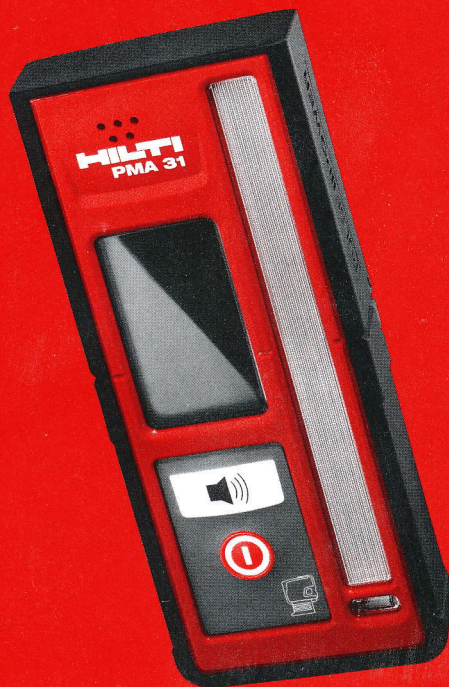


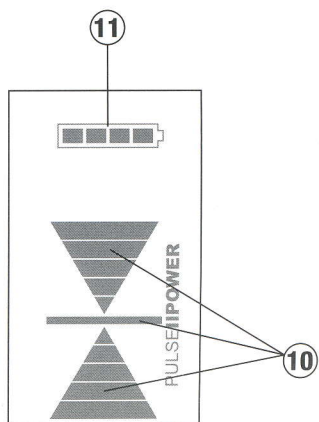
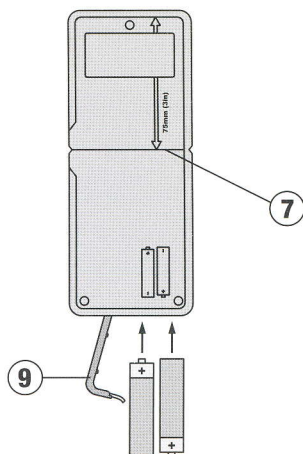
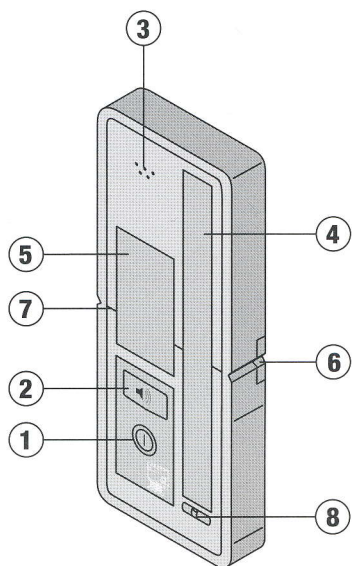
HILTI

PMA 31



Bedienungsanleitung	de
Operating instructions	en
Mode d'emploi	fr
Istruzioni d'uso	it
Manual de instrucciones	es
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Gebruiksaanwijzing	nl
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ORIGINAL OPERATING INSTRUCTIONS

PMA 31 laser receiver

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 corresponding illustrations. The illustrations can be found on the fold-out cover pages. Keep these pages open while studying the operating instructions.

In these operating instructions, the designation "the tool" always refers to the PMA 31 laser receiver.

Component parts **1**

PMA 31 laser receiver

- ① On/off button
- ② Audible signal setting button
- ③ Audible signal aperture
- ④ Receiving area
- ⑤ Display
- ⑥ Marking notch
- ⑦ Reference plane
- ⑧ Bubble level
- ⑨ Battery compartment cover
- ⑩ Indication of the position of the receiver relative to the laser plane
- ⑪ Battery status indicator

1. General information

1.1 Safety notices and their meaning

DANGER

Draws attention to imminent danger that could 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

Symbols



Read the
operating
instructions
before use



Return waste
material for
recycling.

en

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: 04 _____

Serial no.: _____

2. Description

2.1 Use of the product as directed

The Hilti PMA 31 laser receiver is designed to detect the laser beams from the PMC 46 or PML 42 line lasers.

The tool and its ancillary equipment may present hazards when used incorrectly by untrained personnel or when used not as directed.

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

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.

2.2 Items supplied with the laser receiver

- 1 Laser receiver
- 1 Operating instructions
- 2 Batteries
- 1 Manufacturer's certificate

3. Technical data

Right of technical changes reserved.

Operating range (diameter)	2...30 m (6 to 100 ft)
Audible signal generator	2 volume levels plus mute setting
Laser plane display range (10m)	±1 mm (0.4 in)
Liquid crystal display	Front
Receiving window	120 mm (5 in)
Center indication from top edge of casing	75 mm (3 in)
Marking notch (center)	On both sides
Receiver automatic power-off	When no beam is detected : 30 min
Dimensions	160 mm X 67 mm X 27 mm (6.5" x 2.6" x 0.9")
Weight	Including battery: 0.25 kg (0.6 lbs)
Power supply	AA-size cells: 2
Battery life	Alkaline batteries, Temperature +20°C (+68°F): 50 h
Operating temperature range	-20...+50°C (-4 to 122°F)

Storage temperature	-30...+60°C (-22 to 140°F)
Protection class	IP 56 in accordance with IEC 529

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

- a) Keep other persons, especially children, away from the area in which the work is being carried out.
- b) Check the condition of the tool before use. If the tool is found to be damaged, have it repaired at a Hilti service center.
- c) Do not render safety devices ineffective and do not remove information and warning notices.
- d) The tool must be checked at a Hilti service center after it has been dropped or subjected to other mechanical stresses.
- e) To avoid measurement errors, the receiving area must be kept clean.
- f) Although the tool is designed for the tough conditions of jobsite use, as with other optical and electronic instruments (e.g. binoculars, spectacles, cameras) it should be treated with care.
- g) 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.
- h) To avoid hearing damage, hold the tool as far away as possible from your ear (and other persons' ears).

- b) Do not allow the batteries to overheat and do not expose them to fire. The batteries may explode or release toxic substances.
- c) Do not charge the batteries.
- d) Do not solder the batteries into the tool.
- e) Do not discharge the batteries by short circuiting as this may cause them to overheat and swell up.
- 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 panes of glass or other objects may be inaccurate.
- c) Use the tool only within its specified limits.

4.4 Electromagnetic compatibility

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).

4.2.1 Electrical



- a) Keep the batteries out of reach of children.

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5. Before use



en

5.1 Inserting the batteries 1

CAUTION

Do not use damaged batteries.

DANGER

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

1. Remove the batteries from the package and insert them in the tool (9).

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

2. Check that the battery terminals are positioned correctly as shown on the underside of each unit.

6. Operation

6.1 Switching the tool off and on 1

Press the on/off button (1).

6.2 Working with the laser receiver

The PMA 31 receiver can be used at distances of up to 30m from the laser tool. The laser beam is indicated visually and by an audible signal.

6.2.1 Working with the horizontal line 1

1. Switch the PMA 31 laser receiver on by pressing the on/off button (1).
2. Hold the PMA 31 receiver in the laser beam with the receiving window at right angles to the projected plane of the line.

NOTE Results may be inaccurate if the receiving window is not held at right angles to the projected plane of the line.

6.2.2 Working with the vertical line 1

1. Check that the vertical line is projected at right angles to the wall (or working surface).

NOTE Results may be inaccurate if the vertical line is not projected at right angles to the wall or working surface.

2. Switch the PMA 31 laser receiver on by pressing the on/off button (1).

3. Hold the PMA 31 receiver in the laser beam with the receiving window at right angles to the projected plane of the line.

NOTE Results may be inaccurate if the receiving window is not held at right angles to the projected plane of the line.

6.3 Settings

6.3.1 Signal volume adjustment (optional) 1

Set the desired volume level by pressing the audible signal adjustment button (2).

NOTE

The volume is set to "normal" when the tool is switched on.

Each press of the button changes the volume in the sequence normal / loud / off.

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. Observe the temperature limits when storing your equipment. This is particularly important in winter / summer if the equipment is kept inside a motor vehicle (-30°C to +60°C / -22°F to +140°F).

7.2 Storage

Remove the tool from its case if it has become wet. The tool, its carrying case and accessories should be cleaned and dried (at maximum 40°C / 104°F). Repack the equipment only once it has dried completely and then store it in a dry place.

Check the accuracy of the equipment before it is used after a long period of storage or transportation.

Remove the batteries from the tool before storing it for a long period. Leaking batteries may damage the tool.

7.3 Transport

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

DANGER

Always remove the batteries before shipping the tool.

7.4 Hilti calibration service

We recommend that the tool 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, but checking at least once a year is recommended.

The calibration service provides confirmation that the tool is in conformance, on the day it is checked, with the specifications given in the operating instructions. The tool will be readjusted if deviations from the manufacturer's specification are found. After checking and adjustment, a calibration sticker applied to the tool and a calibration certificate provide written verification that the tool operates in accordance with the manufacturer's specification.

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

Your local Hilti Center or representative will be pleased to provide further information.

8. Disposal

DANGER

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

Disposal of electric appliances together with household waste is not permissible.

In observance of European Directive 2002/96/EC on waste electrical and electronic equipment and its implementation in accordance with national law, electric tools that have reached the end of their life must be collected separately and returned to an environmentally compatible recycling facility.

en



Dispose of the batteries in accordance with national regulations.

9. Manufacturer's warranty - tools

Hilti warrants that the tool supplied is free of defects in material and workmanship. This warranty is valid so long as the tool is operated and handled correctly, cleaned and serviced properly and in accordance with the Hilti Operating Instructions, and the technical system is maintained. This means that only original Hilti consumables, components and spare parts may be used in the tool.

This warranty provides the free-of-charge repair or replacement of defective parts only over the entire lifespan of the tool. 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 tool for any purpose. Implied warranties of merchantability or fitness for a particular purpose are specifically excluded.

For repair or replacement, send the tool 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.

10. FCC statement (applicable in USA)

CAUTION

This equipment has been tested and 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 radiofrequency 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 distance between the equipment and receiver.
- Consult the dealer or an experienced TV/radio technician for assistance.

NOTE

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

11. EC declaration of conformity

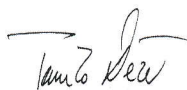
Designation:	Laser receiver
Type:	PMA 31
Year of design:	2009

We declare, on our sole responsibility, that this product complies with the following directives and standards: 2004/108/EC, 2006/95/EC, EN 55014-1, EN 55014-2, EN 61000-3-2, EN 61000-3-3.

Hilti Corporation



Bodo Baur
Quality Manager
BA Electric Tools & Accessories
03 2009



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03 2009

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