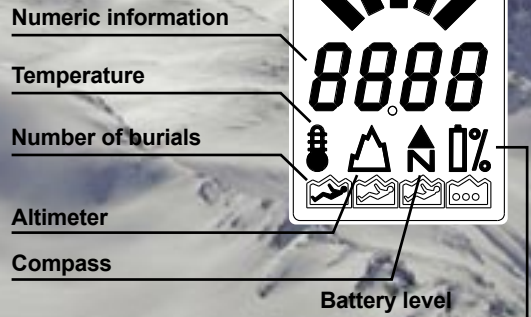
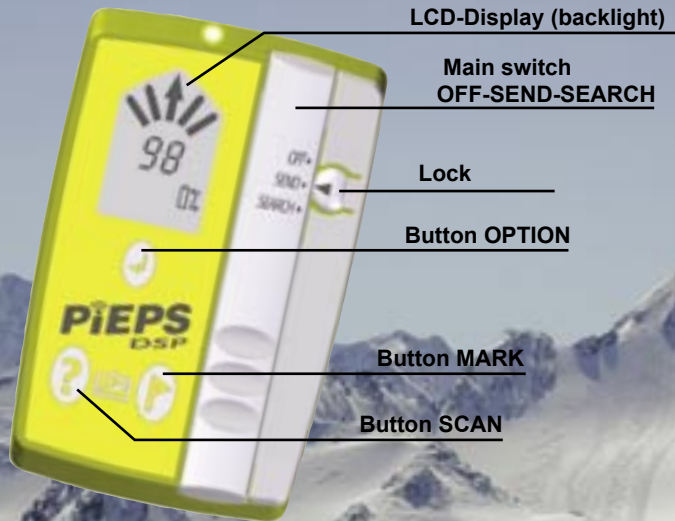




**PIEPS** DSP



## DEAR WINTER SPORTS ENTHUSIAST!

Congratulations on having purchased a PIEPS avalanche beacon! 100,000 skiers world-wide testify to the quality of this brand, which has been on the market for nearly 30 years. During this time, PIEPS beacons have undergone constant improvement. The device you have chosen is a state-of-the-art piece of equipment. Enhanced by the latest DSP technology (= signal processing with a digital signal processor) and a triple-antenna system, it not only offers an exceptional range but also greatly simplifies the rescue procedure, even in case of multiple burials.

**IMPORTANT:**  
*Even the PIEPS-DSP beacon cannot protect you against avalanches. A close study of avalanche prevention techniques is equally essential, as is regular practising for the eventuality of an avalanche rescue.*  
*The procedures and instructions described below refer solely to specific application in connection with PIEPS-DSP avalanche beacons.*  
*The basic rules of conduct in case of emergency – as defined in the relevant specialist publications and in training sessions – must be observed without fail.*



## **CARRYING HARNESS**

The PIEPS DSP can be worn directly on your person using the supplied carrying system. Pass the snap hook of the safety cord through the carry pouch and attach it to the loop on the rear of the pouch (=safest option).

Alternatively, the PIEPS DSP can be attached to the belt of your ski trousers via the belt loop, or can be carried in your trouser pocket with or without the protective pouch. Always make sure, however, that the safety cord is suitably attached to an eyelet on your clothing to avoid losing the detector.

***IMPORTANT: The PIEPS DSP should be worn as close as possible to the body, and under as many layers of clothing as possible!***



Light



1. Press



2. Move

## BATTERY / SWITCHING ON / SEND MODE

The battery compartment is located at the rear of the housing. The safety screw connection can be easily opened and closed using a coin.

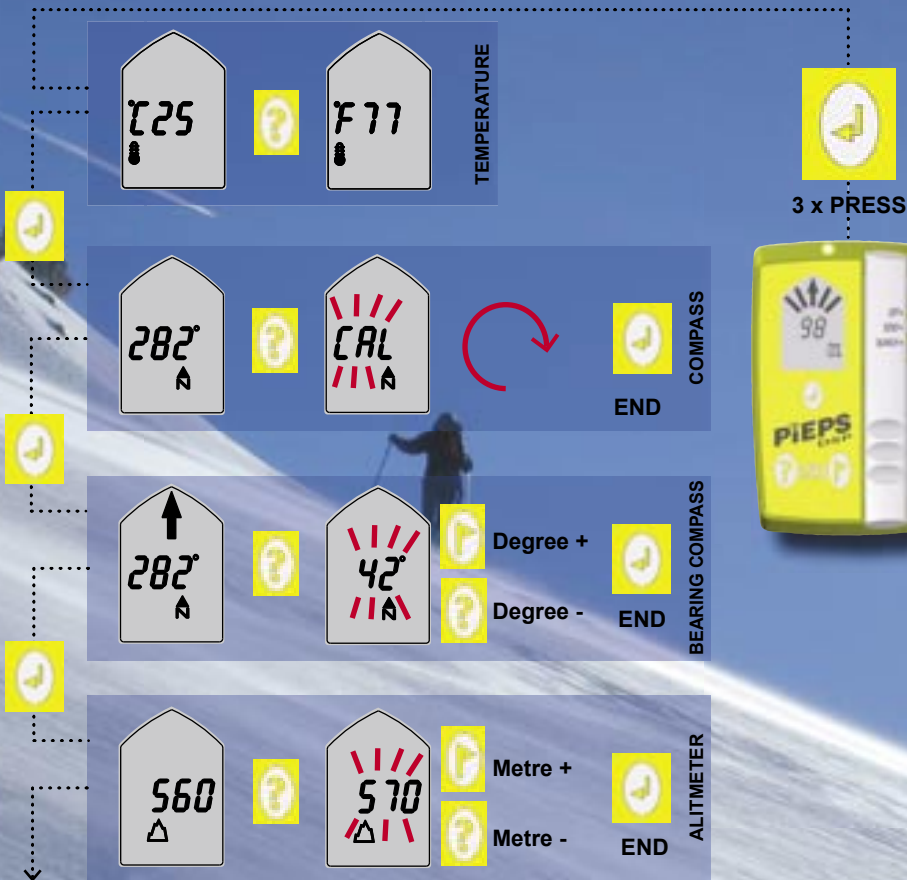
**IMPORTANT:** Only use battery type LR03/AAA and always replace all 3 batteries with new ones of the same type. Never use rechargeable batteries and always change all batteries at the same time!

Depress the main switch lock and push the main switch to the “SEND” position. When powered on, the PIEPS DSP will carry out a self-test lasting approx. 5 seconds. During this self-test a minimum distance of 5 meters to other beacons should be maintained. You will then see the send symbol and the remaining % battery voltage in the display. The LED will also flash synchronously with the transmitter bit timing.

In the event of a device error, an alert signal sounds and the display indicates “E” in combination with a error-code. This means the device is not fit for operation. In this case, contact our customer service department.

When in the open, make sure the “SEND” mode is selected throughout. The PIEPS DSP will then transmit continuously any signal it picks up from other beacons.

**IMPORTANT:** When switched on, a complex self-testing is done by the beacon. Nevertheless beacon-group-check is stongly recommended in preparation to each tour.



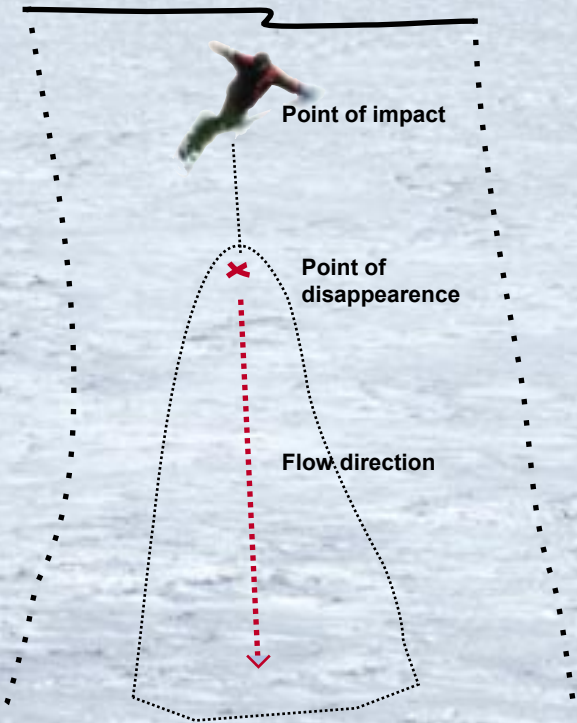
## DEVICE WITH OPTION PACK

By pressing the OPTION button three times, you can switch from the SEND mode to the OPTION mode. This enables you to switch between the relevant functions:

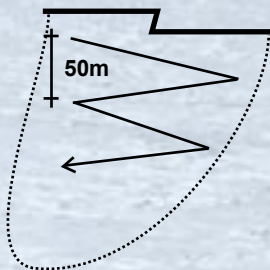
- Temperature display**  
 Press SCAN to switch between °C and °F.
- Compass**  
 When new batteries are inserted, the compass has to undergo an internal calibration. This is also necessary if the device detects strong temperature variations. To start the calibration, press SCAN ("CAL" flashes). Then rotate the device a full 360°. Finally, press OPTION.
- Bearing compass (direction-finding compass with arrow display)**  
 You can change the bearing direction with SCAN. Select the flashing bearing by pressing MARK (+) and SCAN (-). To exit, press OPTION.
- Altimeter**  
 You can adapt the altimeter reading to the prevailing air pressure by pressing SCAN. Adjust the displayed altitude with MARK (+) and SCAN (-). To set the adjustment to zero, press MARK and SCAN simultaneously. To exit, press OPTION.

By holding down the OPTION key (min. 3 seconds), you can switch back to the SEND mode. In the OPTION mode, the device does not transmit any signals, and therefore switches back to the SEND mode automatically after two minutes. If the battery is low, it switches back after just 30 seconds.

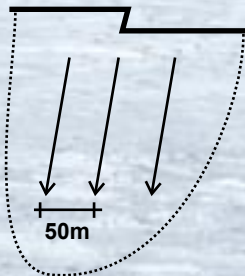
**IMPORTANT:** Make sure the device stays connected to the harness via the safety cord at all times!



Singel rescue person



Multiple rescue persons



## EMERGENCY / SEARCH MODE

In case of an emergency, the key thing to remember is:  
**KEEP CALM, OBSERVE, RAISE THE ALARM**

Observe the course of the avalanche and make an exact mental note of where the victim

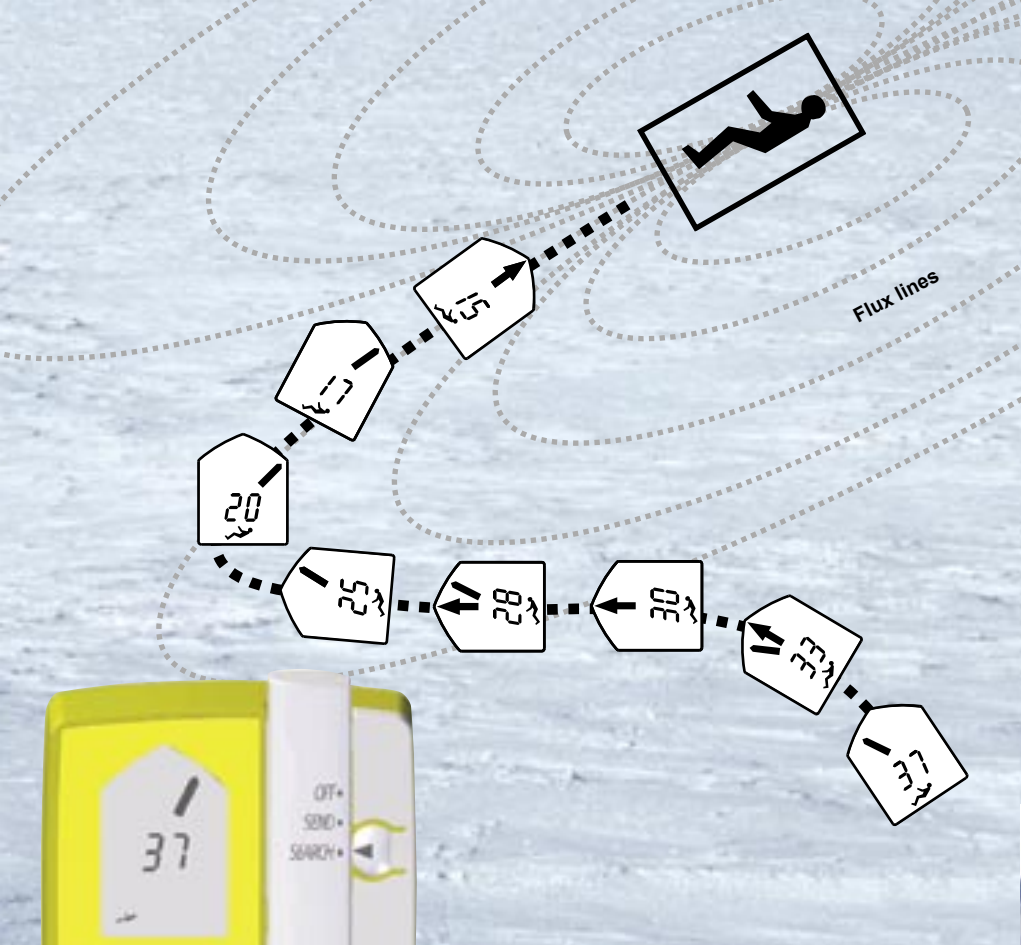
- was hit by the avalanche (point of impact)
- was last seen (point of disappearance)

The extension of these points indicates the flow direction of the avalanche! The primary search area is to the left and right of this. When the avalanche stops, the most experienced member of the group takes control of the search, issuing instructions from the edge of the avalanche so that another person can mark the above points (with sticks, etc.).

Depress the main switch lock and push the main switch to the SEARCH position. You can now begin the PRIMARY SEARCH, in which the device will pick up any signals from victims within its range. Now scan the primary search area according to the plan on the left until a steady signal is reported.

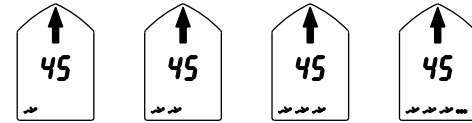
**IMPORTANT:** All participants (including observers) must switch their devices to receiving (SEARCH) mode. Always make sure there are no electronic devices (e.g. mobiles, radios,) or solid metal items in the direct vicinity of the search. Due to the fact, that the beacon is not transmitting a signal in SEARCH-mode anymore, the PIEPS DSP is equipped with a rapid switch-back mechanism (just push on the protruding top of the main-switch) in the case of a following avalanche.





## SEARCH MODE / ROUGH SEARCH

As soon as the PIEPS DSP picks up signals, the approximate distance and direction appear in the display. The number of burials within the range of the device is represented by matchstick men.



Number of burials:

one

two

three

four or more

Using the arrow and distance reading, follow the strongest of the received signals along the field lines. Move in the direction indicated by the PIEPS DSP:



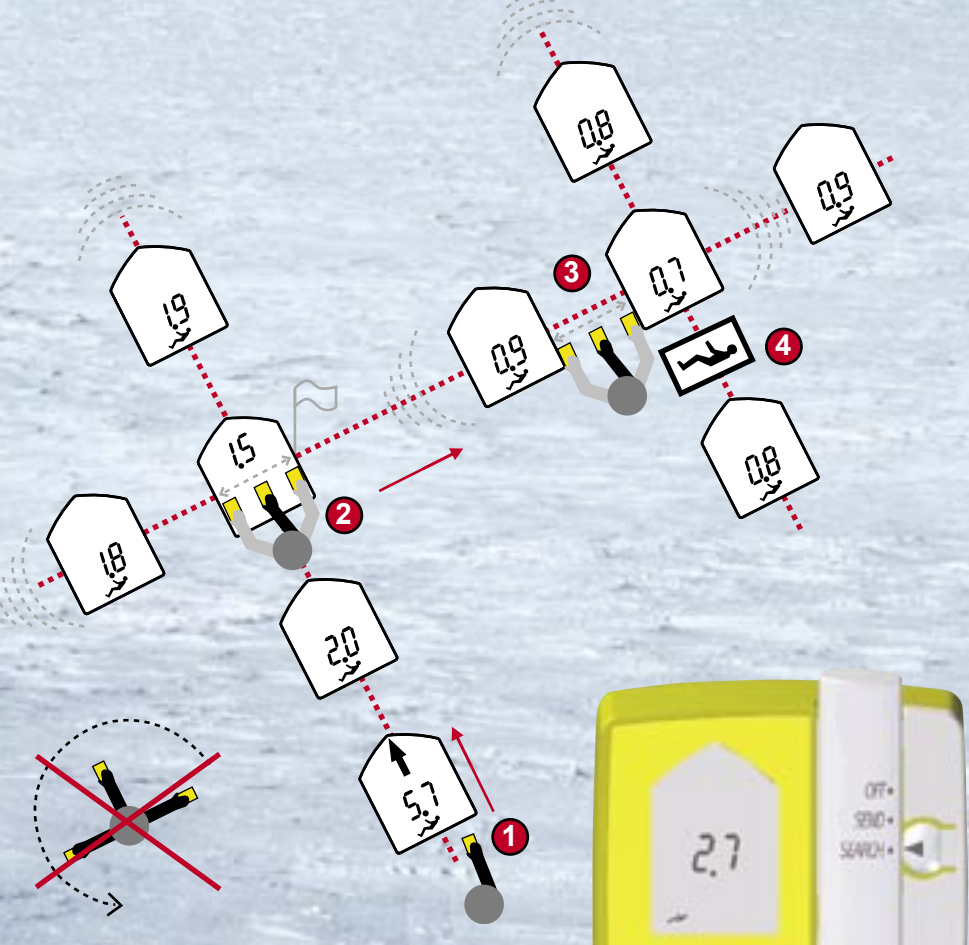
turn LEFT

move STRAIGHT AHEAD

turn RIGHT

The distance reading should become progressively smaller. If it gets larger, switch the search direction by 180°, i.e. turn round and follow the opposite direction.

**IMPORTANT: When working in the SEARCH mode, remain calm and concentrated, and avoid hasty movements!**



## SEARCH MODE / CLOSE SEARCH

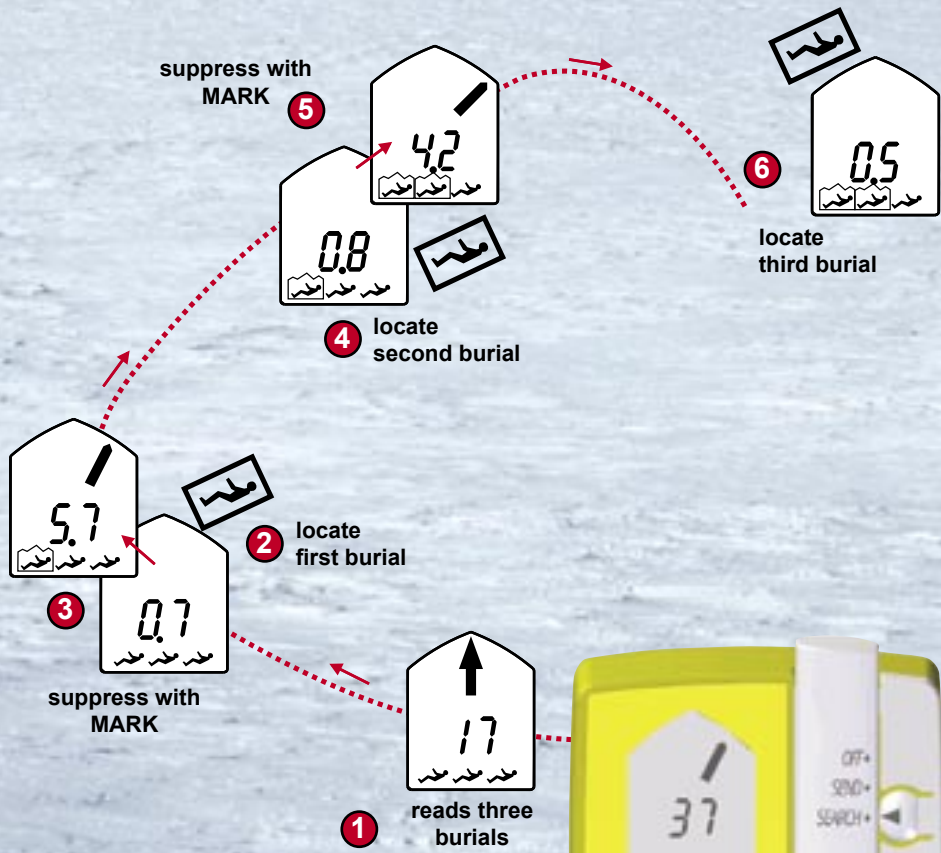
Once you have approached the victim quickly with the rough search, the PIEPS DSP really comes into its own thanks to its advanced triple-antenna system.

When you are closer than 5m (1) to the burial, it's strongly recommended to reduce your moving speed to max. 1 footstep per reading update (depends on the type of buried beacons, approx. 0,5 - 1,3 sec.).

To avoid confusion, the direction indication is suppressed at distances less than 2m. Following your last known direction, move ahead until the distance reading starts increasing again (see drawing). Return to the point with the minimum distance reading (2). Starting at this point, try to get the lowest distance reading, using cross-like movements. On indication of further reduced distance readings, tracking on one of the four possible directions (3), follow this direction until the distance reading starts increasing again. At this point repeat the cross-like approach as long as no increasing distance reading can be determined (4).

**IMPORTANT:** It's strongly recommended to avoid hasty movements (move approx. 20-40 cm/sec).

**Throughout this procedure, keep the device horizontal in the same position without rotating it, and keep it as close as possible to the surface of the snow.**



## SEARCH MODE / MULTIPLE SEARCH

The optimised multiple search, the absolute highlight of the PIEPS DSP, is based on a separation of signals via the digital signal processor (DSP).

If there are multiple burials, this is clearly indicated by the number of matchstick men. By default, the PIEPS DSP will automatically search for the strongest signal.

Once the position of the first burial has been located, press the MARK key for approx. 3 seconds without moving away from this point.

This signal is now suppressed and the device will automatically search for the second strongest signal. In unfavourable circumstances (temporary signal interference), you may have to repeat this procedure several times. It may also be helpful to approach the victims from several sites (in radial formation) using the SCAN-function.

Once a signal has been successfully suppressed, an outline appears around the matchstick man.

Now continue the search as described above and repeat the procedures until all transmitters are located.

**IMPORTANT:** In case of multiple burials involving older analogue devices, faults may at worst occur which impair the efficiency of the digital signal separation. In such cases, you may find for a short time that more signals are displayed than actually exist.



Reading:  
four or more beacons  
within 50m



3

Radius 50m

Reading:  
two beacons  
within 20m



2

Radius 20m

Reading:  
one beacon  
within 5m



1

Radius 5m



## SEARCH MODE / SCAN FUNCTION

Another highly useful feature of the PIEPS DSP is the SCAN function.

Press the SCAN key in the SEARCH mode and the device will begin scanning the entire receiving range. During the scan, stand still and hold the device steady. This will give you an overview of all the buried devices within the detectable range, classified according to three groups:

**Reading 1:** within a distance of approx. 5m

**Reading 2:** within a distance of approx. 20m

**Reading 3:** within a distance of approx. 50m

All information from previously suppressed signals is now reset and you can start the suppression again (MARK).

**IMPORTANT:** Once you have located all burials, move away from their locations in a star shape and use the SCAN function to check the scenario again. That way you can make sure you haven't missed any other burials.



## Technical data

Device designation:	PIEPS DSP
Transmission frequency:	457 kHz (international standard frequency)
Power supply:	3 batteries, alkaline (AAA), IEC-LR03, 1.5V
Battery lifetime:	Min. 200 h SEND-mode
Maximum range:	60 metres (digital evaluation)
Earphone socket:	Stereo earphone 3.5 mm, min. 32 ohms
Temperature range:	-20°C to +45°C
Weight:	198 g (incl. batteries)
Dimensions (L x W X H)	116 x 75 x 27 mm

### Option pack

Temperature display	-20°C to +50°C, accuracy $\pm 3^{\circ}\text{C}$
Compass function	Accuracy $\pm 8^{\circ}$
Altimeter	Accuracy $\pm 10\text{ m}$

## Certification / conformity

Warning: Any changes or modifications not expressly approved by Seidel Elektronik, responsible for compliance, could void the user's authority to operate this device.

<b>Europe:</b>	Manufacturer:	SEIDEL Elektronik GmbH
	Country of manufacture:	Austria
	Device type:	PIEPS DSP
	The device conforms to the Standard ETS 300817	
<b>Canada:</b>	IC: 4710A-DSP01	
<b>USA:</b>	FCC ID: REMDSP01	

This device conforms to Paragraph 15 of the FCC regulations.

Operation is subject to the following two conditions:

- 1) This device may not cause harmful interference, and
- 2) this device must accept any interference received, including interference that may cause undesired operation.



### Warranty conditions:

- The device is guaranteed by the manufacturer against defects in material and workmanship for a period of five years from the date of purchase.
- This warranty does not apply to damage caused by incorrect use, dropping or dismantling of the device by unauthorised persons.
- Any further warranty or liability for consequential damage is expressly excluded.
- Warranty claims should be addressed - enclosing the receipt of purchase - to the relevant sales outlet or directly to STUBAI Werkzeugindustrie.

### Manufacturer:

SEIDEL Elektronik GmbH  
Frauentalerstraße 100  
A-8530 Deutschlandsberg, Austria  
[www.seidel.at](http://www.seidel.at) • [www.pieps.at](http://www.pieps.at)  
e-mail: [office@seidel.at](mailto:office@seidel.at)

### International exklusive distribution and service:

STUBAI Werkzeugindustrie Reg.Gen.m.b.H.  
Dr. Kofler Straße 1  
A-6166 Fulpmes, Austria  
[www.stubai-bergsport.com](http://www.stubai-bergsport.com)  
e-mail: [office@stubai.com](mailto:office@stubai.com)

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