in the event of incorrect operation or misuse, hazards may occur for:

- Life and limb of users or third parties,
- the PIEPS PRO IPS and material assets of the user,
- the efficient use of the PIEPS PRO IPS.

1.8 TECHNICAL DATA

Designation	PIEPS PRO IPS
Transmission frequency	457 kHz
Transmission field strength	max. 7 dBµA/m (2.23 µA/m) at a distance of 10 m
Bluetooth transmission frequency	2.402 - 2.480 GHz
Bluetooth transmitting power	2.5 dBm
Power supply	3x Alkaline (AAA) LR03 1.5 V or 3x Lithium (AAA) FR03 1.5V
Battery life	400/200 h (alkaline) 600/300 h (lithium)
Search strip width	80 m
Dimensions (LxWxH)	120 x 75 x 24 mm
Weight	212 g (incl. batteries)
Operating temperature range	-20°C to +45°C (-4°F to +113°F)
Storage temperature range	-25° C to +70° C (-13° F to +158° F)

2. SAFETY

These operating instructions are structured in accordance with the applicable EU regulations and contain safety instructions. Individuals are responsible for adhering to the safety instructions. This chapter contains all safety-relevant information. If you have any questions or problems with understanding, please contact our customer support.

2.1 SIGNAL WORDS USED IN SAFETY INSTRUCTIONS

⚠ DANGER **Imminent danger to the life of persons**

A safety instruction with the signal word DANGER indicates an imminent danger to the life and health of persons!

⚠ **WARNING**	**Risk of personal injury (severe injuries) and possibly additional property damage** A safety instruction with the signal word WARNING indicates a hazardous situation which may affect people's health!
⚠ **CAUTION**	**Risk of property damage and, if necessary, additional slight risk of injury** A safety instruction with the signal word CAUTION indicates a possibly dangerous situation, which can result above all in material damage!
GOOD TO KNOW	This symbol with the remark GOOD TO KNOW indicates supporting information for installation, operation or maintenance and repair.

2.2 GENERAL SAFETY PROVISIONS AND OBLIGATIONS

In general, the following safety regulations and obligations apply when handling the PIEPS PRO IPS:

- The PIEPS PRO IPS may only be used if it is in perfect condition.
- It is not permitted to modify or change the PIEPS PRO IPS without the written approval of Pieps GmbH.
- Malfunctions or damage must not be repaired without authorization. In this case, please contact our customer service for further information on how to proceed. The PIEPS PRO IPS must not be used until the damage has been repaired.
- The safety and operating instructions in the operating instructions must always be observed.

2.3 RESIDUAL DANGERS | WARNINGS

Even with maximum care in the construction of the PIEPS PRO IPS and taking into account all safety-relevant facts, residual dangers may exist, which have been evaluated by means of a risk assessment. This chapter lists all residual risks and warnings from the risk assessment.

⚠ **DANGER**	**Risk of device loss if worn incorrectly.** Store the device in the carrying system provided for this purpose! Fasten the device by means of the fastening loop!
⚠ **DANGER**	**Danger due to non-transmission of the device when Bluetooth is activated.** Use Bluetooth mode only for device management and training mode. Never use the Bluetooth mode in avalanche-prone terrain!
⚠ **DANGER**	**Risk of device loss when measuring the angle of inclination.** Although the PIEPS PRO IPS transmits while the inclinometer is active, we recommend using the inclinometer for training purposes only. For a fast and safe determination of the inclination in open terrain we recommend using the PIEPS 30°+ XT II inclinometer.
⚠ **DANGER**	**Risk of explosion due to incorrectly used or damaged batteries.** **Danger of incorrect capacity display due to incorrectly used batteries.** Only use batteries of the type "Alkaline (AAA) LR03 1.5 V" or "Lithium (AAA) FR03 1.5V"! Do not use damaged batteries! The use of lithium batteries must be confirmed in the PIEPS app! If the battery type is set incorrectly, the battery status will be displayed incorrectly. Do not use rechargeable batteries!
⚠ **WARNING**	**Risk of hearing damage due to high noise level.** Never hold the device directly next to your ear. A minimum distance of 50 cm is recommended.

⚠ **CAUTION** **Risk of crushing.**
Note the possible risk of crushing when folding the X antenna shut.

⚠ **CAUTION** **Risk of breakage.**
Note the possible risk of breaking the X antenna. If the X antenna breaks, the device continues to transmit on the Y antenna. If the X antenna breaks during the search but the cable connection to the X antenna is still intact, a search with the X antenna is still possible. If the cable to the X antenna is broken, warning 4 is displayed for 1 minute. A SEARCH operation is no longer possible.

⚠ **CAUTION** **Risk of malfunction or damage due to extreme temperatures.**
Do not expose the device to extreme temperatures. Store the device so that it is protected from direct sunlight. Extreme temperatures can impair functionality or damage the battery.

⚠ **CAUTION** **Damage due to inefficient packaging when shipping equipment.**
Ensure that the packaging is safe for transportation when shipping the device.

GOOD TO KNOW **Reuse of packaging**
For environmental reasons, we recommend keeping the packaging after unpacking and using the original packaging if you wish to send your PIEPS PRO IPS.

3. SCOPE OF DELIVERY

1x PIEPS PRO IPS
3x alkaline batteries (in battery compartment)
1x PIEPS PRO IPS carrying system
1x PIEPS hand strap
1x short description (Quick Start Guide)
1x legal notice
1x PIEPS sticker

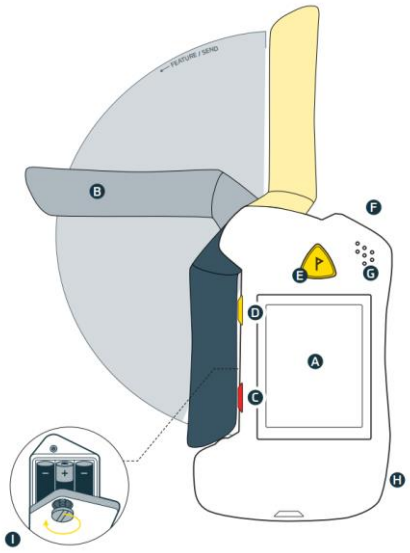
After unpacking, check the scope of delivery for completeness and damage. If necessary, contact the respective point of sale or our customer support. If you wish to dispose of the packaging and transportation locks, please ensure that the materials are separated in an environmentally friendly manner (paper to paper, plastic to plastic, etc.).

⚠ **CAUTION** **Damage due to inefficient packaging when shipping equipment.**
It is recommended to keep the packaging after unpacking and return the device in its original packaging in the event of a warranty claim.

4. GENERAL DESCRIPTION

4.1 LAYOUT

PIEPS PRO IPS



(A) LCD display
(B) Antenna modes SEND/SEARCH
(C) Protected ON/OFF button
(D) FUNCTION button
(E) MARK button
(F) SCAN button
(G) Loudspeaker
(H) Transmission control LED
(I) Battery compartment

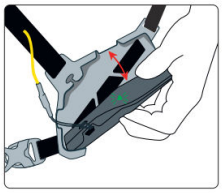
Antenna positions

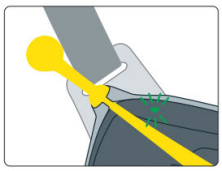
SEND
The antenna is completely folded in.
Your PIEPS PRO IPS is in SEND mode.

INTERMEDIATE
The antenna assumes an angled position.
Your PIEPS PRO IPS is in FEATURE mode and transmitting.

SEARCH
The antenna is completely folded out.
Your PIEPS PRO IPS is in SEARCH mode

4.2 CARRYING SYSTEM





We recommend using the carrying system supplied or an approved clothing pocket. To protect the display, wear the avalanche beacon with the display facing inward. The transmission control LED remains visible even when the avalanche beacon is stowed in the carrying system.

The design ensures that the avalanche beacon is secured after insertion in the carrying system and is also held in place by the yellow strap. The carrying system must always be worn under at least one layer of clothing. This prevents loss or damage in the event of a fall or avalanche.

If you carry the avalanche beacon in an approved clothing pocket, make sure that there are no other sharp, metallic or electronic objects (e.g. keys, coins, cell phone) in the pocket that could damage or interfere with the avalanche beacon.
Place the avalanche beacon in the carrying system with the display facing inward and gently press down until it "clicks" into place. Secure it with the yellow tab.

To remove the device, open the yellow tab. Take the avalanche beacon in your hand and place your thumb in the center of the top of the device. Turn the top of the beacon outward, away from the carrying system.

⚠ CAUTION

Risk of device loss if worn incorrectly.
Store your PIEPS PRO IPS in the carrying system provided!
Fasten the device by means of the fastening loop!

GOOD TO KNOW

Wearing a pacemaker
For Medtronic and Boston Scientific pacemakers, we recommend a distance of at least 20 cm. For other manufacturers, we recommend an increased distance of 50 cm (secured in a pants pocket) due to a lack of data.

When things have to go fast
The PIEPS PRO IPS can also be inserted into the carrying system with the antenna folded out, i.e. in search mode. This can be helpful in multiple burial scenarios when the first buried person has been successfully located and others are searching for additional buried victims. In case of secondary avalanche, the PRO IPS has the auto-revert function, see chapter 4.6.2.

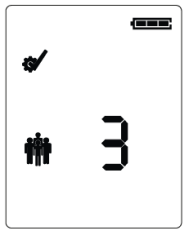
4.3 SWITCH ON | SELF-CHECK

Unfold the antenna to the middle position, press the ON/OFF button and fold the antenna again until it touches the housing. After switching on, the following information is displayed: Firmware version (e.g. 1.0)**(A)**, progress of the self-check (arrows from left to right), result of the self-check: OK**(B)**, W for warning, ER for error**(E)**, battery capacity and battery type: AL for alkaline, Li for lithium. At this point the countdown of the group test (**C**) is running. After this countdown, your PIEPS PRO IPS switches to SEND mode (**D**): the transmission control LED starts to flash green and the device vibrates three times in succession.

C D

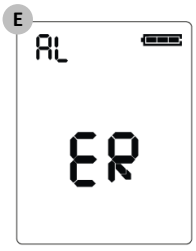
Firmware version
Battery capacity/type
(AL=alkaline, LI=lithium)

Self-check OK



Group-check countdown

Display SEND mode



self-check error

GOOD TO KNOW

Self-check

During the self-check, a minimum distance of 5 m from other devices and all electronic, magnetic and metallic sources of interference should be maintained.

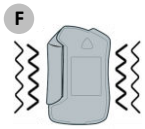
Switch off

To switch off your PIEPS PRO IPS, press and hold the ON/OFF button for 3 seconds until a countdown appears on the display and completes.

Send vibration

In addition, your PIEPS PRO IPS provides a haptic confirmation of the SEND mode (3x vibration) (**F**).

By default, the send vibration is enabled. The feature can be deactivated in the PIEPS app.



SWITCH BETWEEN SEND AND SEARCH

Send to Search

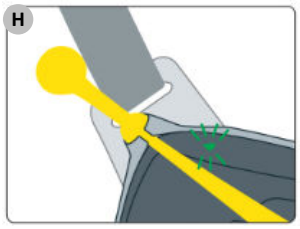
Unfold the antenna until it points straight up.

Search to Send

Fold in the antenna until it touches the housing.

SEND mode

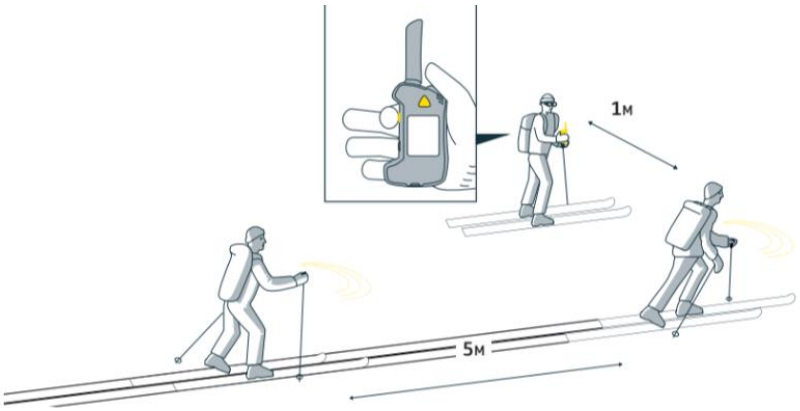
While moving in avalanche-prone terrain, your PIEPS PRO IPS must be in SEND mode (**G**) and the transmission control LED must be flashing green (**H**).



INTERFERENCES

All avalanche beacons are very sensitive to electronic, magnetic and metallic sources of interference. Therefore, all manufacturers recommend keeping a minimum distance from devices such as cell phones, smartwatches, radios, keys, heated clothing, electronic airbags, magnetic fasteners, etc. Although your PIEPS PRO IPS is equipped with advanced protection technologies, we recommend the following minimum distances to possible sources of interference: Minimum distance in SEND mode: 20 cm; minimum distance in SEARCH mode: 50 cm

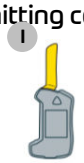
4.4 GROUP-CHECK



Despite the extensive self-check, PIEPS recommends carrying out an avalanche beacon check before every tour as a standard measure! The PIEPS PRO IPS offers a group-check function with two modes. These are useful features with larger groups. In both regular and Group-check PRO mode, the reception range is limited to 1 m.
The "Simple Group-check" is sufficient for checking modern, digital 3-antenna devices.
The "Extended Group-check" is recommended for checking old devices (analog 1-antenna devices).

Group-check REGULAR MODE

In regular group-check mode, you can test whether the avalanche beacons in your group are transmitting correctly.
To enter the regular group-check mode, fold the antenna into the SEARCH position (**I**) and press the ON/OFF button. After the self-check, press the FUNCTION button while the countdown for the group-check is active (**K**).



During group-check, the distance between the individual members of the group must be at least 5 m. The group-check mode is active for 60 seconds and ends automatically after the countdown has been completed. To remain in group-check mode, press the FUNCTION button during the countdown. You can exit this mode at any time by pressing the FUNCTION b or folding in the antenna again.

NO SIGNAL
No signal detected within a range of 1 m.

OK
Result of the group-check is OK - avalanche beacon transmits correctly, distance to transmitter is displayed.

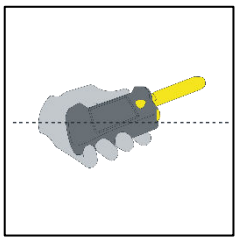
ERROR
Attention - the tested avalanche beacon does not transmit correctly.

TOO MANY BEACONS IN THE VICINITY
During the test of the avalanche beacon, the individual group members should maintain a distance of 5 m.

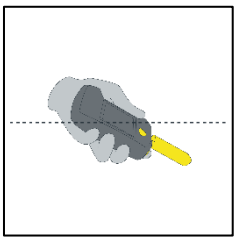
Group-check Pro mode

Your PIEPS PRO IPS also has a Pro mode that allows you to easily switch between receiving and transmitting even during the group-check.

- Tilt the PIEPS PRO IPS downwards to transmit in group-check mode.
- Tilt the PIEPS PRO IPS upwards to receive in group-check mode.



Pro mode SEARCH



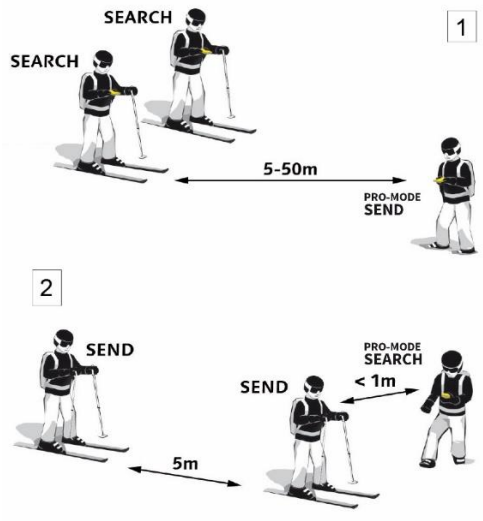
Pro mode SEND

By default, Pro mode is disabled. The feature can be activated in the PIEPS app.

The comprehensive "big" avalanche beacon check with activated Pro mode

(1) Reception check
Group Leader => Pro mode SEND: Device is transmitting?
All others => SEARCH mode: Devices are receiving?

(2) Transmission control
Group leader => Pro mode SEARCH: Device is receiving?
All others => SEND mode: Devices are transmitting?



GOOD TO KNOW

Reception check
The reception check can be combined with a range test if a long distance (50 m) is selected.

4.5 SEARCH MODE | SEARCH STRATEGY

4.5.1 Avalanche emergency

A buried person has the best chance of a rapid rescue if as many group members as possible have not been buried and if they are able to rescue their companions efficiently as a team! If the worst comes to the worst, the most important thing is: KEEP CALM, OBSERVE, ALERT, ACT IN A COORDINATED MANNER!

(1) Keep calm & get an overview

- Are there any other dangers?
- Number of people buried?
- Define primary search area!

(2) Make a short emergency call

- max. 2 min
- EU 112, AT 140, CH 1414, IT 118, FR 15

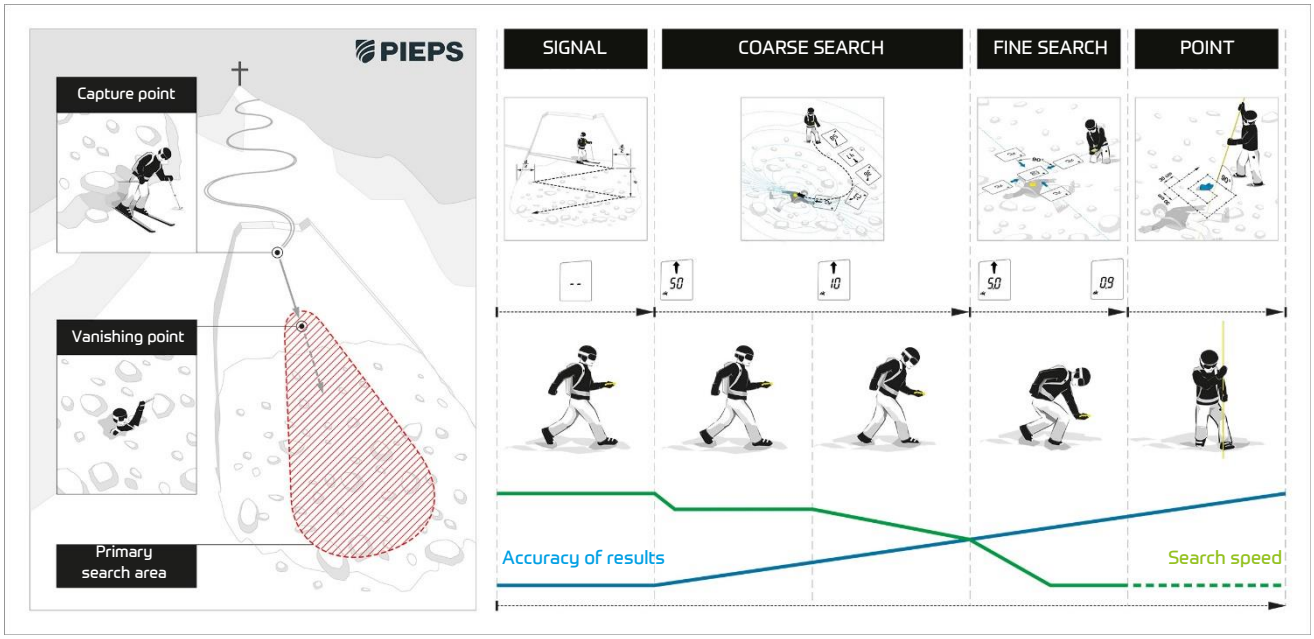
(3) Search for buried persons

- Signal search (eye + ear, avalanche beacon)
- Coarse search (from first reception)
- Fine search (from 5 m on the surface)
- Point search (systematic probing)

(4) Systematic shoveling out

(5) First aid

(6) Transport



4.5.2 Signal search

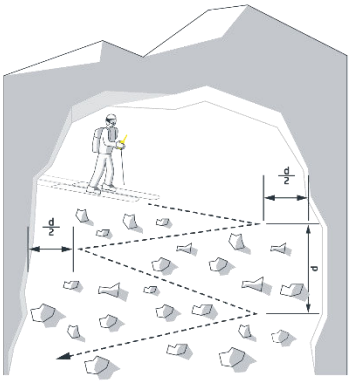
Start searching (signal search) in the primary search area. With its optimized technical platform for avalanche beacons, your PIEPS PRO IPS has the ideal reception range and thus enables correct direction and distance indication from the first reception - a special mode of operation such as turning/pivoting is not necessary. All beacons in SEND mode that are within the maximum reception range are received simultaneously.

Walk swiftly along the defined search area in the specified search strip width. The recommended search strip width for your PIEPS PRO IPS is 80 m. The display shows this search strip width and a "no reception" symbol until a signal is received (**A**).

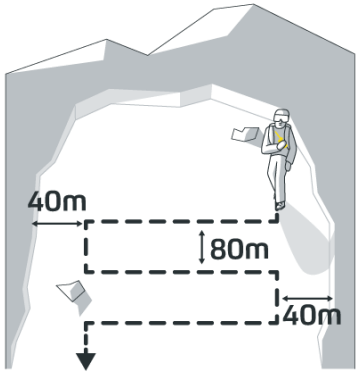
no reception

GOOD TO KNOW **Search strip width**

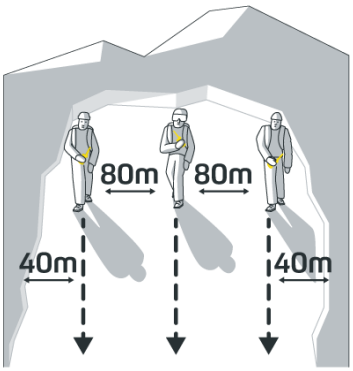
The search strip width of your PIEPS PRO IPS is 80 m, as indicated on the upper left corner on the display. In case of interfering signals, the PRO IPS shows a reduced search strip width: 60 m, 40 m or 20 m.



A rescuer on skis
during signal search
d = search strip width



A rescuer on foot
during signal search



Multiple rescuers
during signal search

⚠ CAUTION **Behavior during signal search**

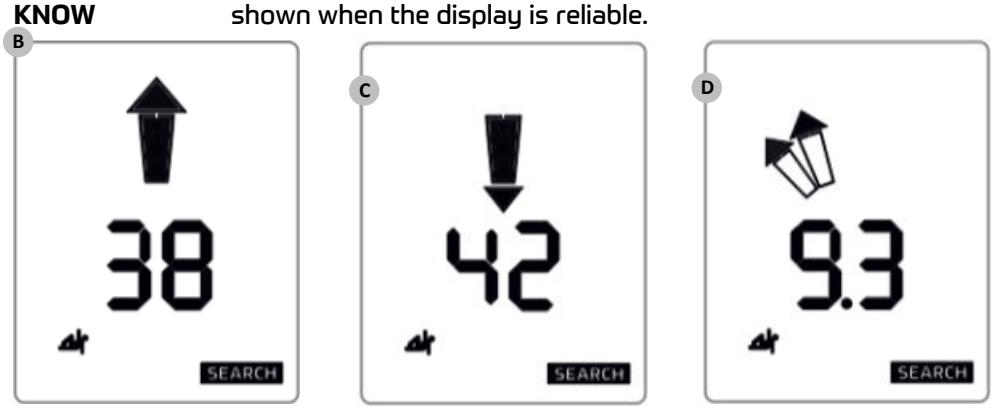
All participants, including the observers, switch their avalanche beacons to receive mode (or to backup mode, see chapter 4.6.7). Please also observe the distance recommendations for external sources of interference!

4.5.3 Coarse search

As soon as the avalanche beacon receives a signal, it begins to vibrate and beep, with an arrow indicating the direction to the
buried victim (**B**). Quickly follow the indicated direction and check whether the distance value decreases. If the distance value increases, you are moving in the wrong direction. In this case, the displayed arrow points at you and prompts you to turn around (**C**). When the distance to the buried person is less than 10 m, the direction arrow changes to an outline to remind you to reduce the search speed (**D**).

Reverse arrow

GOOD TO KNOW An estimation algorithm for the distance values ensures that the reversing arrow is only shown when the display is reliable.



Distance and direction | Turn around 180° | Distance < 10 m

GOOD TO KNOW

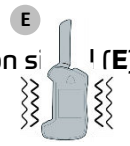
Behavior during coarse search

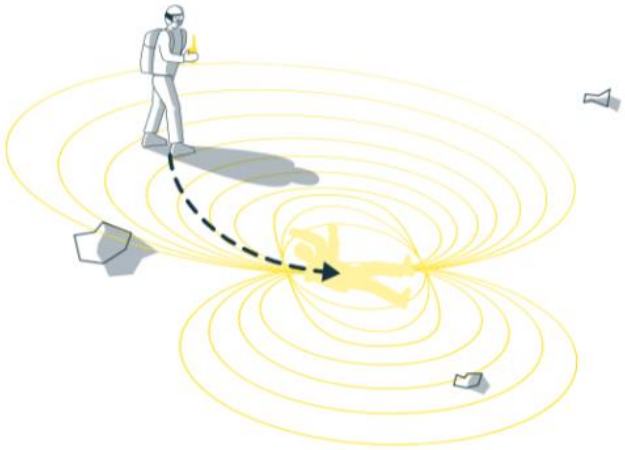
Work quietly and with concentration in SEARCH mode. Avoid hasty movements!

GOOD TO KNOW

Vibration on first reception

Your PIEPS PRO IPS additionally indicates first reception by means of a vibration si l (**E**)! This allows the focus to be placed on the visual surface search when searching for signals!





4.5.4 Fine search

From an approach of 5 m, the search speed should be significantly reduced (50 cm/s). At the same time, work as close to the snow surface as possible.

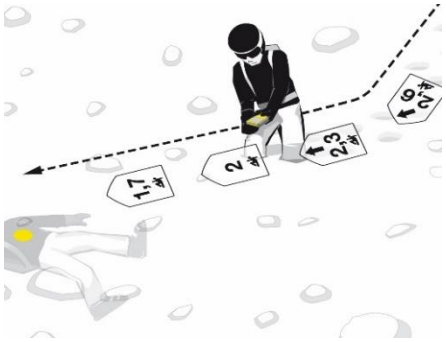
To prevent confusion during the fine search, the direction arrows are hidden below 2 m distance. Reduce the search speed again, move the avalanche beacon slowly and as close as possible over the snow surface, and search for the point with the shortest distance indication by using a grid pattern. The dynamic sound output supports the fine search: the closer, the faster the sounds are emitted.

GOOD TO KNOW

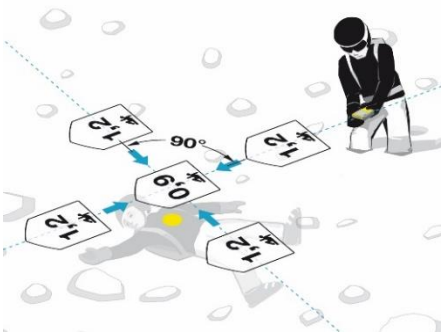
Every second counts.

In an emergency, every second counts. For your companions under the avalanche, every second feels much slower than for you on the snow surface. This could lead to a panic attack. With the

PIEPS iPROBE you are up to 3x faster during fine and point searches. The PIEPS iPROBE is compatible with all avalanche beacons.



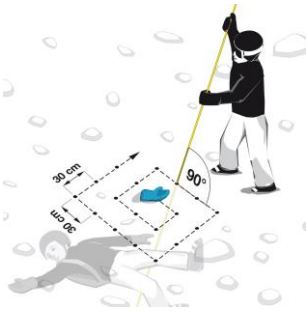
Perform the last direction correction exactly before the direction arrow disappears. You then move towards the transmitting avalanche beacon in the best coupling position and save time when searching in a grid pattern.



Do not make any fast movements during the fine search, reduce the search speed to 10 cm/s when searching in a grid pattern and avoid turning/swiveling! Search along the Y-axis to the point with the shortest distance indication, then search along the X-axis. Always search beyond the point with the shortest distance indication to verify the distance indication. Mark the point with the shortest distance indication and start probing systematically.

4.5.5 Point search

Start at the point with the shortest distance indication. Always probe at right angles to the snow surface. Use the lower hand as a "probe guide" to ensure that the probe follows a consistent path. Follow the proven system until you get a hit. Communicate a hit and leave the probe stuck.



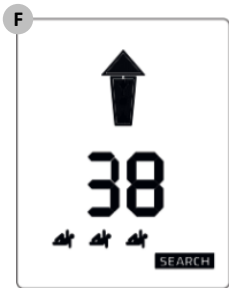
GOOD TO KNOW

PIEPS iPROBE.

The PIEPS iPROBE provides optimum support in this phase by means of an visual and acoustic hit indication in the vicinity of the buried victim. At a distance < 50 cm from the buried victim, a continuous tone is emitted.

4.5.6 Multiple burial | MARK function

A multiple burial is clearly indicated to you by the number of "figures" on the display (**F**).



MARK

Marking is possible from a distance of 5 m and is indicated by the MARK symbol. To mark ("hide") a localized beacon, briefly press the MARK button. Successful hiding is confirmed with a frame around the "figure" (**G**).

The PIEPS PRO IPS automatically displays the next strongest signal within the reception range on the display. If there is no other signal within the reception range, the display shows "signal search".

Display
before marking

Display
after marking

Demarking a single signal:

Press the MARK button for 3 seconds.

Demarking all signals: Switch to SEND mode and then back to SEARCH mode. With your PIEPS PRO IPS, the SCAN function can also be used for a complete reset.

GOOD TO KNOW

Continuous carrier display | old unit display

Older analog devices send a weak continuous signal in addition to the pulse signal. It is recommended to move a few meters away after marking such an avalanche beacon to minimize any influences.

Signal without continuous carrier

Signal with continuous carrier

If your PIEPS PRO IPS detects such a continuous signal, the "figures" start to blink.

4.6 PIEPS IPS TECHNOLOGY AND OTHER HELPFUL FUNCTIONS

Maximum background support in SEND and SEARCH mode!

4.6.1 PIEPS IPS technology

IPS - INTERFERENCE PROTECTION SYSTEM IN SEND MODE

PIEPS IPS is a unique technology that continuously monitors the effects of electronic interference on the beacon by processing the interfering signals and adapting to them *IMMEDIATELY* . In this way, your PIEPS PRO IPS will provide optimum transmission performance despite any interference that may occur.

IPS - INTERFERENCE PROTECTION SYSTEM IN SEARCH MODE

The PIEPS IPS technology provides the optimal electronic hardware platform for avalanche beacons. This technology allows the signal to be received and processed *SIMULTANEOUSLY* on the X and Y antennas. This unique **D**ual **A**ntenna **S**ignal **P**rocessing (DASP) feature enables an optimal and reliable detection. In addition, *compared to other beacons that have a typical design with a fixed arrangement of X and Y antennas,* PIEPS PRO IPS achieves the *MAXIMUM DISTANCE* to a user's wearable electronic devices, such as a smartwatch, GPS wristwatch, etc., due to the design of the X antenna.

PIEPS Advanced Signal Verification | Support in SEARCH mode

Only a verified signal is displayed. Your PIEPS PRO IPS will not confuse you by displaying "ghost signals"! This function has been optimally implemented with PIEPS IPS technology.

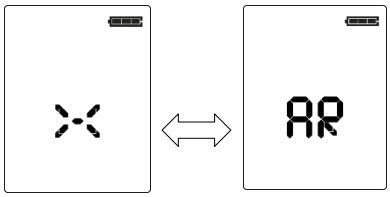
External interferences and distance recommendations

All avalanche beacons are inherently sensitive to sources of electrical and magnetic interference. Therefore, we recommend to keep the **minimum distance in SEND mode: 20 cm**, and in **SEARCH mode**: **50 cm** to electronic, magnetic as well as metallic influential factors (cell phone, radio, key ring, magnetic lock, action cams, avalanche backpacks, etc.).

4.6.2 After avalanche | auto revert from SEARCH to SEND

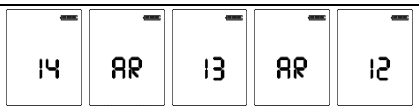
Your PIEPS PRO IPS has an Auto Revert function to switch from SEARCH to SEND. By default, this function is enabled. It can be activated/deactivated in the device manager of the PIEPS app. If it is activated, the device automatically switches from SEARCH to SEND mode when it no longer registers any movement for a specific time period that can be set in the app.

An activated AR function can be clearly identified via the display indicator in SEND mode:
the Send symbol changes with AR



The AR function has the following features:

- Motion controlled initialization
- Short switching time
- Long warning phase with signal tone and countdown before switching
- Permanent warning tone even after switching

Beacon mode	**SEARCH MODE**	**WARNING PHASE**	**SEND MODE**
Display indicator	Search display		
Sound output	Search sound		
Manual abort		Shake device or press MARK button	

	START WARNING	**SWITCH TO SEND**
Setting 1 (60 s)	0:30 min	1:00 min
Setting 2 (90 s)	1:00 min	1:30 min
Setting 3 (120 s)	1:30 min	2:00 min

4.6.3 Vibra functions

Send vibra: see chapter 4.3.
Vibration at first reception: see chapter 4.5.2.

4.6.4 Advanced Group-check & Pro Mode

See chapter 4.4.

4.6.5 Settings for MARK range

In the device manager of the PIEPS app, the MARK range can be changed from 5 m (default setting) to 20 m.

4.6.6 Inclinometer

The integrated inclinometer can be used to measure slope inclination:

- Place the ski pole in the fall line on the position on the slope that you want to measure.
- In SEND mode, press the SCAN button for 3 seconds.
- Position your PIEPS PRO IPS on the ski pole and read the inclination. The display automatically changes back to the SEND mode display after 20 seconds.

⚠ DANGER **Risk of device loss when measuring the angle of inclination**
When measuring the inclination, the PIEPS PRO IPS remains in SEND mode. Nevertheless, use the inclinometer for training purposes only. Never use the inclinometer in avalanche-prone terrain!

4.6.7 Backup mode

The PIEPS backup mode is used by all rescuers who are not actively involved in the beacon search. Just like the Auto Revert function, the PIEPS backup mode protects in case of an after avalanche. Your PIEPS PRO IPS with activated backup mode is in SEND mode, but the SEND function is temporarily deactivated in order not to disturb the rescuers who are busy with the avalanche beacon search. In addition, the backup mode saves power and thus extends battery life.

Automatic reactivation of the SEND function is performed by the Auto Revert function.
By default, the PIEPS backup mode is disabled. It can be activated in the device manager of the PIEPS app.
After the PIEPS backup mode has been activated via the PIEPS app, it can be switched on as follows:

- Your PIEPS PRO IPS is in SEARCH mode or SEND mode.
- Switch the X antenna of your PIEPS PRO IPS to the INTERMEDIATE position.
- The "bu" icon is displayed. Press the FUNCTION button within 3 seconds to switch on the backup mode.
- Switch the X antenna of your PIEPS PRO IPS back to the SEND position. The switched-on backup mode with the "bu" symbol remains visible on the display.

To switch off the backup mode, switch your PIEPS PRO IPS back to SEARCH mode.

4.6.8 Fine search with the deep burial detection enabled

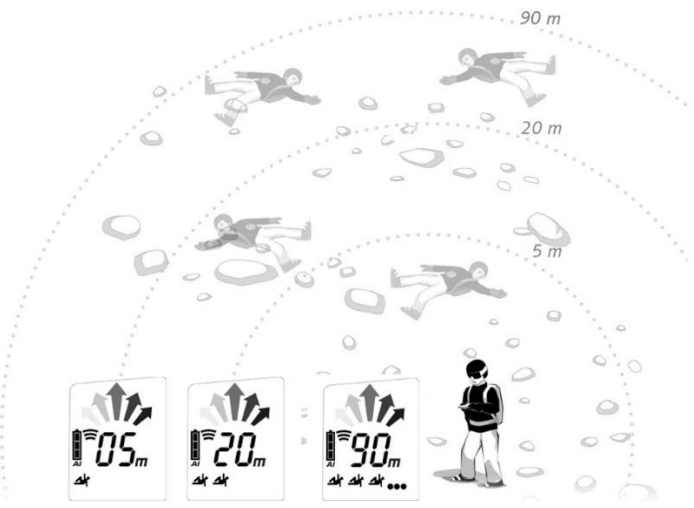
Your PIEPS PRO IPS can detect a deep burial (> 2m) and dynamically increases the fine search area if necessary. Please note that in the event of a deep burial, e.g., a burial depth of > 4 m, it is possible that the probe will not find the victim. In such a case, the probe is inserted about 1.5 meters above the point with the smallest distance indication. During excavation, this creates enough space to allow for another fine and point search within the excavation site.
By default, deep burial detection is disabled. It can be activated in the device manager of the PIEPS app.

4.6.9 SCAN function & burial selection

The PIEPS PRO IPS has two SCAN modes:
The **regular SCAN** provides an overview of all buried avalanche beacons within the reception range at defined distances. This mode is the default setting.
The **detailed SCAN** shows the direction and distance of each buried transceiver, allowing the selection of a buried transceiver. This mode can be activated in the device manager of the PIEPS app.

Regular SCAN

In SEARCH mode, press the SCAN button. Your PIEPS PRO IPS starts scanning the entire reception area and displays an overview. Stand still during the SCAN procedure and hold your PIEPS PRO IPS steady.



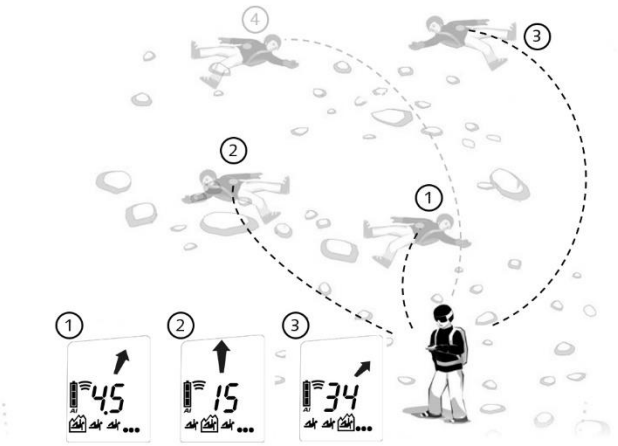
Display 1: Number of transmitters within 5 m
Display 2: Number of transmitters within 20 m
Display 3: Number of transmitters within 90 m

The SCAN mode ends automatically, but it can also be interrupted by pressing the SCAN button again.

Detailed SCAN & Burial Selection

In SEARCH mode, press the SCAN button. Your PIEPS PRO IPS starts scanning the entire reception range and at the end shows the direction and distance to the first buried avalanche beacon.

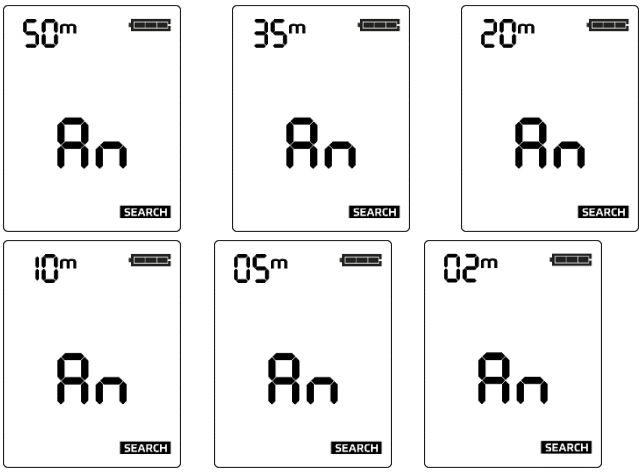
Use the FUNCTION button to scroll through the list of the 3 closest avalanche beacons. The selected beacon is circled - follow the direction and distance indicator to reach it. The MARK function is not available in this mode. Press the SCAN button to exit the detailed SCAN mode and switch to the normal SEARCH mode.



4.6.10 Analog mode

The analog mode can be used for special search strategies and for demonstration purposes (coupling positions). By default, the analog mode is disabled. The feature can be activated in the PIEPS app.

In SEARCH mode, press the FUNCTION button for 3 seconds. The analog mode starts with the largest range. Press the FUNCTION button to decrease the range. Press the SCAN button to increase the range. Press the FUNCTION button for 3 seconds to exit the analog mode and switch to the normal SEARCH mode.



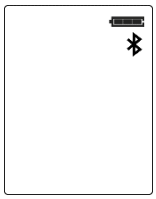
5. DEVICE MANAGEMENT WITH THE PIEPS APP

The PIEPS app provides a user-friendly device management (e.g. software updates, device configuration) via Bluetooth and also includes a practical training mode. Download the PIEPS App (Google Play Store, Apple App Store) and after installing it, connect to your PIEPS PRO IPS to enjoy all the benefits!

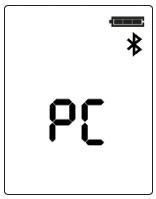
GOOD TO KNOW

Latest PIEPS App version
If you have already installed the PIEPS app, make sure that the latest version is installed.

To activate Bluetooth, press and hold the MARK button when turning on the device. As soon as the Bluetooth symbol appears on the display, you can release the MARK button.
Bluetooth mode is confirmed acoustically (2x beep sounds) and haptically (2x vibrations).
To disable Bluetooth, press the FUNCTION button.



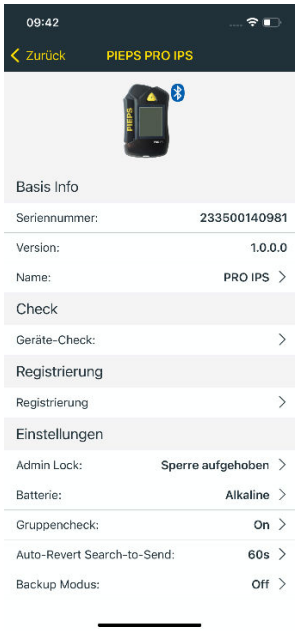
Bluetooth enabled



Connection to mobile device established

⚠ DANGER **Danger due to non-transmission of the device when Bluetooth is activated**
Use Bluetooth mode only for device management and training mode. Never use the Bluetooth mode in avalanche-prone terrain!

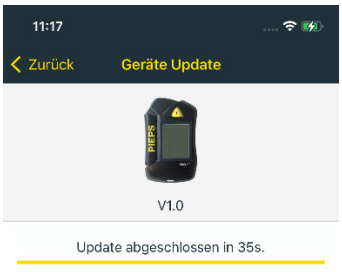
You can use the PIEPS app for the following settings:

Basic functions		
	Admin Lock	
	Battery type (alkaline/lithium)	
	Group-check ON/OFF	
	Auto-Revert Search-to-Send Timeout (60 s/90 s/120 s)	
	Backup mode ON/OFF	
	Volume HIGH/MEDIUM/LOW	
	Power On Warning ON/OFF	
Advanced functions		
	Send vibration ON/OFF	
	Group-check Pro mode ON/OFF	
	MARK range (5 m/20 m/max. range)	
	Deep burial detection ON/OFF	
	Scan mode (regular/detailed)	
	Analog mode ON/OFF	
	Inclinometer ON/OFF	
Reset to factory settings		

Other useful features of the PIEPS app:

Software update

We are continuously working on our firmware to optimize and improve the performance of our avalanche beacons. Please always keep the firmware of your PIEPS PRO IPS up-to-date.

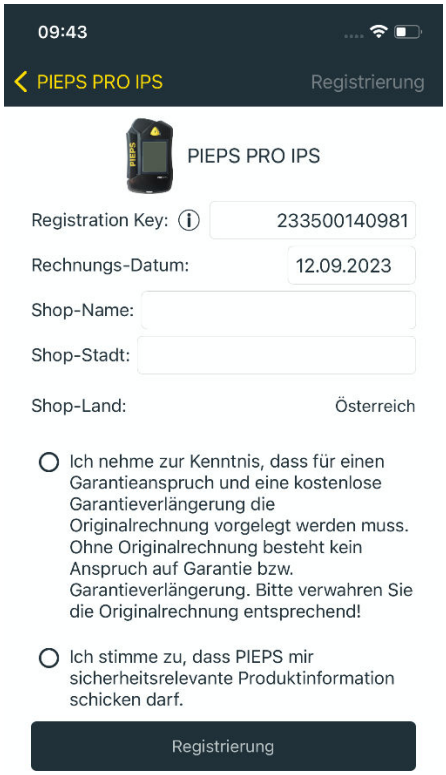


Bitte warte bis das Update beendet ist!
Gerät nicht ausschalten!

Warranty extension by registration

After connecting the PIEPS PRO IPS to the PIEPS app on your smartphone, tap "Register". Please fill in the information accordingly.

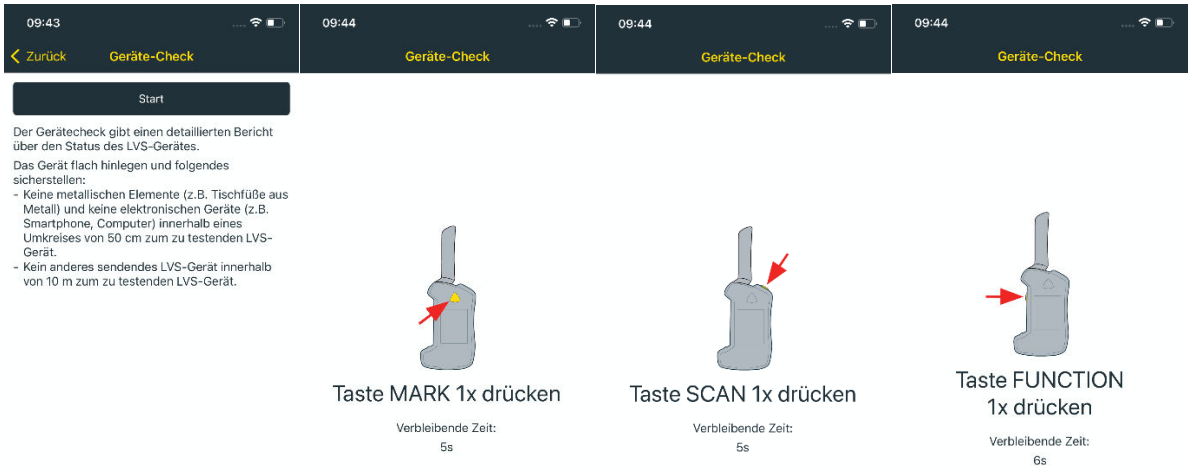
You will receive a warranty extension from 2 to 5 years after registration. We also keep you informed about new firmware versions.

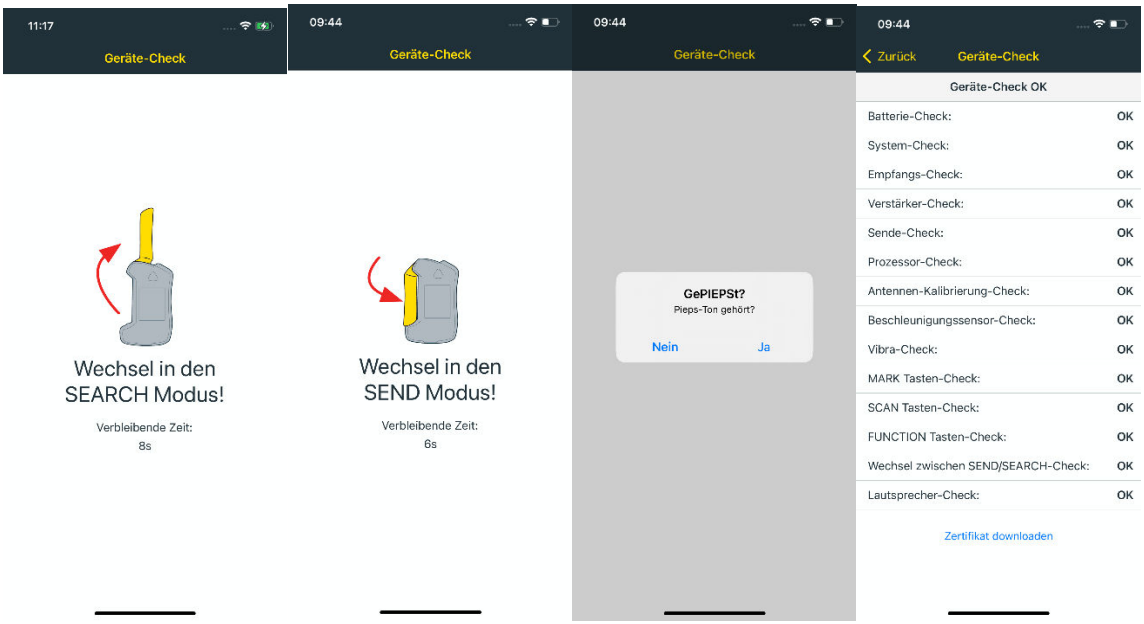


Device check

Your PIEPS PRO IPS is built for critical avalanche rescues. Due to the extreme operating conditions, we recommend that you check your device before each tour. For a detailed check (at least once a season), you can conveniently use the Device Check function in the app.

Start your PIEPS PRO IPS and connect it to the app. After a successful connection, you can select the Device Check function. Please follow the instructions:





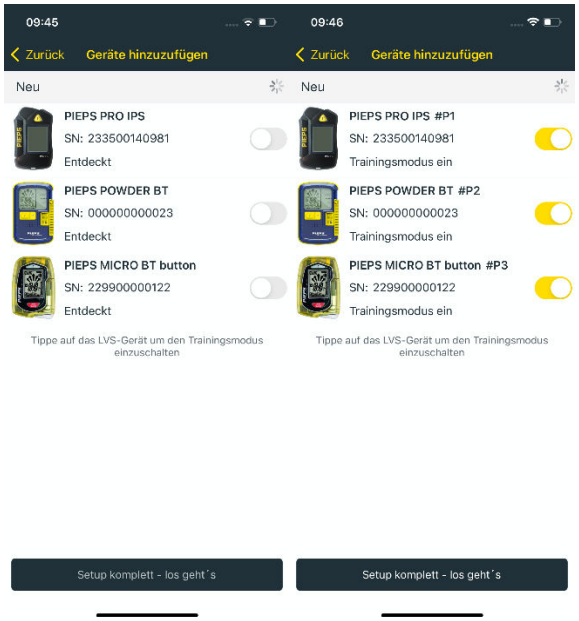
If you experience any problems and would like to send your device to us, you can complete the process on our service website at **https://my.pieps.com/#deviceservice**.

Training mode

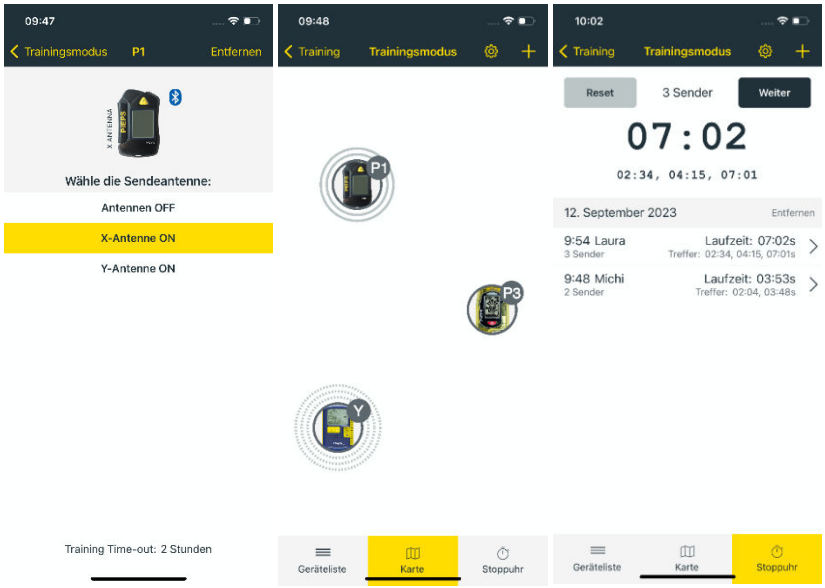
The training mode in the PIEPS app is a unique feature, exclusive to PIEPS customers. Owning this high-performance avalanche beacon is half the battle. To be optimally prepared for an emergency, you must complete the package as follows: Having a sound knowledge of how to handle the PRO IPS. In training mode, your smartphone turns into a remote control. Your PIEPS PRO IPS operates in SEND mode. If you now bury your PIEPS PRO IPS, you can control its X and Y antennas with your smartphone. Depending on how many PIEPS avalanche beacons you have buried, you can create multiple training scenarios. For example, if you have buried 4 PIEPS avalanche beacons, you can create up to 80 training scenarios.

To start the training mode, switch your PIEP PRO IPS in Bluetooth mode. In the PIEPS app, select Training, and then select Training Mode.

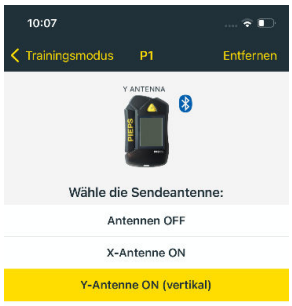
Please note: NEVER use the training mode in an area with avalanche hazards. Now, tap the "+" icon to add training devices. Each training device is assigned an ID that is visible both in the app and on the device.



Next, set your training scenario. You can activate any training device by tapping it. Next, select the antenna for the SEND mode. After completing your settings, bury the training equipment. You can sketch the relative positions of the devices on a map in the app. When you start training, start the stopwatch.



If you want to create a new training scenario, activate the training device again and select the other antenna. Depending on how you have buried your training equipment, you will see the orientation of the active antenna in the app: vertical or horizontal.



GOOD TO KNOW

Bluetooth range
The Bluetooth range beneath snow is approx. 10 meters.

6. FAULT ANALYSIS, MAINTENANCE, STORAGE, DISPOSAL

6.1 ERROR ANALYSIS

Error	Description	Measure
No information on the display		Check the device for mechanical damage. Check the batteries for capacity, type and polarity (+, -). Insert new batteries if necessary. If the display still doesn't show anything, take the device to the dealer.
W0	Vibra The error disappears after the self-check. The device has limited functionality: the vibration unit is faulty.	Please contact PIEPS Support: www.pieps.com/support/ support@pieps.com +43 3182 52556-30
E1	System configuration The error remains on the display. The device is not functional.	Please contact PIEPS Support: www.pieps.com/support/ support@pieps.com +43 3182 52556-30
W2 W3 W4	Transmitting or receiving unit The error disappears after the self-check. The device has limited functionality: the transmission or reception performance is impaired.	Repeat the self-check in an interference-free area (outdoors). Check your immediate environment for external sources of interference (e.g. transmitting avalanche beacons, cell phones, metallic objects in the immediate vicinity, etc.). If the error is permanently displayed, take your PIEPS PRO IPS to the dealer.
E5	Processor The error remains on the display. The device is not functional.	Please contact PIEPS Support: www.pieps.com/support/ support@pieps.com +43 3182 52556-30
W6	Battery The error disappears after the self check. The device has limited functionality: the status display may be incorrect.	Check the battery type setting: Alkaline/Lithium. If the error is still displayed, take your PIEPS PRO IPS to the dealer.
W8	Acceleration sensor The error disappears after the self check. The device has limited functionality: Auto revert from Search to Send doesn't work. Group-check Pro mode doesn't work.	Take your PIEPS PRO IPS to the dealer.
W9	Bluetooth Bluetooth connection with a mobile device is not possible. The avalanche beacon function of the device is functional. Not tested during self-check, only occurs during Bluetooth activation.	Switch off the device and switch it on again in Bluetooth mode (briefly press the MARK button when switching on). If the error is permanently displayed, take your PIEPS PRO IPS to the dealer.

6.2 BATTERY CHANGE

Change the batteries as soon as the "Battery capacity" display shows an empty battery! Always replace all batteries at the same time! To do this, open the battery compartment and ensure that the batteries are inserted correctly. Observe the applicable regulations in your country when disposing of the batteries.

⚠ DANGER **Risk of explosion due to incorrectly used batteries.**
Danger of incorrect capacity display.
Only use batteries of the type "Alkaline (AAA) LR03 1.5 V" or "Lithium (AAA) FR03 1.5V"! The use of lithium batteries must be confirmed in the PIEPS app! Do not use rechargeable batteries!

Battery life	Alkaline (h SEND)	Lithium (h SEND)
PIEPS PRO IPS	400 h	600 h

	3/3 capacity	**100% - 66% (h SEND)**	✓
	2/3 capacity	**66% - 33% (h SEND)**	✓
	1/3 capacity	**33% - 20% (h SEND)**	✓
	empty	**20 h SEND (+10° C/50° F) + 1 h SEARCH (-10° C/14° F)**	
	empty, flashing	**Last reserve, device can switch off at any time**	

6.3 CLEANING

Use a damp cloth without detergent for cleaning.

NOTE Do not use running water, steam or cleaning agents when cleaning. This could impair the functionality of the device.

6.4 STORAGE

Store the device in a dry room at room temperature.

NOTE If the device is not in use for a longer period of time (summer months), it is recommended to remove the battery from the battery compartment. Damage caused by leaking batteries is excluded from the warranty.

⚠ CAUTION **Danger due to extreme temperatures**
Do not expose the device to extreme temperatures. Store the device so that it is protected from direct sunlight. Extreme temperatures can impair functionality or damage the battery.

6.5 DISPOSAL

NOTE Please note that this is an electronic device. Disposal via public waste management authorities is therefore not possible. When disposing of the device, comply with the regulations in force in your country.

7. CONFORMITY

EUROPE

Pieps GmbH hereby declares that the radio equipment type PIEPS PRO IPS is in compliance with Directive 2014/53/EU. The full text of the EU Declaration of Conformity is available at the following Internet address: www.pieps.com/conformity.