



PR 30-HVSG

English

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## 1 Information about the documentation

### 1.1 About this documentation

- Read this documentation before initial operation or use. This is a prerequisite for safe, trouble-free handling and use of the product.
- Observe the safety instructions and warnings in this documentation and on the product.
- Always keep the operating instructions with the product and make sure that the operating instructions are with the product when it is given to other persons.

### 1.2 Explanation of symbols used

#### 1.2.1 Warnings

Warnings alert persons to hazards that occur when handling or using the product. The following signal words are used:

#### **DANGER**

##### **DANGER !**

- ▶ Draws attention to imminent danger that will lead to serious personal injury or fatality.

#### **WARNING**

##### **WARNING !**

- ▶ Draws attention to a potential threat of danger that can lead to serious injury or fatality.

**⚠ CAUTION**

**CAUTION !**

- ▶ Draws attention to a potentially dangerous situation that could lead to slight personal injury or damage to the equipment or other property.

**1.2.2 Symbols in the documentation**

The following symbols are used in this document:

	Read the operating instructions before use.
	Instructions for use and other useful information
	Dealing with recyclable materials
	Do not dispose of electric equipment and batteries as household waste

**1.2.3 Symbols in the illustrations**

The following symbols are used in illustrations:

	These numbers refer to the corresponding illustrations found at the beginning of these operating instructions
	The numbering reflects the sequence of operations shown in the illustrations and may deviate from the steps described in the text
	Item reference numbers are used in the <b>overview illustrations</b> and refer to the numbers used in the <b>product overview section</b>
	This symbol is intended to draw special attention to certain points when handling the product.
	Wireless data transfer

**1.3 On the product**

**Laser information**

	Laser class 2 based on standard IEC60825-1 / EN60825-1:2007 and compliant with CFR 21 § 1040 (Laser Notice 50). Do not look straight into the laser beam.
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**1.4 Product information**

products are designed for professional users and only trained, authorized personnel are permitted to operate, service and maintain the products. This personnel must be specifically informed about the possible hazards. The product and its ancillary equipment can present hazards if used incorrectly by untrained personnel or if used not in accordance with the intended use.

The type designation and serial number are printed on the rating plate.

- ▶ Write down the serial number in the table below. You will be required to state the product details when contacting Hilti Service or your local Hilti organization to inquire about the product.

**Product information**

Rotating laser   laser receiver	PR 30-HVSG A12   PRA 30G
Generation	02
Serial no.	

**1.5 Type approval test**



## 2 Safety

### 2.1 Basic information concerning safety

**Read all safety instructions and other instructions.** Failure to observe the safety instructions and other instructions may result in electric shock, fire and/or serious injury.

**Retain all safety precautions and instructions for future reference.** The term “electric tool” used in the safety instructions refers to your mains-operated (corded) electric tool or battery-operated (cordless) electric tool.

### 2.2 General safety measures

- ▶ **Stay alert, watch what you are doing and use common sense when operating a power tool.** Do not use a power tool while you are tired or under the influence of drugs, alcohol or medication. A moment of inattention while operating the power tool can result in serious personal injury.
- ▶ **Do not render safety devices ineffective and do not remove information and warning notices.**
- ▶ **Keep children well away from laser devices.**
- ▶ Laser radiation in excess of Class 2 may be emitted if the device is opened without following the correct procedures. **Have the device repaired only by Hilti Service.**
- ▶ Project laser beams well above or well below eye height.
- ▶ **Take the influences of the surrounding area into account. Do not use the device where there is a risk of fire or explosion.**
- ▶ Statement in accordance with FCC §15.21: Changes or modifications not expressly approved by Hilti can restrict the user's authorization to operate the equipment.
- ▶ **You must check the accuracy of the device after it has been dropped or subjected to other mechanical stresses.**
- ▶ **When the device is brought into a warm environment from very cold conditions, or vice-versa, allow it to become acclimatized before use.**
- ▶ When using adapters or accessories, make sure that the equipment is securely mounted.
- ▶ **Keep the laser aperture clean to avoid measurement errors.**
- ▶ The device is designed for the tough conditions of jobsite use, but as with other optical and electronic instruments (e.g. binoculars, spectacles, cameras) it must be handled with care.
- ▶ The device is protected to prevent the ingress of moisture, but you must always wipe it dry before stowing it in the transport container.
- ▶ **Check the device before using it for important measuring work.**
- ▶ **Repeatedly check accuracy while using the device.**
- ▶ **Make sure that the workplace is well lit.**
- ▶ **Do not expose the laser to rain or wet conditions.**
- ▶ **Do not touch the contacts.**
- ▶ **Maintain the device carefully. Check that moving parts are in full working order and do not jam and make sure there are no parts that are broken or damaged in such a way as to impair operation of the device. If it damaged, have the device repaired before use.** Many accidents are caused by poorly maintained equipment.

### 2.3 Proper preparation of the working area

- ▶ **Secure the area in which you will be taking measurements. Make sure that the laser beam is not directed toward other persons or toward yourself while setting up the laser tool.**
- ▶ **Avoid unfavorable body positions when working from ladders. Make sure you work from a safe stance and stay in balance at all times.**
- ▶ Readings taken in the vicinity of reflective objects or surfaces, through panes of glass or similar materials may produce incorrect results.
- ▶ **Ensure that the tool is set up on a stable, level surface (not subject to vibration).**
- ▶ **Use the tool only within its specified limits.**
- ▶ **Use the tool and its accessories etc. in accordance with these instructions and in the manner intended for the particular type of tool. Take the working conditions and the work to be performed into account.** Use of tools for applications different from those intended could result in a hazardous situation.
- ▶ **Use of the telescopic staff in the vicinity of overhead high voltage cables is not permissible.**

#### 2.4 Electromagnetic compatibility

Although the tool complies with the strict requirements of the applicable directives, Hilti cannot exclude the following possibilities:

- The tool may be negatively affected by powerful electromagnetic radiation, possibly leading to incorrect operation.  
In these cases, or if you are otherwise unsure, confirmatory measurements should be made by other means.
- The tool can cause interference to other devices (e.g. aircraft navigation equipment).

#### 2.5 Laser classification for Class 2 laser products

The tool complies with laser Class 2 as per IEC60825-1:2007 / EN60825-1:2007. This tool may be used without need for further protective measures.

#### CAUTION

**Risk of injury!** Do not direct the laser beam toward persons.

- ▶ Never look directly into the source of the laser beam. In the event of direct eye contact, close your eyes and move your head out of the path of the laser beam.

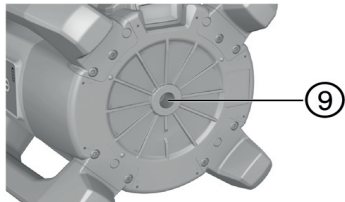
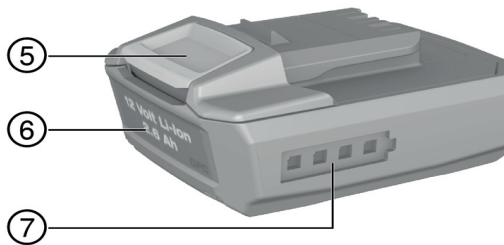
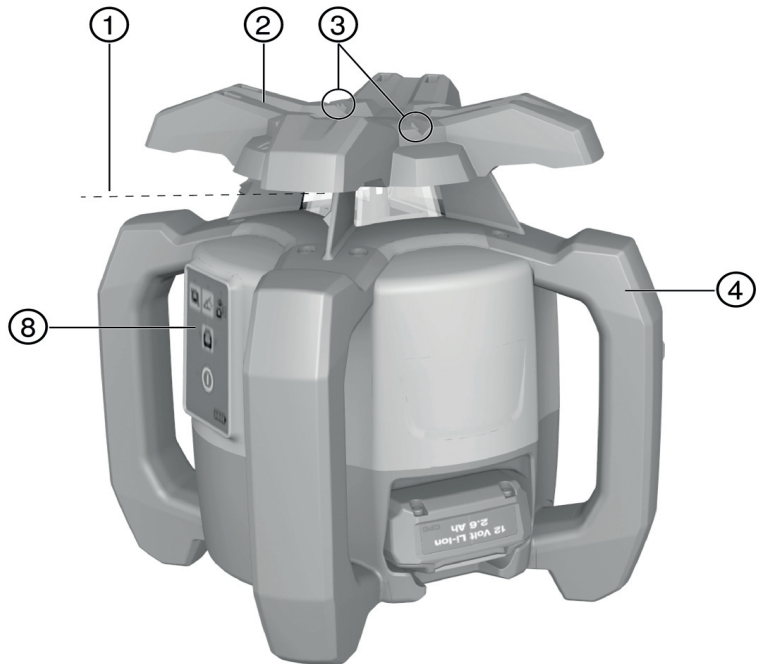
#### 2.6 Careful use of battery-powered tools

- ▶ **Do not expose batteries to high temperatures, the direct heat of the sun, and keep them away from fire.** There is a risk of explosion.
- ▶ **Do not disassemble, squash or incinerate batteries and do not subject them to temperatures over 80°C (176°F).** This presents a risk of fire, explosion or injury through contact with caustic substances.
- ▶ **Do not subject the battery to hard mechanical impacts and do not throw the battery.**
- ▶ **Batteries must be kept out of reach of children.**
- ▶ **Avoid ingress of moisture.** Ingress of moisture may cause a short circuit, resulting in burning injuries or fire.
- ▶ **Under abusive conditions, liquid may leak from the battery. Avoid contact with the liquid. If contact accidentally occurs, flush with water. If the liquid contacts the eyes, also seek medical attention.** Liquid leaking from the battery may cause irritation or burns.
- ▶ **Use only batteries of the type approved for use with the applicable tool.** Use of other batteries or use of the batteries for purposes for which they are not intended presents a risk of fire and explosion.
- ▶ Store the battery in a cool and dry place. Never store the battery where it is exposed to direct sunlight or sources of heat, e.g. on heaters / radiators or behind glass.
- ▶ **When not in use, keep the battery and the charger away from paper clips, coins, keys, nails, screws or other small metal objects that could cause a short circuit at the battery terminals or the charging contacts.** Short-circuiting the contacts on a battery or charger may cause burning injuries or start a fire.
- ▶ **Do not charge or continue to use damaged batteries (e.g. batteries with cracks, broken parts, bent or pushed-in and/or pulled-out contacts).**
- ▶ **Recharge only with the charger specified by the manufacturer.** A charger that is suitable for a certain type of battery may present a risk of fire when used with other types of battery.
- ▶ Observe the special guidelines applicable to the transport, storage and use of Li-ion batteries.
- ▶ **The battery must be insulated or removed from the tool before the tool is shipped or sent by mail.** Leaking batteries may damage the tool.
- ▶ If the battery gets noticeably hot when not in use, this may indicate that the battery or the tool / battery system is faulty. **In this case, place the tool in a non-flammable location, well away from flammable materials, where it can be kept under observation and allowed to cool down.**

### 3 Description

#### 3.1 Product overview

##### 3.1.1 PR 30-HVSG A12 rotating laser

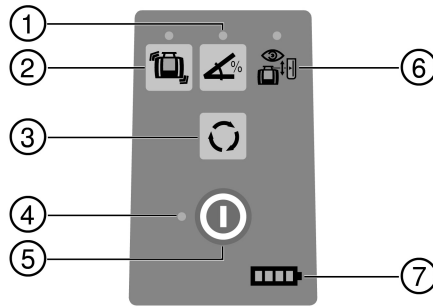


- ① Laser beam (plane of rotation)
- ② Rotary head
- ③ Sight

- ④ Grip
- ⑤ Battery release button
- ⑥ Li-ion battery

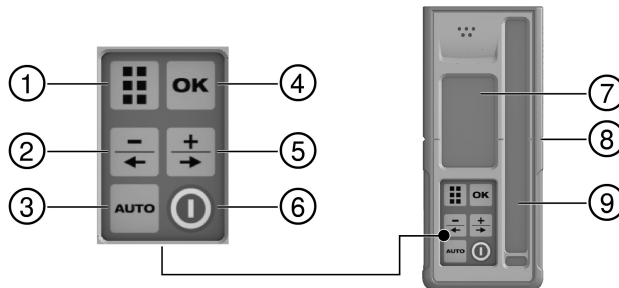
- ⑦ Battery state-of-charge display
- ⑧ Control panel
- ⑨ Base plate with 5/8" thread

### 3.1.2 PR 30-HVSG A12 control panel



- ① Inclined plane mode button and LED
- ② Shock warning function button and LED
- ③ Speed of rotation button
- ④ LED for status "On/off" and "Auto-leveling"
- ⑤ On/off button
- ⑥ Surveillance mode LED (only with automatic vertical alignment)
- ⑦ Battery charge status LED

### 3.1.3 PRA 30G laser receiver and control panel

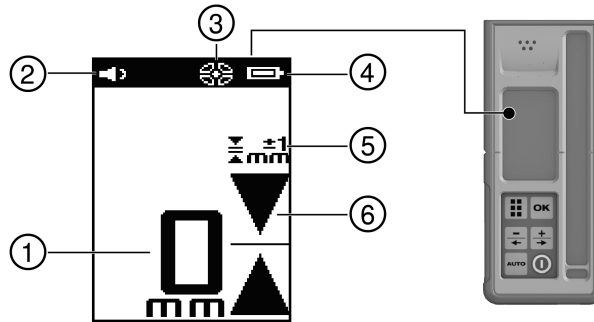


- ① Menu button
- ② Decrease inclination, to the left. Move PRA 90 down. Navigation in menu.
- ③ Automatic alignment / surveillance mode / marking function
- ④ OK button
- ⑤ Increase inclination, to the right. Move PRA 90 up. Navigation in menu.
- ⑥ On/off button
- ⑦ Display
- ⑧ Marking notch
- ⑨ Detection window





### 3.1.4 PRA 30G laser receiver display




- |  |  |
|--|--|
| ① Distance of the laser beam from the marking notch  | ④ Battery status indicator   |
| ② Volume indicator                                   | ⑤ Accuracy indicator   |
| ③ Indicator showing beam segments switched off or on | ⑥ Position of the receiver relative to the height of the laser plane |

### 3.2 Intended use

The product described is a rotating laser with a visible rotating laser beam. It can be operated by one person. The tool is designed to be used to determine, transfer and check levels, verticals, slopes and right angles.

- ▶ Use only the **Hilti B 12/2.6** Li-Ion battery for this product.
- ▶ Use only the **Hilti C 4/12-50** charger for this product.

### 3.3 Auto-leveling

Auto-leveling takes place after the tool is switched on. LEDs indicate the current operating status. Auto-leveling is active and can be deactivated by way of the  button. The tool can be set up directly on the ground or floor, on a tripod, or with the aid of suitable mounting brackets.

### 3.4 Automatic alignment

Automatic alignment allows a single person to bring the laser plane into alignment with the laser receiver. The rotating laser tool detects the applicable direction of alignment as follows:

- Horizontal in conjunction with the PRA 90 automatic tripod and PRA 30G laser receiver.
- Inclination in the X-axis in conjunction with the PRA 30G laser receiver.
- Vertical in conjunction with the PRA 30G laser receiver.

### 3.5 Inclination

Inclination can be carried out manually or automatically. The PRA 79 slope adapter can be used for larger angles of inclination.

### 3.6 Surveillance function

The rotating laser monitors alignment of the laser plane in conjunction with the PRA 30G laser receiver. In the event of an alignment deviation the system corrects the direction of the laser plane, keeping it at the zero point of the laser receiver. The rotating laser corrects all errors caused by temperature fluctuations, wind or other such influences. If the optical connection (line of sight) between the rotating laser and the laser receiver is interrupted for longer than two minutes, the system indicates an error. During vertical alignment, the surveillance function can be activated only via the AUTO menu.

### 3.7 Automatic switch-off

The tool switches off automatically if it is unable to level itself because the rotating laser:

- Is inclined too greatly relative to the horizontal plane (except when in inclined plane mode).

- Is blocked mechanically.
- Has been knocked off level by an impact or vibration.
- Has identified a fault.


When the tool has switched itself off, rotation stops and all LEDs flash.

### 3.8 Shock warning function

If the rotating laser is knocked off level during operation, the built-in shock warning function switches the tool to warning mode. The shock warning function does not go active until two minutes after completion of auto-leveling. If a button on the control panel is pressed within this two-minute period it will take a further two minutes for the shock warning function to go active. If the rotating laser is in warning mode:

- All LEDs flash.
- The laser stops rotating.
- The laser beam switches off.

The sensitivity of the shock warning function can be set using the PRA 30G laser receiver.

The shock warning function can be switched off by pressing the  button if the ground or floor is not free from vibration or when you are working in inclined plane mode.

- ▶ Deactivate the shock warning function. → page 19

### 3.9 Sleep mode

Sleep mode may be activated on the rotating laser during breaks between work or during other activities. All settings concerning the laser plane or inclination are retained while in this status. Sleep mode saves power and extends battery life.

PRA 30G the laser receiver is used to activate / deactivate sleep mode.



Sleep mode remains active for a maximum of 4 hours. The system switches itself off after this time.

### 3.10 Switching off beam segments

Individual segments of the path of the laser beam can be deactivated in order to:

- Avoid exposing yourself or bystanders to the laser beam.
- Avoid influencing other measuring or alignment work being carried out in the vicinity.

### 3.11 Laser receiver / remote control unit

Hilti laser receivers digitally indicate the distance between the marking notch on the laser receiver and the position at which the laser beam (laser plane) strikes the detection area on the receiver. The laser beam can also be received over long distances. The PRA 30G can be used as a laser receiver and also as a remote control unit for the rotating laser.

### 3.12 Pairing accessories and device

#### Pairing accessories and device

Pairing is the act of enabling accessories and devices to communicate with each other by wireless.

The rotating laser and the laser receiver are already paired when supplied. This helps ensure trouble-free operation within the vicinity of other wireless devices.

Additional laser receivers or PRA 90 automatic tripods cannot be used without first being paired.

### 3.13 LED indicators

The rotating laser is equipped with LED indicators.

Status	Meaning
All LEDs blink.	<ul style="list-style-type: none"> <li>• The tool has been bumped, knocked off level or has a fault.</li> </ul>
The auto-leveling LED flashes green.	<ul style="list-style-type: none"> <li>• The tool is in the leveling phase.</li> </ul>
The auto-leveling LED shows steady green.	<ul style="list-style-type: none"> <li>• The tool has leveled itself / is operating normally.</li> </ul>




Status	Meaning
The shock warning LED shows steady orange.	<ul style="list-style-type: none"><li>Shock warning mode is deactivated.</li></ul>
The inclination LED shows steady orange	<ul style="list-style-type: none"><li>Inclined plane mode is active.</li></ul>
The surveillance LED flashes orange.	<ul style="list-style-type: none"><li>The tool is aligning the laser plane with the (PRA 30G) reference point.</li></ul>
The surveillance mode LED shows steady orange.	<ul style="list-style-type: none"><li>The tool is in surveillance mode. Alignment with the reference point (PRA 30G) is correct.</li></ul>

### 3.14 Li-ion battery charge state display

The Li-ion battery features a state of charge display.

Status	Meaning
4 LEDs light.	<ul style="list-style-type: none"><li>Charge status: 75 % to 100 %</li></ul>
3 LEDs light.	<ul style="list-style-type: none"><li>Charge status: 50 % to 75 %</li></ul>
2 LEDs light.	<ul style="list-style-type: none"><li>Charge status: 25 % to 50 %</li></ul>
1 LED lights.	<ul style="list-style-type: none"><li>Charge status: 10 % to 25 %</li></ul>
1 LED blinks.	<ul style="list-style-type: none"><li>Charge status: &lt; 10 %</li></ul>

 When the tool is in operation, the battery charge status is indicated in the display on the tool. When not in operation, battery charge state can be indicated by lightly pressing the release button. During charging, charge state is indicated by the LEDs on the battery (please refer to the operating instructions for the charger).

### 3.15 Items supplied

PR 30-HVSG A12 rotating laser, PRA 30G laser receiver / remote control unit, 2 batteries (AA cells), PRA 54 target plate, operating instructions.

Other system products approved for use with this product can be found at your local **Hilti Store** or online at: [www.hilti.group](http://www.hilti.group).

## 4 Technical data

### 4.1 Technical data for the rotating laser

	PR 30-HVSG A12
Receiving range (diameter) PRA 30G	2 m ...300 m (6 ft - 10 in ...984 ft)
Communication range (PRA 30G)	200 m (656 ft)
Accuracy at 10 m (under standard ambient conditions in accordance with MIL-STD-810G)	±1.0 mm (±0.04 in)
Laser class	2, visible
Self-leveling range	±5°
Operating temperature	-10 °C ...50 °C (14 °F ...122 °F)
Storage temperature	-25 °C ...60 °C (-13 °F ...140 °F)
Weight (including battery)	2.5 kg (5.5 lb)
Drop test height (under standard ambient conditions in accordance with MIL-STD-810G)	1.5 m (4 ft - 11 in)

	<b>PR 30-HVSG A12</b>
<b>Protection class in accordance with IEC 60529 (except battery and battery compartment)</b>	IP66
<b>Plumb beam</b>	Constant beam, perpendicular to the plane of rotation

#### 4.2 Technical data for the laser receiver


<b>Indicator range, distance from zero</b>	±52 mm (±2.0 in)
<b>Laser plane display range</b>	±0.5 mm (±0.02 in)
<b>Length of the detection area</b>	≤ 120 mm (≤ 4.7 in)
<b>Center indication from top edge of casing</b>	75 mm (3.0 in)
<b>Time without detection before automatic power off</b>	15 min
<b>Range of remote control unit (diameter) for the PR 30-HVSG</b>	2 m ... 150 m (6 ft - 10 in ... 492 ft)
<b>Drop test height in the PRA 83 laser receiver holder (under standard ambient conditions in accordance with MIL-STD-810G)</b>	2 m (6 ft - 10 in)
<b>Operating temperature</b>	-20 °C ... 50 °C (-4 °F ... 122 °F)
<b>Storage temperature</b>	-25 °C ... 60 °C (-13 °F ... 140 °F)
<b>Weight (including batteries)</b>	0.25 kg (0.55 lb)
<b>Protection class in accordance with IEC 60529 (except battery compartment)</b>	IP66

## 5 Operating the rotating laser

### 5.1 Preparations at the workplace

Observe the safety instructions and warnings in this documentation and on the product.

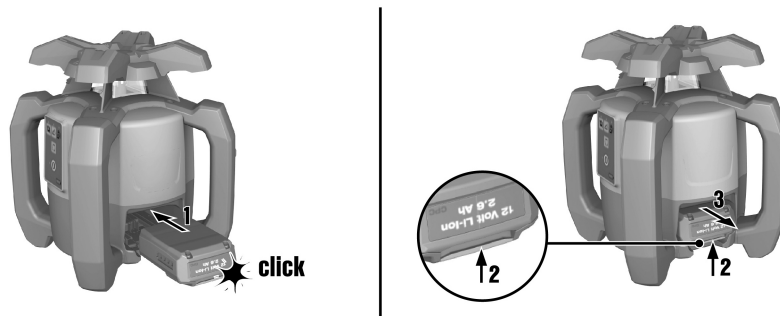
### 5.2 Handling the rotating laser and battery correctly

 The B12 battery has no protection class. Do not expose the battery to rain or wet conditions. In accordance with the **Hilti** instructions, the battery may be used only with the associated product and must be inserted in the battery compartment for this purpose.



1. Fig. 1: Working in horizontal mode.
2. Fig. 2: In inclined plane mode, the rotating laser should be lifted at the control panel side.
3. Fig. 3: Laying down or transporting in an inclined position. Working in the vertical plane.
  - ◀ Hold the rotating laser so that the battery compartment does NOT face upwards, so that no moisture can enter.

### 5.3 Inserting / removing the battery



#### CAUTION

**Electrical hazard.** Dirty contacts may cause a short circuit.

- ▶ Check that the contacts on the battery and on the tool are free from foreign objects before inserting the battery.

#### CAUTION

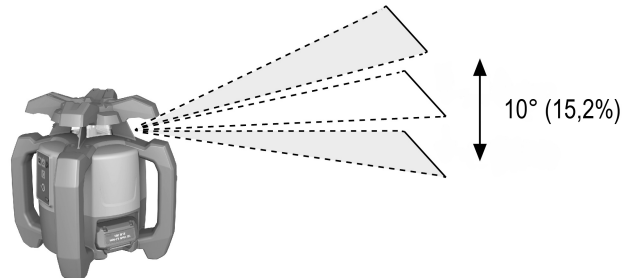
**Risk of injury.** If the battery is not fitted correctly it may drop out and fall.

- ▶ Check that the battery is securely seated in the tool so that it cannot drop out and fall, thereby presenting a hazard to other persons.

1. Push the battery in until it engages securely.
  - ◀ The rotating laser is ready to be switched on.
2. Press the release button and hold it in this position.
3. Pull the battery out.

### 5.4 Switching the rotating laser on and working in the horizontal plane

- Check the accuracy of the rotating laser before using it for important tasks, especially if it has been dropped or subjected to unusual influences or impacts, or after long periods of storage.

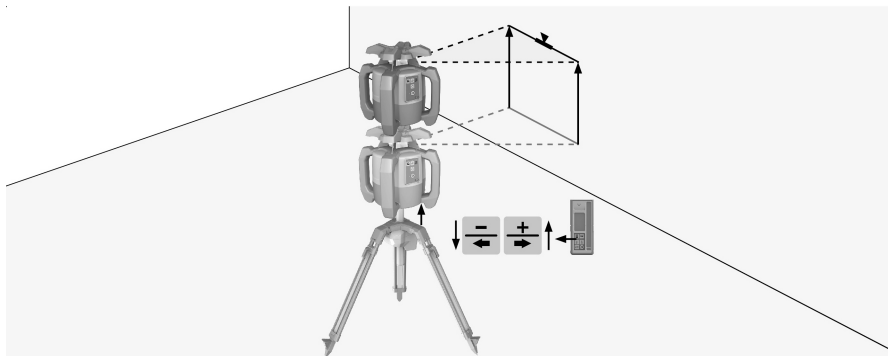


1. Mount the rotating laser on a suitable holder or bracket.
2. Press the button.
  - ◁ The auto-leveling LED flashes green.
  - ◁ As soon as the tool has leveled itself, the laser beam switches on and begins to rotate and the "auto leveling" LED shows steadily.

A wall bracket or tripod may be used as mounting devices. The angle of inclination of the surface on which it stands should not exceed  $\pm 5^\circ$ .

#### 5.5 Manual horizontal alignment using the PRA 90 tripod

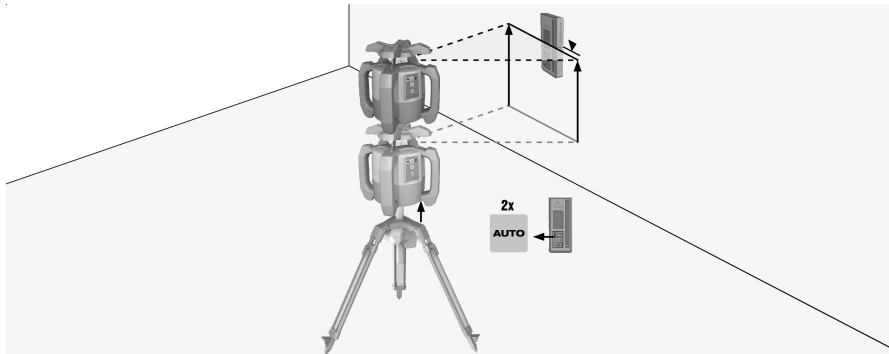
- The rotating laser is mounted on the PRA 90 automatic tripod.
- The PRA 30G laser receiver, the rotating laser and the PRA 90 automatic tripod are paired. The PRA 30G laser receiver and the control panel of the PRA 90 automatic tripod are facing each other and in direct line of sight.



1. Press the button on the rotating laser, on the PRA 30G laser receiver and on the PRA 90 automatic tripod.
  - ◁ The devices are ready for use.
2. To shift the laser plane up, press the button on the PRA 30G laser receiver or the "up" arrow button on the PRA 90 automatic tripod.
3. To shift the laser plane down, press the button on the PRA 30G laser receiver or the "down" arrow button on the PRA 90 automatic tripod.

### 5.6 Automatic horizontal alignment using the PRA 90 tripod

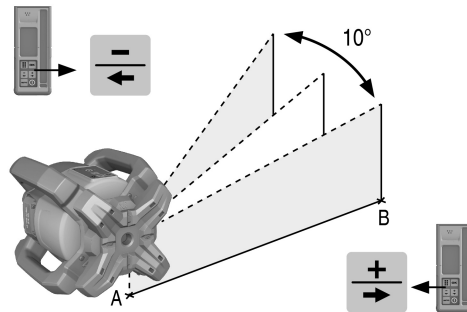
- i** The rotating laser is mounted on the PRA 90 automatic tripod.  
The PRA 30G laser receiver, the rotating laser and the PRA 90 automatic tripod are paired.  
The PRA 30G laser receiver and the control panel of the PRA 90 automatic tripod are facing each other and in direct line of sight.



1. Press the **i** button on the rotating laser, on the PRA 30G laser receiver and on the PRA 90 automatic tripod.
  - ◀ The devices are ready for use.
2. Keep the marking notch on the PRA 30G laser receiver at the height that is to be set. The PRA 30G laser receiver should be held steady or secured in place.
3. Begin automatic alignment by double-clicking the **AUTO** button on the PRA 30G laser receiver or select the corresponding function in the AUTO menu.
  - ◀ The PRA 90 automatic tripod moves up and down until the correct position is reached. An signal tone is emitted by the laser receiver repeatedly during this procedure.
  - ◀ The rotating laser levels itself once the position has been reached. Successful completion is indicated by a continuous signal tone with a duration of 5 seconds. The **✓** symbol is displayed briefly.
  - ▽ If automatic alignment cannot be completed successfully, short signal tones are emitted and the **⚠** is displayed briefly.
4. Check the height setting in the display.
5. Remove the PRA 30G laser receiver.
6. Stop automatic alignment before completion by double-clicking the **AUTO** button on the PRA 30G laser receiver.

### 5.7 Manual vertical alignment

- i** The rotating laser is placed or securely mounted in the vertical position (tripod, wall mount, facade or batter board adapter, or lying on the rear grips). A reference point (A) is marked below the laser head (e.g. a nail on a batter board or a spot of paint on the floor or ground).  
The PRA 30G laser receiver and the rotating laser are paired.  
The PRA 30G laser receiver and the receiving side of the rotating laser are facing each other and in direct line of sight. The best receiving side of the rotating laser is the side at which the battery is inserted.



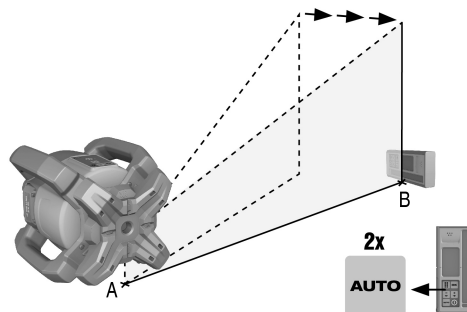
1. Press the button on the rotating laser.
  - ◀ The rotating laser levels itself and then projects a stationary downward-pointing laser beam.
2. Position the rotating laser so that the projected laser beam strikes reference point (A) exactly. Please note: The reference point is not a plumb point!
3. To shift the laser plane to the right or left, press the or button on the PRA 30G laser receiver.
  - ◀ The rotating laser begins rotating after pressing one of the two direction arrow buttons.

#### 5.8 Automatic vertical alignment

The rotating laser is placed or securely mounted in the vertical position (tripod, wall mount, facade or batter board adapter, or lying on the rear grips). A reference point (A) is marked below the laser head (e.g. a nail on a batter board or a spot of paint on the floor or ground).

The PRA 30G laser receiver and the rotating laser are paired.




The PRA 30G laser receiver and the receiving side of the rotating laser are facing each other and in direct line of sight. The best receiving side of the rotating laser is the side at which the battery is inserted.




1. Press the button on the rotating laser.
  - ◀ The rotating laser levels itself and then projects a stationary downward-pointing laser beam.
2. Position the rotating laser so that the projected laser beam strikes reference point (A) exactly. Please note: The reference point is not a plumb point!
3. Keep the marking notch on the PRA 30G laser receiver on the plane that is to be set. The PRA 30G laser receiver should be held steady or secured in place.
4. Begin automatic alignment by double-clicking the button on the PRA 30G laser receiver or select the corresponding function in the AUTO menu.
  - ◀ The head of the rotating laser pivots to the left and right until the position is reached. An signal tone is emitted by the laser receiver repeatedly during this procedure.











- ◁ The rotating laser levels itself once the position has been reached. The  symbol is displayed briefly.
  - ▽ If automatic alignment cannot be completed successfully, short signal tones are emitted and the  is displayed briefly.
5. Double-click the  button on the PRA 30G laser receiver.
    - ◁ During automatic alignment: Stops automatic alignment before completion.

### 5.9 Automatic vertical alignment with surveillance function


 The rotating laser is placed or securely mounted in the vertical position (tripod, wall mount, facade or batter board adapter, or lying on the rear grips). A reference point (A) is marked below the laser head (e.g. a nail on a batter board or a spot of paint on the floor or ground).

The PRA 30G laser receiver and the rotating laser are paired.

The PRA 30G laser receiver and the receiving side of the rotating laser are facing each other and in direct line of sight. The best receiving side of the rotating laser is the side at which the battery is inserted.

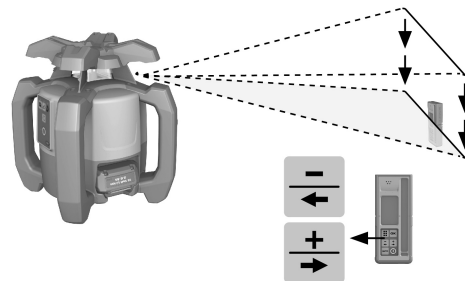
1. Press the  button on the rotating laser.
  - ◁ The rotating laser levels itself and then projects a stationary downward-pointing laser beam.
2. Position the rotating laser so that the projected laser beam strikes reference point (A) exactly. Please note: The reference point is not a plumb point!
3. Keep the marking notch on the PRA 30G laser receiver on the plane that is to be set. The PRA 30G laser receiver should be held steady or secured in place.
4. Press the  button on the PRA 30G to display the AUTO menu. Start automatic alignment with surveillance function .
  - ◁ The head of the rotating laser pivots to the left and right until the position is reached. An signal tone is emitted by the laser receiver repeatedly during this procedure.
  - ◁ The rotating laser levels itself once the position has been reached. The  symbol is displayed briefly and the signal tone stops.
  - ◁ The rotating laser switches to the surveillance function. Small deviations due to external influences are then compensated automatically and the laser beam is kept at the height of the marking notch on the laser receiver.
  - ▽ If automatic alignment cannot be completed successfully, short signal tones are emitted and the  is displayed briefly.
5. Do **NOT** remove the PRA 30G laser receiver from the target plane so long as surveillance mode is active.
6. Double-click the  button on the PRA 30G laser receiver.
  - ◁ During automatic alignment: Stops automatic alignment before completion.
  - ◁ If the surveillance function is active: Deactivate (end) the surveillance function.

### 5.10 Setting the inclination manually

 The rotating laser, depending on the application, is mounted or positioned securely.

The PRA 30G laser receiver and the rotating laser are paired.

The PRA 30G laser receiver and the receiving side of the rotating laser are facing each other and in direct line of sight. The best receiving side of the rotating laser is the side at which the battery is inserted.



1. Position the rotating laser either at the upper edge or lower edge of the inclined plane.
2. Use the target sight on the head of the tool to align the rotating laser parallel to the inclined plane.
3. Press the button on the rotating laser and the PRA 30G laser receiver.
  - ◀ The laser switches on, the beam begins to rotate and the “auto leveling” LED lights as soon as the tool has leveled itself.
4. Press the button on the rotating laser.
  - ◀ The inclined plane mode LED on the rotating laser lights constantly.
  - ◀ The inclined plane mode symbol is shown on the PRA 30G laser receiver.
5. Use the or buttons on the laser receiver to incline the laser plane.

**i** When the angle of inclination is set manually, the rotating laser levels the laser plane once and then fixes it. Vibration, changes in temperature or other influences that may occur during the course of the day may affect the position of the laser plane.

#### 5.11 Setting the inclination using the PRA 79 slope adapter

**i** Depending on the application, the PRA 79 slope adapter can be mounted on a tripod or on a wall bracket.

The angle of inclination of the PRA 79 slope adapter is set to 0°.

1. Mount the rotating laser on the PRA 79 slope adapter. Observe the operating instructions for the PRA 79 slope adapter. The control panel of the rotating laser should be facing you.
2. Position the rotating laser either at the upper edge or lower edge of the inclined plane.
3. Press the button on the rotating laser.
  - ◀ The laser switches on, the beam begins to rotate and the “auto leveling” LED lights as soon as the tool has leveled itself.
4. Press the button on the rotating laser.
  - ◀ The inclined plane mode LED on the rotating laser lights constantly.
5. Set the PRA 79 slope adapter to the desired angle of inclination.

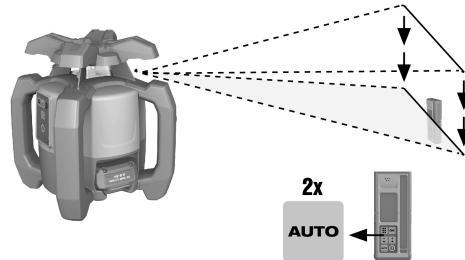
**i** When the angle of inclination is set manually, the rotating laser levels the laser plane once and then fixes it. Vibration, changes in temperature or other influences that may occur during the course of the day may affect the position of the laser plane.

#### 5.12 Setting inclination automatically

**i** The rotating laser, depending on the application, is mounted or positioned securely.

The PRA 30G laser receiver and the rotating laser are paired.

The PRA 30G laser receiver and the receiving side of the rotating laser are facing each other and in direct line of sight. The best receiving side of the rotating laser is the side at which the battery is inserted.



1. Position the rotating laser either at the upper edge or lower edge of the inclined plane.
2. Press the button on the rotating laser and the PRA 30G laser receiver.
  - ◀ The laser switches on, the beam begins to rotate and the “auto leveling” LED lights as soon as the tool has leveled itself.
3. Press the button on the rotating laser.
  - ◀ The inclined plane mode LED on the rotating laser lights constantly.
  - ◀ The inclined plane mode symbol is shown on the PRA 30G laser receiver.
4. Position the marking notch on the PRA 30G laser receiver at the other edge of the inclined plane.
5. Begin automatic alignment by double-clicking the button on the PRA 30G laser receiver or select the corresponding function in the AUTO menu.
  - ◀ The rotating laser inclines the laser plane on the X-axis automatically until the mark at the PRA 30G laser receiver is reached. An signal tone is emitted by the laser receiver repeatedly during this procedure.
  - ◀ The rotating laser levels itself on the Y-axis once the position has been reached. Successful completion is indicated by a continuous signal tone with a duration of 5 seconds. The symbol is displayed briefly.
  - ▼ If automatic alignment cannot be completed successfully, short signal tones are emitted and the is displayed briefly.
6. Stop automatic inclination before completion by double-clicking the button on the PRA 30G laser receiver.

If the rotating laser begins the automatic search in the wrong direction, press the button to change the search direction.

### 5.13 Manual scan line function

1. Press the button on the rotating laser.
2. Adjust the laser plane to the desired position / height. The scan line function can be used in horizontal, vertical and inclined plane mode.
3. Press the button on the PRA 30G to display the menu.
4. Select the manual scan line function .
5. The width of the scan line can be set to one of four widths via the scan line width submenu.
6. After selecting the scan line function in the menu, the and symbols can be used to shift the laser line to the left or right. The laser receiver does not require to be within the path of laser beam in order to do this.

### 5.14 Automatic scan line function

1. Press the button on the rotating laser.
2. Adjust the laser plane to the desired position / height. The scan line function can be used in horizontal, vertical and inclined plane mode.
3. Press the button on the PRA 30G to display the AUTO menu.
4. Start the automatic scan line function .

- Bring the laser receiver into the desired position. The rotating laser automatically concentrates the beam along a shortened line in the area of the laser receiver.

**i** The width of the scan line can be adjusted using menu on the PRA 30G. The narrower the scan line is set, the brighter it will appear.

- After selecting the scan line function in the menu, the  $\nabla$  and  $\nabla$  symbols can be used to shift the laser line to the left or right. The laser receiver does not require to be within the path of laser beam in order to do this.

### 5.15 Deactivating the shock warning function

- Press the  $\text{⓪}$  button on the rotating laser.
- Press the  $\text{⓪}$  button.
  - The shock warning deactivation LED lights constantly, indicating that the function has been deactivated.

**i** To return to standard operating mode, switch the rotating laser off and then switch it back on again.

## 6 Operating the laser receiver

### 6.1 Inserting the batteries in the laser receiver



- Insert the batteries in the laser receiver.

**i** Use only batteries that have been manufactured in accordance with international standards.

### 6.2 Pairing the rotating laser and the PRA 30G laser receiver

- Position both tools at a distance of about 0.5 m (2 ft) from each other. Press the  $\text{⓪}$  button on both devices for at least 3 seconds.
  - Successful pairing is confirmed by all LEDs blinking on the rotating laser a signal tone emitted by the PRA 30G laser receiver. The  $\text{✓}$  and  $\text{⊕}$  symbols are displayed briefly on the laser receiver.
  - The devices are paired.
  - The rotating laser and the laser receiver switch themselves off.
- Switch the devices on again.

### 6.3 Pairing the PRA 90 tripod and the PRA 30G laser receiver

- Position both tools at a distance of about 0.5 m (2 ft) from each other. Press the  $\text{⓪}$  button on both devices for at least 3 seconds.
  - Successful pairing is confirmed by all LEDs blinking on the PRA 90 automatic tripod and by a signal tone emitted by the PRA 30G laser receiver. The  $\text{✓}$  and  $\text{⊕}$  symbols are displayed briefly on the laser receiver.



- ◁ The devices are paired.
- ◁ The automatic tripod and the laser receiver switch themselves off.
- 2. Switch the devices on again.
  - ◁ The rotating laser and the automatic tripod are shown in the display on the laser receiver.

#### 6.4 Using the laser receiver to detect the laser beam

1. Press the button on the laser receiver.
2. Hold the laser receiver with the receiving window directly in the plane of the laser beam.
3. Hold the laser receiver still while alignment is taking place and take care to ensure that the line of sight between the laser receiver and the rotating laser is not obstructed.
  - ◁ Detection of the laser beam is indicated by visual and audible signals.
  - ◁ The laser receiver indicates the distance to the rotating laser.
  - ◁ The laser receiver can be used at distances (radiuses) of up to 300 m (1000 ft).

#### 6.5 Explanation of the menu options

- To display the menu, press the button.
- Use the and buttons to navigate in the menu.
- The symbol selected is shown on a dark background. Example:
- An active setting is shown in a black frame. Example:
- Press the button to confirm your selection.

##### Main menu

	Marking function
	Speed of rotation
	Rotating laser settings
	Laser receiver settings
	Information
	Back. Takes you back to a higher level in the menu or leaves the menu without making any changes.

##### Marking function menu

	Line width settings menu (display shows the currently set width)
	Move line to the left
	Move line to the right

##### Line width settings menu

	Wide
	Medium
	Narrow
	Point

##### Speed of rotation menu

 300 RPM	300 revolutions per minute
----------------	----------------------------

<b>600</b> RPM	600 revolutions per minute
<b>1200</b> RPM	1200 revolutions per minute

#### Rotating laser settings menu

	Sleep mode
	Shock warning
	Switch off beam segments

#### Shock warning submenu

	Level 1, high sensitivity
	Level 2, medium sensitivity
	Level 3, low sensitivity

#### Sleep mode submenu

	Sleep mode on
	Sleep mode off

#### Submenu for switching off beam segments

	Example The upper left beam segment is active
	Example The upper left beam segment is not active
	The other beam segments can be activated and deactivated in the same way.

#### Laser receiver settings menu

	Volume level
	Accuracy
	Units

#### Volume level submenu

	Audible signal off
	Volume level 1
	Volume level 2
	Volume level 3

#### Accuracy submenu

	1 mm		1/16 in
	2 mm		1/8 in
	5 mm		1/4 in



$\frac{\pm 10}{2 \text{ mm}}$	10 mm	$\frac{\pm 1}{16} \text{ in}$	1/2 in
$\frac{\pm 25}{2 \text{ mm}}$	25 mm	$\frac{\pm 1}{8} \text{ in}$	1 in

#### Units submenu

mm	Metric system
in	Imperial system

#### Menu information

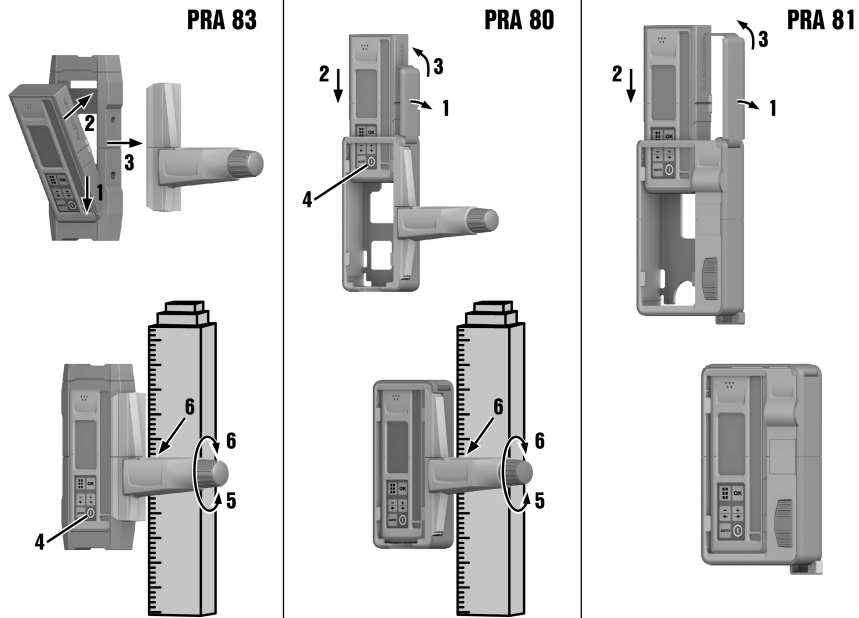
i	Software versions
	Service deadline
	QR code

#### AUTO menu


Press the **AUTO** button once to open the AUTO menu.

	Automatic alignment
	Automatic alignment with surveillance function
	Automatic scan line function

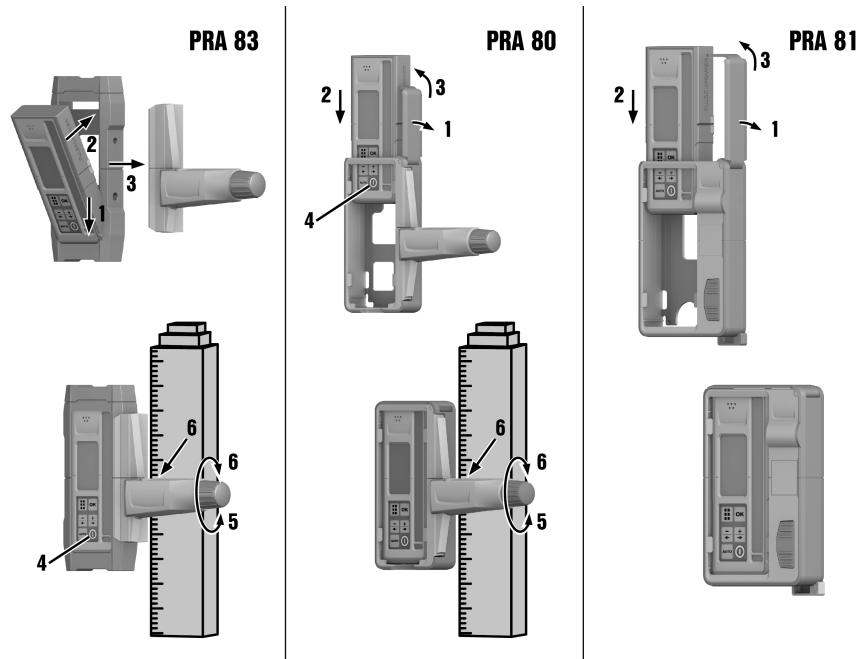
### 6.6 PRA 83 laser receiver with holder




1. Fit the laser receiver into the rubber sleeve of the PRA 83 at an angle from above.

2. Then press the laser receiver into the rubber sleeve until the sleeve surrounds the laser receiver completely.
3. Fit the rubber sleeve onto the magnetic grip piece.
4. Press the  button.
5. Unscrew the clamping knob on the grip piece slightly.
6. Mount the PRA 83 laser receiver on a telescopic staff or leveling staff and secure it by tightening the clamping knob.
  - ◁ The laser receiver is ready for taking measurements.

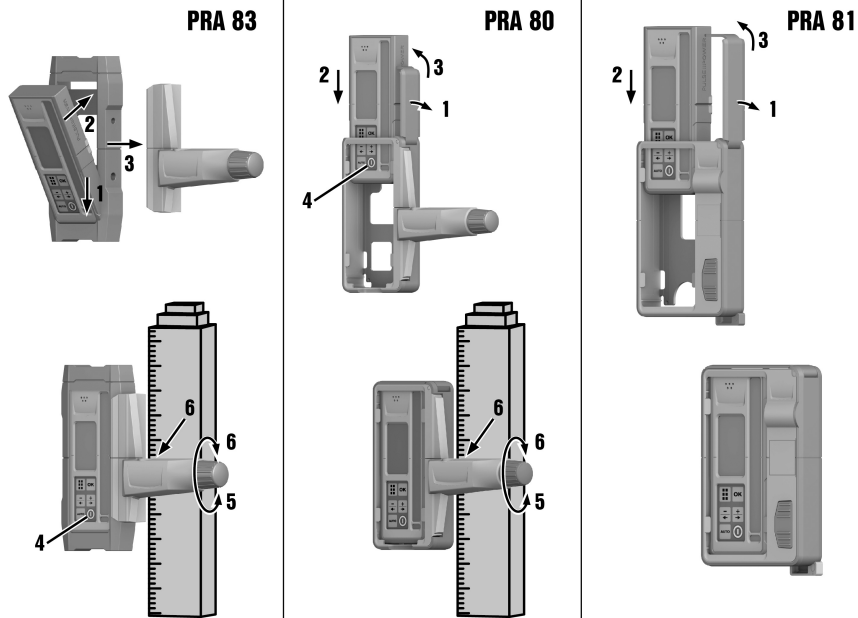
#### 6.7 PRA 80 laser receiver with holder



1. Open the retainer on the PRA 80 and insert the laser receiver.
2. Close the retainer on the PRA 80.
3. Press the  button.
4. Unscrew the clamping knob on the grip piece slightly.
5. Mount the PRA 80 laser receiver on a telescopic staff or leveling staff and secure it by tightening the clamping knob.
  - ◁ The laser receiver is ready for taking measurements.



## 6.8 PRA 81 laser receiver with holder



1. Open the retainer on the PRA 81 and insert the laser receiver.
2. Close the retainer on the PRA 81.
3. Press the button.
4. Hold the laser receiver with the receiving window directly in the plane of the laser beam.
5. Position the laser receiver so that the distance display shows "0".
6. Use the measuring tape to measure the desired offset distance.

## 7 Care and maintenance

### 7.1 Care and maintenance

#### WARNING

#### Risk of injury with battery inserted!

- ▶ Always remove the battery before carrying out care and maintenance tasks!

#### Care and maintenance of the tool

- Carefully remove stubborn dirt from the tool.
- Use only a slightly damp cloth to clean the casing. Do not use cleaning agents containing silicone as these may attack the plastic parts.

#### Care of the Li-ion batteries

- Keep the battery free from oil and grease.
- Use only a slightly damp cloth to clean the casing. Do not use cleaning agents containing silicone as these may attack the plastic parts.
- Avoid ingress of moisture.

#### Maintenance

- Check all visible parts and controls for signs of damage at regular intervals and make sure that they all function correctly.



- Do not operate the cordless tool if signs of damage are found or if parts malfunction. Have the tool repaired by **Hilti** Service immediately.
- After cleaning and maintenance, fit all guards or protective devices and check that they function correctly.

#### **Cleaning the laser exit window**

- ▶ Blow dust off the laser exit window.
- ▶ Do not touch the laser exit window with your fingers.



Coarse cleaning materials can scratch the glass, impairing the accuracy of the device. Use only pure alcohol or water for cleaning, as other liquids can attack the plastic parts.  
Observe the temperature limits when drying the equipment.

### **7.2 Hilti Measuring Systems Service**

**Hilti** Measuring Systems Service checks the product and, if deviations from the specified accuracy are found, recalibrates it and checks it again to ensure conformity with specifications. The service certificate provides written confirmation of conformity with specifications at the time of the test. The following is recommended:

- A suitable test interval should be chosen in accordance with the degree of use.
- Have the product checked by **Hilti** Measuring Systems Service after exceptionally heavy use or subsection to unusual conditions or stress, before important work or at least once a year.

Having the product checked by **Hilti** Measuring Systems Service does not relieve the user of his/her obligation to check the product before and during use.

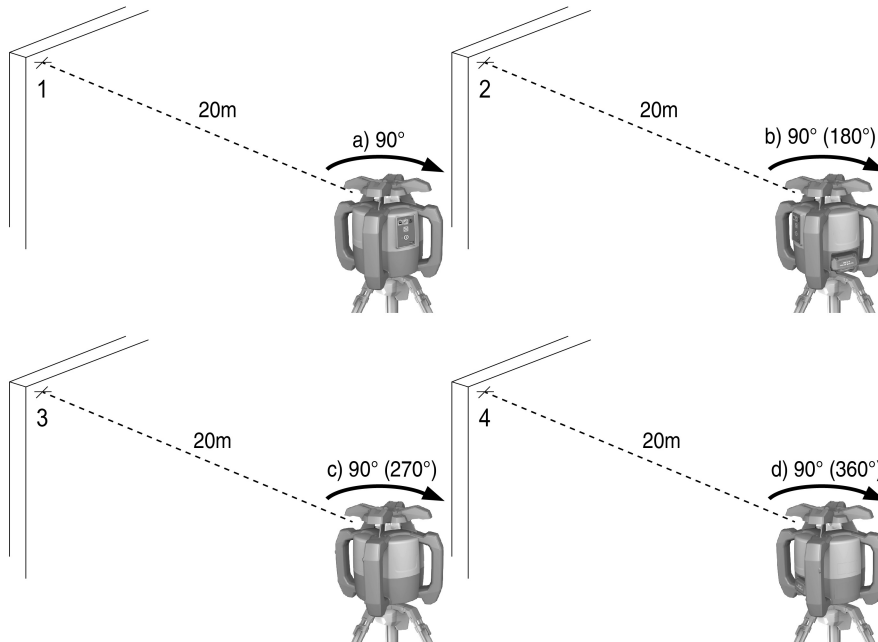
### **7.3 Checking accuracy**

In order to ensure compliance with the technical specifications, the tool should be checked regularly (at least before each major / relevant measuring task).

After falling from considerable height, the tool should be checked for correct, accurate operation. When the following conditions are fulfilled it can be assumed that the tool is operating faultlessly:

- The height of the fall did not exceed the height given in the technical data.
- The tool operated faultlessly before the impact.
- The tool suffered no obvious mechanical damage from the impact (e.g. breakage of the pentaprism).
- The tool projects a rotating laser beam when in operation.

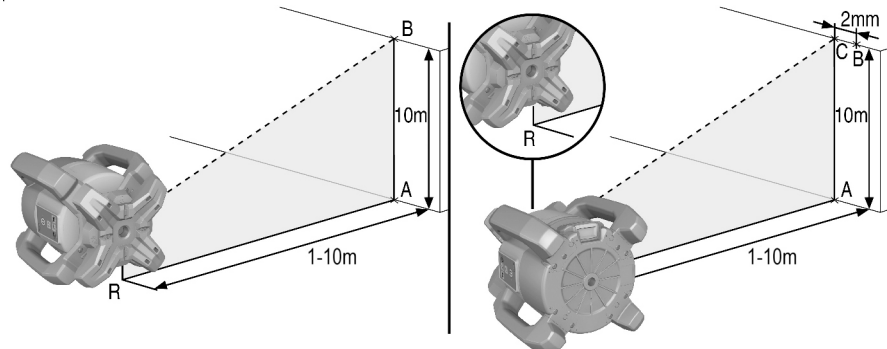
#### 7.4 Checking the main and transverse horizontal axes



1. Set up the tripod approx. 20 m (66ft) from a wall and level the tripod head with the spirit level.
2. Mount the device tool on the tripod and use the visual sighting method (front and rear sights) to aim the tool at the wall.
3. Fig. a: Use the receiver to catch the laser beam and mark a point (point 1) on the wall.
4. Pivot the device clockwise through 90° about its own axis. In doing so, make sure that the height of the device does not change.
5. Fig. b: Use the laser receiver to catch the laser beam and mark a second point (point 2) on the wall.
6. Figs. c and d: Repeat the two previous steps twice and use the laser receiver to catch the beam and mark points 3 and 4 on the wall.

**i** If the procedure has been carried out accurately, the vertical distance between the two marked points 1 and 3 (main axis) and between points 2 and 4 (transverse axis) should each be <2 mm (at 20 m) (0.08" at 66 ft). If the deviation is greater than this, return the device to **Hilti** Service for calibration.

## 7.5 Checking the vertical axis



1. Place the device in the vertical position on a floor that is as flat as possible, approx. 1 to 10 m (3 - 33 ft) from a wall.
2. Align the grips parallel with the wall.
3. Switch on the device and mark the reference point (R) on the floor.
4. With the aid of the receiver, mark point (A) at the base of the wall.
5. With the aid of the receiver, mark point (B) at a height of approx. 10 m (33 ft).
6. Pivot the device through 180° and realign it with the reference point (R) on the floor and with point (A) at the base of the wall. This can also be done using the automatic alignment function.
7. Bring the vertical laser plane into alignment automatically. → page 15
8. With the aid of the receiver, mark point (C) at a height of approx. 10 m (33 ft).
  - ◁ When this procedure is carried out carefully, the horizontal distance between the two marked points (B) and (C) should be < 2 mm (at 10 m) (0.08 inch at 33 ft). If the deviation is greater than this, return the device to **Hilti** Service for calibration.

## 8 Transport and storage

### 8.1 Transport and storage of cordless tools

#### Transport

##### CAUTION

#### Accidental starting during transport !

- ▶ Always transport your products with the batteries removed!
- ▶ Remove the battery.
- ▶ Transport the tool and batteries individually packaged.
- ▶ Never transport batteries in bulk form (loose, unprotected).
- ▶ Check the tool and batteries for damage before use after long periods of transport.

#### Storage







##### CAUTION



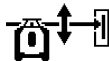




#### Accidental damage caused by defective or leaking batteries !

- ▶ Always store your products with the batteries removed!
- ▶ Store the tool and batteries in a place that is as cool and dry as possible.
- ▶ Never store batteries in direct sunlight, on heating units or behind a window pane.
- ▶ Store the tool and batteries in a place where they cannot be accessed by children or unauthorized persons.
- ▶ Check the tool and batteries for damage before use after long periods of storage.


## 9 Troubleshooting

If the trouble you are experiencing is not listed in this table or you are unable to remedy the problem by yourself, please contact **Hilti** Service.

Trouble or fault	Possible cause	Action to be taken
The tool doesn't work.	The battery is not fully inserted.	▶ Push the battery in until it engages with an audible click.
	Low battery.	▶ Change the battery and charge the empty battery.
	The tool has a fault or error.	▶ Switch the tool off and then on again. Contact <b>Hilti</b> Service if the fault / error persists.
The battery runs down more quickly than usual.	Very low ambient temperature.	▶ Warm up the battery slowly to room temperature.
The battery doesn't engage with an audible click.	The retaining lugs on the battery are dirty.	▶ Clean the retaining lugs and refit the battery.
The tool or battery gets very hot.	Electrical fault.	▶ Switch the tool off immediately, remove the battery, keep it under observation, allow it to cool down and contact <b>Hilti</b> Service.
 Serious error. All the LEDs on the rotating laser flash.	Serious error. This message is always accompanied by the corresponding symbol.	▶ Further operation is not possible. Switch off all tools / devices and then switch them on again.
 Warning	The warning message is always accompanied by the corresponding symbol.	▶ Solutions are indicated by the corresponding symbol.
 Pairing was unsuccessful.	Pairing the rotating laser and laser receiver is not possible.	▶ Follow the instructions on pairing the devices exactly.
 Pairing was unsuccessful.	Pairing the tripod and laser receiver is not possible.	▶ Follow the instructions on pairing the devices exactly.
 Shock warning.	Shock warning has been triggered.	▶ Make sure the rotating laser is standing securely and is not exposed to vibration. ▶ Adjust the shock warning sensitivity setting. ▶ Deactivate the shock warning function. → page 19
 Laser position warning.	The laser is too steeply inclined, leveling not possible.	▶ Bring the laser into an upright position as far as possible. ▶ Switch the rotating laser on. → page 12

Trouble or fault	Possible cause	Action to be taken
 Inclination warning.	The laser receiver is outside the automatic inclination range.	<ul style="list-style-type: none"> <li>▶ Set the inclination of the laser plane using the PRA 79 slope adapter. → page 17</li> </ul>
 Surveillance mode warning.	The surveillance function is not possible or is interrupted.	<ul style="list-style-type: none"> <li>▶ Check the positions of the rotating laser and laser receiver and reposition if necessary.</li> <li>▶ Remove obstacles from the path of the laser beam (laser plane).</li> <li>▶ Then restart the surveillance function.</li> </ul>
 Height adjustment warning.	Automatic height adjustment is not possible.	<ul style="list-style-type: none"> <li>▶ The tripod is not paired. Pair the tripod, rotating laser and laser receiver.</li> <li>▶ Switch on the tripod.</li> <li>▶ Switch on the rotating laser.</li> </ul>
 Low battery in the rotating laser.	Low battery in the rotating laser.	<ul style="list-style-type: none"> <li>▶ Charge the battery.</li> </ul>
 Low battery in the laser receiver.	Low battery in the laser receiver.	<ul style="list-style-type: none"> <li>▶ Charge the battery.</li> </ul>
 Low battery in the tripod.	Low battery in the tripod.	<ul style="list-style-type: none"> <li>▶ Charge the battery.</li> </ul>
 Sleep mode is active.	The tool is in sleep mode.	<ul style="list-style-type: none"> <li>▶ Activate / deactivate sleep mode.</li> </ul>

## 10 Disposal

 Most of the materials from which **Hilti** tools and appliances are manufactured can be recycled. The materials must be correctly separated before they can be recycled. In many countries, your old tools, machines or appliances can be returned to **Hilti** for recycling. Ask **Hilti Service** or your Hilti representative for further information.



### **Battery disposal**

Improper disposal of batteries can result in health hazards from leaking gases or fluids.

- ▶ DO NOT send batteries through the mail!
- ▶ Cover the terminals with a non-conductive material (such as electrical tape) to prevent short circuiting.
- ▶ Dispose of your battery out of the reach of children.
- ▶ Dispose of the battery at your **Hilti Store**, or consult your local governmental garbage disposal or public health and safety resources for disposal instructions.



- 
- ▶ Do not dispose of power tools, electronic equipment or batteries as household waste!
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### **11 Manufacturer's warranty**

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- ▶ Please contact your local **Hilti** representative if you have questions about the warranty conditions.

### **12 FCC statement (applicable in US) / IC statement (applicable in Canada)**

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The product complies with part 15 of the FCC Rules and RSS-210 of the IC.

Operation is subject to the following two conditions:

- This device shall cause no harmful interference.
- This device must accept any interference received, including interference that may cause undesired operation.



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Changes or modifications not expressly approved by **Hilti** may restrict the user's authorization to operate the equipment.

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