

WEU

WEU



Robert Bosch GmbH
Power Tools Division
70745 Leinfelden-Echterdingen
Germany

www.bosch-pt.com

1 609 929 X43 (2010.11) T / 164 **WEU**



1 609 929 X43

PDO 6



BOSCH

de Originalbetriebsanleitung
en Original instructions
fr Notice originale
es Manual original
pt Manual original
it Istruzioni originali
nl Oorspronkelijke
gebruiksaanwijzing
da Original brugsanvisning

sv Bruksanvisning i original
no Original driftsinstruks
fi Alkuperäiset ohjeet
el Πρωτότυπο οδηγιών χρήσης
tr Orijinal işletme talimatı
ar تعليمات التشغيل الأصلية



Safety Notes



Read and observe all instructions. SAVE THESE INSTRUCTIONS FOR FUTURE REFERENCE.

- ▶ **Have the measuring tool repaired only through qualified specialists using original spare parts.**
This ensures that the safety of the measuring tool is maintained.
- ▶ **Do not operate the measuring tool in explosive environments, such as in the presence of flammable liquids, gases or dusts.** Sparks can be created in the measuring tool which may ignite the dust or fumes.
- ▶ **For technological reasons, the measuring tool cannot ensure 100 % certainty. To rule out hazards, safeguard yourself each time before drilling, sawing or routing in walls, ceilings or floors by means of other information sources, such as building plans, pictures from the construction phase, etc.**
Environmental influences, such as humidity or closeness to electrical devices, can influence the accuracy of the measuring tool. Surface quality and condition of the walls (e.g., moisture, metallic building materials, conductive wallpaper, insulation materials, tiles) as well as the amount, type, size and position of the objects can lead to faulty measuring results.

Functional Description

Intended Use

The measuring tool is intended for the detection of metals (ferrous and non-ferrous metals, e.g., rebar) and “live” wires/conductors in walls, ceilings and floors.

Product Features

The numbering of the product features shown refers to the illustration of the measuring tool on the graphic page.

- 1** Illuminated ring
- 2** Marking hole
- 3** Display
- 4** On/Off button
- 5** Sensor area
- 6** Battery lid
- 7** Latch of battery lid

Display Elements

- a** Battery low indicator
- b** “Live” wire indicator
- c** Measuring indicator
- d** “AutoCal” calibration indicator

The accessories illustrated or described are not included as standard delivery.

18 | English**Technical Data**

Digital Detector	PDO 6
Article number	3 603 K10 100
Maximum scanning depth*:	
– Ferrous metals	60 mm
– Non-ferrous metals (copper pipe)	50 mm
– Copper conductors (live)**	30 mm
Automatic switch-off after approx.	10 min
Operating temperature	–10 °C...+50 °C
Storage temperature	–20 °C...+70 °C
Battery	1 x 9 V 6LR61
Battery	1 x 9 V 6F22
Operating lifetime (alkali-manganese batteries) approx.	6 h
Weight according to EPTA-Procedure 01/2003	0.2 kg

* depends on material and size of objects as well as material and condition of structure

** less scanning depth for wires/conductors that are not “live”

► **In terms of accuracy, the measuring result can be inferior in case of unfavourable surface quality of the base material.**

Please observe the article number on the type plate of your measuring tool. The trade names of the individual measuring tools may vary.

Assembly

Inserting/Replacing the Battery

Using alkali-manganese or rechargeable batteries is recommended for operation of the measuring tool.

To open the battery lid **6**, press the latch **7** in the direction of the arrow and fold the battery lid downward.

Insert the battery provided. Pay attention that the polarity is correct.

When the battery low indicator **a** lights up on the display, measuring is still possible for approx. 1 hour when using alkali-manganese batteries (lower battery service life for rechargeable batteries). When the battery low indicator **a** flashes, measuring is possible for approx. 10 minutes. When the battery low indicator **a** and the illuminated ring **1** (red) flash, measuring is no longer possible and the battery/rechargeable battery must be replaced.

- **Remove the battery/rechargeable battery from the measuring tool when not using it for longer periods.** When storing for longer periods, the batteries/rechargeable batteries can corrode or discharge themselves.

Operation

Initial Operation

- ▶ **Protect the measuring tool against moisture and direct sun light.**

Switching On and Off

- ▶ **Before switching the measuring tool on, make sure that the sensor area 5 is not moist.** If required, dry the measuring tool using a soft cloth.
- ▶ **Do not subject the measuring tool to extreme temperatures or variations in temperature.** As an example, do not leave it in vehicles for longer periods. In case of large variations in temperature, allow the measuring tool to adjust to the ambient temperature before putting it into operation.
- ▶ **Avoid heavy impact to or falling down of the measuring tool.**

To **switch on** the measuring tool, press the On/Off button **4**.

After a brief self-check, the measuring tool is ready for operation. The operational readiness is indicated by a check mark behind the “**AutoCal**” calibration indicator **d**.

To **switch** the measuring tool **off**, press the On/Off button **4**.

When no measurements are carried out for approx. 10 minutes, the measuring tool switches off automatically in order to extend the service life of the batteries.

- ▶ **Before drilling, sawing or routing into a wall, protect yourself against hazards by using other information sources.** As the measuring results can be in-

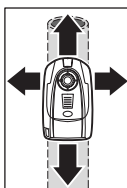
fluenced through ambient conditions or the wall material, there may be a hazard even though the indicator does not indicate an object in the sensor range (illuminated ring **1** lit green).

Operating Modes

The measuring tool detects objects below the sensor area **5**.

Detecting Metal Objects

After switching on, the illuminated ring **1** lights up green.



Place the measuring tool on the surface to be scanned and move it sideways.

When the illuminated ring **1** continues to light up green and no signal tone sounds, then no metal object is detectable in the structural material below. When the measuring tool comes close to a metal object, the amplitude in the measuring indicator

c increases. When the measuring tool is above a metal object, the ring **1** turns red and a signal tone sounds.

When moving over a surface the first time, the position of the metal object is indicated only approximately.

When moving the measuring tool over the metal object several times, the object is detected more and more precisely. After moving over the surface above the metal object several times (without lifting off the measuring tool from the surface), the position of the metal object can be indicated accurately: When the illuminated ring **1** lights up red and the signal tone sounds, then the metal object is below the centre of the sensor (below the marking hole **2**).

22 | English

Scanning for “Live” Wires

The measuring tool indicates “live” wires/conductors that carry voltages between 110 V and 400 V, and a frequency corresponding with the common standard (AC with 50 to 60 Hz). Other wires/conductors (carrying DC, higher/lower frequency or voltage) as well as “dead” wires/conductors cannot be found reliably, but are possibly indicated as metal objects.

The scan for “live” wires/conductors takes place automatically for each measurement. When a “live” wire/conductor is detected, the indicator **b** appears in the display. Move the measuring tool over the surface repeatedly in order to localise the “live” wire. After moving the measuring tool over the surface several times, the position of the “live” wire/conductor can be indicated quite precisely. If the measuring tool is very close to the wire/conductor, then the illuminated ring **1** lights up red and the signal tone sounds with rapid tone sequence.

“Live” wires/conductors can be detected easier when power consumers (e.g., lamps, appliances) are connected to the wire/conductor being sought and switched on. Wires/conductors with 110 V, 230 V and 400 V (three-phase current) are detected with about the same scan capacity.

Under certain conditions (such as when behind metal surfaces or behind surfaces with high water content), “live” wires/conductors cannot be detected with certainty. When measuring indicator **c** is indicated over a larger range, then the material is screening-off electrically and the scan for “live” wires/conductors is not reliable.

Working Advice

- **Measuring values can be impaired through certain ambient conditions. These include, e.g., the proximity of other equipment that produce strong magnetic or electromagnetic fields, moisture, metallic building materials, foil-laminated insulation materials or conductive wallpaper or tiles.** Therefore, please also observe other information sources (e.g. construction plans) before drilling, sawing or routing into walls, ceilings or floors.

Marking Objects

Detected objects can be marked as required. Where the amplitude of measuring indication **c** is at its maximum, the centre of the object is located below marking hole **2**. The limits of an object are indicated by the colour change of the illuminated ring **1** from green to red. Using a pen, mark the sought after location through the marking hole **2**.

“AutoCal” Calibration Indicator

When the check mark behind the “AutoCal” calibration indicator **d** flashes for longer periods or if it is not displayed anymore, reliable scanning is no longer possible. In this case, send in the measuring tool to an authorised Bosch after-sales service agent.

Maintenance and Service

Maintenance and Cleaning

When the measuring indicator **c** continuously shows an amplitude even though there is no metal object in the vicinity of the measuring tool, the measuring tool can be calibrated manually. For this, remove all objects in the vicinity of the measuring tool (including wrist watches or rings of metal) and hold the measuring tool up in the air. With the measuring tool switched off, press the On/Off button **4** until the illuminated ring **1** lights up red and green at the same time. Then release the button. When the calibration process was successful, the measuring tool will start over after a few seconds and is then ready for operation.

Wipe away debris or contamination with a dry, soft cloth. Do not use cleaning agents or solvents.

In order not to affect the measuring function, decals/stickers or name plates, especially metal ones, may not be attached in the sensor area **5** on the front or back side of the measuring tool.

If the measuring tool should fail despite the care taken in manufacturing and testing procedures, repair should be carried out by an authorised after-sales service centre for Bosch power tools. Do not open the measuring tool yourself.

In all correspondence and spare parts orders, please always include the 10-digit article number given on the type plate of the measuring tool.

After-sales Service and Customer Assistance

Our after-sales service responds to your questions concerning maintenance and repair of your product as well as spare parts. Exploded views and information on spare parts can also be found under:

www.bosch-pt.com

Our customer service representatives can answer your questions concerning possible applications and adjustment of products and accessories.

Great Britain

Robert Bosch Ltd. (B.S.C.)
P.O. Box 98
Broadwater Park
North Orbital Road
Denham
Uxbridge
UB 9 5HJ
Tel. Service: +44 (0844) 736 0109
Fax: +44 (0844) 736 0146
E-Mail: boschservicecentre@bosch.com

Ireland

Origo Ltd.
Unit 23 Magna Drive
Magna Business Park
City West
Dublin 24
Tel. Service: +353 (01) 4 66 67 00
Fax: +353 (01) 4 66 68 88

26 | English**Australia, New Zealand and Pacific Islands**

Robert Bosch Australia Pty. Ltd.

Power Tools

Locked Bag 66

Clayton South VIC 3169

Customer Contact Center

Inside Australia:

Phone: +61 (01300) 307 044

Fax: +61 (01300) 307 045

Inside New Zealand:

Phone: +64 (0800) 543 353

Fax: +64 (0800) 428 570

Outside AU and NZ:

Phone: +61 (03) 9541 5555

www.bosch.com.au

Republic of South Africa**Customer service**

Hotline: +27 (011) 6 51 96 00

Gauteng – BSC Service Centre

35 Roper Street, New Centre

Johannesburg

Tel.: +27 (011) 4 93 93 75

Fax: +27 (011) 4 93 01 26

E-Mail: bsctools@icon.co.za

KZN – BSC Service Centre

Unit E, Almar Centre

143 Crompton Street

Pinetown

Tel.: +27 (031) 7 01 21 20

Fax: +27 (031) 7 01 24 46

E-Mail: bsc.dur@za.bosch.com

Western Cape – BSC Service Centre

Democracy Way, Prosperity Park
Milnerton

Tel.: +27 (021) 5 51 25 77

Fax: +27 (021) 5 51 32 23

E-Mail: bsc@zsd.co.za

Bosch Headquarters

Midrand, Gauteng

Tel.: +27 (011) 6 51 96 00

Fax: +27 (011) 6 51 98 80

E-Mail: rbsa-hq.pts@za.bosch.com

People's Republic of China**China Mainland**

Bosch Power Tools (China) Co., Ltd.

567, Bin Kang Road

Bin Jiang District 310052

Hangzhou, P.R.China

Service Hotline: 400 826 8484

Fax: +86 571 8777 4502

E-Mail: contact.ptcn@cn.bosch.com

www.bosch-pt.com.cn

HK and Macau Special Administrative Regions

Robert Bosch Hong Kong Co. Ltd.

21st Floor, 625 King's Road

North Point, Hong Kong

Customer Service Hotline: +852 (21) 02 02 35

Fax: +852 (25) 90 97 62

E-Mail: info@hk.bosch.com

www.bosch-pt.com.hk

28 | English**Indonesia**

PT. Multi Tehaka
Kawasan Industri Pulogadung
Jalan Rawa Gelam III No. 2
Jakarta 13930
Indonesia
Tel.: +62 (21) 46 83 25 22
Fax: +62 (21) 46 82 86 45/68 23
E-Mail: sales@multitehaka.co.id
www.multitehaka.co.id

Philippines

Robert Bosch, Inc.
28th Floor Fort Legend Towers,
3rd Avenue corner 31st Street,
Fort Bonifacio Global City,
1634 Taguig City, Philippines
Tel.: +63 (2) 870 3871
Fax: +63 (2) 870 3870
matheus.contiero@ph.bosch.com
www.bosch-pt.com.ph
Bosch Service Center:
9725-27 Kamagong Street
San Antonio Village
Makati City, Philippines
Tel.: +63 (2) 899 9091
Fax: +63 (2) 897 6432
rosalie.dagdagan@ph.bosch.com

Malaysia

Robert Bosch (S.E.A.) Pte. Ltd.
No. 8A, Jalan 13/6
G.P.O. Box 10818
46200 Petaling Jaya
Selangor, Malaysia
Tel.: +60 (3) 7966 3194
Fax: +60 (3) 7958 3838
cheehoe.on@my.bosch.com
Toll-Free: 1800 880 188
www.bosch-pt.com.my

Thailand

Robert Bosch Ltd.
Liberty Square Building
No. 287, 11 Floor
Silom Road, Bangrak
Bangkok 10500
Tel.: +66 (2) 6 31 18 79 – 18 88 (10 lines)
Fax: +66 (2) 2 38 47 83
Robert Bosch Ltd., P. O. Box 2054
Bangkok 10501, Thailand

Bosch Service – Training Centre
2869-2869/1 Soi Ban Kluay
Rama IV Road (near old Paknam Railway)
Prakanong District
10110 Bangkok
Thailand
Tel.: +66 (2) 6 71 78 00 – 4
Fax: +66 (2) 2 49 42 96
Fax: +66 (2) 2 49 52 99

30 | English**Singapore**

Robert Bosch (SEA) Pte. Ltd.
11 Bishan Street 21
Singapore 573943
Tel.: +65 6571 2772
Fax: +65 6350 5315
leongheng.leow@sg.bosch.com
Toll-Free: 1800 333 8333
www.bosch-pt.com.sg

Vietnam

Robert Bosch Vietnam Co. Ltd
10/F, 194 Golden Building
473 Dien Bien Phu Street
Ward 25, Binh Thanh District
84 Ho Chi Minh City
Vietnam
Tel.: +84 (8) 6258 3690 ext. 413
Fax: +84 (8) 6258 3692
hieu.lagia@vn.bosch.com
www.bosch-pt.com

Disposal

Measuring tools, accessories and packaging should be sorted for environmental-friendly recycling.

Do not dispose of measuring tools and batteries/
rechargeable batteries into household waste!

Only for EC countries:



According to the European Guideline 2002/96/EC, measuring tools that are no longer usable, and according to the European Guideline 2006/66/EC, defective or used battery packs/batteries, must be collected separately and disposed of in an environmentally correct manner.

Batteries no longer suitable for use can be directly returned at:

Great Britain

Robert Bosch Ltd. (B.S.C.)
P.O. Box 98
Broadwater Park
North Orbital Road
Denham
Uxbridge
UB 9 5HJ
Tel. Service: +44 (0844) 736 0109
Fax: +44 (0844) 736 0146
E-Mail: boschservicecentre@bosch.com

Subject to change without notice.