

PRA 25

Gelöscht: 20

Operating instructions (draft) en

PRA 25 laser detector Contents / 1. General Information

Gelöscht: 20

It is essential that the operating instructions are read before the tool is used 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.

Component parts

PRA 25 laser detector

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1. On / off key
2. Laser detection tolerance setting key (standard or fine)
3. Key for setting the audible signal
4. Audible signal emission aperture
5. ==> the 6 additional remote control keys have to be added
6. Detection area
7. Display, front side (see detailed illustration)
8. Marking notch
9. Reference plane
10. Battery cover
11. Mounting thread
12. Display, rear side
13. Tolerance indicator (standard or fine)
14. Indicator showing position of detector relative to laser plane
15. Battery condition indicator

Formatiert: Nummerierung und Aufzählungszeichen

PRA 75 laser detector holder

16. Detector mounting screw
17. Leveling staff clamping screw

Formatiert: Nummerierung und Aufzählungszeichen

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1. General information

1.1 Safety notices and their meaning

- CAUTION -

This word indicates a possibly hazardous situation which could result in slight bodily injuries or damage to property.

- NOTE -

This word indicates information to help the user employ the product efficiently, and other useful notes.

1.2 Pictograms

Warning signs

General warning

Symbols

Read the operating instructions before use.

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2. Description / 3. Technical data / 4. Safety precautions

— These numbers refer to the corresponding illustrations. The illustrations can be found on the fold-out over pages. Keep these pages open when studying the operating instructions. In these operating instructions, the PRA 20 laser detector is referred to as "the tool".

2. Description

2.1 PRA 25 laser detector

The Hilti PRA 25 is designed to detect the laser beam emitted by rotating lasers.

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2.2 Features

The detector can be employed as a handheld tool or may be mounted on the measuring staff, telescopic staff or on other leveling staffs, wooden battens or frames etc. when the appropriate holder is used.

Items supplied

1 PRA 25 laser detector

1 PRA 25 operating instructions

2 batteries (size AA cells)

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(Großbritannien)

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3. Technical data

Range (diameter)

2 to 200m (6 to 650 ft)

Gelöscht: 400m

Gelöscht: 1300

Laser plane detection tolerance (at 10m)

Fine: ± 0.5 mm (0.02 inch)

Standard: ± 1.0 mm (0.04 inch)

Audible signal

2 volume levels or silent operation

Liquid crystal display

On both sides

Detection window

80 mm (2 3/4 inches)

Center indicator, from top edge of housing

50 mm (2 inches)

Marking notches

On both sides

Automatic cut-out

The detector switches itself off after 30 min. when no laser beam is detected.

Dimensions

165x67x24mm (6.5"x2.6"x0.9" inches)

Weight

0.2 kg (0.4 lbs) including batteries

Power supply

2 x size AA batteries

Battery life at 20°C [+68°]

Alkaline batteries: > approx. 30 hours

Gelöscht: 50

Operating temperature

-20° to +50°C
(-4° to +122°F)

Storage temperature

-30° to +60°C
(-22° to +140°F)

Protection class

IP 56 (as per IEC 529)

Mounting thread on detector

M5 x 10 mm (0.4 inch)

4. Safety precautions

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.

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4. Safety precautions / 5. Getting started

4.2 Misuse

- Modification of the tool is not permissible.
- (Requested by FCC §15.21): Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.
- Observe the information printed in the operating instructions concerning operation, care and maintenance.
- Have the tool repaired only at a Hilti service centre. Failure to follow the correct procedures when opening the tool may cause emission of laser radiation in excess of class 2.
- Take the surrounding conditions into account. Do not use the tool where there is a risk of fire or explosion.

4.3 Proper organization of the workplace

- Avoid unfavorable body positions when working on ladders. Make sure you have a stable stance and stay in balance at all times.
- Measurements taken through panes of glass or other objects may be inaccurate.
- Use the tool only within its specified limits.

4.3.1 Electromagnetic compatibility

Although the tool complies with the strict requirements of the relevant guidelines, Hilti cannot entirely rule out the following possibilities:

- The tool may cause interference to other equipment, e.g. aircraft navigational equipment.
- The tool may be subject to interference caused by powerful radiation, which can then lead to incorrect operation. Check the readings for plausibility when measuring in these conditions or if you are unsure of the results.

4.4 General safety precautions

- Check the tool before use. If the tool is found to be damaged, have it repaired at a Hilti service center.
- The accuracy of the tool must be checked after it has been dropped or subjected to other mechanical stressing.
- If mounting on an adaptor, ensure that the tool is screwed on securely.
- Keep the laser detection window clean in order to avoid measurement errors.
- Although the tool is designed for the tough conditions of jobsite use, it should be treated with care, as with other electronic instruments.
- Although the tool is protected to prevent entry of dampness, it should be wiped dry each time before being put away in its transport container.

4.4.1 Electrical

- Do not allow the batteries to fall into the hands of children.
- Do not overheat or incinerate the batteries. They may explode or release toxic substances.
- Do not attempt to recharge the batteries.
- Do not solder the batteries into the tool.
- Do not discharge the batteries by short circuiting. This may cause overheating and swelling of the batteries.
- Do not attempt to open the batteries and do not subject them to excessive mechanical stress.

5. Getting started

-NOTE Only the batteries recommended by Hilti may be used to power the tool.

Batteries

- Do not use damaged batteries.
 - Do not mix old and new batteries.
- Do not mix batteries of different types or batteries from various manufacturers.

6. Operation

6.1 Switching the tool on

Press the ON / OFF key.

6.2 Working with the laser detector

The PRA 20 laser detector can be used within an area up to 400m in diameter. The laser beam is indicated by visible and audible signals.

1. Mount the PRA 20 detector securely on the telescopic staff or leveling staff and switch it on by pressing the on / off key.
2. Set the desired sensitivity by pressing the laser plane detection tolerance selection key.
3. Optional settings:
Use the audible signal setting key to select the desired volume level. Switching on sets the detector to the standard signal volume. Adjust the signal volume by pressing this key repeatedly until the desired volume is set (normal / loud / off).
4. Hold the PRA 20 perpendicular to the laser beam plane of rotation. The laser beam is indicated by visible and audible signals.

6. Operation / 7. Hilti calibration service / 8. Care and maintenance

7. Hilti calibration service

We recommend that the rotating laser and detector are checked by the Hilti calibration service at regular intervals in order to verify its reliability in accordance with standards and legal requirements.

8. Care and maintenance

8.1 Cleaning and drying

Use only a clean, soft cloth for cleaning. If necessary, slightly moisten the cloths with pure alcohol or a little water.

- NOTE -

- Do not use any other liquids as these may damage the plastic parts.
- Observe the temperature limits when storing your equipment. This is particularly important in winter or summer, especially if the equipment is kept inside a vehicle (storage temperatures: -30°C to +60°C / -22°F to +140°F).

8.2 Storage

Remove the tool from its case if it has become wet. Clean and dry the tool, its carrying case and accessories (at max. temperature of 40°C / 108° F). Re-pack the equipment only when it is completely dry. Check the accuracy of the equipment before it is used after a long period of storage or transportation.

8.3 Transportation

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

- NOTE -

Always remove the batteries before shipping the tool.

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9. Disposal / 10. Warranty

9. Disposal

-CAUTION! 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 and thus cause poisoning, burns, acid burns or environmental pollution.
- Careless disposal may permit unauthorized and improper use of the equipment, possibly leading to 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 properly 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. Should you wish to return the tool or appliance yourself to a disposal facility for recycling, proceed as follows:

Dismantle the equipment as far as is possible without special tools.

Separate the individual parts as follows:

Part / assembly Main material Recycling

Housing Plastic Plastics recycling
Control panel, display Various Electronics scrap
Electronics Various Electronics scrap
Batteries Alkaline manganese *
Screws, small parts Steel Scrap metal

*

10. Warranty

Hilti warrants that the product supplied is free of defects in material and workmanship. This warranty is valid as long as the product is operated and handled correctly, cleaned and serviced properly and in accordance with the Hilti operating instructions, all warranty claims are made within 12 months from the date of the sale (invoice date), and the technical system is maintained. This means that only original Hilti consumables, components and spare parts may be used in the product. This warranty provides the free-of-charge repair or replacement of defective parts only. Parts requiring repair or replacement as a result of normal wear and tear are not covered by this warranty.

Additional claims are excluded, unless stringent national rules prohibit such exclusion. In particular, Hilti is not obligated for direct, indirect, incidental or consequential damages, losses or expenses in connection with, or by reason of, the use of, or inability to use the product for any purpose. Implied warranties of merchantability or fitness for a particular purpose are specifically excluded.

For repair or replacement, send the product and / or related parts immediately upon discovery of the defect to the address of the local Hilti marketing organization provided. This constitutes Hilti's entire obligation with regard to warranty and supersedes all prior or contemporaneous comments and oral or written agreements concerning warranties. Dispose of batteries in accordance with national regulations. Please help to protect our environment.

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11. FCC statement (applicable in the USA) / Label / 12. EC declaration of conformity

11. FCC statement (applicable in US)

- WARNING - (check if these statements are still applicable for the PRA 25. The original text was true for the PRA 20, which had no wireless remote control capabilities)

This equipment has been tested and has been found to comply with the limits for a class B digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment on and off, the user is encouraged to try to correct the interference by one or more of the following measures:

- Re-orient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Consult the dealer or an experienced

TV / radio technician for assistance. Changes or modifications not expressly approved by Hilti could limit the user's right to operate the equipment. Product information plate:

This device complies with Part 15 of the FCC Rules and RSS-210 of IC. 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.

← -- -- **Formatiert:** Nummerierung und Aufzählungszeichen

12. EC declaration of conformity

Designation: Laser detector

Type: PRA 25

Year of design: 2005

In conformance with

We declare, on our own responsibility, that this product complies with the following standards or standardization documents:

EN 300 440-2, EN 301 489-3 V1.4.1 and EN 60950-1:2001 / IEC 60950-1:2001

Hilti Corporation

Armin Spiegel

Gelöscht: 20

Gelöscht: 2003

Gelöscht: EN 50081-1 and EN 50082-1 according to the stipulations of the directive 89/336/EEC.¶

Leiter BA Measuring
Head of BA Measuring
Systems
01 / 2004
Bodo Baur
Leiter Qualität
Measuring Systems
Quality Manager BA
Measuring Systems
01 / 2004

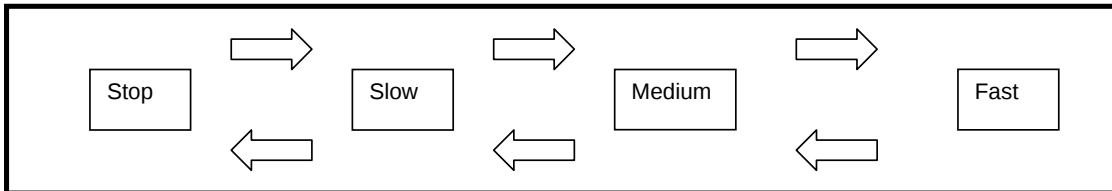
Updates for PRA 25

General Updates

- All names change from “PRA 20” to “PRA 25”
- 6 extra buttons on keyboard (Arrow left, Arrow right, Scanning, Rotation, X, Y)
- Extra symbols on display (X with arrows, Y with arrows)
- Safety and approval information should be updated with regards to the radio technology being used
- Battery life should be corrected.

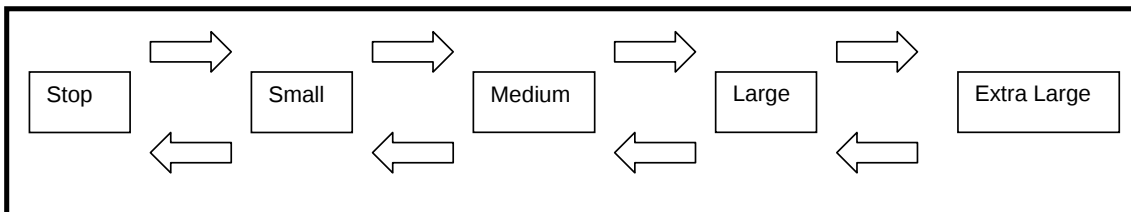
Rotation

- The rotation button activates the next rotation speed.
 - o First press of the button switches rotation on at medium speed
 - o Pressing again, changes to fast
 - o Pressing again changes to medium
 - o Pressing again changes to slow
 - o Pressing again changes to stop
 - o The process continues



Scanning

- The scanning button activates the next scanning angle.
 - o First press of the button switches scanning on at small
 - o Pressing again goes to medium
 - o Pressing again goes to large
 - o Pressing again goes to extra large
 - o Pressing again goes to large
- If the detection area of the PRA 25 is in the laser beam when the scanning button is pressed for the first time, the scanning will be targeted to activate around the PRA 25.



Movement of scanning or stationary point

- The left and right arrow keys can be used to move the scanning beam or the stationary point left or right.
- Holding the arrow keys will increase the speed with which the movement occurs.

Automatic Alignment

- Set the Rotating laser (PR 25) over the reference point so that the X (or Y) axis points in the direction to be aligned.
- Ensuring there is a direct line of sight between the two tools, set the middle of the detector (PRA 25) over the other reference point. Working range (5-50m).
- Press and hold the X (or Y) button for more than 1 second to activate the Autoalignment feature for the X (or Y) axis.
- The PR 25 will automatically go to the medium rotating speed and start searching along the X (or Y) axis. The X (or Y) symbol with blinking arrows will be displayed on the detector (PRA 25) and an audible signal will be emitted.
- When the laser beam finds the detector (PRA 25) it will be moved to the zero point.
- Upon completion of the Auto Alignment function the arrows will stop blinking and disappear, and a constant tone will be emitted.
- The detector (PRA 25) may now be removed.

If for any reason the process is not completed within X minutes a failure message will be indicated at the PRA 25. Trouble shooting:

- Ensure that the detector is within range of the rotators search function (+-5°)
- Ensure that at all times there is a direct line of sight between the laser of the PR 25 and the detection window of the PRA 25.

Manual Alignment

- Set the Rotating laser (PR 25) over the reference point so that the X (or Y) axis points in the direction to be aligned.
- Press the X (or Y) button twice within 2 seconds. The X (or Y) symbol with constant arrows will be displayed on the detector (PRA 25).
- The arrow keys (left or right) can be used to move the laser beam.
- Holding the arrow keys will increase the speed with which the movement occurs.
- After 3 seconds of no button being pressed, the tool returns to normal operation and the arrow symbols are no longer displayed on the detector (PRA 25)

Surveillance

- Set the Rotating laser (PR 25) over the reference point so that the X (or Y) axis points in the direction to be aligned.
- Ensuring there is a direct line of sight between the two tools, set the middle of the detector (PRA 25) over the other reference point. Working range (5-50m).
- With the detector switched off, press and hold the X (or Y) button whilst switching the detector on.
- The detector is now in Surveillance mode. The X (or Y) symbol is displayed alternatively with the arrows.
- Auto Alignment is completed as previously described.
- After the Auto alignment function is completed, the detector does not beep.
- Every minute the fine adjustment phase of Auto Alignment is reactivated.
 - o If the Laser can not be detected by the PRA 25, the laser is switched off, an error signal is given at the PR (flashing LEDs) and at the PRA 25 (flashing LCD and beeping).

PR 25 / PRA 25 Communication

- When purchased the PRA 25 will communicate with all PR 25 that have not been "paired".
- Great care should be taken to ensure no one else is sending commands to your PR 25. 100m. If in doubt pair your tools.

Pairing

- In order to "pair" your rotator and detector, press and hold for three seconds the on button for the rotator at the same time as pressing and holding for three seconds the on button for the detector.
- The devices will pair with each other and an acoustic success signal will be emitted from the detector. The rotator will flash it's LEDs twice.

Cancelling Pairing

- In order to cancel the pairing on a device, press and hold the on button on that device for 3 seconds. An acoustic signal (PRA 25) or flashing LEDs (PR 25) will confirm the action.