



POS 150/180

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 occur when handling or using the product. The following signal words are used:



DANGER !

- ▶ Draws attention to imminent danger that will lead to serious personal injury or fatality.



WARNING !

- ▶ Draws attention to a potential threat of danger that can lead to serious 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.

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
	Dealing with recyclable materials
	Do not dispose of electric equipment and batteries as household waste


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
	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 illustrations and refer to the numbers used in the product overview section
	This symbol is intended to draw special attention to certain points when handling the product.
	Wireless data transfer

1.3 Labels on the POS 150/180

The following labels are applied to the POS 150/180:

 <p style="text-align: center; font-size: small;">LASER RADIATION AVOID DIRECT EYE EXPOSURE CLASS 3R LASER PRODUCT</p> <hr/> <p style="text-align: center; font-size: x-small;">Wavelength: 630-680 nm Maximum output power: 5mW 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>	<p>Laser radiation. Do not look straight into the laser beam. Laser class 3R.</p>
--	---

1.4 Product information

products are designed for professional users and only trained, authorized personnel are permitted to operate, service and maintain the products. This personnel must be specifically informed about the possible hazards. The product and its ancillary equipment can present hazards if used incorrectly by untrained personnel or if used not in accordance with the intended use.

The type designation and serial number are printed on the rating plate.

- ▶ 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 inquire about the product.

Product information

Type:	POS 150/180
Generation:	01
Serial no.:	

1.5 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 and stored here:

Hilti Entwicklungsgesellschaft mbH | Tool Certification | Hiltistraße 6 | 86916 Kaufering, DE

2 Safety

2.1 General safety instructions, scanning tools

⚠ WARNING! Read all safety precautions and other instructions. Failure to observe the safety instructions and other instructions can result in electric shock, fire 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. Scanning tools create sparks which can ignite dust, fumes or vapors.
- ▶ **Keep children and other persons clear when the product is in use.** Distractions can cause you to lose control of the product.

Electrical safety

- ▶ Do not expose the product to rain or moisture. Water entering the product will increase the risk of electric shock.

Personal safety

- ▶ **Stay alert, watch what you are doing and use common sense when operating a scanning tool.** Do not use a scanning tool while you are tired or under the influence of drugs, alcohol or medication. A moment of inattention while operating the scanning tool can result in serious personal injury.

- ▶ **Adopt the correct posture when working. Maintain proper footing and balance at all times.** This will allow you to control the scanning tool better, even in unexpected situations.
- ▶ **Wear your personal protective equipment and always wear protective glasses.** Depending on the type of scanning tool you are using and its purpose, wearing safety equipment such as a dust mask, slip-resistant safety shoes, a hard hat or hearing protection will reduce the risk of injury.
- ▶ **Avoid starting the tool accidentally. Make sure that the scanning tool is switched off before connecting it to the battery and before picking it up or carrying it.** Carrying scanning tools with your finger on the switch or plugging in scanning tools that are already switched on can cause accidents.

Using and handling the scanning tool

- ▶ **Do not use a scanning tool if it has a faulty on/off switch.** A scanning tool that can no longer be switched on or off is dangerous and must be repaired.
- ▶ Store scanning 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. Scanning tools are dangerous in the hands of inexperienced persons.
- ▶ **Scanning 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 scanning tool might no longer function correctly. Have damaged parts repaired before using the scanning tool. Many accidents are caused by poorly maintained scanning tools.

Using and handling the cordless power tool

- ▶ **Use only the specified batteries in the scanning tools.** Use of other batteries can result in injury and a risk of fire.
- ▶ Recharge the batteries only with the chargers recommended by the manufacturer. A charger that is suitable for a certain type of battery can be a fire hazard if used with other batteries.
- ▶ **When the battery is not in use, keep it away from other metal objects such as paper clips, coins, keys, nails, screws, or other small metal objects that could cause bridging between the terminals.** A short circuit between the battery terminals may cause burns or a fire.
- ▶ **Liquid may leak from the battery if used incorrectly. Avoid contact with this liquid.** Liquid leaking from the battery may cause skin irritation or burns. If contact accidentally occurs, rinse with water. Seek medical attention if the liquid comes into contact with the eyes.

2.2 Battery use and care

- ▶ Observe the special regulations and instructions applicable to the transport, storage and use of Li-ion batteries.
- ▶ Do not expose batteries to high temperatures, direct sunlight or fire.
- ▶ Do not disassemble, crush or incinerate batteries and do not subject them to temperatures over 80 °C.
- ▶ Do not use or charge batteries that have suffered mechanical impact, have been dropped from a height or show signs of damage. In this case, always contact your **Hilti Service**.
- ▶ If the battery is too hot to touch it may be defective. In this case, place the product in a non-flammable location, well away from flammable materials, where it can be kept under observation and allowed to cool down. In this case, always contact your **Hilti Service**.

2.3 Safety instructions, total station

- ▶ 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 by Hilti Service only.**
- ▶ Check that the product functions correctly each time before use.
- ▶ 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.
- ▶ Observe the information printed in the operating instructions concerning operation, care and maintenance.
- ▶ Do not use the product as a level.
- ▶ Do not point the product toward the sun or other powerful light sources.
- ▶ Although the product is designed for the tough conditions of construction site use, as with other measuring instruments it should be treated with care.
- ▶ Check the accuracy of the product after it has been dropped or subjected to other mechanical stresses.
- ▶ Secure the site at which you are taking measurements and take care to avoid directing the laser beam toward other persons or toward yourself.

- ▶ When the product is brought into a warm environment from very cold conditions, or vice-versa, allow it to become acclimatized before use.
- ▶ Keep the laser exit window clean in order to avoid measurement errors.
- ▶ Observe the accident prevention regulations applicable in your country.
- ▶ Use the product only within its specified limits.
- ▶ 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.
- ▶ When switching distance measurement from prism measurement to reflectorless measurement, make sure that you do not look at the objective lens of the tool.
- ▶ View the tool at an angle when setting it up with the aid of the circular bubble level.
- ▶ Laser beams should not be projected at eye height.
- ▶ The specified operating and storage temperatures must be observed.

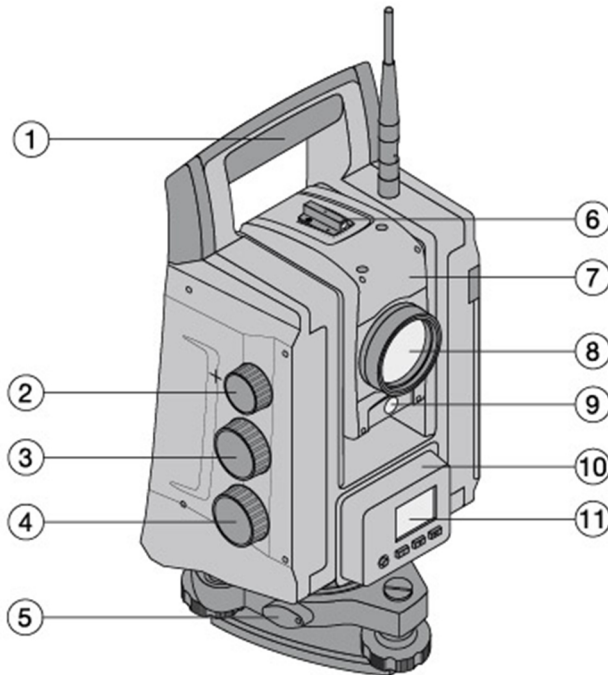
2.4 Electromagnetic compatibility

Although the tool complies with the strict requirements of the applicable directives, **Hilti** cannot entirely rule out the possibility of interference to the tool caused by powerful electromagnetic radiation, possibly 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). The tool complies with the requirements of Class A; the possibility of interference occurring in a domestic environment cannot be excluded.

Only for Korea: This laser range meter is suitable for commercial and industrial use and for the electromagnetic radiation encountered in this field (Class A). Users must pay attention to this point and make sure that this laser range meter is not used in a domestic environment.

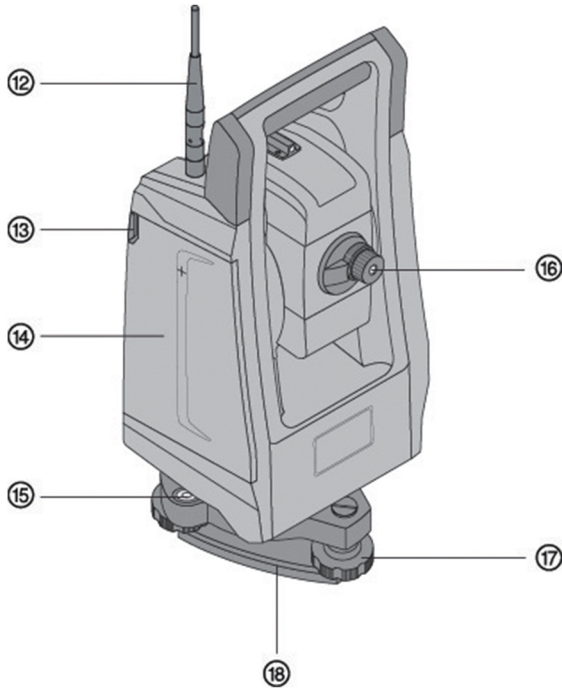
3 Description

3.1 Total station front



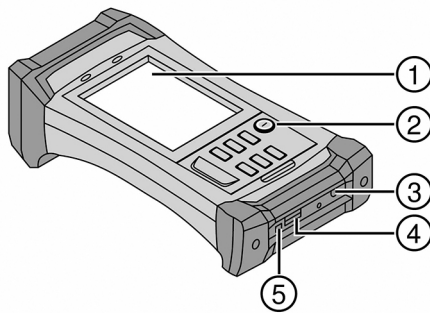
- | | |
|--------------------|----------------------------------|
| ① Grip | ⑦ Telescope with laser distancer |
| ② Focusing knob | ⑧ Lens |
| ③ Vertical drive | ⑨ Guide light |
| ④ Horizontal drive | ⑩ Operator keyboard |
| ⑤ Tripod lock | ⑪ Display |
| ⑥ Sight | |

3.2 Total station rear side



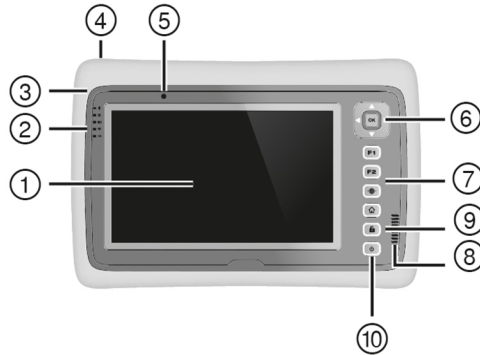
- | | |
|----------------------------|-----------------|
| ⑫ Radio antenna | ⑯ Eyepiece |
| ⑬ Battery compartment lock | ⑰ Tripod screw |
| ⑭ Battery compartment | ⑱ Laser plummet |
| ⑮ Circular bubble level | |

3.3 POC 100



- Key**
- | | |
|-------------------|-----------------------|
| ① Display | ④ USB socket (master) |
| ② Control panel | ⑤ USB socket (slave) |
| ③ Charging socket | |

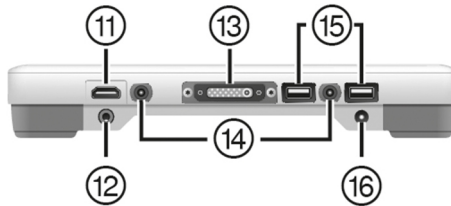
3.4 POC 200



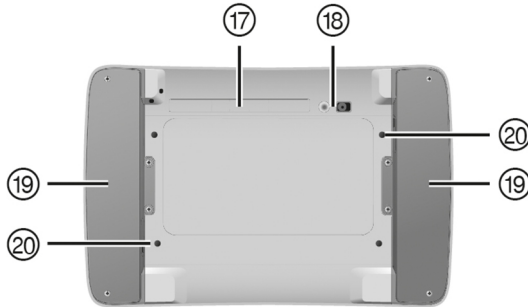
Key

- | | |
|----------------------------|----------------------------------|
| ① Touchscreen | ⑥ 4-way controller and OK button |
| ② LED display | ⑦ 4 function buttons |
| ③ Microphone | ⑧ Loudspeaker |
| ④ Eye for theft protection | ⑨ Display lock |
| ⑤ Brightness sensor | ⑩ On/off switch |

3.5 Connector side of the POC 200



- | | |
|---------------------|----------------------------------|
| ⑪ HDMI socket | ⑭ Socket for the docking station |
| ⑫ Headset socket | ⑮ USB port |
| ⑬ Docking connector | ⑯ Connection for power supply |



- ⑰ Holder for stylus/pen
- ⑱ Batteries
- ⑱ Camera and flash
- ⑳ Battery charge status indicator

3.7 Intended use

The tool is designed for measuring distances and directions, calculating target positions in three dimensions and the values derived from these positions and for laying out points using given coordinates or values relative to a control line. 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 machine where there is a risk of fire and explosion.

Modification of the tool is not permitted.

3.8 Description of the tool

The Hilti POS 150/180 total station can be used to define objects as dynamic positions within a given space or area. The tool is equipped with horizontal and vertical circles with digital graduation, two electronic levels (compensators), a coaxial electronic distance meter (EDM) incorporated in the telescope and an electronic processor system for calculating and saving data.

The built-in target acquisition system allows prisms to be targeted automatically and their positions tracked even when they move. The prism's position is determined continuously and processed in the application on an ongoing basis. The total station is operated using the POC 100 or POC 200 controller.

Hilti PROFIS Layout, a PC application provided by Hilti, can be used to transfer data in both directions between the total station and a PC, for data processing and for exporting data to other systems. Data can also be transferred directly from the controller to a USB data storage device.

4 Technical data

4.1 Telescope (POS 150/180)

Telescope magnification	31 x
Shortest target distance	1.5 m (4 ft - 11 in)
Telescope angle of view	1° 30'
Lens aperture	50 mm (2.0 in)
Minimum focus distance	1.5 m (4 ft - 11 in)

4.2 Compensator (POS 150/180)

Type	Dual-axis, liquid
Range, fine	± 5.5'
Range, coarse	± 3°
Accuracy	0.5"
Sensitivity to tribrach circular bubble level	± 8' / 2 mm

4.3 Angle measurement

POS 150 accuracy (DIN 18723)	5"
POS 180 accuracy (DIN 18723)	3"

4.4 Laser distance measurement / laser pointer (POS 150/180)

Wavelength	660 nm (0.0000260 in)
Laser class	3 R
Beam divergence	0.27 mrad
Maximum output power	< 5 mW

4.5 Measuring mode (prism, POS 150/180)

Laser class	3 R
Range (single prism)	1,000 m (3,280 ft - 10 in)
Accuracy (standard)	± 2 mm + 2 ppm (0.01 ft + 2 ppm)
Accuracy (tracking)	±5 mm + 2 ppm (0.02 ft + 2 ppm)
Measuring time (standard)	2.5 s
Measuring time (tracking)	0.5 s

4.6 Measuring mode (reflectorless, POS 150/180)

Laser class	3R
Range	KGC 90%: 600 m (1970 ft)
Range with reflective foil	800 m (2,624 ft - 10 in)
Accuracy (standard)	±3 mm + 2 ppm (0.1 ft + 2 ppm)
Accuracy (tracking)	±10 mm + 2 ppm (0.4 ft + 2 ppm)
Measuring time (standard)	3 s ... 10 s
Measuring time (standard)	0.7 s

4.7 Laser target tracking (POS 150/180)

Laser class	1
Maximum range	300 m (984 ft)
Pointing precision	< 2"
Search times (typical)	2 s ... 10 s
Beam divergence	40 x 30 mrad

Pulse duration	144 µs
Maximum pulse frequency	109 Hz
Maximum peak power	2.22 mW
Maximum average power	0.035 mW
Wavelength	850 nm

4.8 Motorization (POS 150/180)

Rotation speed	max. 90°/s
Telescope repositioning	4 s
Rotation 180° (typical)	3.5 s

4.9 Wireless communication (between the POS 150/180 and POC 100/POC 200)

Frequency range	2,400 MHz ...2,483.5 MHz
Maximum emitted transmission power	19.3 dBm
Range	300 m ...800 m (984 ft ...2,624 ft - 10 in)

4.10 Interfaces (POC 100/POC 200)

USB	External data connection
------------	--------------------------

4.11 Guide light (POS 150/180)

Aperture angle	8°
Light source	Red/green
Typical range	70 m (229 ft - 10 in)
Beam divergence	70 mrad
Maximum output power (red)	0.4 mW
Maximum output power (green)	0.2 mW
Wavelength (red)	645 Nm
Wavelength (green)	520 Nm

4.12 Laser plummet (POS 150/180)

Accuracy	1.5 mm at 1.5 m (1/16 in at 3 ft)
Maximum output power	< 5 mW
Wavelength	635 nm
Laser class	3R
Intensity levels	0 ...4
Beam divergence	0.6 mrad

4.13 Drives (POS 150/180)

Type (horizontal / vertical)	Motorized / continuous
Focus	Motorized

4.14 IP protection class

Tool (POS 150/180)	IP 55
Controller (POC 100)	IP 67
Controller (POC 200)	IP 65

4.15 Tripod thread

Tribrach thread	5/8"
-----------------	------

4.16 Temperature (POS 150/180, POC 100)

Operating temperature	-20 °C ... 50 °C (-4 °F ... 122 °F)
Storage temperature	-30 °C ... 70 °C (-22 °F ... 158 °F)

4.17 Temperature (POC 200)

Operating temperature	-30 °C ... 60 °C (-22 °F ... 140 °F)
Storage temperature	-40 °C ... 70 °C (-40 °F ... 158 °F)

4.18 Display

	POS 150/180	POC 100	POC 200
Display	Monochrome, 96 x 49 pixels	TFT color touchscreen, VGA 640 × 480 pixels	TFT capacitive color touchscreen, VGA 1024 × 600 pixels
Illumination	Backlit	5 levels	5 levels
Contrast	-	Day / night mode se- lectable	Day / night mode se- lectable
Control panel	3 buttons and on/off button	6 buttons and on/off button	6 buttons and on/off button

4.19 Power source

	POS 150/180	POC 100	POC 200
AC adapter	POA 85	POA 81	POA 89
Battery	POA 84	POA 80	POA 90
External	POA 88 to 12 V	-	-

4.20 AC adapter

	POS 150/180	POC 100	POC 200
AC adapter	POA 85	POA 81 (US: TR30RAM0) for the POA 80 battery	POA 89
Supply voltage	100 V ...240 V	100 V ...240 V	100 V ...240 V
AC frequency	50 Hz ...60 Hz	50 Hz ...60 Hz	50 Hz ...60 Hz
Current input	-	0.4 A ...0.8 A	1.5 A
Power input	100 VA	-	-
Output current	3 A	4 A	5 A
Output voltage (DC)	19 V	5 V	12 V

	POS 150/180	POC 100	POC 200
Weight	0.32 kg (0.71 lb)	0.25 kg (0.55 lb)	0.33 kg (0.73 lb)
Operating temperature	-20 °C ... 40 °C (-4 °F ... 104 °F)	-20 °C ... 40 °C (-4 °F ... 104 °F)	-20 °C ... 40 °C (-4 °F ... 104 °F)
Storage temperature	-30 °C ... 70 °C (-22 °F ... 158 °F)	-30 °C ... 70 °C (-22 °F ... 158 °F)	-30 °C ... 70 °C (-22 °F ... 158 °F)

4.21 Charger

	POS 150/180
Type	POA 86 for the POA 84 battery (POA 86 supplied by POA 85 AC adapter)
Supply voltage (DC)	19 V
Output current	3 A
Output voltage (DC)	10 V ... 21 V
Weight	0.18 kg (0.40 lb)
Operating temperature	-20 °C ... 40 °C (-4 °F ... 104 °F)
Storage temperature	-30 °C ... 70 °C (-22 °F ... 158 °F)

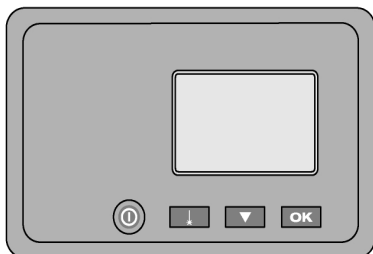
4.22 Battery

	POS 150/180	POC 100	POC 200
Type	POA 84, Li-ion; charging with battery charger POA 86	POA 80, Li-ion; charging directly in POC 100	POA 90, Li-ion; charging directly in POC 200
Rated voltage	11.1 V	3.8 V	7.5 V
Battery capacity	5,000 mAh	5,200 mAh	6,000 mAh
Battery life	at 25 °C: 6 hours	at 25 °C: 10 hours	at 25 °C: 16 hours
Charging time	< 4 hours	<3 hours	< 3 hours
Operating temperature	-20 °C ... 45 °C (-4 °F ... 113 °F)	-20 °C ... 50 °C (-4 °F ... 122 °F)	-30 °C ... 60 °C (-22 °F ... 140 °F)
Storage temperature	-30 °C ... 70 °C (-22 °F ... 158 °F)	-30 °C ... 70 °C (-22 °F ... 158 °F)	-30 °C ... 70 °C (-22 °F ... 158 °F)

5 First steps

5.1 Controls and display screens

5.1.1 Control panel on the total station



The control panel comprises a 5-line display and four buttons. This control unit is used to make basic settings on the total station.

Function buttons on the total station → page 13

Function buttons on the total station

	Switches the tool on or off
	Laser plummet on / off
	Shifts focus downwards, rolling
	Confirms the selected display.

5.1.2 Set-up with circular bubble level

When starting up the total station the circular bubble level displayed on the screen must be centered by turning the tripod footscrews.

5.1.3 Setting up over a mark on the floor or ground using the laser plummet

The tool should always be set up over a point marked on the floor or ground so that in case of measurement deviations it is possible to fall back on the data for the station or orientation point.

The tool features a laser plummet that is switched on automatically together with the tool.

5.1.4 Control panel on the controller





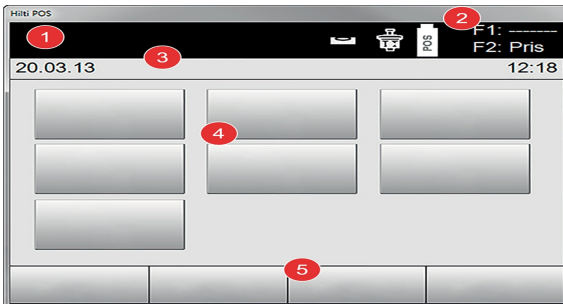
The control panel on the controller consists of a total of 7 buttons with symbols plus a touch screen for interactive operation.

Function buttons on the controller → page 14

Function buttons on the controller

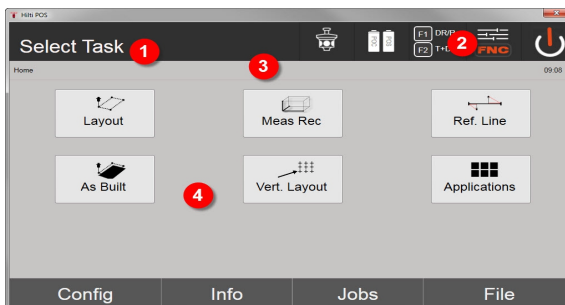
	Switches the tool on or off
	Switches the display backlight on or off
	Calls up the FNC menu for additional settings
	Cancels or ends all active functions and returns to the start menu
	User-configured function button
	User-configured function button
	Control and prism search function button

5.1.5 Indicators and controls on the POC 100 controller touchscreen



1. Information bar
2. Battery status, wireless connection and measuring target status
3. Menu display (action, time and date)
4. Various applications
5. Button bar

5.1.6 Indicators and controls on the POC 200 controller touchscreen



1. Information bar
2. Battery, status of radio connection and measurement target, time
3. Activated menu
4. Function buttons
5. Button bar

5.1.7 Viewing on-board help for the active screen

1. Press the **FNC** button.
2. Press the **?** button.

5.1.8 Status displays

Important tool status information is displayed in the top right-hand corner of the screen.

Status indicator → page 15

Status indicator

	Compensator on / off
	EDM Active target Type Setting including status laser pointer and the laser plummet
	Battery state of charge: 0 - 100%

5.1.9 Further information



POS 150 (<http://qr.hilti.com/r51292>)



POS 180 (<http://qr.hilti.com/r51294>)

6 Calibration and adjustment

6.1 Calibration review

The tool is correctly adjusted when supplied. The values to which the tool is set may change over time or due to temperature fluctuations, transport or aging. The tool therefore incorporates a feature that allows the settings to be checked and, if necessary, corrected by carrying out in-the-field re-calibration. This is done by setting up the tool securely on a tripod of good quality and targeting an easily visible, clearly discernible prism within ± 3 degrees of horizontal at a distance of approx. 50 - 70 m.



After this, follow the instructions on the display.

Tool parameters that are checked by in-the-field calibration and electronically adjusted:

- Target axis errors
- VA collimation errors
- Inclination errors of the tilt sensor (compensator)
- Axis errors of the automatic prism targeting system (prism tracker)



Laser pointer to cross hairs alignment error can be checked in the field. If the error is excessive, please contact the Hilti Tool Service or the Hilti Repair Service, as this error requires mechanical correction.

As the **Hilti** total station system is primarily used for measuring applications in one position, it is advisable to calibrate the tool in the field or on the construction site at regular intervals. This is especially the case when steeper sightings are used frequently.

7 Transport and storage of cordless tools

Transport



CAUTION

Accidental starting during transport !

- ▶ Always transport your products with the batteries removed!
- ▶ Remove the battery.
- ▶ Transport the tool and batteries individually packaged.
- ▶ Never transport batteries in bulk form (loose, unprotected).
- ▶ Check the tool and batteries for damage before use after long periods of transport.

Storage



CAUTION

Accidental damage caused by defective or leaking batteries !

- ▶ Always store your products with the batteries removed!
- ▶ Store the tool and batteries in a place that is as cool and dry as possible.
- ▶ Never store batteries in direct sunlight, on heating units or behind a window pane.
- ▶ Store the tool and batteries in a place where they cannot be accessed by children or unauthorized persons.
- ▶ Check the tool and batteries for damage before use after long periods of storage.

7.1 Care and maintenance

WARNING

Risk of injury with battery inserted !

- ▶ Always remove the battery before carrying out care and maintenance tasks!

Care and maintenance of the tool

- Carefully remove stubborn dirt from the tool.
- Use only a slightly damp cloth to clean the casing. Do not use cleaning agents containing silicone as these may attack the plastic parts.

Care of the Li-ion batteries

- Keep the battery free from oil and grease.
- Use only a slightly damp cloth to clean the casing. Do not use cleaning agents containing silicone as these may attack the plastic parts.
- Avoid ingress of moisture.

Maintenance

- Check all visible parts and controls for signs of damage at regular intervals and make sure that they all function correctly.
- Do not operate the cordless tool if signs of damage are found or if parts malfunction. Have the tool repaired by **Hilti** Service immediately.
- After cleaning and maintenance, fit all guards or protective devices and check that they function correctly.

Cleaning the lens

ATTENTION

Risk of damage The optical system may be damaged by touching the parts.

- ▶ Do not touch the glass surfaces with your fingers.
- ▶ Blow any dust off the glass.
- ▶ Use only a soft, clean cloth to clean the tool.

7.2 Hilti Measuring Systems Service

Hilti Measuring Systems Service checks the scanning tool and, if deviations from the specified accuracy are found, recalibrates it and rechecks to ensure conformity with specifications. The service certificate provides written confirmation of conformity with specifications at the time of the test. The following is recommended:

- Choose a test/inspection interval that matches usage of the device.
- Have the product checked by **Hilti** Measuring Systems Service after exceptionally heavy use or subsection to unusual conditions or stress, before important work or at least once a year.

Testing and inspection by **Hilti** Measuring Systems Service does not relieve the user of the obligation to check the scanning tool before and during use.

8 Troubleshooting

8.1 Total station / controller is not in working order

Trouble or fault	Possible cause	Action to be taken
The tool can't be switched on.	The battery is discharged or not correctly inserted.	<ul style="list-style-type: none"> ▶ Change the battery and charge the empty battery. ▶ Insert the battery correctly. ▶ Contact HILTI service.


9 Disposal



WARNING

Risk of injury. Hazards presented by improper disposal.

- ▶ Improper disposal of the equipment may have the following 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** products 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 sales representative for further information.

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



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

10 Manufacturer's warranty

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

11 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.
-



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 and 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.



Hilti Aktiengesellschaft
Feldkircherstraße 100
9494 Schaan | Liechtenstein

POS 150 / 180 (01)

[2012]

2014/53/EU

EN ISO 12100

2011/65/EU

EN 301489-1 V2.1.0

2006/66/EC

EN 301489-17 V3.1.0

EN 300328 V2.1.1

EN 61000-4-2

EN 61000-4-3

EN 61326-1

EN 55011

Schaan, 05/2017

Paolo Luccini

Head of BA Quality and
Process-Management
BA Electric Tools & Accessories

Thomas Hillbrand

Head of BU Measuring Systems
Business Unit Measuring Systems



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



2164701



Hilti Connect