

HILTI

PD-C
PD-CS

English



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 may occur when handling or using the product. The following signal words are used in combination with a symbol:



DANGER! Draws attention to an imminent hazard that will lead to serious personal injury or fatality.



WARNING! Draws attention to a potential hazard that could lead to serious personal injury or fatality.



CAUTION! Draws attention to a potentially dangerous situation that could lead to minor personal injury or material damage.

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

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.

3

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 **overview illustration** and refer to the numbers used in the key in the **product overview** section.



This symbol is intended to draw special attention to certain points when handling the product.

1.3 Laser information on the product

Laser information

 <p>LASER RADIATION DO NOT STARE INTO BEAM CLASS 2 LASER PRODUCT</p> <p>Wavelength: 635 nm Maximum output power: 1mW This product complies with IEC 60825-1:2007 and 21 CFR 1040.10 and 1040.11 Except for deviations pursuant to Laser Notice NO.50, date June 24, 2007</p>	Laser radiation. Do not stare into the beam. Class 2 laser.
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1.4 Declaration of conformity

We declare, on our sole responsibility, that the product described here complies with the applicable directives and standards. A copy of the declaration of conformity can be found at the end of this documentation.

The technical documentation is filed here:

Hilti Entwicklungsgesellschaft mbH | Tool Certification | Hiltistrasse 6 | D-86916 Kaufering, Germany

1.5 Product information

Hilti products are designed for professional use and may be operated, serviced and maintained only by trained, authorized personnel. This personnel must be informed of any particular hazards that may be encountered. The product and its ancillary equipment may present hazards when used incorrectly by untrained personnel or when used not as directed.

- ▶ 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 enquire about the product.

Product information

Type:	PD-C PD-CS
Generation:	01
Serial number:	

2 Safety

2.1 Basic information concerning safety



CAUTION

Possible hazard or risk of electric shock or burning injuries! Attempting to remove the battery presents a risk of electrical hazards, e.g. short circuiting, burning injuries and leakage of harmful substances.

- ▶ Do not attempt to open the product. Have the battery replaced only by **Hilti Service**.

**CAUTION**

Possible hazard or risk of electric shock or burning injuries! Ingress of liquids such as rainwater, dew or condensation, etc. into the product presents a risk of electrical hazards, e.g. short circuiting, burning injuries and explosion.

- ▶ Keep the product clean and dry at all times.
 - ▶ Keep the hinged cover cap closed to prevent dampness entering the interior of the product.
-

**CAUTION**

Possible hazards as result of short circuiting, overload and fire. Possible hazards due to heat radiation, ejection of molten material or chemical reactions caused by short circuiting, overloading or through resulting fire.

- ▶ Do not expose the product to high temperatures or fire. The battery contained in the tool could explode or release toxic substances.
 - ▶ Use only the approved USB AC adapter with standard micro-USB cable.
 - ▶ Under abusive conditions, liquid may be ejected from the battery. Avoid contact with this liquid. Rinse with water if contact occurs. In the event of eye contact with the liquid, a doctor should also be consulted. The liquid that leaks from a battery may cause skin irritation or burns.
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**WARNING**

Warning: hazardous high-frequency or low-frequency electromagnetic radiation! Electromagnetic radiation may cause spontaneous activation/starting. The emission of radiation may cause interference to other devices.

- ▶ Do not use the product in the proximity of persons who have a cardiac pacemaker.
 - ▶ Do not use the product in the proximity of medical instruments and appliances.
 - ▶ Operation of the product in the proximity of military installations, airports, radio astronomy facilities or in aircraft is not permissible unless prior permission has been obtained.
-



CAUTION

Visible and invisible laser radiation present hazards. Looking into the laser beam causes eye damage.

- ▶ Secure the area in which you will be taking measurements. Take care to avoid directing the laser beam toward other persons or toward yourself when setting up the product.
 - ▶ Do not look directly into the light source. In the event of direct eye contact with the laser beam, close your eyes and move your head out of the path of the laser beam.
 - ▶ Keep laser tools out of reach of children.
-



CAUTION

Unintentional activation of the laser beam presents a hazard. The laser beam may be switched on by inadvertently pressing a measure command button or by a software error.

- ▶ Avoid unintentional activation of the laser beam.
 - ▶ When handling the product, always bear in mind that the laser beam could be switched on inadvertently. Before looking toward the path of the laser beam, make sure that the laser beam is switched off or that the product is switched off completely.
-



WARNING

Risk of explosion! Operation in the vicinity of flammable liquids, gases or dusts is hazardous.

- ▶ Pay attention to the ambient conditions. Do not use the product where there is a risk of fire or explosion.
-

Possible measurement errors Measurement errors are possible when the operating temperature range is not observed, when there is a high concentration of particles in the air, when the lens is dirty, when measurements are taken from unsuitable surfaces or when the product is used incorrectly.

- ▶ After switching on and while using the product, always pay attention to the information and warnings displayed on the touchscreen.
 - ▶ Check the accuracy of the product before using it for measuring.
 - ▶ When the product is brought into a warm environment from very cold conditions, or vice-versa, allow it to become acclimatized before use.
-

Incorrect settings may have damaging consequences. Incorrect settings, e.g. due to use of a measuring extension of a different length, may lead to incorrect results and consequential damage.

- ▶ Always pay attention to the information and warnings displayed on the touchscreen.
 - ▶ Make sure that you use the correct settings when taking measurements.
-

In addition to the safety rules listed in the individual sections of these operating instructions, the following rules must be strictly observed at all times. The product and its ancillary equipment may present hazards when used incorrectly by untrained personnel or when used not as directed.

- ▶ Keep all safety instructions and information for future reference.
- ▶ Stay alert, watch what you are doing and use common sense when working with the product. Do not use the product while you are tired or under the influence of drugs, alcohol or medication. A moment of inattention while operating the product may result in serious personal injury.
- ▶ Do not render safety devices ineffective and do not remove information and warning notices.
- ▶ If the product is opened improperly, laser radiation in excess of Class 2 may be emitted. **Have the product repaired only by Hilti Service.**
- ▶ Tampering with or modification of the product is not permitted.
- ▶ Check that the product functions correctly each time before use.
- ▶ Measurements taken from surfaces with low reflectivity in highly reflective surroundings may be inaccurate.
- ▶ Measurements taken through panes of glass or other objects may be inaccurate.
- ▶ The measurement may be incorrect if the conditions under which the measurement is taken change rapidly, e.g. due to people walking through the path of the laser beam.
- ▶ Do not point the product toward the sun or other powerful light sources.
- ▶ The product and its ancillary equipment may present hazards when used incorrectly by untrained personnel or when used not as directed.
- ▶ To avoid the risk of injury, use only genuine **Hilti** accessories and additional equipment.
- ▶ Observe the information printed in the operating instructions concerning operation, care and maintenance.
- ▶ Never use the product without having received the appropriate instruction on its use or without having read this documentation.
- ▶ Due to the principle employed, the results of measurements may be negatively affected by the surrounding conditions. This includes, e.g. close proximity to equipment that generates powerful magnetic or electromag-

netic fields, taking measurements from unsuitable surfaces and use of unsuitable reflectors.

- ▶ Measurements to plastic foam surfaces, e.g. polystyrene foam, to snow or to highly reflective surfaces, etc. may result in incorrect readings.

2.2 Proper preparation of the working area

- ▶ Avoid unfavorable body positions when working from ladders. Make sure you have a safe stance and that you stay in balance at all times.
- ▶ Secure the site at which you are taking measurements and take care to avoid directing the laser beam toward other persons or toward yourself.
- ▶ Use the product only within its specified limits. Do not direct the laser beam toward mirrors, stainless steel, polished stone or similar surfaces.
- ▶ Keep the laser exit window clean in order to avoid measurement errors.
- ▶ Observe the accident prevention regulations applicable in your country.

2.3 Electromagnetic compatibility

Although the laser range meter complies with the strict requirements of the applicable directives, **Hilti** cannot entirely rule out the possibility of interference to the laser range meter caused by powerful electromagnetic radiation, possibly leading to incorrect operation. Accuracy must be checked 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). The laser range meter complies with the requirements of class A: The possibility of interference occurring in a domestic environment cannot be excluded.

2.4 Working safely with laser tools

- ▶ Laser Class 2 tools may be operated only by appropriately trained persons.
- ▶ Laser beams should not be projected at eye height.
- ▶ Precautions must be taken to ensure that the laser beam does not unintentionally strike highly reflective surfaces.
- ▶ Precautions must be taken to ensure that persons do not stare directly into the beam.
- ▶ The laser beam must not be allowed to project beyond the controlled area.
- ▶ Switch the laser tool off when it is not in use.
- ▶ Activate the locking function in the tool settings in order to prevent unauthorized persons, especially children, from activating the laser beam.
- ▶ Store laser tools, when not in use, in places to which unauthorized persons have no access.

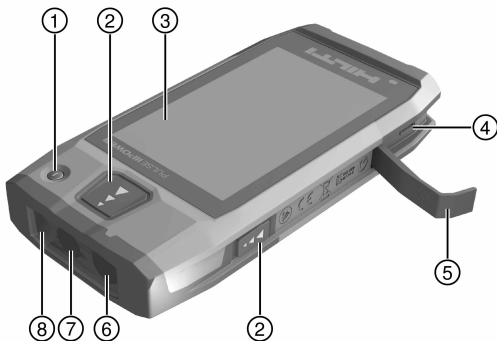
2.5 General safety rules

- ▶ Check the product for damage before use. Have the damage repaired by **Hilti Service**.

- ▶ Before using the product, just to be sure, check the product's preset settings and any settings you have made yourself.
- ▶ Do not use the product while you are driving a vehicle or operating a machine.
- ▶ Check the accuracy of the product after it has been dropped or subjected to other mechanical stresses.
- ▶ Although the product is designed for the tough conditions of jobsite use, as with other measuring instruments it should be treated with care.
- ▶ Although the product is protected against the entry of moisture, it should be wiped dry before being put away in its transport container.
- ▶ Store tools and appliances out of reach of children when not in use. Do not allow persons who are unfamiliar with the product, or with these instructions, to operate the product. Tools or appliances are dangerous in the hands of untrained, inexperienced persons.

3 Description

3.1 Product overview



- | | |
|----------------------------|----------------------------------|
| ① On/off switch | ⑥ Laser exit window |
| ② Measure command buttons | ⑦ Camera lens |
| ③ Touchscreen | ⑧ Glass cover |
| ④ Micro-USB socket, type B | ⑨ Thread for extension |
| ⑤ Hinged cover | ⑩ Image-recording camera (PD-CS) |

3.2 Intended use

The product described is a laser range meter. It is designed to be used for measuring distances. The measured distances can be used in conjunction with a wide range of calculation functions, e.g. areas, volumes, minimum/maximum distances, Pythagoras calculations, laying out, etc.

3.3 Items supplied

Laser range meter, wrist strap, soft pouch, short measuring extension, power supply unit with micro-USB cable.

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

4 Technical data

4.1 Distance measurement

Note

Distance and inclination measurement accuracy: Influences such as sharp temperature fluctuations, moisture, shock, dropping, etc. can affect accuracy. Unless otherwise stated, the tool was adjusted or calibrated under standard ambient conditions (MIL-STD-810G). As a basic principle, when taking distance measurements allow for an additional distance-dependent error of 0.02 mm per meter. The reference for inclination measurements is the rear face of the tool.

	PD-C	PD-CS
Operating modes	<ul style="list-style-type: none"> • Single measurements • Range (multiple) measurements 	<ul style="list-style-type: none"> • Single measurements • Range (multiple) measurements
Distance measurement accuracy (2σ, standard deviation)	±1.0 mm	±1.0 mm
Inclination measurement accuracy (2σ, standard deviation)	±0.3°	±0.3°
Beam divergence	0.20 mrad ...0.45 mrad	0.20 mrad ...0.45 mrad

	PD-C	PD-CS
Measuring range with target plate	0 m ... 200 m (0 ft ... 656 ft)	0 m ... 200 m (0 ft ... 656 ft)
Minimum distance for aiming with the laser point and cross hairs without use of the zoom function	> 2 m (> 6 ft - 10 in)	> 2 m (> 6 ft - 10 in)
Minimum distance for aiming with the laser point and cross hairs at the maximum zoom setting	> 5 m (> 16 ft)	> 5 m (> 16 ft)

4.2 Touchscreen

Indicators	Continuous display of distance, operating status and battery charge status
Touchscreen diagonal size	10.16 cm (4.00 in)

4.3 Power supply

Li-ion battery	Built-in
Rated voltage	3.7 V
Capacity	3,220 mAh
Standby time	> 200 h
Length of time until the automatic sleep mode is activated	20 min
Battery life under normal operating conditions, display switched on	≈ 10 h
Charging time (depending on battery charger and charging cable)	≈ 3 h
Battery charger input voltage	100 V ... 240 V
Battery charger input frequency	50 Hz ... 60 Hz
Battery charger rated current	0.5 A

Battery charger output voltage	5 V
Charging current	10 mA ...2,100 mA
Charging cable plug standard	Micro-USB

4.4 Laser

	PD-C	PD-CS
Laser class	Visible, laser class 2, IEC/EN 60825-1:2007; Class 2 CFR 21 § 1040 (FDA)	Visible, laser class 2, IEC/EN 60825-1:2007; Class 2 CFR 21 § 1040 (FDA)
Wavelength	635 nm	635 nm
Output power	< 1 mW	< 1 mW
Time until activation of power-saving mode	20 s	20 s

4.5 Other characteristics of the product

	PD-C	PD-CS
Internal flash memory capacity for saving measurements	≈ 3,000 Note The value given is based on typical direct measurements with target photo. The actual maximum depends on the type of measurements and the resolution of the photos.	≈ 7,000 Note The value given is based on typical direct measurements with target photo. The actual maximum depends on the type of measurements and the resolution of the photos.
Aiming camera maximum resolution [megapixels]	5.0	5.0
Image-recording camera [megapixels]	5.0	5.0
Bluetooth version	2.1 + EDR (3 Mbit/s)	2.1 + EDR (3 Mbit/s)
Wireless LAN	•/•	Complies with the standard: IEEE 802.11 b/g/n, supported channels: 1 - 11

	PD-C	PD-CS
Bluetooth transmitting power	12.3 dBm	15.39 dBm
Wireless LAN transmitting power	•/•	18.47 dBm
Frequency	2,400 MHz ...2,483.5 MHz	2,400 MHz ...2,483.5 MHz
Weight	260 g (9.2 oz)	260 g (9.2 oz)
Dimensions	154 mm × 75 mm × 24 mm (6.1 in × 3.0 in × 0.9 in)	154 mm × 75 mm × 24 mm (6.1 in × 3.0 in × 0.9 in)
Protection class	IP54	IP54
Operating temperature	-15 °C ...50 °C (5 °F ...122 °F)	-15 °C ...50 °C (5 °F ...122 °F)
Storage temperature	-15 °C ...50 °C (5 °F ...122 °F)	-15 °C ...50 °C (5 °F ...122 °F)

5 Preparation

5.1 Charging the built-in battery

- ▶ Charge the internal battery completely before using the tool for the first time.

5.2 Switching on

1. Press the on/off switch briefly.
 - ◁ The product is ready for operation in 30 seconds. The locked display is shown.
2. To unlock the display, swipe the lock symbol off the screen to the right.
 - ◁ The measurements for the currently active project are displayed and \equiv can be used to select functions.

6 Regular product updates

Regular software updates are planned. Download the **PD-C updater utility for PC** and the latest product manual with operating instructions and software.

The permanent link for the **PD-C updater utility for PC** is: <https://www.hilti.group/updatePDC>

Minimum requirements must be fulfilled in order to use the software. For details go to www.hilti.group

7 Switching off

1. Press the on/off switch for several seconds.
2. Select **'Switch off'** from the menu.
3. Confirm the settings by pressing **'OK'**.
 - ◀ The tool vibrates twice and switches itself off.

8 Care and maintenance

8.1 Cleaning

Your tool is designed for typical operating conditions on construction sites. Its ingress protection against dust and splashes complies with protection class IP54.

Dirt on the glass guard on the camera lens and the laser exit window can impair measuring reliability and the clarity of measuring target imaging.

- ▶ If the tool is dirty, clean it with a soft, slightly damp cloth.
- ▶ Pay particular attention to the cleanliness of the glass guard on the camera lens and the laser exit window.
- ▶ To clean the glass guard on the camera lens and the laser exit window, switch the tool off and gently and carefully clean the glass surface right into the corners.

8.2 Touchscreen

The tool is equipped with a resistant touchscreen designed for regular operation with work gloves. The touchscreen is not designed for use with additional protective accessories. While such accessories can be used, they have not been tested and may impair the responsiveness of the touchscreen.

- ▶ Wipe the touchscreen with a clean, non-abrasive cloth so that it is shiny and responsive to the touch.
- ▶ Stop using the tool if the touchscreen is broken and contact **Hilti Service**.

8.3 Adjusting the inclination sensor

8.3.1 Adjustment intervals

In order to achieve greatest possible accuracy when making inclination measurements, the inclination sensor must be adjusted at regular intervals. Adjustment is also necessary if the product has suffered an impact or has been subjected to considerable temperature change.

8.3.2 Adjusting the inclination sensor

1. Select the option **'Settings'** and **'Adjusting the inclination sensor'** from the **'Functions'** menu.
2. Lay the tool on a flat surface with the display facing upwards.
3. Press the "Measure" button.

4. Rotate the tool, without lifting it off the surface, until it points in the opposite direction.
5. Press the “Measure” button.
 - ◀ The inclination sensor is adjusted.

9 Transport and storage

9.1 Transport

- ▶ To protect the PD-C / PD-CS always use the soft pouch supplied by **Hilti** for carrying and for transport.

9.2 Storage

- ▶ Do not put the tool into storage when wet. Allow it to dry before putting it away.
- ▶ Observe the storage temperature limits for the equipment, which are given in the Technical Data section.
- ▶ Check the accuracy of the equipment before it is used after a long period of storage or transportation.

10 RoHS (Restriction of Hazardous Substances)

Click on the link to go to the table of hazardous substances: qr.hilti.com/r4890614.

There is a link to the RoHS table, in the form of a QR code, at the end of this document.

11 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.



- ▶ Disposal of electric tools or appliances together with household waste is not permissible.

12 Manufacturer's warranty

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

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

Note

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 radio frequency energy and, if not installed and used in accordance with the instructions, may cause 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 off and on, the user is encouraged to try to correct the interference by taking the following measures:

- Re-orient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment to a power 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 **Hilti** may restrict the user's authorization to operate the equipment.

This device is in compliance with paragraph 15 of the FCC Regulations RSS-210 of the ISED Regulations.

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.

14 Identification number of the notified body

PD-C

American Certification Body (ACB)

CE 1588

PD-CS

AT4 wireless, S.A.U.

CE 1909



Hilti Aktiengesellschaft
Feldkircherstraße 100
9494 Schaan | Liechtenstein

PD-C (01)

[2015]

2011/65/EU

EN ISO 12100

2014/53/EU

EN 60950-1

EN 60825-1

EN 62479

EN 301489-1 V2.1.1

EN 301489-17 V3.1.1

EN 300328 V2.1.1

Schaan, 05/2017

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PD-CS (01)

[2016]

2011/65/EU

EN ISO 12100

2014/53/EU

EN 60950-1

EN 60825-1

EN 62311

EN 50566

EN 62209-2

EN 301489-1 V2.1.1

EN 301489-17 V3.1.1

EN 300328 V2.1.1

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Hilti = registered trademark of Hilti Corp., Schaan

Printed: 08.04.2019 | Doc-Nr: PUB / 5314372 / 000 / 02



20171123