



PS 85

English

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Original operating instructions

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1 Information about the operating instructions

1.1 About these operating instructions

- Before use, read through and familiarize yourself with this document and the detailed operating instructions. This is a prerequisite for safe, trouble-free handling and use of the product.
To access the detailed operating instructions and obtain more information on operation, technology, environment and recycling, follow this link: qr.hilti.com/manual/?id=2327817
- Observe the safety instructions and warnings in this documentation, in the detailed operating instructions 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 Declaration of conformity

Hilti hereby declares that the radio equipment type PS 85 is compliant with Directive 2014/53/EU. The complete text of the EU declaration of conformity has been posted on the Internet here: qr.hilti.com/manual/?id=2327817

2 Safety

2.1 General safety instructions, measuring tools

⚠ WARNING! Read all safety precautions and other instructions. Measuring tools can present hazards if handled incorrectly. Failure to observe the safety instructions and other instructions can result in damage to the measuring tool and/or serious injury.
Keep all safety precautions and instructions for future reference.

Work area safety

- ▶ **Keep your workplace clean and well lit.** Cluttered or poorly lit workplaces invite accidents.
- ▶ **Do not operate the product in explosive atmospheres, such as in the presence of flammable liquids, gases or dust.**
- ▶ **Keep children and other persons clear when the product is in use.**
- ▶ **Use the product only within its specified limits.**
- ▶ **Comply with your national accident prevention regulations.**

Electrical safety

- ▶ **Do not expose the product to rain or moisture.** Penetrating moisture can cause short circuits, electrical shock, burns or explosions.
- ▶ **Wipe the product dry before stowing it in the transport container.**

Personal safety

- ▶ **Stay alert, watch what you are doing and use common sense when operating a measuring tool. Do not use a measuring tool while you are tired or under the influence of drugs, alcohol or medication.** A moment of inattention while operating the measuring tool can result in serious personal injury.
- ▶ **Avoid unusual body positions. Keep proper footing and balance at all times.**
- ▶ **Wear personal protective equipment.** Wearing personal protective equipment reduces the risk of injury.
- ▶ **Do not render safety devices ineffective and do not remove information and warning notices.**
- ▶ **Avoid accidental starting. Make sure that the measuring tool is switched off before connecting it to the battery and before picking it up or carrying it.**
- ▶ **Use the product and accessories in accordance with these instructions and in the way specified for this special type of tool. Take the working conditions and the work to be performed into account.** Use of products for applications different from those intended could result in hazardous situations.
- ▶ **Do not lull yourself into a false sense of security and do not flout the safety rules for measuring tools, even if you are familiar with the measuring tool after using it many times.** Carelessness can result in serious injury within a fraction of a second.
- ▶ **Do not use the measuring tool in the vicinity of medical devices.**

Using and handling the measuring tool

- ▶ **Use the product and accessories only when they are in perfect working order.**
- ▶ **Store measuring tools out of reach of children when not in use. Do not allow persons who are not familiar with the product or these instructions to operate it.** Measuring tools are dangerous in the hands of inexperienced persons.
- ▶ **Measuring tools need care and attention. Check that moving parts operate satisfactorily and do not jam, and make sure that no parts are broken or damaged in such a way that the measuring tool might no longer function correctly. Have damaged parts repaired before using the measuring tool.** Many accidents are caused by poorly maintained measuring tools.
- ▶ **Do not under any circumstances modify or tamper with the product.** Changes or modifications not expressly approved by Hilti may restrict the user's authorization to operate the product.
- ▶ **Check the accuracy of the measuring tool before using it for important measurements, and if it has been dropped or subjected to other mechanical stresses.**

- ▶ **Due to the measuring principle employed, the results of measurements can be negatively affected by certain ambient conditions.** These include, for example, the proximity of devices that produce strong magnetic or electro-magnetic fields, vibrations and temperature changes.
- ▶ **Rapidly changing measuring conditions can falsify the results.**
- ▶ **When the product is brought into a warm environment from very cold conditions, or vice-versa, allow it to become acclimatized before use.** Big differences in temperature can lead to incorrect operation and incorrect results.
- ▶ **When adapters or accessories are used, make sure they are mounted securely.**
- ▶ **The measuring tool is designed for the tough conditions of jobsite use, but as with other optical and electrical products (e.g. binoculars, spectacles, cameras) it must be handled with care.**
- ▶ **The specified operating and storage temperatures must be observed.**

2.2 Additional safety instructions

Personal safety

- ▶ Keep the measuring tool well away from all implants.
- ▶ Comply with the national accident prevention regulations.
- ▶ Do not use the measuring tool to examine humans or animals.
- ▶ Operation of the device in the proximity of expectant mothers or persons with a cardiac pacemaker is not permissible.

Electrical safety

- ▶ Remove the battery prior to storage.

Using and handling the measuring tool

- ▶ Prior to use, always check the measuring tool's presettings and the settings you have made yourself.
- ▶ After switching on and while using the product, always pay attention to the information and warnings that appear on the display.
- ▶ Keep the underside of the scanner and the wheels clean as these parts can have an influence on measuring accuracy.
- ▶ Do not affix stickers or adhesive labels to the sensor area at the back of the measuring tool. Metal plates / labels, in particular, will affect measuring results.
- ▶ While measuring is in progress, always keep all 4 wheels in contact with the surface being scanned. Do not pass over steps or edges.
- ▶ While scanning is in progress, to avoid influencing the scan hold the measuring tool only by the grip provided for the purpose.

- ▶ While scanning is in progress, do not wear gloves and ensure an adequate earth/ground connection. An inadequate earth/ground connection can impair material detection (including detection of electrically live lines).
- ▶ Always move the measuring tool back and forth with a perfectly steady action.
- ▶ Do not drill at positions where the measuring tool has detected the presence of an object. Take the diameter of the drill bit into account and always allow an adequate safety factor.
- ▶ Do not use the measuring tool to detect critical objects such as load-bearing structural elements, high-tension lines, gas or steam lines, high-pressure lines and similar objects.
- ▶ Never rely on the measuring tool alone. Verify the results of measurements by cross-checking with other sources of information and by taking control measurements and, if necessary, by drilling pilot holes.
- ▶ Make sure that the wrist strap is securely attached. Prior to each use, always check the attachment point of the wrist strap for possible damage.
- ▶ Risk of injury by falling tools and/or accessories. Use only the wrist strap supplied.
- ▶ Carry the measuring tool only by the grip provided for the purpose. Keep the grip clean, dry and free from oil and grease.
- ▶ Keep the display clean and easily readable. Wipe the display only with a clean, non-scratch cloth.
- ▶ Due to the measuring principle employed, the results of measurements can be negatively affected by certain ambient conditions. These include, e.g. proximity to devices that generate powerful magnetic or electromagnetic fields, dampness, construction materials containing metal, aluminum foil-backed insulation, multiple layers, materials with cavities or electrically conductive wall coverings or tiles. Accordingly, other sources of information (e.g. plans of the building) should also be consulted before beginning drilling, sawing or grinding in the area scanned.
- ▶ When scanning is in progress, avoid the vicinity of devices (such as cellphones, for example) that emit strong electric, magnetic or electromagnetic fields. On all devices capable of producing emissions that can impair measurement, deactivate the relevant functions if possible, or switch the devices off.
- ▶ Do not operate the measuring tool in the vicinity of military installations, airports, radio astronomy facilities or in aircraft unless prior permission has been obtained.
- ▶ Check the accuracy of the measuring tool if it has been dropped or subjected to other mechanical stresses. If the measuring tool is damaged, have it repaired by a **Hilti** service center.
- ▶ The specified operating and storage temperatures must be observed.

2.3 Careful handling and use of batteries

- ▶ **Comply with the following safety instructions for the safe handling and use of Li-ion batteries.** Failure to comply can lead to skin irritation, severe corrosive injury, chemical burns, fire and/or explosion.
- ▶ Use only batteries that are in perfect working order.
- ▶ Treat batteries with care in order to avoid damage and prevent leakage of fluids that are extremely harmful to health!
- ▶ Do not under any circumstances modify or tamper with batteries!
- ▶ Do not disassemble, crush or incinerate batteries and do not subject them to temperatures over 80 °C (176 °F).
- ▶ Never use or charge a battery that has suffered an impact or been damaged in any other way. Check your batteries regularly for signs of damage.
- ▶ Never use recycled or repaired batteries.
- ▶ Never use the battery or a battery-operated power tool as a striking tool.
- ▶ Never expose batteries to the direct rays of the sun, elevated temperature, sparking, or open flame. This can lead to explosions.
- ▶ Do not touch the battery poles with your fingers, tools, jewelry, or other electrically conductive objects. This can damage the battery and also cause material damage and personal injury.
- ▶ Keep batteries away from rain, moisture and liquids. Penetrating moisture can cause short circuits, electric shock, burns, fire and explosions.
- ▶ Use only chargers and power tools approved for the specific battery type. Read and follow the relevant operating instructions.
- ▶ Do not use or store the battery in explosive environments.
- ▶ If the battery is too hot to touch, it may be defective. Put the battery in a place where it is clearly visible and where there is no risk of fire, at an adequate distance from flammable materials. Allow the battery to cool down. If it is still too hot to touch after an hour, the battery is faulty. Consult **Hilti Service** or read the document entitled "Instructions on safety and use for **Hilti** Li-ion batteries".



Observe the special guidelines applicable to the transport, storage and use of lithium-ion batteries.

Read the instructions on safety and use of **Hilti** Li-ion batteries that you can access by scanning the QR code at the end of these operating instructions.

2.4 Careful handling and use of button-cell batteries

- ▶ **Never swallow button-cell batteries.** Severe internal caustic burns or death can result within 2 hours of swallowing a button-cell battery.
- ▶ **Make sure that button-cell batteries are inaccessible to children.** Consult a physician immediately if there is any suspicion that a button-cell battery has been swallowed or inserted into a body orifice.

- ▶ **When replacing batteries, make sure that the correct procedure is followed.** There is a risk of explosion.
- ▶ **Do not attempt to recharge button-cell batteries and do not short-circuit button-cell batteries.** The button-cell battery can develop a leak, explode, catch fire and injure persons.
- ▶ **Remove and dispose of discharged button-cell batteries correctly.** Discharged button-cell batteries can develop leaks and so damage the product or injure persons.
- ▶ **Do not damage button-cell batteries and do not attempt to take button-cell batteries apart.** The button-cell battery can develop a leak, explode, catch fire and injure persons.
- ▶ **Do not bring a damaged button-cell battery into contact with water.** In the presence of water, escaping lithium can produce hydrogen and so lead to a fire or an explosion, or cause injury to persons.

3 Technical data

Frequency, radar sensor	1.8 GHz ... 5.7 GHz
Maximum transmitting power, radar sensor	0.00001 mW
Frequency, inductive sensor	48 kHz ... 52 kHz
Maximum magnetic field strength (at 10 m)	20 dB μ A/m

4 Switching measuring tool on/off

i Before switching on the measuring tool, check that the sensor area is not damp. If necessary, wipe the measuring tool dry with a cloth.

1. To switch the measuring tool on, press the on/off button or the start/stop button.
 - ▶ Outside the operating temperature range, a fault message is displayed and the measuring tool automatically switches off. Allow the measuring tool to cool down or warm up, as appropriate, and then switch it on again.
- i** The tool automatically switches itself off completely if it is not used for 5 minutes. You can change this preset delay before automatic deactivation in the main menu.
2. To switch the measuring tool off, press the on/off button.

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

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.

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

This device complies with the requirements set out in Paragraph 15 of the FCC rules and fulfills the requirements defined in RSS-220 in combination with the RSS-Gen of IC.

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.

For users in the USA: Operation of this device is restricted to law enforcement, fire and rescue officials, scientific research institutes, commercial mining companies, construction companies and private parties operating on behalf of these groups. Operation by any other party is a violation of 47 U.S.C. § 301 and can result in serious legal penalties.

Coordination requirements

1. UWB imaging systems require coordination through the FCC before the equipment may be used. The operator shall comply with any constraints on equipment usage resulting from this coordination.
2. The users of UWB imaging devices shall supply operational areas to the FCC Office of Engineering and Technology, which shall coordinate this information with the Federal Government through the National Telecommunications and Information Administration. The information provided by the UWB operator shall include the name, address and other pertinent contact information of the user, the desired geographical area(s) of opera-

tion, and the FCC ID number and other nomenclature of the UWB device. If the imaging device is intended to be used for mobile applications, the geographical area(s) of operation may be the state(s) or county(ies) in which the equipment will be operated. The operator of an imaging system used for fixed operation shall supply a specific geographical location or the address at which the equipment will be operated. This material shall be submitted to Frequency Coordination Branch, OET, Federal Communications Commission, at the address of the FCC's main office indicated in 47 CFR 0.401(a), ATTN: UWB Coordination.

3. The manufacturers, or their authorized sales agents, must inform purchasers and users of their systems of the requirement to undertake detailed coordination of operational areas with the FCC prior to the equipment being operated.
4. Users of authorized, coordinated UWB systems may transfer them to other qualified users and to different locations upon coordination of change of ownership or location to the FCC and coordination with existing authorized operations.
5. The FCC/NTIA coordination report shall identify those geographical areas within which the operation of an imaging system requires additional coordination or within which the operation of an imaging system is prohibited. If additional coordination is required for operation within specific geographical areas, a local coordination contact will be provided. Except for operation within these designated areas, once the information requested on the UWB imaging system is submitted to the FCC no additional coordination with the FCC is required provided the reported areas of operation do not change. If the area of operation changes, updated information shall be submitted to the FCC following the procedure in paragraph 2) of this section.
6. The coordination of routine UWB operations shall not take longer than 15 business days from the receipt of the coordination request by NTIA. Special temporary operations may be handled with an expedited turnaround time when circumstances warrant. The operation of UWB systems in emergency situations involving the safety of life or property may occur without coordination provided a notification procedure, similar to that contained in § 2.405(a) through (e) of this chapter, is followed by the UWB equipment user.

Responsible party

Hilti, Inc.

7250 Dallas Parkway, Suite 1000

US-Plano, TX 75024

www.hilti.com

For users in Canada: This radar imaging device shall be operated only where directed toward the floor or wall, and where it is in contact with or at a distance of 20 cm from the floor or wall surface. This radar imaging device

shall be operated only by law enforcement agencies, scientific research institutes, commercial mining companies, construction companies, and emergency rescue or fire-fighting organizations.



Hilti Corporation
LI-9494 Schaan
Tel.:+423 234 21 11
Fax:+423 234 29 65
www.hilti.group

