

#### Robert Bosch GmbH

Power Tools Division 70764 Leinfelden-Echterdingen **GERMANY** 

www.bosch-pt.com

**1609 92A 1EE** (2015.12) T/145



**Quigo Plus** 



# **BOSCH**

- de Originalbetriebsanleitungen Original instructions
- Notice originale
- Manual original
- Manual original
- Istruzioni originali
- Oorspronkelijke gebruiksaanwijzing
- Original brugsanvisning
- Bruksanvisning i original

- Original driftsinstruks
- Alkuperäiset ohjeet
- Πρωτότυπο οδηγιών χρήσης
- Orijinal işletme talimatı قعليمات التشغيل الأصلية









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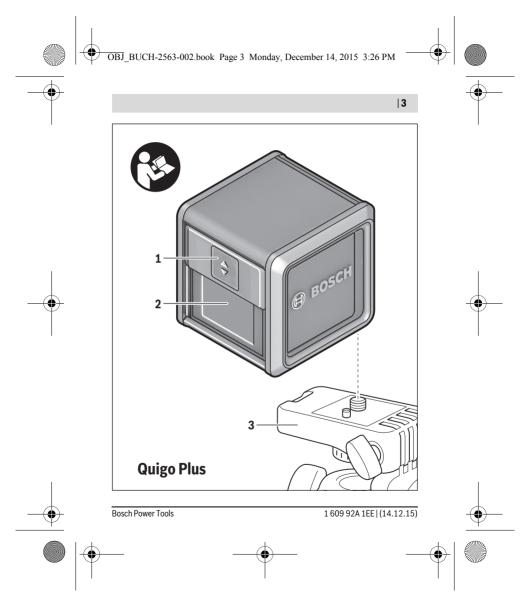


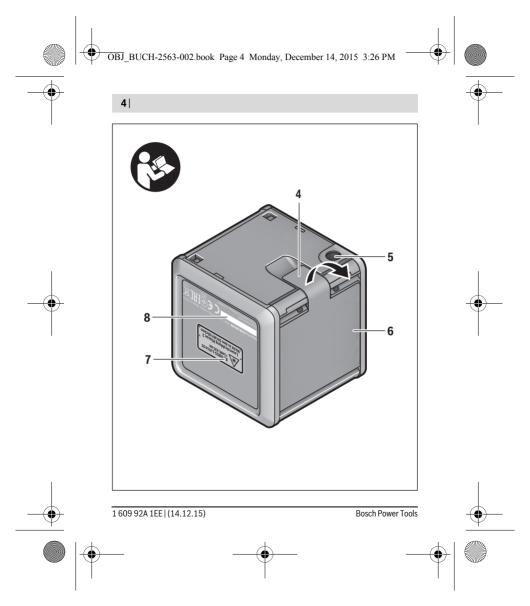


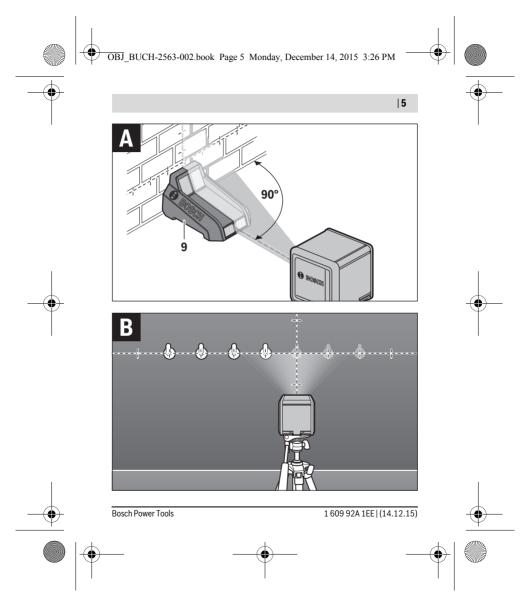


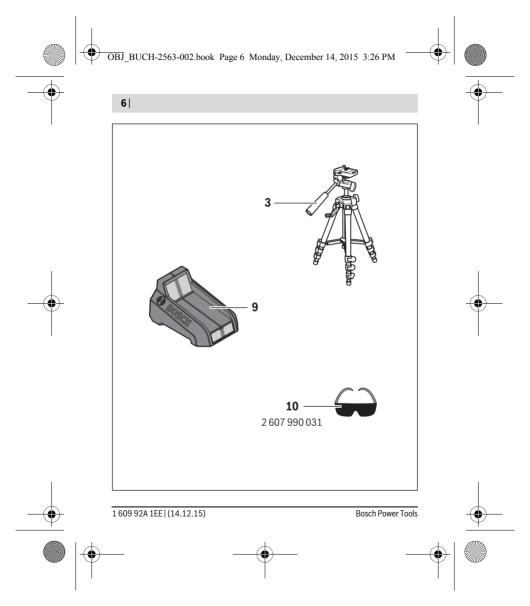




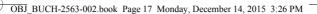


















#### Nur für EU-Länder:



Gemäß der europäischen Richtlinie 2012/19/EU müssen nicht mehr gebrauchsfähige Messwerkzeuge und gemäß der europäischen Richtlinie 2006/66/EG müssen defekte oder verbrauchte Akkus/Batterien getrennt gesammelt und einer umweltgerechten Wiederverwendung zugeführt werden.

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**



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

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- Caution The use of other operating or adjusting equipment or the application of other processing methods than those mentioned here can lead to dangerous radiation exposure.
- ► The measuring tool is provided with a warning label (marked with number 7 in the representation of the measuring tool on the graphics page).



▶ 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.
- Have the measuring tool repaired only through qualified specialists using original spare parts. This ensures that the safety of the measuring tool is maintained.







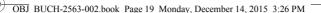
















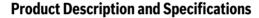


- ➤ Do not allow children to use the laser measuring tool without supervision. They could unintentionally blind other persons or themselves.
- ➤ Do not operate the measuring tool in explosive environments, such as in the presence of flammable liquids, gases or dusts. Sparks can be created in the measuring tool which may ignite the dust or fumes.



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

➤ Keep the measuring tool away from magnetic data media and magnetically-sensitive equipment. The effect of the magnet can lead to irreversible data loss.



#### **Intended Use**

The measuring tool is intended for determining and checking horizontal and vertical lines.

The measuring tool is suitable exclusively for operation in enclosed working sites.

## **Product Features**

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

- 1 On/Off switch
- 2 Exit opening for laser beam
- 3 Tripod
- 4 Latch of battery lid
- 5 Tripod mount 1/4"



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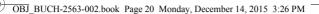


















### 20 | English

- 6 Battery lid
- 7 Laser warning label
- 8 Serial number
- 9 Laser target plate
- 10 Laser viewing glasses\*

### **Technical Data**

Cross-line Laser	Quigo Plus
Article number	3 603 F63 6
Working range, min. 1)	7 m
Levelling Accuracy - at 0° - at ± 4°	±0.8 mm/m ±1.0 mm/m
Self-levelling range, typically	± 4°
Levelling duration, typically	6 s
Operating temperature	+5 °C+40 °C
Storage temperature	-20 °C+70 °C
Relative air humidity, max.	90 %
Laser class	2
Laser type	635 nm, < 1 mW

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

The measuring tool can be clearly identified with the serial number  ${\bf 8}$  on the type plate.



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<sup>\*</sup> The accessories illustrated or described are not included as standard delivery.











Eng	lish	21
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Cross-line Laser	Quigo Plus		
C <sub>6</sub>	1		
Divergence			
- Laser line	0.5 mrad (full angle)		
Tripod mount	1/4"		
Batteries	2 x 1.5 V LR3 (AAA)		
Operating time, approx.	>5 h		
Weight according to EPTA-Procedure 01:2014	0.27 kg		
Dimensions (length x width x height)	65 x 65 x 65 mm		

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

The measuring tool can be clearly identified with the serial number 8 on the type plate.

# **Assembly**

# Inserting/Replacing the Batteries

Alkali-manganese batteries are recommended for the measuring tool.

To open the battery lid **6**, press the latch **4** in the direction of the arrow and remove the battery lid. Insert the batteries provided. Pay attention to the correct polarity of the batteries according to the representation in the battery compartment.

If the batteries become weak, the laser lines will flash quickly for a few seconds. Always replace all batteries at the same time. Only use batteries from one brand and with the identical capacity.

Remove the batteries from the measuring tool when not using it for extended periods. When storing for extended periods, the batteries can corrode and self-discharge.



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# **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.
- ➤ Avoid heavy impact to or falling down of the measuring tool. Damage to the measuring tool can impair its accuracy. After heavy impact or shock, compare the laser line with a known horizontal or vertical reference line.
- Switch the measuring tool off during transport. When switching off, the levelling unit, which can be damaged in case of intense movement, is locked.

#### **Switching On and Off**

To **switch on** the measuring tool, push the On/Off switch **1** upward. Immediately after switching on, the measuring tool sends two laser beams out of the exit opening **2**.

▶ Do not point the laser beam at persons or animals and do not look into the laser beam yourself, not even from a large distance.

To **switch off** the measuring tool, push the On/Off switch **1** downward over the laser beam exit opening **2**. When switching off, the levelling unit is locked.

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.

When not using the measuring tool, switch it off in order to extend the battery life.

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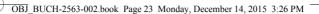


















#### **Automatic Levelling**

To work with automatic levelling, place the measuring tool on a level, firm support or fasten it to the tripod **3**.

After switching on, the automatic levelling function automatically compensates irregularities within the self-levelling range of  $\pm 4^{\circ}$ . The levelling is finished as soon as the laser lines do not flash anymore.

If automatic levelling is not possible, e.g. because the underside of the measuring tool deviates by more than 4° from the horizontal plane or the measuring tool is held freely in the hand, the laser lines will continuously flash slowly and the measuring tool will work without automatic levelling. The laser lines remain switched on, but the two crossed lines will no longer necessarily be at a right angle to each other.

To work with automatic levelling again, position the measuring tool so that the underside is aligned horizontally and wait for the self-levelling to be performed. As soon as the measuring tool is within the self-levelling range of  $\pm 4^{\circ}$  and is levelled in, the laser lines will light up continuously again.

In case of ground vibrations or position changes during operation, the measuring tool is automatically levelled in again. To avoid errors, check the position of the horizontal and vertical laser line with regard to the reference points upon re-levelling.

## **Working Advice**

➤ Always use the centre of the laser line for marking. The width of the laser line changes with the distance.

## Working with the Markings on the Laser Lines (see figures A-B)

Markings are displayed at equal intervals on the laser lines, which can be used to assist with orientation. The intervals between the markings are equal only when the measuring tool is aligned perpendicular to the wall. You can check the 90° angle using the laser target plate **9**.

Place the measuring tool in the required position, switch it on and allow it to level in. Place the laser target plate **9** with its back against the wall. Align the measur-

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ing tool so that the vertical laser line runs through the upper and lower red marking on the laser target plate.

The intervals between the markings are dependent on the distance of the measuring tool to the wall. Check the 90° angle again if you change the distance.

#### Working with the Tripod

A tripod offers a stable, height-adjustable measuring support. Place the measuring tool via the tripod mount  $\bf 5$  onto the 1/4" male thread of the tripod and screw the locking screw of the tripod tight.

Adjust the tripod roughly before switching on the measuring tool.

#### Laser Viewing Glasses (Accessory)

The laser viewing glasses filter out the ambient light. This makes the red light of the laser appear brighter for the eyes.

- ➤ 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.

## 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.

Regularly clean the surfaces at the exit opening of the laser in particular, and pay attention to any fluff or fibres.



























## **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.)

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

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E-Mail: boschservicecentre@bosch.com

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### 26 | English

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#### Republic of South Africa

**Customer service** 

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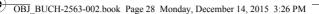


















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#### Disposal

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:

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**Broadwater Park** 

North Orbital Road Denham

Uxbridge

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