



HILTI PX 10 Transpointer Instruction Manual

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PX 10 Transpointer

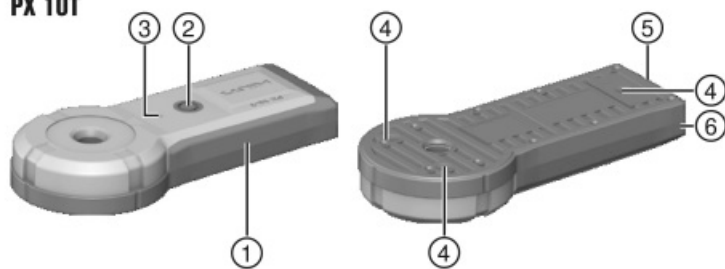


**PX 10 Transponder
Instruction Manual**

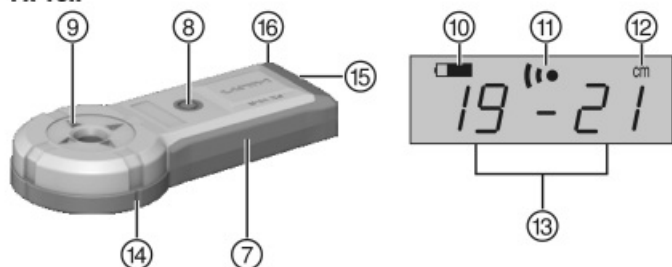
PX 10 Transpointer

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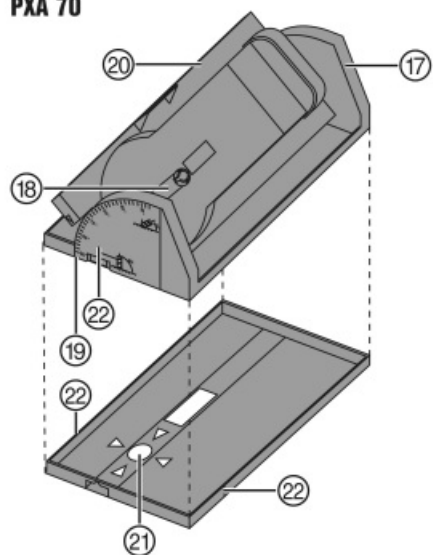
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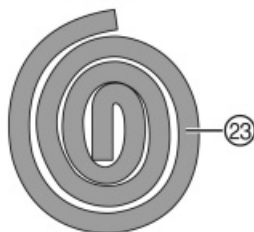
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PXA 70



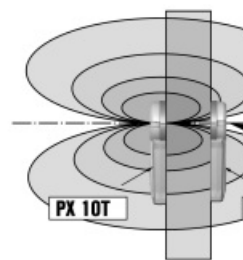
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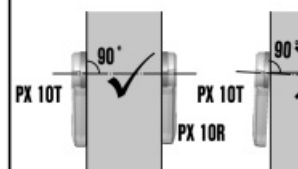
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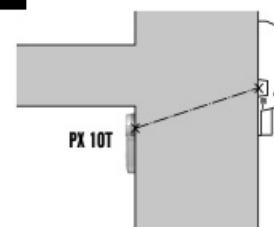
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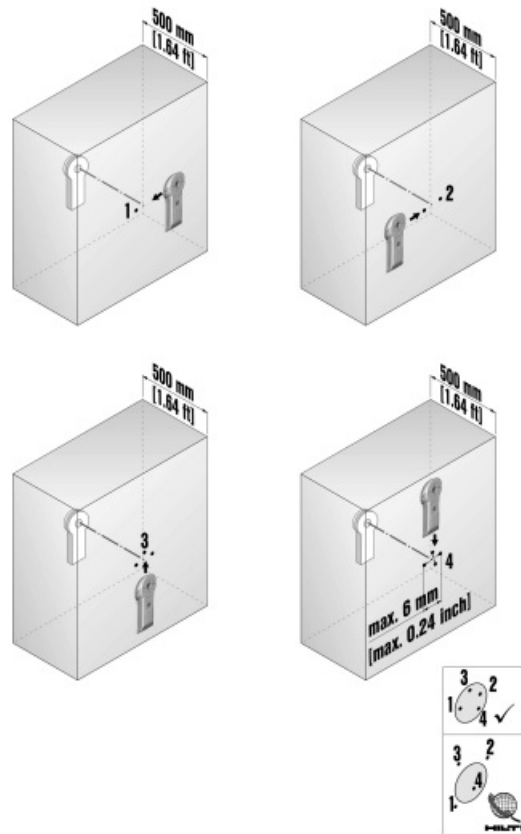


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ORIGINAL OPERATING INSTRUCTIONS

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.

These numbers refer to the illustrations. You can find the illustrations at the beginning of the operating instructions.

In these operating instructions, the designation "PX 10 transponder" refers to the system consisting of two components: the PX 10T (referred to as "the transmitter") and the PX 10R (referred to as "the receiver"). In these operating instructions, the designation "the tool" always refers to the PX 10 transponder.

Operating controls and indicators

1. PX 10T transmitter	13. Distance
2. On/off button	14. Marking notch
3. Status indicator	15. Battery compartment
4. Indentations for adhesive putty	16. Eye for hand strap
5. Battery compartment	17. PXA 70 slope adapter
6. Eye for hand strap	18. Holder for PX 10R
7. PX 10R receiver	19. Scale showing angle of measurement
8. On/off button	20. Tilting plate
9. Direction arrows	21. Marking hole
10. Battery status	22. Marking notch
11. Signal status	23. PUA 91 adhesive putty
12. Units	24. PUA 92 adhesive strips

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

Symbols

Location of identification data on the tool

The type designation and serial number can be found on the type identification plate on the PX 10T transmitter. Make a note of this data in your operating instructions and always refer to it when making an enquiry to your Hilti representative or service department.

Type:

Serial no.:

Location of identification data on the tool The type designation and serial number can be found on the type identification plate on the PX 10R receiver. Make a note of this data in your operating instructions and always refer to it when making an enquiry to your Hilti representative or service department.

Type:

Serial no.:

Description

2.1 Use of the product as directed

The Hilti PX 10 transponder is a measuring system consisting of the PX 10T transmitter and PX 10R receiver. It is used to bring the receiver into alignment with the preset position of the transmitter and to determine the distance between the two units. The system is capable of doing this through walls and floors. The user can thus transfer reference points from one side of a wall or floor, measure its thickness. This makes it easier to determine at which point the drill bit will outcome the other side of a wall or floor when drilling a through-hole from a marked hole-starting point. The system transfers positions from one side of a wall or floor to the other and helps the user to determine the required drill bit or core bit length. In conjunction with the slope adapter, the transponder can be used to determine the exit point from a given reference point and angle or, alternatively, the angle between two given points.

2.2 Items supplied

- 1 PX 10T transmitter
- 1 PX 10R receiver
- 2 PDA 60 hand straps
- 2 9 volt batteries
- 1 PUA 91 adhesive putty
- 1 PUA 92 adhesive strips
- 1 Operating instructions
- 2 Manufacturer's certificates
- 1 Hilti toolbox
- 1 PXA 70 slope adapter
- 10 PUA 70 markers

NOTE

Depending on the version purchased, the slope adapter and markers may not be included among the items supplied.

2.3 Measuring principle 2

The transmitter generates a magnetic field. This magnetic field is capable of penetrating, bricks, wood, concrete

and steel reinforced concrete. The receiver is calibrated in such a way that it finds the center point of the projected field and determines the applicable distance by measuring the strength of the magnetic field between the two units of the tool. The slope adapter has been designed for use together with the trans pointer so that the magnetic field can be measured even when the receiver is placed at an angle to the transmitter.

NOTE

The PX 10 trans pointer is influenced by metal objects. Whereas symmetrically arranged steel reinforcement in concrete presents virtually no problem, welded reinforcement, reinforcing mesh, flat sheet metal or solid metal columns have a very negative effect on the performance of the system.

Consumables

Accessories	Designation	Item number
Adhesive putty	PUA 91	273131
Adhesive strips	PUA 92	273132
Hand strap	PDA 60	282389
Slope adapter	PXA 70	273130
Markers	PUA 70	340806

Technical data

Right of technical changes reserved.

NOTE

The proximity of welded reinforcement, sheet metal or metal framing to the tool may have a considerable negative effect on its accuracy. When wall thickness measurements are made through welded reinforcing mesh, the distance displayed is approx. 20% greater. At temperatures below -10 °C (14 °F) considerable inaccuracy may occur with wall thicknesses greater than 50 cm (1.64 ft).

Technical data	Values
Position-finding accuracy, standard (up to max. 1 m / 3 ft 3 in)	Temperature +21°C (+70°F), Wall thickness 200 mm: t 8 mm (7.87 in: 0.32 in)
Position-finding accuracy. maximum (up to maximum 1 m / 3 ft 3 in, without influence by metal objects)	Temperature +21°C (+70°F), Wall thickness 200 mm: t 2 mm (7.87 in: 0.08 in)
Wall thickness measurement accuracy (up to maximum 1 m / 3 ft 3 in, except when using the slope adapter)	Temperature +21°C (+70°F): ±5 %
Measurement range (standard)	0.05...1.35 m (2 in to 4 ft 5 in)

Operating temperature (PX 10T, PX 10R, PUA 91)	-20...+50 °C (-4 °F to +122 °F)
Operating temperature (PUA 92)	+10...+40 °C (+50°F to +104 °F)
Storage temperature	-25...+70 °C (-13 °F to +158 °F)
Power source (PX 10T, PX 10R)	One 9 V battery in each
Battery life (PX 10T, PX 10R)	Temperature +21 °C (+70°F): 17 h
Automatic cut-out, PX 10T	17 min
Automatic cut-out, PX 10R	Without change in signal: 3 min. With change in signal: 8 min
Low battery indication (PX 10T)	Status indicator blinks: Remaining operating time: Min. 2h
Low battery indication (PX 10R)	Battery status indicator in display shows blinking frame: Remaining operating time: Min. 2 h
Protection class (except battery compartment)	IP 56 protection against dust and water jets
Weight with battery (PX 10T)	0.24 kg (0.53 lb)
Weight with battery (PX 10R)	0.275 kg (0.61 lb)
Dimensions (PX 10T)	210 mm x 95 mm x 33 mm (8.3" x 3.8" x 1.3")
Dimensions (PX 10R)	210 mm x 95 mm x 33 mm (8.3" x 3.8" x 1.31)

Slope adapter range	90...45° (or 0° to 45°)
Slope adapter maximum accuracy	±.2°

Safety instructions

Read and understand all instructions. Failure to follow all instructions listed below may result in serious personal injury.

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 Basic information concerning safety

- Modification of the tool or tampering with its parts is not permissible.
- Observe the information printed in the operating instructions concerning operation, care and maintenance.
- Keep the measuring tool out of reach of children.
- Have the tool repaired only at a Hilti service center.
- Take the influences of the surrounding area into account. Do not use the tool where there is a risk of fire or explosion.
- Check that the tool functions correctly each time before use.
- Operation of the tool in the proximity of pregnant women is not permissible.
- Avoid bringing PUA 91 into contact with the skin or eyes. If PUA 91 comes into contact with the eyes, rinse the eyes thoroughly with water and consult a doctor. If PUA 91 comes into contact with the skin, wash the skin immediately with soap and plenty of water.

5.2 Intended use

The PX 10 does not detect objects present in a wall and therefore cannot guarantee that the user, when drilling, will not contact electric cables, water or gas pipes or other objects. Accordingly, the greatest care and attention must always be exercised while working.

5.3 Proper organization of the workplace Avoid unfavorable body positions when working on ladders or scaffolding. Make sure you work from a safe stance and stay in balance at all times.

5.4 Electromagnetic compatibility

Although the tool complies with the strict requirement of the applicable directives, Hilti cannot entirely rule out the possibility of the tool being subject to interference caused by powerful electromagnetic radiation, leading correct operation. Accuracy must be checked by taking measurements by other means when working under conditions or if you are unsure. Likewise, Hilti cannot rule out the possibility of interference with other devices (e.g. aircraft navigation equipment).

5.5 General safety precautions

- Check the condition of the tool before use. If the tool is found to be damaged, have it repaired at a Hilti service center.
- The user must check the accuracy of the tool after it has been dropped or subjected to other mechanical stresses.
- Check that the PX 10T transmitter is well secured when attached to a working surface.
- Although the tool is designed for the tough conditions of jobsite use, as with other measuring instruments it should be treated with care.
- Although the tool is designed to prevent entry of dampness, it should be wiped dry each time before being put away in its transport container.

5.6 Electrical

- Keep the batteries out of reach of children.
- Do not allow the batteries to overheat and do not expose them to fire. The batteries may explode or release

toxic substances.

c) Do not charge the batteries.

d) Do not solder the batteries into the tool.

e) Do not discharge the batteries by short circuiting as this may cause them to overheat and swell up.

f) Do not attempt to open the batteries and do not subject them to excessive mechanical stress.

Before use

6.1 Inserting the batteries 1

CAUTION

Do not use damaged batteries.

1. Remove the batteries from the packaging and insert them in the tool.
2. Check that the battery terminals are positioned correctly as shown on the underside of each tool.

Operation

7.1 Switching the tool off and on

Press the on/off button.

7.2 Changing the measurement units

If you wish to change the measurement unit displayed (switch between “cm” and “inch”), proceed as follows: With the tool switched on, press and hold the transmitter on/off button for approx. 5 sec. until the symbol changes. The selected measuring unit remains active each time the tool is switched on.

7.3 Setting up the transmitter 13

Use the center hole or the outer marks to align the transmitter with the reference point and then fix it in position. Two different adhesive aids are supplied with the tool for this purpose.

NOTE

- It is recommended that the adhesive putty is used wherever possible. Nevertheless, neither the adhesive putty nor the adhesive strips are able to guarantee an absolutely secure hold.
 - It is recommended that the tool is additionally secured by way of the hand strap and a nail or screw or some similar means of mechanical attachment.
 - To further increase its security, the tool can be held by a second person.
- Check to ensure that the transmitter is always set up parallel to the surface.

7.3.1 PUA 91 adhesive putty for general use

NOTE

The adhesive putty adheres to various surfaces. The surface should be dry and free from dust and grease. This will ensure that best results are achieved.

NOTE

The adhesive putty can be reused. It is recommended that the putty balls are reformed when reused.

NOTE

The adhesive putty adheres to various surfaces. longer obtained due to the dirt and dust it has collected.

NOTE

The adhesive putty leaves marks on the surface to which it is applied and may pull fragments away from it when removed. If this presents a problem, an alternative means of attachment should be employed.

The adhesive putty is used to attach the transmitter to wall or ceiling.

1. Form three balls of approximately equal size, i.e. cm (0.4 in) in diameter.

NOTE Depending on the type of surface, it may be necessary to adjust the quantity of putty used.

2. Place these in the indentations on the underside the transmitter.
3. Attach the transmitter securely to the wall or ceiling by pressing it against the surface.

7.3.2 PUA 92 adhesive strips for interior use

NOTE

The adhesiveness of the router faces. The surface must be dry and free from dust and grease. This will ensure that best results are achieved.

NOTE

Use the adhesive strips within the ambient temperature range of 10 to 40°C (+50°F to +104°F).

The adhesive strips are used to attach the transmitter to a wall or ceiling.

1. Apply two strips (top and bottom) to the underside of the transmitter.

NOTE The red side should be applied to the transmitter and the black side to the wall or ceiling.

NOTE The end should be allowed to project about a finger width beyond the side of the tool.

NOTE Use of two strips is recommended. It may be necessary to use several strips on certain types of surface.

2. Press the transmitter firmly against the wall or ceiling.
3. When removing the adhesive strips, pull them away slowly, parallel to the surface.

NOTE The adhesive strips may pull fragments away from the surface when removed.

7.4 Working with the receiver

CAUTION

Check that no other PX 10T transmitter is in operation in the immediate vicinity of the transmitter you are using.

NOTE

The receiver must always be positioned parallel to the transmitter.

The signal status symbol in the display lights when the receiver is within range of the transmitter (typically 1.35 m / 4.43 ft). The direction arrows help guide the user to the mid point of the magnetic field generated by the transmitter. The mid point has been found when all arrows light up. The position of the receiver may be marked either through the hole in the center of the tool or using the external marking notches. When at or near to the mid point, the display is illuminated and the distance between the devices is shown as a minimum and maximum (not an absolute value).

7.4.1 Improving measurement accuracy in case of influence by metal

NOTE

Do not measure in corners or immediately adjacent to concrete walls containing steel reinforcement. In order to avoid influence by metal objects, it is recommended that the actual measurements are made at points offset from the reference point by a defined distance (for example, 200mm/8in).

Check that the PX 10T is secured in position and then use the receiver to make measurements from four sides (from above). Mark the points found and then determine the geometrical center. Where a large mass of metal is present or where measurements are to be made close to an adjacent wall, several measurements should be made at a known distance and the geometrical center subsequently determined, e.g. four measurements in a square with sides 100 mm (4 in) in length.

NOTE

Working on a rough surface can be made easier by laying a sheet of nonmetallic material between the receiver and the surface.

7.5 Working with the slope adapter

The slope adapter is used to determine the drill bit exit point from a given entry point and angle, or to determine the angle between two given points.

The transmitter is used as described in the section "Setting up the transmitter".

CAUTION

The surfaces of the wall must lie parallel to each other.

NOTE

The display shows the direct distance between the receiver and the transmitter, not the thickness of the wall or floor. Depending on the angle and wall thickness, angle measurements may not be possible in some situations where the maximum range of the tool is exceeded.

Check that the receiver is securely attached to the slope adapter.

7.5.1 Finding a point from a given reference point at a given angle 4

1. Set up the transmitter parallel to the surface at the reference point.
2. Set the slope adapter to the desired angle.
3. To find the center point, rotate the slope adapter according to the direction of slope to the point to be found.
4. Take care to ensure that the adaptor base plate remains parallel to the underside of the transmitter on the other side of the wall while using the direction arrows to search for the center point, as described in the section "Working with the receiver".
5. Use the marking notches or the marking hole in the slope adapter base plate to mark the position of the point found.

7.5.2 Finding the angle between two points 5

1. Set up the transmitter parallel to the surface at the reference point.
2. Set up the base plate of the slope adapter on the second reference point on the other side of the wall. **NOTE** The slope adapter should be adjusted so that the tilting plate coincides with the direction of inclination between the points.
3. Take care to ensure that the base plate of the slope adapter remains parallel to that of the transmitter at all times.
4. Move the slope adapter, keeping it perpendicular to the angle to be determined, until both direction indicator arrows for this axis light up. The perpendicular offset to this angle is then displayed.
5. Adjust the angle of the tilting plate carrying the receiver until both direction arrows for the angle axis light up.
6. Read the angle from the scale at the side.

NOTE The angle reading corresponds to the effective drilling angle and not the visually perceived angle.

7.6 Possible applications 678

The PX 10 transponder can be used for general alignment tasks. The user is responsible for deciding whether the tool achieves the accuracy required for each application.

7.6.1 Preparing for drilling

Locating the drill bit exit point from a given entry point (hole-starting point).

Determining the required drill bit length.

Measuring the angle between two points with the aid of the slope adapter.

7.6.2 Reducing damage

Determining the starting point on the side from which drilling is to be carried out, depending on the situation: The finished surfaces of walls (cladding, tiles, etc.) are often damaged when drilled through from the inside. The PX 10 transponder can be used, for example, to transfer the hole-starting point from the inside of the building to the outside. This ensures that no surface-mounted objects (such as risers, standpipes, etc.) are drilled into from the other side of the wall.

7.6.3 Transferring marks

Transferring reference points or marks for alignment work through walls, ceilings or floors.

7.6.4 Measuring wall thickness

Determining the thickness of walls, ceilings or floors.

7.7 Measurements to check accuracy 9

NOTE

Check the accuracy of the tool before making important measurements or if the instrument has been dropped.

NOTE

Do not measure in corners or immediately adjacent to concrete walls containing steel reinforcement. In order to avoid influence by metal objects, it is recommended that the actual measurements are made at points offset from

the reference point by a defined distance (for example, 200mm/8in).

1. Choose a wall with a thickness of approx. 50 cm (1.64 ft) that is known to contain no reinforcement and with surfaces that are known to be parallel.
2. Check that the PX 10T is secured in position and then use the receiver to make measurements from four sides (from above, below, right, left). Mark the points found and then determine the geometrical center.

NOTE Calibration at a Hilti service center is necessary if a deviation of more than 6 mm (0.24 in) is found.

3. If you doubt whether the surfaces of the wall are parallel, swap the positions of the transmitter and receiver on each side of the wall and repeat the steps described previously. Set up the transmitter on the previously determined geometrical center. If the second geometrical center does not coincide with the original reference point, then the surfaces of the wall are not parallel.

Care and maintenance

8.1 Cleaning and drying

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.

8.2 Storage

Unpack the tool if it has become wet. The tool, its carrying case and accessories should be cleaned and dried (at maximum 40°C). 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.

NOTE

– Leaking batteries may damage the tool.

– Observe the temperature limits when storing your equipment, especially in winter/summer if the equipment is kept inside a motor vehicle (-25°C to +70°C; -13°F to +158°F).

8.3 Transport

Use the Hilti toolbox or packaging of equivalent quality for transporting or reshipping 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 checked, with the specifications given in the operating instructions.

After checking, a calibration sticker applied to the tool and a calibration certificate provide written verification that the tool is operating 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.

Troubleshooting

Fault	Possible cause	Remedy

The receiver is switched on but no signal is indicated on the display.	The transmitter has switched off automatically after 17 minutes.	Switch on the transmitter.
	The PX 10T transmitter battery is dead.	Change the battery.
The receiver is switched on but no signal is indicated on the display.	The maximum measuring range has been exceeded.	Make the measurements where the wall is less thick and then measure the offset to the drilling position.
	The signal is screened by sheet metal.	If possible, make the measurements at an area where there is no sheet metal.
The transmitter cannot be switched on or switches itself off after a short time.	The battery is dead.	Change the transmitter battery.
The receiver cannot be switched on or switches itself off after a short time.	The battery is dead.	Change the receiver battery.
Measurements are inaccurate.	The influence exerted by metal is too strong.	Check accuracy by making measurements "in the air" or on a wall containing no steel reinforcement.
	The tool is faulty.	Have the tool checked at a Hilti service center if the measuring tolerance is exceeded.
The direction indicator arrows flicker at random.	Microphonia effect due to strong vibration of the receiver.	Keep the receiver steady.
	Interference fields, e.g. caused by cordless telephones, switched-on computer screens etc.	Switch off the source of all interference fields.
The adhesive putty doesn't hold properly.	The adhesive putty has been used too often.	Use new adhesive putty.

	The contact surfaces are not clean.	Clean the contact surfaces.
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Disposal

CAUTION

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 and appliances are manufactured can be recycled. The materials must be correctly separated before they can be recycled. In many countries, Hilti has already made arrangements for taking back old tools and appliances for recycling. Ask Hilti customer service or your Hilti representative for further information.

For EC countries only



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

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

Dispose of the batteries in accordance with national regulations.

Manufacturer's warranty – tools

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

EC declaration of conformity (original)

The manufacturer declares, on his sole responsibility, that the product described here complies with the applicable legislation 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

EC Declaration of Conformity | UK Declaration of Conformity



Manufacturer:
Hilti Corporation
Feldkircherstraße 100
9494 Schaan | Liechtenstein

UK Importer:
Hilti (Gt. Britain) Limited
1 Trafford Wharf Road, Old Trafford
Manchester, M17 1BY

PX 10 (02) | PX 10R (02) | PX 10T (02)

Serial Numbers: 1-9999999999

2014/53/EU | Radio Equipment Regulations
2017

2011/65/EU | The Restriction of the Use of
Certain Hazardous Substances in Electrical and
Electronic Equipment Regulations 2012

EN 62368-1:2014
+AC:2015

EN 301 489-1 V2.2.0

EN 301 489-3 V2.1.1

EN 303 454 V1.1.0

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<https://hilti.to/ontrackapp>



319931

Hilti = registered trademark of Hilti Corp., Schaan

Documents / Resources



[HILTI PX 10 Transpointer](#) [pdf] Instruction Manual
PX 10, Transpointer, PX 10 Transpointer

References

-  [Официальный сайт - Hilti Россия](#)
-  [Официальный сайт - Hilti Россия](#)