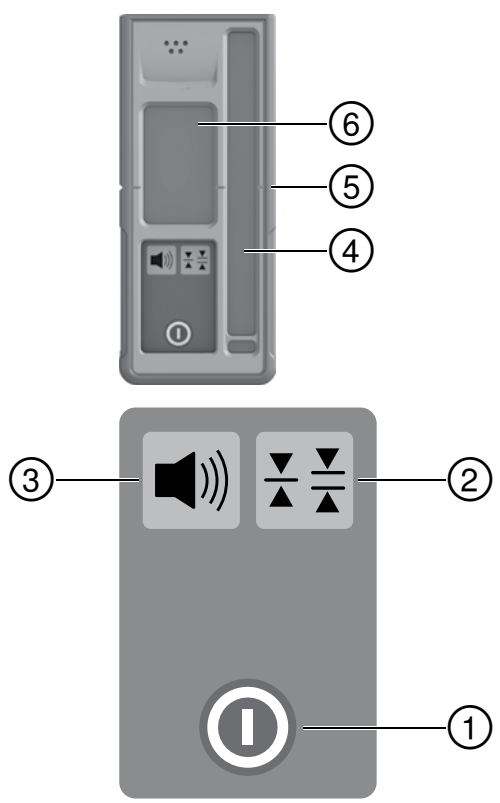
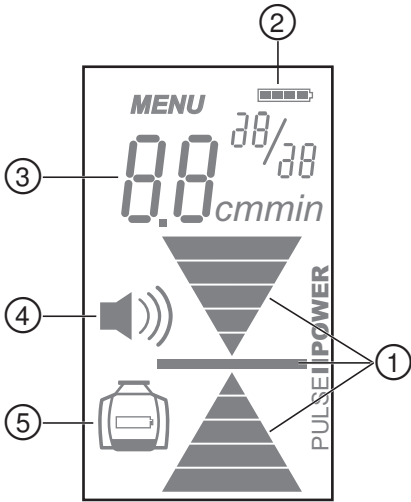


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取扱説明書	ja
사용설명서	ko
操作說明書	zh
操作说明书	cn





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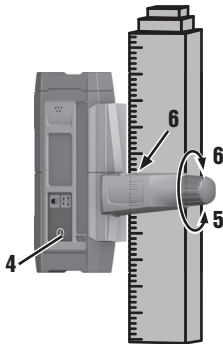
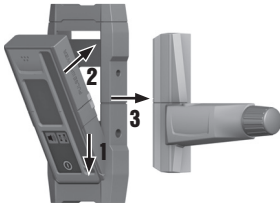


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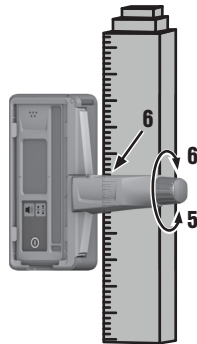
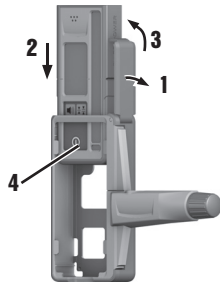


4

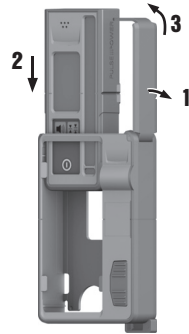
PRA 83



PRA 80



PRA 81



ORIGINAL OPERATING INSTRUCTIONS

PRA 20 laser receiver

en

It is essential that the operating instructions are read before the tool is operated for the first time.

Always keep these operating instructions together with the tool.

Ensure that the operating instructions are with the tool when it is given to other persons.

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1 These numbers refer to the illustrations. You can find the illustrations at the beginning of the operating instructions.

In these operating instructions, the designation “the receiver” or “the laser receiver” always refers to the PRA 20 (02) laser receiver.

Control panel **1**

- ① On/off button
- ② Units button
- ③ Volume button
- ④ Receiving window
- ⑤ Marking notch
- ⑥ Display

Display **2**

- ① Display showing the position of the receiver relative to the height of the laser plane
- ② Battery status indicator
- ③ Indication of distance from laser plane
- ④ Volume indicator
- ⑤ Low battery indicator for the rotating laser

1 General information

1.1 Safety notices and their meaning

DANGER

Draws attention to imminent danger that will lead to serious bodily injury or fatality.

WARNING

Draws attention to a potentially dangerous situation that could lead to serious personal injury or fatality.

CAUTION

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

NOTE

Draws attention to an instruction or other useful information.

1.2 Explanation of the pictograms and other information

Warning signs



General warning



Warning: caustic substances



Warning: electricity

Obligation signs



Read the operating instructions before use.

Symbols



Return waste material for recycling.



Do not look into the beam.



For indoor use only



KCC-REM-
HLT-PR2HS

Location of identification data on the tool

The type designation and serial number can be found on the type identification plate on the tool. Make a note of this data in your operating instructions and always refer to it when making an enquiry to your Hilti representative or service department.

Type: _____

Generation: 02 _____

Serial no.: _____

en

2 Description

2.1 Use of the product as directed

The Hilti PRA 20 laser receiver is designed to detect the laser beam from rotating lasers.

Observe the information printed in the operating instructions concerning operation, care and maintenance.

Take the influences of the surrounding area into account. Do not use the tool where there is a risk of fire or explosion.

Modification of the tool or tampering with its parts is not permissible.

2.2 Features

The receiver can either be held by hand or, using the corresponding holder, mounted on a measuring staff, telescopic staff, leveling staff, wooden batten or frame etc.

2.3 Items shown in the display

NOTE

The display on the receiver incorporates a number of symbols indicating various circumstances.

Display showing the position of the receiver relative to the height of the laser plane	The position of the receiver relative to the height of the laser plane is shown by an arrow indicating the direction in which the receiver has to be moved in order to bring it exactly into alignment with the laser.
Battery status indicator	The battery status indicator shows the remaining battery capacity.
Volume level	When no volume level symbol is visible in the display, the volume level is set to zero (off). If 1 segment is shown, the volume is set to "quiet". If 2 segments are shown, the volume is set to "normal". If 3 segments are shown, the volume is set to "loud".
Low battery indicator for the rotating laser	When the battery in the rotating laser requires charging, the corresponding symbol for the rotating laser appears in the display (provided that the receiver detects a laser beam from the PR 2-HS rotating laser).
Units indicator	Shows the exact distance of the receiver from the laser plane in the desired measuring units.

2.4 The items supplied

- 1 PRA 20 (02) laser receiver
- 1 Operating instructions
- 2 Batteries (size AA cells)
- 1 Manufacturer's certificate

3 Technical data

Right of technical changes reserved.

PRA 20 (02)

Detection range (area diameter)	With the PR 2-HS (typical): 2...600 m (6 ... 2,000 ft)
Signal tone generator	3 volume levels plus mute setting
Liquid-crystal display	On both sides
Indicator range, distance from zero	± 52 mm (± 2 1/32 in)
Laser plane display range	± 0.5 mm (± 1/64 in)
Length of the receiving window	120 mm (4 1/32 in)
Center indication from top edge of casing	75 mm (3 in)
Marking notches	On both sides
Time without detection before automatic power off	15 min
Dimensions (L × W × H)	160 mm (6 1/4 in) × 67 mm (2 5/8 in) × 24 mm (31/32 in)
Weight (including batteries)	0.25 kg (0.55 lbs)
Power source	2 AA-size batteries
Battery life	Temperature +20°C (68°F): Approx. 50 h (depending on the quality of the alkaline batteries used)
Operating temperature range	-20...+50°C (-4° F ... 122° F)
Storage temperature	-25...+60°C (-13° F ... 140° F)
Protection class	IP 66 (in accordance with IEC 60529); except the battery compartment
Drop test height ¹	2 m (6.5 ft)

¹ The drop test was carried out using the PRA 83 receiver holder, dropped onto flat concrete under standard ambient conditions (MIL-STD-810G).

4 Safety instructions

4.1 Basic information concerning safety

In addition to the information relevant to safety given in each of the sections of these operating instructions, the following points must be strictly observed at all times.

4.2 General safety rules

- Keep other persons, especially children, away from the area in which the work is being carried out.
- Check the condition of the tool before use. If the tool is damaged, have it repaired at a Hilti Service Center.
- Do not render safety devices ineffective and do not remove information and warning notices.
- The tool must be checked at a Hilti service center after it has been dropped or subjected to other mechanical stresses.
- If mounting on an adapter, check that the tool is fitted correctly.
- To avoid measurement errors, the receiving area must be kept clean.
- Although the tool is designed for the tough conditions of jobsite use, as with other optical and elec-

tronic instruments (e.g. binoculars, spectacles, cameras) it should be treated with care.

- Although the tool is protected against the entry of moisture, it should be wiped dry before being put away in its transport container.
- Operation of the tool close to the ears may cause hearing damage. Do not position the tool close to the ears.

4.2.1 Electrical



- Keep the batteries out of reach of children.
- Do not allow the batteries to overheat and do not expose them to fire. The batteries may explode or release toxic substances.
- Do not charge the batteries.
- Do not solder the batteries into the tool.
- Do not discharge the batteries by short circuiting as this may cause them to overheat and present a risk of personal injury (burns).

- f) **Do not attempt to open the batteries and do not subject them to excessive mechanical stress.**

4.3 Proper organization of the work area

- a) **Avoid unfavorable body positions when working on ladders or scaffolding. Make sure you work from a safe stance and stay in balance at all times.**
- b) Measurements taken through or from panes of glass or through other objects may be inaccurate.
- c) **Use the tool only within its specified limits.**
- d) **Use of the telescopic staff in the vicinity of overhead high voltage cables is not permissible.**

4.4 Electromagnetic compatibility

NOTE

Only for Korea: This device is suitable for the electromagnetic radiation encountered in residential environments (Class B). It is intended mainly for use in residential environments but may also be used in other environments.

Although the tool complies with the strict requirements of the applicable directives, Hilti cannot entirely rule out the possibility of the tool being subject to interference caused by powerful electromagnetic radiation, leading to incorrect operation. Check the accuracy of the tool by taking measurements by other means when working under such conditions or if you are unsure. Likewise, Hilti cannot rule out the possibility of interference with other devices (e.g. aircraft navigation equipment).

en

5 Before use



5.1 Inserting the batteries 3

DANGER

Do not use damaged batteries.

DANGER

Do not mix old and new batteries. Do not mix batteries of different makes or types.

NOTE

The laser receiver may be powered only by batteries manufactured in accordance with the applicable international standards.

1. Open the receiver battery compartment.
2. Insert the batteries in the receiver.

NOTE Check to ensure correct polarity when inserting the batteries.

3. Close the battery compartment.

6 Operation



6.1 Switching the tool off and on

Press the on/off button.

6.2 Working with the laser receiver

The receiver can be used at distances (radiuses) of up to 300 m (1,000 ft). The laser beam is indicated visually and by a signal tone.

6.2.1 Using the receiver as a hand-held tool

1. Press the on/off button.
2. Hold the receiver in the plane of the rotating laser beam.

6.2.2 Working with the receiver in the PRA 80 receiver holder 4

1. Open the catch on the PRA 80.
2. Place the receiver in the PRA 80 receiver holder.

3. Close the catch on the PRA 80.
4. Switch the receiver on by pressing the on/off button.
5. Unscrew the clamping knob slightly.
6. Secure the PRA 80 receiver holder on the telescopic staff or leveling staff by tightening the clamping knob.
7. Hold the receiver with the receiving window in the plane of the rotating laser beam.

6.2.3 Working with the tool in the PRA 83 receiver holder 4

1. Push the receiver into the rubber sleeve of the PRA 83 at an angle until it fully encloses the receiver. Take care to ensure that the receiving window and the buttons are facing the front.
2. Fit the receiver, complete with the rubber sleeve, onto the grip section. The cover and grip section are joined together by the magnetic holder.
3. Switch the receiver on by pressing the on/off button.
4. Unscrew the clamping knob slightly.

5. Secure the PRA 83 receiver holder on the telescopic staff or leveling staff by tightening the clamping knob.
6. Hold the receiver with the receiving window in the plane of the rotating laser beam.

6.2.4 Working with the PRA 81 height transfer device

1. Open the locking mechanism on the PRA 81.
2. Insert the receiver in the PRA 81 height transfer device.
3. Close the locking mechanism on the PRA 81.
4. Switch the receiver on by pressing the on/off button.
5. Hold the receiver with the receiving window in the plane of the rotating laser beam.
6. Position the laser receiver so that the distance display shows "0".
7. Use the measuring tape to measure the desired offset distance.

6.2.5 Setting the measuring unit

The "Units" button can be used to set the desired accuracy of the digital display (mm/cm/off).

6.2.6 Volume adjustment

When the receiver is switched on, the volume is set to "normal". The volume can be adjusted by pressing the "Volume" button. One of four settings can be selected: "Low", "Normal", "High" or "Off".

6.2.7 Menu options

Press and hold the on/off button for two seconds when switching the receiver on.

The menu is then shown in the display.

Use the "Measuring units" button to select metric or imperial measuring units.

Use the "Volume" button to assign the more rapid signal tone to the upper or lower area of the receiving window. To save the settings, switch the receiver off.

NOTE

Each setting made becomes effective the next time the tool is switched on.

7 Care and maintenance

7.1 Cleaning and drying

1. Blow dust off the surfaces.
2. Do not touch the display areas or the receiving window with the fingers.
3. Use only a clean, soft cloth for cleaning. If necessary, moisten the cloth slightly with pure alcohol or a little water.

NOTE Do not use any other liquids as these may damage the plastic components.

4. Dry the equipment, observing the maximum temperatures given in the technical data.

NOTE Especially in summer and winter, take care that the given maximum and minimum temperatures are not exceeded, e.g. when the equipment is stored in a motor vehicle.

7.2 Storage

1. Remove the appliance from its case if it has become wet. Dry and clean the tool, its transport container and accessories (while observing the permissible temperature range). Repack the equipment only once it is completely dry.
2. Check the accuracy of the equipment before it is used after a long period of storage or transportation.
3. Remove the batteries from the receiver before storing it for a long period. Leaking batteries may damage the receiver.

7.3 Transport

Use the original Hilti packaging or packaging of equivalent quality for transporting or shipping your equipment.

CAUTION

Remove the batteries from the laser receiver before transporting or shipping it.

7.4 Calibration by the Hilti Calibration Service

We recommend that the system is checked by the Hilti Calibration Service at regular intervals in order to verify its reliability in accordance with standards and legal requirements.

Use can be made of the Hilti Calibration Service at any time. We recommend that the system is calibrated at least once a year.

The Calibration Service provides confirmation that the system is in conformance, on the day it is tested, with the specifications given in the operating instructions.

In the event of deviation from the manufacturer's specification, the used tool will be readjusted. After checking and adjustment, a calibration sticker applied to the system unit and a calibration certificate provide written verification that the system operates in accordance with the manufacturer's specification.

Calibration certificates are always required by companies certified according to ISO 900x.

The Hilti representative in your local region will be pleased to provide further information.

8 Disposal

WARNING

Improper disposal of the equipment may have serious consequences: the burning of plastic components generates toxic fumes which may present a health hazard. Batteries may explode if damaged or exposed to very high temperatures, causing poisoning, burns, acid burns or environmental pollution. Careless disposal may permit unauthorized and improper use of the equipment. This may result in serious personal injury, injury to third parties and pollution of the environment.



Most of the materials from which Hilti tools or appliances are manufactured can be recycled. The materials must be correctly separated before they can be recycled. In many countries, Hilti has already made arrangements for taking back old tools and appliances for recycling. Ask Hilti customer service or your Hilti representative for further information.



For EC countries only

Do not dispose of electronic measuring tools or appliances together with household waste.

In observance of the European Directive on waste electrical and electronic equipment and its implementation in accordance with national law, electrical appliances that have reached the end of their life must be collected separately and returned to an environmentally compatible recycling facility.



Dispose of the batteries in accordance with national regulations. Please help us to protect the environment.

9 Manufacturer's warranty - tools

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

10 FCC statement (applicable in US) / IC statement (applicable in Canada)

This device 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 cause harmful interference.

This device must accept any interference received, including interference that may cause undesired operation.

NOTE

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

11 EC declaration of conformity (original)

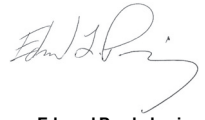
Designation:	Laser receiver
Type:	PRA 20
Generation:	02
Year of design:	2013

en We declare, on our sole responsibility, that this product complies with the following directives and standards: until 19th April 2016: 2004/108/EC, from 20th April 2016: 2014/30/EU, 2011/65/EU, EN ISO 12100.

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