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

Component parts

1. On/off button
2. LED
3. Pendulum
4. Removable foot
5. Mounting hole

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</table>

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 PMP 42 plumb laser.

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.
2 Description

2.1 Use of the product as directed

The PMP 42 is a self-leveling plumb laser which allows a single person to carry out vertical alignment work quickly and accurately. The tool features two coincident laser beams (beams that originate from the same point). All beams have the same range of 30 m (range depends on the brightness of ambient light).

The tool is designed to be used to mark plumb points, mainly in interiors. When used for outdoor applications, care must be taken to ensure that the general conditions are similar to those encountered indoors. Modification of the tool is not permissible.

Observe the information printed in the operating instructions concerning operation, care and maintenance. To avoid the risk of injury, use only genuine Hilti accessories and insert tools. The tool and its ancillary equipment may present hazards when used incorrectly by untrained personnel or when used not as directed.

2.2 Features

High laser beam accuracy (±3 mm at 10 m).
Self-leveling to within ±5° in all directions.
Short self-leveling time: ~3 seconds.

When the self-leveling range is exceeded, the laser beam blinks to warn the user.

The PMP 42 is characterized by its ease of operation and use, its rugged plastic casing and ease of transport due to its compact dimensions and light weight.

When in normal operating mode, the tool switches itself off after 15 minutes. Sustained operating mode can be selected by pressing the on/off button for four seconds.

2.3 Information displayed during operation

<table>
<thead>
<tr>
<th>LED</th>
<th>The LED doesn’t light.</th>
<th>The tool is switched off.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>The LED doesn’t light.</td>
<td>The batteries are exhausted.</td>
</tr>
<tr>
<td></td>
<td>The LED doesn’t light.</td>
<td>The batteries are inserted incorrectly.</td>
</tr>
<tr>
<td></td>
<td>The LED lights constantly.</td>
<td>The laser beam is switched on. The tool is in operation.</td>
</tr>
</tbody>
</table>
LED The LED blinks twice every 10 seconds. The batteries are almost exhausted.

Laser beam The laser beam blinks twice every 10 seconds. The batteries are almost exhausted.
The laser beam blinks rapidly. The tool cannot level itself.

2.4 Items supplied with the plumb laser (cardboard box version)
1 PMP 42 plumb laser
1 Soft pouch
4 Batteries
1 Operating instructions
1 Manufacturer’s certificate

3 Accessories
<table>
<thead>
<tr>
<th>Designation</th>
<th>Short designation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tripod</td>
<td>PMA 20</td>
<td></td>
</tr>
<tr>
<td>Target plate</td>
<td>PMA 54/55</td>
<td></td>
</tr>
<tr>
<td>Magnetic holder</td>
<td>PMA 74</td>
<td></td>
</tr>
<tr>
<td>Telescopic brace</td>
<td>PUA 10</td>
<td></td>
</tr>
<tr>
<td>Frame clamp</td>
<td>PMA 25</td>
<td></td>
</tr>
<tr>
<td>Universal adapter</td>
<td>PMA 78</td>
<td></td>
</tr>
<tr>
<td>Hilti toolbox</td>
<td>PMA 62</td>
<td></td>
</tr>
<tr>
<td>Laser visibility glasses</td>
<td>PUA 60</td>
<td>The laser visibility glasses are not protective glasses and thus do not protect the eyes from laser beams. As the laser visibility glasses restrict color vision, they should be worn only when working with this tool. Do not wear the laser visibility glasses while driving a vehicle on a public road.</td>
</tr>
</tbody>
</table>

4 Technical data
Right of technical changes reserved.

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Range of the points</td>
<td>30 m (98 ft)</td>
</tr>
<tr>
<td>Accuracy of the points</td>
<td>Distance 10 m (30 ft); ±3 mm (±¹/₈ in)</td>
</tr>
<tr>
<td>Self-leveling time</td>
<td>3 s (typical)</td>
</tr>
<tr>
<td>Laser class</td>
<td>Class 2, visible, 620 - 690 nm, ±10 nm (EN 60825-1:2007 / IEC 60825 - 1:2007); class II (CFR 21 §1040 (FDA))</td>
</tr>
<tr>
<td>Beam diameter</td>
<td>Distance 5 m: &lt; 4 mm; Distance 20 m: &lt; 16 mm</td>
</tr>
<tr>
<td>Self-leveling range</td>
<td>±5° (typical)</td>
</tr>
<tr>
<td>Automatic power-off</td>
<td>Activated after: 15 min</td>
</tr>
<tr>
<td>Operating status indicator</td>
<td>LED and laser beams</td>
</tr>
<tr>
<td>Power supply</td>
<td>AA-size batteries, Alkaline batteries: 4</td>
</tr>
</tbody>
</table>
### Battery Life
- Alkaline battery 2,500 mAh, Temperature +25°C (+77°F); 50 h (Typical)

### Operating Temperature Range
- Min. -10°C / Max. +50°C (+14 to 122 °F)

### Storage Temperature
- Min. -25°C / Max. +63°C (-13 to 145 °F)

### Dust and Water Spray Protection (except battery compartment)
- IP 54 as per IEC 529

### Tripod Thread (Tool)
- UNC 1/4" UNF

### Tripod Thread (Foot)
- BSW 5/8" UNC 1/4"

### Weight
- With foot but without batteries: 0.430 kg (0.948 lbs)
- Dimensions:
  - With foot: 140 mm X 73 mm X 107 mm
  - Without foot: 96 mm X 65 mm X 107 mm

### 5 Safety Instructions

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.

#### 5.1 General Safety Rules
- **a.** Check the accuracy of the tool before using it to take measurements.
- **b.** The tool and its ancillary equipment may present hazards when used incorrectly by untrained personnel or when used not as directed.
- **c.** To avoid the risk of injury, use only genuine Hilti accessories and additional equipment.
- **d.** Modification of the tool is not permissible.
- **e.** Observe the information printed in the operating instructions concerning operation, care and maintenance.
- **f.** Do not render safety devices ineffective and do not remove information and warning notices.
- **g.** Keep laser tools out of reach of children.
- **h.** Take the influences of the surrounding area into account. Do not expose the tool to rain or snow and do not use it in damp or wet conditions. Do not use the tool when there is a risk of fire or explosion.
- **i.** Check the condition of the tool before use. If the tool is found to be damaged, have it repaired at a Hilti service center.
- **j.** The user must check the accuracy of the tool after it has been dropped or subjected to other mechanical stresses.
- **k.** When the tool is brought into a warm environment from very cold conditions, or vice-versa, allow it to become acclimatized before use.
- **l.** If mounting on an adapter, check that the tool is screwed on securely.
- **m.** Keep the laser exit aperture clean to avoid measurement errors.
- **n.** 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.

- **o.** Although the tool is protected to prevent entry of dampness, it should be wiped dry each time before being put away after use.
- **p.** Check the accuracy of the measurements several times during use of the tool.

#### 5.2 Proper Organization of the Work Area
- **a.** Secure the area in which you are working and take care to avoid directing the beam towards other persons or towards yourself when setting up the tool.
- **b.** Avoid unfavorable body positions when working from ladders. Make sure you work from a safe stance and stay in balance at all times.
- **c.** Measurements taken through panes of glass or other objects may be inaccurate.
- **d.** Ensure that the tool is set up on a steady, level surface (not subject to vibration).
- **e.** Use the tool only within its specified limits.
- **f.** If several laser tools are used in the same working area, care must be taken to avoid confusing the beams.
- **g.** Magnetic fields may affect the accuracy of the tool. It must thus be kept away from magnetic objects. The tool is not affected by the Hilti universal adapter.
- **h.** Do not use the tool in the proximity of medical instruments.

#### 5.3 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).
5.4 Laser classification for laser class 2 / class II appliances
Depending on the version purchased, the tool complies with Laser Class 2 in accordance with IEC825-1:2007 / EN60825-1:2007 and Class II in accordance with CFR 21 § 1040 (FDA). This tool may be used without need for further protective measures. The eyelid closure reflex protects the eyes when a person looks into the beam unintentionally for a brief moment. This eyelid closure reflex, however, may be negatively affected by medicines, alcohol or drugs. Nevertheless, as with the sun, one should not look directly into sources of bright light. Do not direct the laser beam toward persons.

5.5 Electrical

a) Insulate or remove the batteries before shipping the tool.
b) To avoid pollution of the environment, the tool must be disposed of in accordance with the currently applicable national regulations. Consult the manufacturer if you are unsure of how to proceed.
c) Keep the batteries out of reach of children.
d) Do not allow the batteries to overheat and do not expose them to fire. The batteries may explode or release toxic substances.
e) Do not charge the batteries.
f) Do not solder the batteries into the tool.
g) Do not discharge the batteries by short-circuiting. This may cause them to overheat and present a risk of personal injury (burns).
h) Do not attempt to open the batteries and do not subject them to excessive mechanical stress.
i) Do not use damaged batteries.
j) Do not mix old and new batteries. Do not mix batteries of different makes or types.

5.6 Liquids
Incorrect use may cause liquid to leak from the batteries. Avoid contact. If contact accidentally occurs, flush with water. In the event of the liquid coming into contact with the eyes, rinse the eyes with plenty of water and consult a doctor.

6 Before use

6.1 Inserting the batteries
DANGER
Use only new batteries.

7 Operation

7.1 Operation

7.1.1 Switching the laser beams on
Press the on/off button once.

7.1.2 Switching the tool / laser beams off
Press the on/off button until the laser beam is no longer visible and the LED goes out.
NOTE
The tool switches itself off automatically after approx. 15 min.

7.1.3 Deactivating the automatic power-off feature
Press and hold the on/off button for approx. 4 sec. until the laser beam blinks three times as confirmation.
NOTE
The tool will be switched off when the on/off button is pressed or when the batteries are exhausted.

7.2 Examples of applications

7.2.1 Setting out drywall track for a partition wall
7.2.2 Marking out the position of light fittings

7.3 Checking

7.3.1 Checking the plumb point

1. Make a mark on the floor (a cross) in a high room (e.g. in a stairwell or hallway with a height of 5–10 m).
2. Place the tool on a smooth, level (horizontal) surface.
3. Switch the tool on.
4. Position the tool with the lower beam on the center of the cross.
5. Mark the position of the vertical beam on the ceiling. Attach a piece of paper to the ceiling before making the mark.
6. Pivot the tool through 90°.
   NOTE The lower plumb beam must remain on the center of the cross.
7. Mark the position of the vertical beam on the ceiling.
8. Repeat the procedure after pivoting the tool through 180° and 270°.

7.3.1.1 Calculation of accuracy

\[ R = \frac{10}{RH \,[m]} \times \frac{(d1 + d2) \,[mm]}{4} \]  \hspace{2cm} (1)

\[ R = \frac{30}{RH \,[ft]} \times \frac{(d1 + d2) \,[inch]}{4} \]  \hspace{2cm} (2)

The result (R) provided by this formula (RH = room height) refers to the tool’s accuracy “in mm at 10 m” (formula (1)). This result (R) should be within the specification for the tool: 3 mm at 10 m

8 Care and maintenance

8.1 Cleaning and drying

1. Blow dust off the glass.
2. Do not touch the glass 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 (-25°C to +60°C).

8.2 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 is completely dry.

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.

8.3 Transport

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

CAUTION Always remove the batteries before shipping the tool.

8.4 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 tested, 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.
### 9 Troubleshooting

<table>
<thead>
<tr>
<th>Fault</th>
<th>Possible cause</th>
<th>Remedy</th>
</tr>
</thead>
<tbody>
<tr>
<td>The tool can’t be switched on.</td>
<td>The battery is exhausted.</td>
<td>Replace the battery.</td>
</tr>
<tr>
<td></td>
<td>The battery is inserted the wrong way round (incorrect polarity).</td>
<td>Insert the battery correctly.</td>
</tr>
<tr>
<td></td>
<td>The battery compartment is not closed.</td>
<td>Close the battery compartment.</td>
</tr>
<tr>
<td></td>
<td>The tool or the on/off switch is faulty.</td>
<td>If necessary, the power tool should be repaired by Hilti Service.</td>
</tr>
<tr>
<td>Individual laser beams don’t function.</td>
<td>The laser source or laser control unit is faulty.</td>
<td>If necessary, have the power tool repaired by Hilti Service.</td>
</tr>
<tr>
<td>The tool can be switched on but no laser beam is visible.</td>
<td>The laser source or laser control unit is faulty.</td>
<td>If necessary, have the power tool repaired by Hilti Service.</td>
</tr>
<tr>
<td></td>
<td>The temperature is too high or too low.</td>
<td>Allow the tool to cool down or warm up.</td>
</tr>
<tr>
<td>Automatic leveling doesn’t function.</td>
<td>The tool is set up on an excessively inclined surface.</td>
<td>Set up the tool on the level.</td>
</tr>
<tr>
<td></td>
<td>The tilt sensor is faulty.</td>
<td>If necessary, have the power tool repaired by Hilti Service.</td>
</tr>
</tbody>
</table>

### 10 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 or appliances for recycling. Ask Hilti Customer Service or your Hilti representative for further information.

For EC countries only

Disposal of electric tools together with household waste is not permissible.
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.
11 Manufacturer’s warranty

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.

12 EC declaration of conformity (original)

Designation: Plumb laser
Type: PMP 42
Year of design: 2010

We declare, on our sole responsibility, that this product complies with the following directives and standards:

Hilti Corporation, Feldkircherstrasse 100, FL-9494 Schaan

Paolo Lucini
Head of BA Quality and Process Management
Business Area Electric Tools & Accessories
01/2012

Matthias Gillner
Executive Vice President
Business Area Electric Tools & Accessories
01/2012

Technical documentation filed at:
Hilti Entwicklungsgesellschaft mbH
Zulassung Elektrowerkzeuge
Hiltistrasse 6
86916 Kaufering
Deutschland
FCC statement / IC statement

-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 re-locate the receiving antenna.
- Increase the distance between the equipment and receiver.
- Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.
- 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.

This device complies with part 15 of the FCC Rules. 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.

This device complies with the requirements defined in 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.