







70538 Stuttgart GERMANY

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1609 92A 3F7 (2016.10) 0 / 214



GLM 500 Professional



BOSCH

- en Original instructions
- cn 正本使用说明书
- tw 原始使用說明書
- ko 사용 설명서 원본
- th หนังสือคู่มือการใช้งานฉบับต้นแบบ
- Petunjuk-Petunjuk untuk Penggunaan Orisinal
- vi Bản gốc hướng dẫn sử dụng

























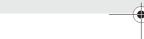


















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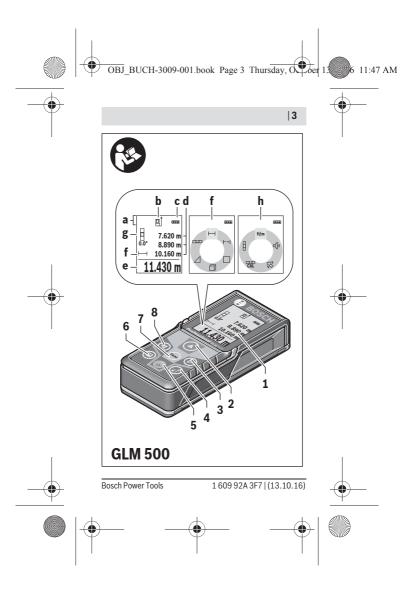


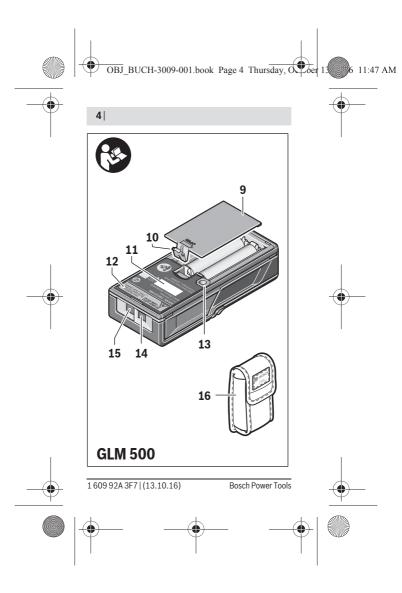


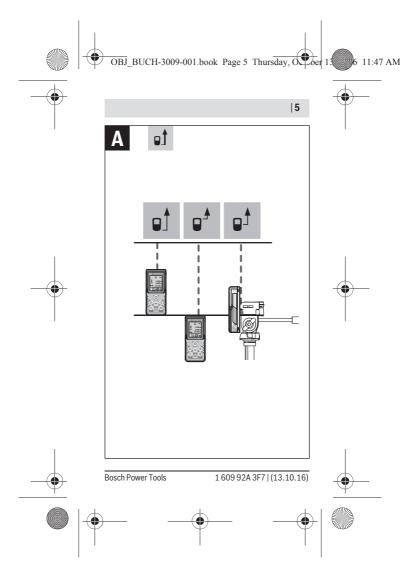


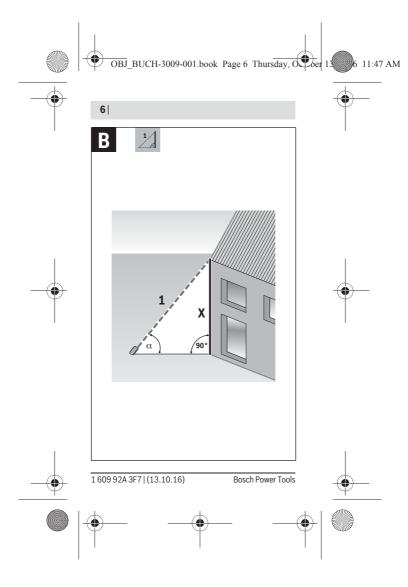


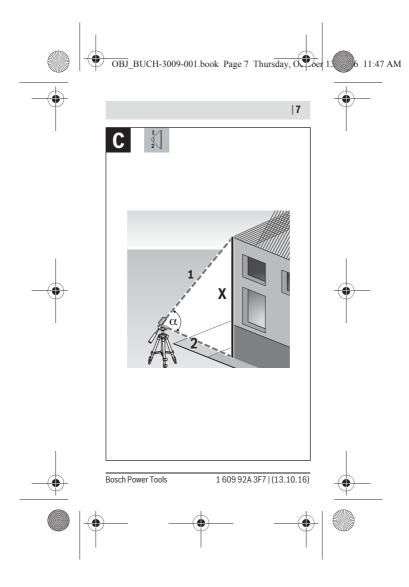


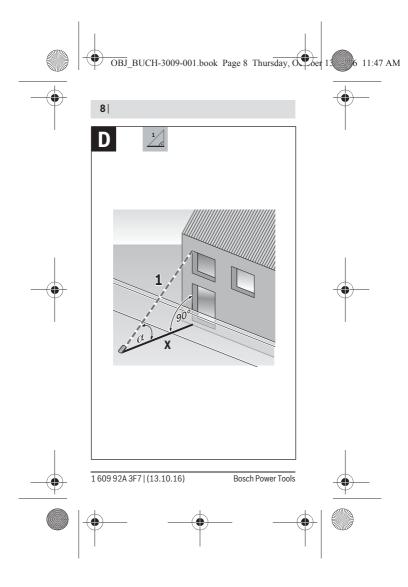


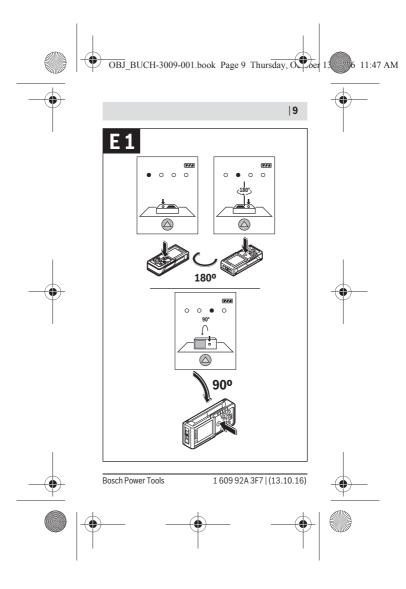


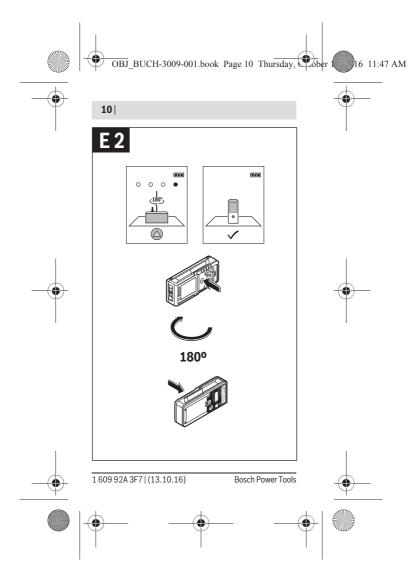


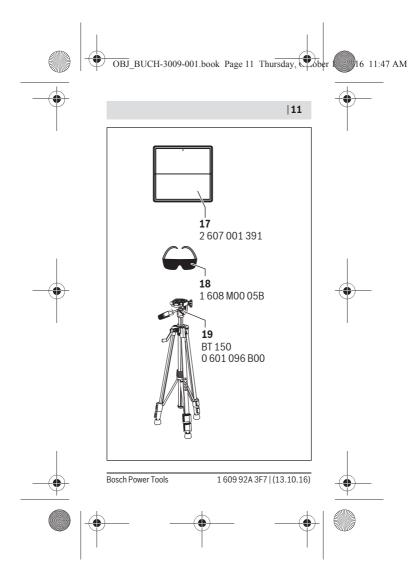


















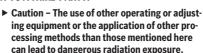
English

Safety Notes



All instructions must be read and observed in order to work safely with the measuring tool. The integrated protections in the measuring tool may be compromised if the measur-

ing tool is not used in accordance with the instructions provided. Never make warning signs on the measuring tool unrecognisable. STORE THESE IN-STRUCTIONS IN A SAFE PLACE AND INCLUDE THEM WITH THE MEASURING TOOL WHEN GIVING IT TO A THIRD PARTY.



► The measuring tool is provided with a warning label (marked with number 12 in the representation of the measuring tool on the graphics page).





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► If the text of the warning label is not in your national language, stick the provided warning label in your national language over it before operating for the first time.



Do not direct the laser beam at persons or animals and do not stare into the direct or reflected laser beam yourself, not even from a distance. You could blind somebody, cause accidents or damage your eyes.

- If laser radiation strikes your eye, you must deliberately close your eyes and immediately turn your head away from the beam.
- ▶ Do not make any modifications to the laser equipment.
- ➤ Do not use the laser viewing glasses as safety goggles. The laser viewing glasses are used for improved visualisation of the laser beam, but they do not protect against laser radiation.
- ➤ Do not use the laser viewing glasses as sun glasses or in traffic. The laser viewing glasses do not afford complete UV protection and reduce colour perception.



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- 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 allow children to use the laser measuring tool without supervision. They could unintentionally blind other persons or themselves.
- ➤ 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.



Product Description and Specifications

Intended Use

The measuring tool is intended for measuring distances, lengths, heights, clearances and inclines, and for calculating areas and volumes.

Technical Data

Digital Laser Measure	(GLM 50)
Article number 3 601 K72	H50	HK0	HC0



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Digital Laser Measure	(GLM 50	0
Setting the unit of measure	m, cm	m, cm, ft, in (frac- tions), ft/in (frac- tions)	m, cm, Tai- wan ft
Measuring range (typical)		05 – 50 r	
Measuring range (typical under unfavourable conditions)		20 m ^{B)}	
Measuring accuracy (typical)	±	1.5 mm	A)
Measuring accuracy (typical under unfavoura- ble conditions)	±	3.0 mm	В)
Lowest indication unit	0.1 mm		
Indirect Distance Measurement and Vial			
Measuring range	0°-360° (4x90°)		
Inclination measurement			
Measuring range	0°-360° (4x90°)		
Measuring accuracy (typical)	±1	0.2° ^{C)/D)}	/G)





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Digital Laser Measure	GLM 500
Lowest indication unit	0.1°
General	
Operating temperature	-10 °C+45 °C ^{E)}
Storage temperature	-20 °C+70 °C
Relative air humidity, max.	90 %
Laser class	2
Laser type	635 nm, < 1 mW
Laser beam diameter (at 25 °C) approx. – at 10 m distance – at 50 m distance	9 mm ^{D)} 45 mm ^{D)}
Automatic switch-off after approx. - Laser - Measuring tool (without measurement)	20 s 5 min
Weight according to EPTA- Procedure 01:2014	0.10 kg
Dimensions	106 x 45 x 24 mm
Degree of protection	IP 54 (dust and splash proof) ^{F)}
Batteries	2 x 1.5 V LR03 (AAA)
Rechargeable batteries	2 x 1.2 V HR03 (AAA)



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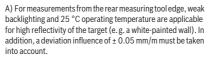








Digital Laser Measure	GLM 500
Battery life, approximately	
 Individual 	
measurements	10000
 Continuous 	
measurement	2.5 h
Setting the sound	•



B) For measurements from the rear measuring tool edge, applies to high reflectivity of the target (e.g. white cardboard), strong backlighting and $-10\,^{\circ}\text{C}$ to $+45\,^{\circ}\text{C}$ operating temperature. In addition, a deviation influence of $\pm\,0.15$ mm/m must be taken into account.

C) After calibration at 0 $^{\circ}$ and 90 $^{\circ}$ with an additional grade error of ± 0.01 $^{\circ}$ /degree to 45 $^{\circ}$ (max.).

D) At 25 °C operating temperature

E) In the continuous measurement function, the maximum operating temperature is +40 °C.

F) except battery compartment

G) The left-hand side of the measuring tool serves as the reference level for grade measurement.

The measuring tool can be clearly identified with the serial number **11** on the type plate.



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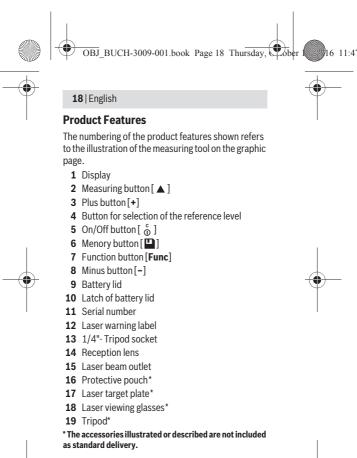














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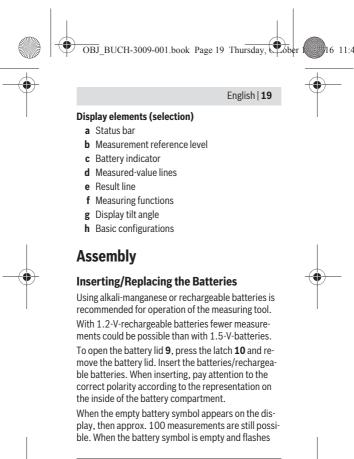
















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red, no further measurements are possible. Change the batteries or rechargeable batteries.

Always replace all batteries/rechargeable batteries at the same time. Do not use different brands or types of batteries/rechargeable batteries together.

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



Operation

Initial Operation

- ▶ Do not leave the switched-on measuring tool unattended and switch the measuring tool off after use. Other persons could be blinded by the laser beam.
- ▶ Protect the measuring tool against moisture and direct sun light.
- ▶ Do not subject the measuring tool to extreme temperatures or variations in temperature. As an example, do not leave it in vehicles for a long time. In case of large variations in temperature, allow the measuring tool to adjust to the ambient temperature before putting it into operation.



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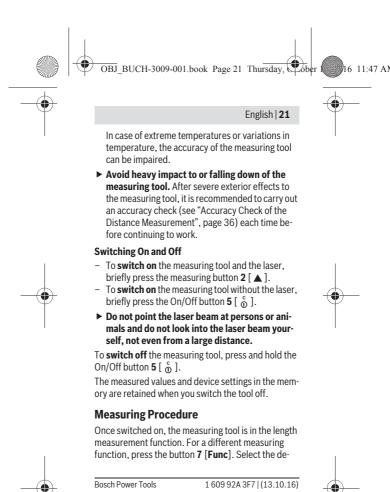


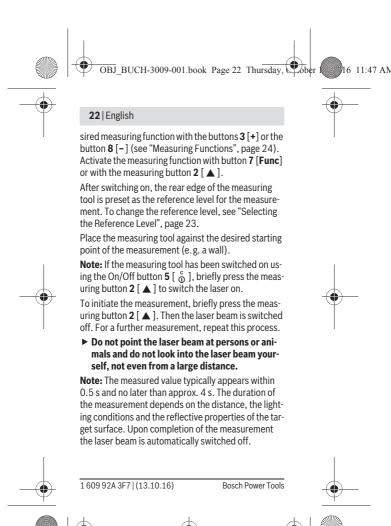


















Selecting the Reference Level (see figure A)

For the measurement, you can select between three different reference planes:

- the rear measuring-tool edge (e.g. when measuring onward from a wall).
- the front measuring tool edge (e.g. when measuring onward from a table edge),
- the centre of thread 13 (e.g. for tripod measurements).

To select the reference level, press button 4. Use button 3 [+] or button 8 [-] or button 4 to select the desired reference level. The rear edge of the measuring tool is pre-set as the reference level every time the measuring tool is switched on.



To enter the "basic configurations" menu (h) press and hold the button 7 [Func].

Select the respective basic configuration and your setting.

To exit the "basic configurations" menu, press the On/Off button **5** $\begin{bmatrix} c \\ 0 \end{bmatrix}$ again.



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Display Illumination

The display illumination is continuously switched on. When no button is pressed, the display illumination is dimmed after approx. 20 seconds to preserve the batteries/rechargeable batteries.

Measuring Functions

Length Measurement

Select the length measurement \longmapsto .

To switch on the laser beam, briefly press the measuring button 2 [A].

To measure, briefly press the measuring button 2 [\(\)]. The measured value will be shown at the bottom of the display.



Repeat the above-mentioned steps for each subsequent measurement. The last measured value is at the bottom of 10.160 m the display, the penultimate measured value is above it. and so on.

Continuous Measurement (Tracking)

For continuous measurements, the measuring tool can be moved relative to the target, whereby the measuring value is updated approx, every 0.5 seconds. In this manner, as an example, you can



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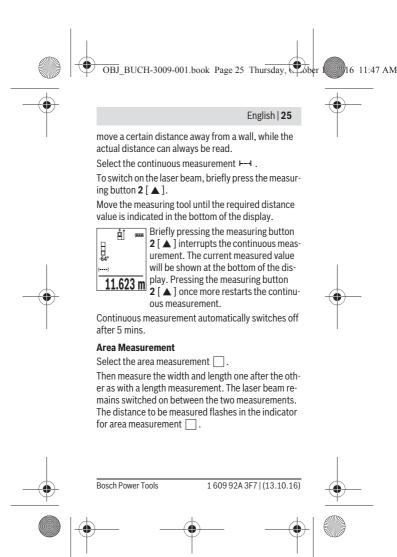


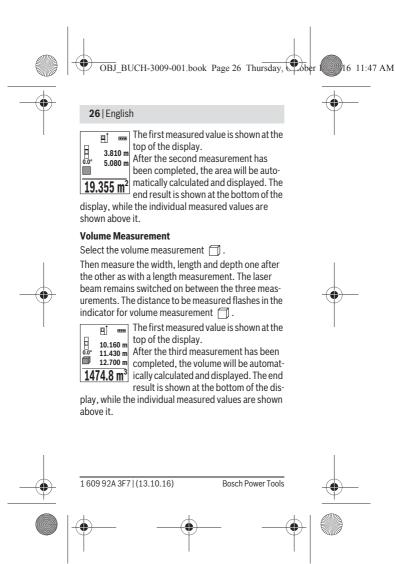


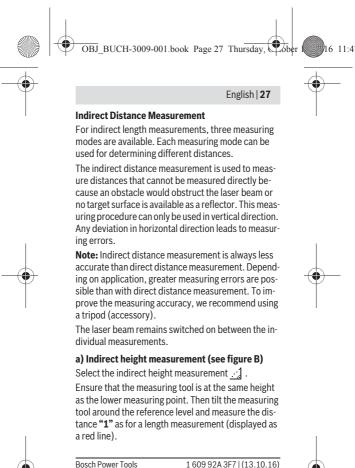
















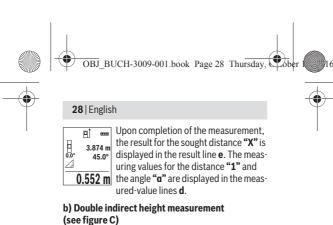












The measuring tool can indirectly measure all distances, which lie in the vertical level of the measuring tool. Select the double indirect height measurement . . .

Measure distances "1" and "2" in this sequence as for a length measurement.



Upon completion of the measurement, the result for the sought distance "X" is 2.583 m displayed in the result line **e**. The measuring values for the distances "1", "2" 1.903 m and the angle "a" are displayed in the measured-value lines d.

Pay attention that the reference plane of the measurement (e.g. the rear edge of the measuring tool) remains exactly at the same location for all individual measurements within a measuring sequence.









c) Indirect length measurement (see figure D)

Select the indirect length measurement 1.

Pay attention that the measuring tool is positioned at the same height as the sought measuring point. Now. tilt the measuring tool around the reference plane and measure distance "1" as for a length measurement.



Upon completion of the measurement, the result for the sought distance "X" is displayed in the result line e. The measuring values for the distance "1" and **6.412 m** the angle "a" are displayed in the measured-value lines d

Inclination Measurement/Digital Spirit Level

Select the inclination measurement/digital spirit level

The measuring tool automatically switches between two states.



The digital spirit level is used to check the horizontal or vertical alignment of an object (e.g. washing machine, refrigerator, etc.).

When the inclination 3° exceeds, the ball in the display lights red.



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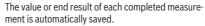


Inclination measurement is used to measure a slope or incline (e.g. of stairs, railings, when fitting furniture. laving pipes, etc.).

The left-hand side of the measuring tool serves as the reference level for grade

measurement. If the display flashes during measurement, the measuring tool has been tipped too heavily to the side.

Memory Functions





Memory value display

Maximum 20 values (measured values or end results) can be retrieved.

Press the memory button 6 [].



The number of the memory value is shown at the top of the display, the cor-7.620 m responding memory value is shown at 8.890 m the bottom and the corresponding 430.16 m³ measuring function is shown on the left. Press button 3 [+] to browse forwards through the saved values.

Press button 8 [-] to browse backwards through the saved values.



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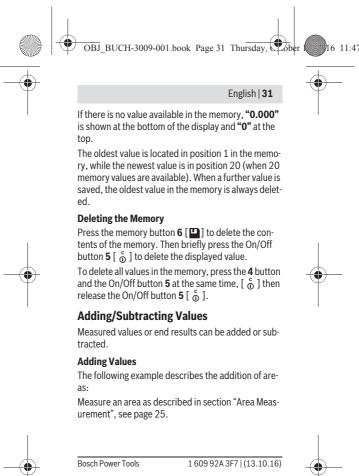
















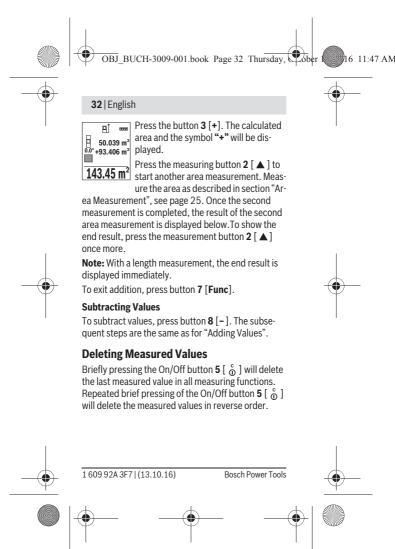


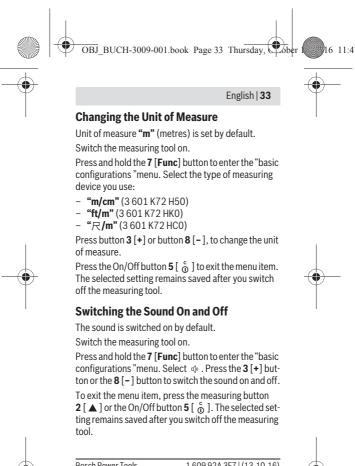














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Working Advice

General Information

The reception lens **14** and the laser beam outlet **15** must not be covered when taking a measurement.

The measuring tool must not be moved while taking a measurement. Therefore, place the measuring tool, as far as this is possible, against or on a firm stop or supporting surface.

Influence Effects on the Measuring Range

The measuring range depends on the lighting conditions and the reflective properties of the target surface. For better visibility of the laser beam in extraneous light, use the laser viewing glasses 18 (accessories) and the laser target plate 17 (accessories) or shade the target area.

Influence Effects on the Measuring Result

Due to physical effects, faulty measurements cannot be excluded when measuring on different surfaces. Included here are:

- Transparent surfaces (e.g., glass, water),
- Reflecting surfaces (e.g., polished metal, glass),
- Porous surfaces (e.g. insulation materials),
- Structured surfaces (e.g., roughcast, natural stone).



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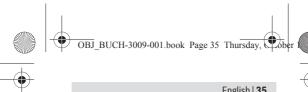












If required, use the laser target plate 17 (accessory) on these surfaces.

Furthermore, faulty measurements are also possible when sighting inclined target surfaces.

Also, air layers with varying temperatures or indirectly received reflections can affect the measured value.

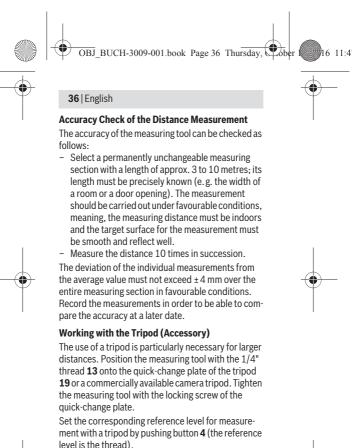
Accuracy Check and Calibration of the Grade Measurement (see figures E1 - E2)

Regularly check the accuracy of the grade measurement. This is done by carrying out a reversal measurement. For this, place the measuring tool on a table and measure the grade. Turn the measuring tool by 180° and measure the grade again. The difference of the indicated reading may not exceed by more than 0.3° (max.).

In the event of larger deviations, you have to recalibrate the measuring tool. For this, select . Follow the instructions on the display.

After severe temperature changes and impact, we recommend an accuracy check and, if required, to recalibrate the measuring tool. After a temperature change, the measuring tool must acclimate for a while before calibrating.







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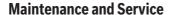
Error Message

If a measurement cannot be performed correctly, the error message "Error" appears in the display. Switch the measuring tool off and back on, and start the measurement again.



The measuring tool monitors correct functioning in every measurement. If a defect is detected, the display will indicate only the symbol shown opposite and the measuring tool switches itself off. In this case, have the

measuring tool checked by an after-sales service agent for Bosch power tools.



Maintenance and Cleaning

Keep the measuring tool clean at all times.

Do not immerse the measuring tool in water or other fluids

Wipe off debris using a moist and soft cloth. Do not use any cleaning agents or solvents.

Maintain the reception lens **14** in particular, with the same care as required for eye glasses or the lens of a camera.



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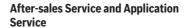








If you discover a fault or require a repair, send the measuring tool to an authorised Bosch after-sales service agent.



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

Bosch's application service team will gladly answer questions concerning our products and their accessories.

In all correspondence and spare parts orders, please always include the 10-digit article number given on the nameplate of the product.



China Mainland

Bosch Power Tools (China) Co., Ltd.

567, Bin Kang Road

Bin Jiang District 310052

Hangzhou, P.R. China

Service Hotline: 4008268484

Fax: (0571) 87774502

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

www.bosch-pt.com.cn











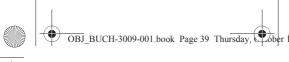
















HK and Macau Special Administrative Regions

Robert Bosch Hong Kong Co. Ltd.

21st Floor, 625 King's Road North Point, Hong Kong

Customer Service Hotline: +852 2101 0235

Fax: +852 2590 9762 E-Mail: info@hk.bosch.com www.bosch-pt.com.hk

Indonesia

PT Robert Bosch
Palma Tower 10th Floor
Jl. RA Kartini II-S Kaveling 6 Sek II
Pondok Pinang, Kebayoran Lama
Jakarta Selatan 12310
Indonesia
Tel.: (021) 3005 5800

Fax: (021) 3005 5801 E-Mail: boschpowertools@id.bosch.com

Philippines

www.bosch-pt.co.id

Robert Bosch, Inc. 28th Floor Fort Legend Towers, 3rd Avenue corner 31st Street, Fort Bonifacio Global City, 1634 Taguig City, Philippines



Bosch Power Tools

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Tel.: (02) 8703871 Fax: (02) 8703870

matheus.contiero@ph.bosch.com

www.bosch-pt.com.ph

Bosch Service Center:

9725-27 Kamagong Street

San Antonio Village

Makati City, Philippines Tel.: (02) 8999091

Fax: (02) 8976432

E-Mail: rosalie.dagdagan@ph.bosch.com



Malaysia

Robert Bosch Sdn. Bhd.

No. 8A, Jalan 13/6

G.P.O. Box 10818

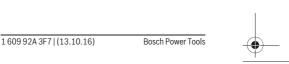
46200 Petaling Jaya Selangor, Malaysia

Tel.: (03) 79663194

Fax: (03) 79583838

E-Mail: cheehoe.on@my.bosch.com

Toll-Free: 1800 880188 www.bosch-pt.com.my



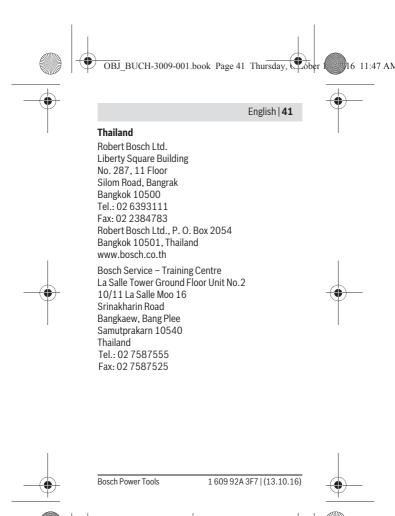


















Singapore

Powerwell Service Centre Ptd Ltd 65 Ubi Crescent, #06-03 Hola Centre Singapore 408559 Tel.: 6746 9770/71 Fax: 6746 9760

E-Mail: powerwellsc@gmail.com Toll-Free: 1800 3338333 www.bosch-pt.com.sg

Vietnam

Robert Bosch Vietnam Co. Ltd 13th Floor, 194 Golden Building 473 Dien Bien Phu Street Ward 25, Binh Thanh District 84 Ho Chi Minh City Vietnam

Tel.: (08) 6258 3690 Fax: (08) 6258 3692

Hotline: (08) 6250 8555

E-Mail: tuvankhachhang-pt@vn.bosch.com

www.bosch-pt.com.vn

www.baohanhbosch-pt.com.vn



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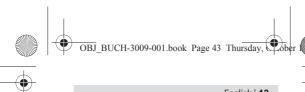












Australia, New Zealand and Pacific Islands

Robert Bosch Australia Ptv. Ltd.

Power Tools

Locked Bag 66

Clayton South VIC 3169

Customer Contact Center

Inside Australia:

Phone: (01300) 307044

Fax: (01300) 307045 Inside New Zealand:

Phone: (0800) 543353

Fax: (0800) 428570

Outside AU and NZ:

Phone: +61 3 95415555

www.bosch-pt.com.au

www.bosch-pt.co.nz

Egypt

Unimar

20 Markaz kadmat

El tagmoa EL Aoul - New Cairo

Tel: +2 02 224 76091 - 95 / + 2 02 224 78072 - 73

Fax:+2 02 224 78075

E-Mail: adelzaki@unimaregypt.com



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Ethiopia

Forever plc Kebele 2.754. BP 4806. Addis Ababa, Ethiopia Tel: +251 111 560 600, +251 111 560 600 E-Mail: foreverplc@ethionet.et

Nigeria

6, Badejo Kalesanwo Street Matori Industrial Estate Lagos, Nigeria Tel: +234 17 736 498, +234 17 730 904



C. Woermann Ltd. P.O. Box 318

Hotline: (011) 6519600

Gauteng - BSC Service Centre

35 Roper Street, New Centre

Johannesburg

Tel.: (011) 4939375 Fax: (011) 4930126 E-Mail: bsctools@icon.co.za



























KZN - BSC Service Centre

Unit E, Almar Centre 143 Crompton Street

Pinetown

Tel.: (031) 7012120 Fax: (031) 7012446

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

Western Cape - BSC Service Centre

Democracy Way, Prosperity Park

Milnerton

Tel.: (021) 5512577 Fax: (021) 5513223 E-Mail: bsc@zsd.co.za



Midrand, Gauteng Tel.: (011) 6519600

Fax: (011) 6519880

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

Subject to change without notice.



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