

# HILTI

## D-Center

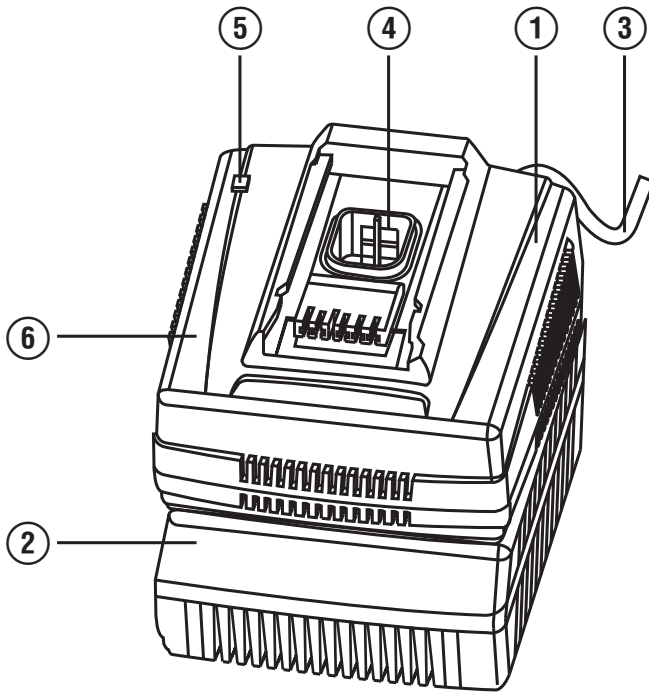
**Bedienungsanleitung** de

**Operating instructions** en

**Mode d'emploi** fr

**Manual de instrucciones** es





# ORIGINAL OPERATING INSTRUCTIONS

## D-Center battery diagnostic tester

**It is essential that the operating instructions are read before the appliance is operated for the first time.**

**Always keep these operating instructions together with the appliance.**

**Ensure that the operating instructions are with the appliance when it is given to other persons.**

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**1** These numbers refer to the corresponding illustrations. The illustrations can be found on the fold-out cover pages. Keep these pages open while studying the operating instructions. In these operating instructions, the designation "the appliance" always refers to the D-Center diagnostic tester for Hilti lithium-ion batteries.

### Operating controls and parts **1**

- ① D-Center diagnostic tester
- ② Discharge control unit
- ③ Supply cord
- ④ Battery compartment
- ⑤ Optical interface
- ⑥ Base station signal receiving area

## 1 General information

### 1.1 Safety notices and their meaning

#### **DANGER**

Draws attention to imminent danger that will lead to serious bodily injury or fatality.

#### **WARNING**

Draws attention to a potentially dangerous situation that could lead to serious personal injury or fatality.

#### **CAUTION**

Draws attention to a potentially dangerous situation that could lead to slight personal injury or damage to the equipment or other property.

### **NOTE**

Draws attention to an instruction or other useful information.

### 1.2 Explanation of the pictograms and other information

#### Warning signs



General warning



Warning: electricity



Warning: caustic substances

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## Symbols



Read the operating instructions before use.



The disposal of batteries with household waste is not permissible.



Return waste material for recycling.



Equipped with theft protection system



Lock symbol



For indoor use only

## Location of identification data on the appliance

The type designation and serial number can be found on the type identification plate on the appliance. 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.: \_\_\_\_\_

## 2 Description

### 2.1 Use of the product as directed

The appliance is designed for testing Hilti Li-ion batteries with a rated voltage of 4 to 36 volts.

The appliance is intended for stationary use in a workshop, office or sales point.

Modification of the appliance or tampering with its parts is not permissible.

Observe the information printed in the operating instructions concerning operation, care and maintenance.

Observe the safety rules and operating instructions for the accessories used.

To avoid hazards, use only the approved batteries and chargers.

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

The appliance may be operated only when connected to a power supply providing a voltage and frequency in compliance with the information given on its type plate.

Do not use the battery as a power source for other unspecified appliances.

The D-Center diagnostic tester is designed for worldwide use and especially in all EU and EFTA countries.

### 2.2 Items supplied as standard

- 1 Charger
- 1 Operating instructions

### 2.3 Charge status of the Li-ion battery during charging

LEDs light constantly	LEDs blink	Charge status C
LED 1, 2, 3, 4	-	$C \geq 75\%$
LED 1, 2, 3	LED 4	$50\% \leq C < 75\%$
LED 1, 2	LED 3	$25\% \leq C < 50\%$
LED 1	LED 2	$10\% \leq C < 25\%$
-	LED 1	$C < 10\%$

## 3 Technical data

Right of technical changes reserved.

Appliance	D-Center
Cooling	Active cooling
Mains voltage	100 ... 127 V or 220 ... 240 V Please refer to the type identification plate on the underside of the appliance.
Mains frequency	50 ... 60 Hz
Battery	Li-ion
Output voltage	4 ... 36 V
Output power	200 W
Length of charger supply cord	Approx. 2 m
Weight of appliance	1.8 kg
Dimensions (L x W x H)	205 mm x 150 mm x 165 mm
Control	Electronic charging / discharging control (microcontroller)
Protection class	Electrical protection class II (double insulated)

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### NOTE

If the battery being tested is faulty, the test normally takes only 30 seconds.

Voltage	Type	Battery	Maximum test- ing time	Applicable power tools (examples)
14.4 V	B 144/2.6 Li-Ion	Li-ion battery	4 min	SID 144-A
21.6V	B 22/2.6 Li-Ion	Li-ion battery	5 min	SFH 22-A
21.6V	B 18/2.6 Li-Ion	Li-ion battery	5 min	SFH 18-A
36 V	B 36/2.4 Li-Ion	Li-ion battery	5 min	TE 6-A LI
36 V	B 36/2.6 Li-Ion	Li-ion battery	5 min	TE 6-A LI
36 V	B 36/3.3 Li-Ion	Li-ion battery	6 min	TE 7-A LI
36 V	B 36/3.9 Li-Ion	Li-ion battery	7 min	TE 7-A LI

## 4 Safety instructions

### 4.1 General safety rules

**WARNING! Read all instructions!** Failure to follow all instructions listed below may result in electric shock, fire and/or serious injury. **SAVE THESE INSTRUCTIONS!**

#### 4.1.1 Work area

- Keep the work area clean and well lit.** Cluttered or dark areas invite accidents.
- Do not operate the appliance in explosive atmospheres, such as in the presence of**

**flammable liquids, gases or dust.** Chargers can cause sparks which may ignite dust or fumes.

- Keep children and other persons away from the area while the charger is in use.**

#### 4.1.2 Electrical safety

- The appliance's supply cord plug must match the outlet. Modification of the plug in any way is not permissible.** Unmodified

plugs and corresponding power outlets reduce the risk of electric shock.

- b) **Avoid body contact with earthed or grounded surfaces such as pipes, radiators, ranges and refrigerators.** There is an increased risk of electric shock if your body is grounded.
- c) **Do not expose the appliance to rain or wet conditions.** Water entering an appliance will increase the risk of electric shock.
- d) **Do not abuse the cord. Never use the cord to carry the appliance or pull the plug from an outlet. Keep cord away from heat, oil, sharp edges or moving parts.** Damaged cords increase the risk of electric shock.
- e) **Use the charger only indoors and protect it from rain.**

#### 4.1.3 Personal safety

**Do not wear jewelry such as rings or chains.** Jewelry could cause a short circuit and personal injury in the form of burns.

#### 4.1.4 Battery charger use and care

- a) **Use the charger only to charge the Hilti batteries approved for use with this charger.**
- b) **Do not use a charger if its casing or electric supply cord is defective.**
- c) **Store chargers out of reach of children when not in use. Do not allow persons unfamiliar with the appliance or these instructions to operate it.** Chargers are dangerous in the hands of untrained users.
- d) **Maintain the appliance with care. Check to ensure that no parts are broken or damaged in such a way that the appliance can no longer function correctly. If damaged, have the appliance repaired before use.**
- e) **Use chargers and the corresponding batteries in accordance with these instructions and as is specified for this particular model.** Use of chargers for applications different from those intended could result in hazardous situations.
- f) **Recharge only with the charger specified by the manufacturer.** A charger that is suitable for one type of battery pack may create a risk of fire when used with another battery pack.

- g) **When not in use, keep the battery and the charger away from paper clips, coins, keys, nails, screws or other small metal objects that could cause a short circuit at the battery terminals or the charging contacts.** A short circuit at the battery terminals or charging contacts could result in personal injury (burns) or fire.
- h) **Under abusive conditions, liquid may be ejected from the battery, Avoid contact. If contact accidentally occurs, flush with water. If liquid contacts eyes, additionally seek medical help.** Liquid ejected from the battery may cause irritation or burns.

#### 4.1.5 Service

**Have your appliance repaired only by qualified specialists using only genuine Hilti spare parts.** This will ensure that the appliance remains safe to use.

### 4.2 Additional safety rules

#### 4.2.1 Personal safety

- a) **Take care to ensure that the charger is standing in a steady, secure position.** A falling battery or charger may present a risk of injury to yourself or others.
- b) Avoid touching the contacts.
- c) Batteries that have reached the end of their life must be disposed of safely and correctly to avoid environmental pollution.
- d) **This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.**
- e) **Children must be instructed not to play with the appliance.**

#### 4.2.2 Battery charger use and care

- a) Take care to ensure that the batteries suffer no physical damage.
- b) **Do not charge or continue to use damaged batteries (e.g. batteries with cracks, broken parts, bent or pushed-in and/or pulled-out contacts).**

### 4.2.3 Electrical safety



- a) **Do not touch the supply cord or extension cord if it is damaged while working. Disconnect the supply cord plug from the power outlet.** Damaged supply cords or extension cords present a risk of electric shock.

- b) **Never operate the appliance when it is dirty or wet. Dust (especially dust from conductive materials) or dampness adhering to the surface of the appliance may, under unfavorable conditions, lead to electric shock. Dirty or dusty appliances should thus be checked at a Hilti service center at regular intervals, especially if used frequently for working on conductive materials.**

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### 4.2.4 Work area

Ensure that the workplace is well lit.

## 5 Before use



### 5.1 Use the appliance only at a suitable location

Use the appliance only indoors.

The location at which the appliance is used should be clean, dry and cool but protected from frost.

As the appliance must be able to give off heat during charging, check that the ventilation slots are unobstructed (at least 10 cm free space) and not covered over.

The appliance must stand where there is adequate free space in order to ensure unobstructed air circulation (do not operate the appliance in a closed container).

### 5.2 Battery use and care

#### CAUTION

**Check that the batteries are not physically damaged. Do not test or recharge batteries which have suffered physical damage and**

**do not put damaged batteries back into use. These must be disposed of correctly.**

#### NOTE

Battery performance drops at low temperatures. Never use the battery until the cells become fully discharged. Change to the second battery in good time. Recharge the battery immediately so that it is ready for reuse.

Store the battery in a cool, dry place. Never store the battery where it is exposed to direct sunlight or sources of heat, e.g. on heaters / radiators or behind glass. Batteries that have reached the end of their life must be disposed of safely and correctly to avoid environmental pollution.

### 5.3 Switching the appliance on

Plug the supply cord into the power outlet.

#### NOTE

The green LED lights after the appliance has been plugged in. If the green LED doesn't light or goes out during operation, unplug the supply cord from the power outlet and then plug it in again. If the green LED still doesn't light after reconnecting several times, return the appliance to Hilti Service for repair.

## 6 Operation

### 6.1 Inserting and testing the battery

#### CAUTION

This appliance is designed for use with the specified Hilti lithium-ion batteries. Use of the appliance to test other batteries, or batteries from other manufacturers, is not permissible. A risk of personal injury or fire and irreparable damage to the battery and the appliance may otherwise result. A caustic liquid may leak from defective batteries. Avoid any contact with this liquid. Do not test or recharge batteries which have suffered physical damage and do not put damaged batteries back into use. These must be disposed of correctly.

#### NOTE

Before inserting the battery in the D-Center, check that the contacts are clean and free from grease.

Depending on the type of Hilti battery to be tested, push or slide the battery into the appropriate interface until it is heard to engage. Check that the battery and charger interfaces match (keyed fit).

Remove the battery from the D-Center after testing.

The battery must not, under any circumstances, be left in the D-Center diagnostic unit for a long period of time.

### 6.2 Optical interface on the charger

1. After connecting the D-Center to the electric supply, the optical interface begins to blink red.
2. The interface can be seen to blink red while the diagnostic test is in progress.
3. If the optical interface does not blink visibly after the unit is connected to the electric supply (optical service reader not yet plugged in!), disconnect the appliance from the power outlet and then reconnect it. If the lamp still does not blink, please return the appliance to Hilti for repair.

### 6.3 Indicators

#### 6.3.1 Charging indicators

After clicking the “Charge battery” button in the ODA PC application, a blinking lamp on the battery indicates that charging is in progress.

#### 6.3.2 Indication of a defective battery

After completion of the diagnostic test, the ODA PC application informs the user whether the battery is ready for use or whether it is faulty and will have to be replaced.

### 6.4 Testing a battery

1. Plug the D-Center’s supply cord into the power outlet.
2. Connect your PC to the D-Center by way of the optical service reader.
3. Plug the optical service reader into the optical interface on the diagnostic unit.
4. Start the ODA PC application.  
**NOTE** Detailed information about using ODA can be found in the ODA operating instructions (Operating Data Analyzer for electric tools with optical interface).
5. Insert a battery in the D-Center diagnostic tester.



6. Click the “Begin diagnostic test” button on your screen.

The diagnostic test begins and a bar at the bottom of the screen indicates the rate of progress.

Three types of diagnostic test are carried out:

- a.) Electronics test
- b.) Battery cell test
- c.) Measurement of actual remaining battery capacity

Even when the battery fails only one of these tests, this is indicated in ODA by a red cross after the name of the corresponding test procedure. In this case, the battery should be replaced.

When a test procedure is passed successfully, this is indicated by a green check-mark ( “tick”).

If all three diagnostic tests have been passed successfully, indicated by three green check-marks, the battery is ready for use.

## 6.5 Deactivating the battery’s TPS theft protection function

### NOTE

The D-Center can be used to unlock a battery’s TPS theft protection system. To do this, the TPS base station is also required.

1. Check to ensure that no battery is in the appliance.
2. Plug the supply cord into the power outlet.
3. Start the TPS II application on your PC (TPS2.exe).
4. Insert the battery to be unlocked in the appliance.

**NOTE** After inserting the battery, continue within 3 minutes. If you do not continue within 3 minutes the battery will have to be removed and reinserted in order to allow the code to be canceled.

5. Position the TPS base station close to the front left corner of the D-Center (where the lock symbol is located on the C4/36-ACS TPS charger).
6. Click the “Cancel TPS security code” button on your PC screen.

The battery’s security code will then be canceled.

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## 7 Care and maintenance

### CAUTION

**Disconnect the supply cord plug from the power outlet.**

### 7.1 Care of the appliance

Never operate the appliance when the ventilation slots are blocked. Clean the ventilation slots carefully using a dry brush. Do not permit foreign objects to enter the interior of the appliance. Clean the outside of the appliance at regular intervals with a slightly damp cloth. Do not use a spray, steam pressure cleaning equipment or running water for cleaning. This will negatively affect the electrical safety of the appliance. Always keep the grip surfaces of the appliance free from oil and grease. Do not use cleaning agents which contain silicone.

### 7.2 Maintenance

#### WARNING

**Repairs to the electrical section of the appliance may be carried out only by trained electrical specialists.**

Check all external parts of the appliance for damage at regular intervals and check that all controls operate faultlessly. Do not operate the appliance if parts are damaged or when the controls do not function faultlessly. If necessary, the appliance should be repaired by Hilti Service.

### 7.3 Checking the appliance after care and maintenance

After carrying out care and maintenance, check that all protective and safety devices are fitted and that they function faultlessly.

## 8 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.

### CAUTION

Dispose of defective batteries without delay. Keep them out of reach of children. Do not attempt to open or dismantle batteries and do not dispose of them by incineration.



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



For EC countries only

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

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

## 9 Manufacturer's warranty

Hilti warrants that the tool supplied is free of defects in material and workmanship. This warranty is valid so long as the tool is operated and handled correctly, cleaned and serviced properly and in accordance with the Hilti Operating Instructions, and the technical system is maintained. This means that only original Hilti consumables, components and spare parts may be used in the tool.

This warranty provides the free-of-charge repair or replacement of defective parts only over the entire lifespan of the tool. Parts requiring repair or replacement as a result of normal wear and tear are not covered by this warranty.

**Additional claims are excluded, unless stringent national rules prohibit such exclusion.**

**In particular, Hilti is not obligated for direct, indirect, incidental or consequential damages, losses or expenses in connection with, or by reason of, the use of, or inability to use the tool for any purpose. Implied warranties of merchantability or fitness for a particular purpose are specifically excluded.**

For repair or replacement, send the tool or related parts immediately upon discovery of the defect to the address of the local Hilti marketing organization provided.

This constitutes Hilti's entire obligation with regard to warranty and supersedes all prior or contemporaneous comments and oral or written agreements concerning warranties.

## 10 EC declaration of conformity (original)

Designation:	Battery diagnostic tester
Type:	D-Center
Year of design:	2007

We declare, on our sole responsibility, that this product complies with the following directives and standards: 2006/95/EC, 2004/108/EC, 2011/65/EU, EN 60335-1, EN 60335-2-29, EN ISO 12100.

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