

Nicht mehr gebrauchsfähige Akkus/Batterien können direkt abgegeben werden bei:

Deutschland

Recyclingzentrum Elektrowerkzeuge

Osteroder Landstraße 3

37589 Kalefeld

Schweiz

Batrec AG

3752 Wimmis BE

Änderungen vorbehalten.

English

Safety Notes



Read and observe all instructions. The integrated protections in the measuring tool may be compromised if the measuring tool is not used in accordance with the instructions provided. **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.



Keep the measuring tool away from cardiac pacemakers. The magnet plate **5** generates a field that can impair the function of cardiac pacemakers.

- ▶ **Keep the measuring tool away from magnetic data medium and magnetically-sensitive equipment.** The effect of the magnet plate **5** can lead to irreversible data loss.

Product Description and Specifications

Please unfold the fold-out page with the representation of the measuring tool and leave it unfolded while reading the operating instructions.

14 | English**Intended Use**

The measuring tool is intended for swift finding of pulsating laser beams.

Technical Data

Laser Receiver		LR 2
Article number		3 601 K69 100
Working range ¹⁾		5 – 50 m
Receiving angle		90°
Measuring accuracy ²⁾		
– “Fine”		± 1 mm
– “Coarse”		± 3 mm
Operating temperature		– 10 °C... + 50 °C
Storage temperature		– 20 °C... + 70 °C
Battery		1 x 9 V (6LR61)
Operating time, approx.		30 h
Weight according to EPTA-Procedure 01:2014		0.27 kg
Degree of protection		IP 54 (dust and splash water protected)
Dimensions (length x width x height)		74 x 41 x 150 mm

1) The working range can be decreased by unfavourable environmental conditions (e.g. direct sun irradiation).

2) Depends on distance between laser receiver and line laser

The measuring tool can be clearly identified with the serial number **12** on the type plate.

Product Features

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

- 1** Button for selecting the measuring accuracy
- 2** On/Off button
- 3** Audio signal button
- 4** Display
- 5** Magnet plate
- 6** Direction LED “move downward”
- 7** Centre-indication LED

- 8 Centre mark
- 9 Direction LED "move upward"
- 10 Reception area for the laser beam
- 11 Latch of battery lid
- 12 Serial number
- 13 Battery lid
- 14 Mounting hole for M6 thread

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

Display Elements

- a Audio signal indicator
- b Direction indicator "move upward"
- c Centre indicator
- d Direction indicator "move downward"
- e Battery low indicator
- f Indicator for measuring accuracy "Coarse"
- g Indicator for measuring accuracy "Fine"

Noise Information



The A-weighted sound pressure level of the audio signal at one meter distance is 80 dB(A).

Do not hold the measuring tool close to your ear!

Assembly

Inserting/Replacing the Battery

Alkali-manganese batteries are recommended for the measuring tool.

Pull the latch **11** of battery lid outward and open the battery lid **13**.

When inserting the battery, pay attention to the correct polarity according to the representation on the inside of the battery compartment.

When the battery low indicator **e** appears for the first time on the display **4**, the measuring tool can still be operated for approx. 2 h.

- **If the measuring tool is not used for a long period of time, the battery must be removed.** The battery can corrode or discharge itself over long periods.

Operation

Initial Operation

- **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. In case of extreme temperatures or variations in temperature, the accuracy of the measuring tool can be impaired.

Setting Up the Measuring Tool (see figure A)

Set up the measuring tool at least 5 m away from the line laser. Switch on the pulse function of the line laser. Select an operating mode on the line laser where either only one horizontal or vertical laser plane is generated.

Note: Do not select an operating mode with both horizontal and vertical laser plane (cross-line operation), as otherwise faulty height indications of the laser beam may occur.

Position the measuring tool in such a manner that the laser beam can reach the reception area **10**. Align the measuring tool in such a manner that the laser beam runs laterally through the reception area (as shown in the figure).

Switching On and Off

- **A loud audio signal sounds when switching on the measuring tool. Therefore, keep the measuring tool away from your ear or other persons when switching on.** The loud audio signal can cause hearing defects.

To **switch on** the measuring tool, press the On/Off button **2**. All display indicators as well as all LEDs light up briefly and an audio signal sounds.

To **switch off** the measuring tool, press the On/Off button **2** again. Before switching off, all LEDs briefly light up.

When no button is pressed on the measuring tool for approx. 20 minutes and when no laser beam reaches the reception area **10** for 20 minutes, the measuring tool automatically switches off in order to save the battery. The switching off is indicated by brief lighting up of all LEDs.

Selecting the Setting of the Centre Indicator

You can use button **1** to specify the accuracy with which the position of the laser beam is indicated as "centred" on the reception area:

- Measuring accuracy "Fine" (indication **g** on the display),
- Measuring accuracy "Coarse" (indication **f** on the display).

Whenever switching on the measuring tool, the accuracy level "coarse" is set.

Direction Indicators

The position of the laser beam on the reception area **10** is indicated:

- via the direction indicators “move downward” **d**, “move upward” **b** or the centre indicator **c** on the display **4** on the front and back side of the measuring tool,
- via the LEDs “move downward” **6**, “move upward” **9** or the centre-indication LED **7** on the front side of the measuring tool,
- optionally via the audio signal (see “Audio Signal for Indication of the Laser Beam”, page 17).

Measuring tool too low: When the laser beam runs through the top half of the reception area **10**, the direction indicator **b** on the display and the corresponding direction LED **9** light up.

When the audio signal is switched on, a slow-beat signal sounds.

Move the measuring tool upward in the direction of the arrow.

Measuring tool too high: When the laser beam runs through the bottom half of the reception area **10**, the direction indicator **d** on the display and the corresponding direction LED **6** light up.

When the audio signal is switched on, a fast-beat signal sounds.

Move the measuring tool downward in the direction of the arrow.

Measuring tool in centre position: When the laser beam runs through the reception area **10** at the centre mark **8**, the centre indicator **c** on the display and the corresponding centre-indication LED **7** light up. When the audio signal is switched on, a continuous signal sounds.

Audio Signal for Indication of the Laser Beam

The position of the laser beam on the reception area **10** can be indicated via an audio signal.

After the measuring tool has been switched on, the audio signal is always set to the low volume level.

The volume level can be increased or switched off.

To change the volume level or switch off the audio signal, push the acoustic signal button **3** until the requested volume level is indicated on the display. At low volume level, the audio signal indicator **a** appears on the display with one bar; at high volume level, the indicator appears with three bars. When the audio signal is set to off, the indicator goes out.

Independent of the audio signal setting, a short beep sounds at low volume level each time a button is pressed on the measuring tool.

18 | English**Working Advice****Marking**

When the laser beam runs through the center of the reception area **10**, its height can be marked at the centre mark **8** right and left on the measuring tool.

When marking, take care to align the measuring tool exactly vertical (for horizontal laser beam), or horizontal (for vertical laser beam), as otherwise the marks are offset with respect to the laser beam.

Attaching with the Magnet (see figure B)

When a positive-lock attachment is not absolutely required, the measuring tool can be attached to steel parts via the face side using the magnet plate **5**.

Maintenance and Service**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.

After-sales Service and Application Service

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.

Great Britain

Robert Bosch Ltd. (B.S.C.)

P.O. Box 98

Broadwater Park

North Orbital Road

Denham

Uxbridge

UB 9 5HJ

At www.bosch-pt.co.uk you can order spare parts or arrange the collection of a product in need of servicing or repair.

Tel. Service: (0344) 7360109

E-Mail: boschservicecentre@bosch.com

Ireland

Origo Ltd.

Unit 23 Magna Drive

Magna Business Park

City West

Dublin 24

Tel. Service: (01) 4666700

Fax: (01) 4666888

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Robert Bosch Australia Pty. Ltd.

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Outside AU and NZ:

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www.bosch.com.au

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Republic of South Africa

Customer service

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Gauteng – BSC Service Centre

35 Roper Street, New Centre

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Western Cape – BSC Service Centre

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Bosch Headquarters

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!

Only for EC countries:



According to the European Guideline 2012/19/EU, 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

At www.bosch-pt.co.uk you can order spare parts or arrange the collection of a product in need of servicing or repair.

Tel. Service: (0344) 7360109

E-Mail: boschservicecentre@bosch.com

Subject to change without notice.

Français

Avertissements de sécurité



Prière de lire et de respecter l'ensemble des instructions. Au cas où l'appareil de mesure n'est pas utilisé conformément aux présentes instructions, les dispositifs de protection intégrés risquent de ne pas fonctionner correctement. BIEN CONSERVER LES PRÉSENTES INSTRUCTIONS.

- ▶ **Ne faire réparer l'appareil de mesure que par une personne qualifiée et seulement avec des pièces de rechange d'origine.** Ceci permet d'assurer la sécurité de l'appareil de mesure.
- ▶ **Ne pas faire fonctionner les appareils de mesure en atmosphère explosive, par exemple en présence de liquides inflammables, de gaz ou de poussières.** L'appareil de mesure produit des étincelles qui peuvent enflammer les poussières ou les vapeurs.



Ne pas mettre l'appareil de mesure dans la proximité de stimulateurs cardiaques. Les disques magnétiques 5 génèrent un champ qui peut entraver le fonctionnement de stimulateurs cardiaques.