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GMS 100 M Professional

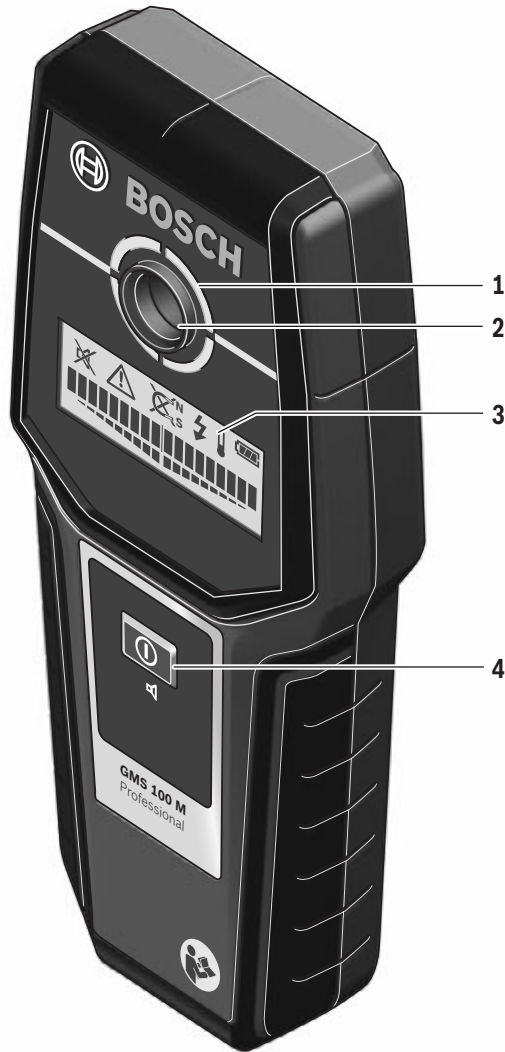


de Originalbetriebsanleitung
en Original instructions
fr Notice originale
es Manual original
pt Manual original
it Istruzioni originali
nl Oorspronkelijke gebruiksaanwijzing
da Original brugsanvisning
sv Bruksanvisning i original
no Original driftsinstruks
fi Alkuperäiset ohjeet
el Πρωτότυπο οδηγίων χρήσης
tr Orijinal işletme talimatı
pl Instrukcja oryginalna

cs Původní návod k používání
sk Pôvodný návod na použitie
hu Eredeti használati utasítás
ru Оригинальное руководство по эксплуатации
uk Оригінальна інструкція з експлуатації
ro Instrucțiuni originale
bg Оригинална инструкция
sr Originalno uputstvo za rad
sl Izvirna navodila
hr Originalne upute za rad
et Algupärane kasutusjuhend
lv Instrukcijas oriģinālvalodā
lt Originali instrukcija

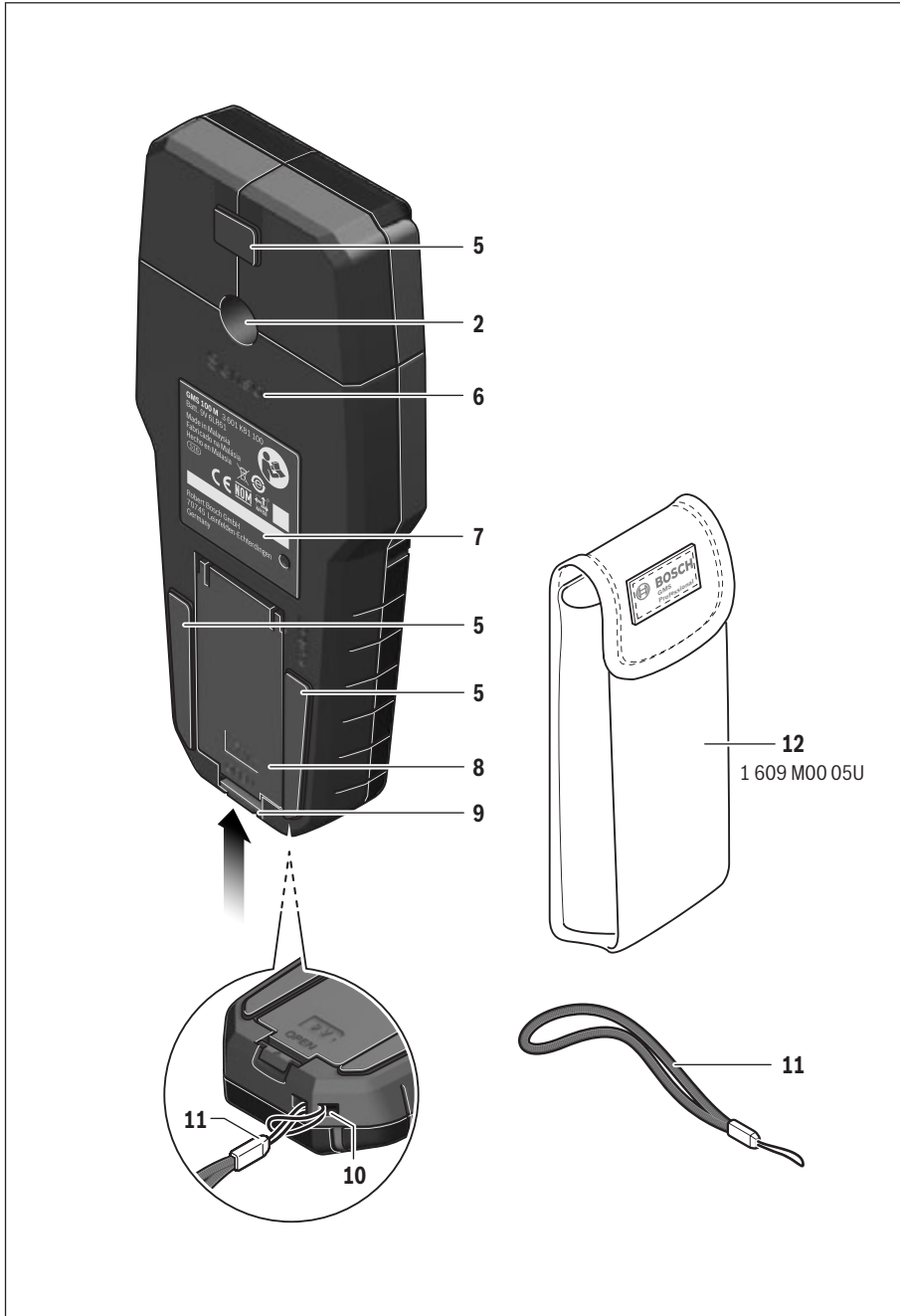
ja オリジナル取扱説明書
cn 正本使用说明书
tw 正本使用說明書
ko 사용 설명서 원본
th หนังสือคู่มือการใช้งานฉบับต้นแบบ
id Petunjuk-Petunjuk untuk Penggunaan Orisinal
vi Bảng hướng dẫn nguyên bản
ar تعليمات التشغيل الأصلية
fa راهنمای طرز کار اصلی

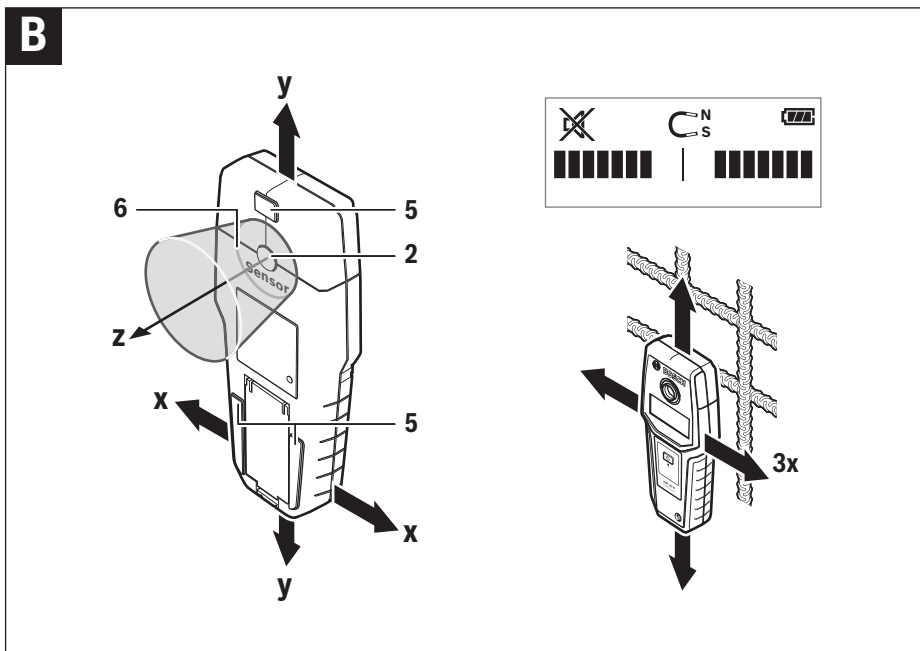
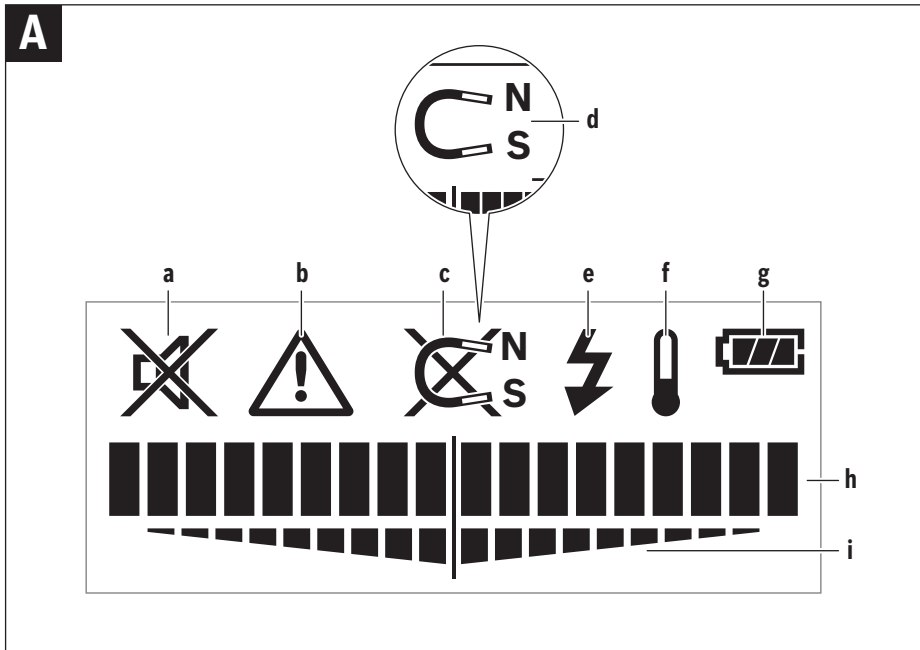




**GMS 100 M
Professional**







Sollte das Messwerkzeug trotz sorgfältiger Herstellungs- und Prüfverfahren einmal ausfallen, ist die Reparatur von einer autorisierten Kundendienststelle für Bosch-Elektrowerkzeuge ausführen zu lassen. Öffnen Sie das Messwerkzeug nicht selbst.

Geben Sie bei allen Rückfragen und Ersatzteilbestellungen bitte unbedingt die 10-stellige Sachnummer laut Typenschild des Messwerkzeugs an.

Kundendienst und Kundenberatung

Der Kundendienst beantwortet Ihre Fragen zu Reparatur und Wartung Ihres Produkts sowie zu Ersatzteilen. Explosionszeichnungen und Informationen zu Ersatzteilen finden Sie auch unter:

www.bosch-pt.com

Das Bosch-Kundenberater-Team hilft Ihnen gerne bei Fragen zu Kauf, Anwendung und Einstellung von Produkten und Zubehör.

www.powertool-portal.de, das Internetportal für Handwerker und Heimwerker.

www.ewbc.de, der Informations-Pool für Handwerk und Ausbildung.

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Entsorgung

Messwerkzeuge, Zubehör und Verpackungen sollen einer umweltgerechten Wiederverwertung zugeführt werden.

Werfen Sie Messwerkzeuge und Akkus/Batterien nicht in den Hausmüll!

Nur für EU-Länder:



Gemäß der europäischen Richtlinie 2002/96/EG müssen nicht mehr gebrauchsfähige Messwerkzeuge und gemäß der europäischen Richtlinie 2006/66/EG müssen defekte oder verbrauchte Akkus/Batterien getrennt gesammelt und einer umweltgerechten Wiederverwertung 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



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.

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.

10 | English

Intended Use

The measuring tool is intended for detecting ferrous and non-ferrous objects and "live" conductors.

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 Contact pads
- 6 Sensor area
- 7 Type plate
- 8 Battery lid
- 9 Latch of battery lid
- 10 Fixture for carrying strap
- 11 Carrying strap
- 12 Protective pouch*

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

Display Elements (see figure A)

- a Switched-off audio signal indicator
- b Warning-function indicator
- c Indication of the object type "Non-magnetic metal"
- d Indication of the object type "Magnetic metal"
- e Indication of the object type "Live conductor"
- f Temperature control indicator
- g Battery indicator
- h Main scale
- i Fine scale

Technical Data

Digital Detector	GMS 100 M Professional
Article number	3 601 K81 100
Maximum scanning depth*	
– Ferrous metals	100 mm
– Non-ferrous metals (copper)	80 mm
– Live conductors 110 – 230 V (voltage applied)**	50 mm
Automatic switch-off after approx.	5 min
Operating temperature	– 10 °C... + 45 °C
Storage temperature	– 20 °C... + 70 °C
Relative air humidity, max.	80 %

*depending on operating mode, material and size of the objects, as well as material and condition of the base material

**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.

Digital Detector**GMS 100 M Professional**

Battery	1 x 9 V 6LR61
Operating life time, approx.	5 h
Degree of protection (excluding battery compartment)	IP 54 (dust and splash water protected)
Weight according to EPTA-Procedure 01/2003	260 g
Dimensions (length x width x height)	200 x 86 x 32 mm

*depending on operating mode, material and size of the objects, as well as material and condition of the base material

**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.**

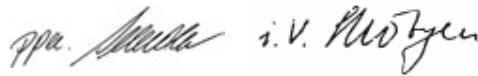
Please observe the article number on the type plate of your measuring tool. The trade names of the individual measuring tools may vary.

Declaration of Conformity 

We declare under our sole responsibility that the product described under "Technical Data" is in conformity with the following standards or standardization documents: EN 61010-1:2010-10, EN 61326-1:2006-05, EN 301489-3:2002-08, EN 301489-1:2008-04, EN 300330-1:2010-02, EN 300330-2:2010-02 according to the provisions of the directives 2004/108/EC, 1999/5/EC.

Dr. Egbert Schneider
Senior Vice President
Engineering

Dr. Eckerhard Strötgen
Head of Product
Certification







Robert Bosch GmbH, Power Tools Division
D-70745 Leinfelden-Echterdingen
Leinfelden, 23.03.2011

Assembly**Inserting/Replacing the Battery**

Alkali-manganese batteries are recommended for the measuring tool.

To open the battery lid **8**, press the latch **9** in the direction of the arrow and fold up the battery lid. Insert the supplied battery. Pay attention that the polarity is correct, according to the representation on the inside of the battery lid.

The battery indicator **g** always indicates the current battery status:

-  Battery fully charged
-  Battery has 2/3 of its capacity or less
-  Battery has 1/3 of its capacity or less
-  Please change battery

▶ **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

- ▶ **Protect the measuring tool against moisture and direct sun light.**
- ▶ **Do not subject the measuring tool to extreme temperatures or variations in temperature. In case of large variations in temperature, allow the measuring tool to adjust to the ambient temperature before switching it on.**
In case of extreme temperatures or variations in temperature, the accuracy of the measuring tool and the display indication can be impaired.
- ▶ **Use or operation of transmitting systems, such as WLAN, UMTS, radar, transmitter masts or microwaves, in the close proximity can influence the measuring function.**

Initial Operation

Switching On and Off

- ▶ **Before switching the measuring tool on, make sure that the sensor area 6 is not moist.** If required, dry the measuring tool using a soft cloth.
- ▶ **If the measuring tool was subject to an extreme temperature change, allow it to adjust to the ambient temperature before switching on.**

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

When no button on the measuring tool is pressed for approx. 5 minutes and when no objects are detected, the measuring tool automatically switches off to save the battery.

Switching the Audio Signal On/Off

When the measuring tool is switched on, the audio signal can be switched on or off by pressing the On/Off button **4** for a few seconds. When the audio signal is switched off, indication **a** appears on the display.

Method of Operation (see figures A – B)

The measuring tool checks the base material of sensor area **6** in measurement direction **z** to the max. detection depth (see "Technical Data"). Objects are detected that differ from the material of the wall.

Always move the measuring tool in a straight line over the surface applying slight pressure, without lifting it off or changing the pressure. During measurement, the contact pads **5** must always have contact to the surface.

Measuring Procedure

After switching on, the illuminated ring **1** lights up green. Position the measuring tool against the surface being detected and move it toward the **x**- and **y**-axis. When the measuring tool comes closer to an object, the amplitude in the main scale **h** increases and ring **1** lights up yellow; when it is moved away from the object, the amplitude decreases. The main scale **h** indicates the maximal amplitude above the object; ring **1** lights up red and an audio signal sounds. For small or deeply embedded objects, ring **1** can continue to light up yellow, while there is no audio signal.

- ▶ **Wide objects are not indicated by the illuminated ring or the audio signal throughout their complete width.**

As soon as the measuring tool has localised an object below the centre of the sensor, the fine scale **i** is activated.

To localise the object more precisely, move the measuring tool repeatedly (3x) back and forth over the object.

The fine scale **i** indicates a maximum amplitude when the object is positioned precisely below the centre of the sensor, independent thereof how many bars are displayed in the main scale **h**.

When very small or deeply embedded objects are being sought and main scale **h** reacts only slightly, move the measuring tool repeatedly over the object in horizontal (**x**-axis) and vertical (**y**-axis) direction. Observe the amplitude of fine scale **i**.

- ▶ **Before drilling, sawing or routing into a wall, protect yourself against hazards by using other information sources.** As the measuring results can be influenced 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 (no audio signal or beep and the illuminated ring **1** lit green).

Metal

When the detected metal object is of magnetic metal (e.g. iron), the symbol **d** is indicated on display **3**. For non-magnetic metals, the symbol **c** is indicated. In order to differentiate between metal types, the measuring tool must be positioned above the detected metal object (ring **1** is lit red and fine scale **i** indicates a high amplitude).

Note: For reinforcement steel mesh and steel in the examined base material, an amplitude is indicated over the complete surface of the main scale **h**. For reinforcement steel mesh, it is typical that the symbol **d** for magnetic metal is indicated on the display directly above the iron rods, whereas between the iron rods, the symbol **c** for non-magnetic metal will appear.

Power Cable

When a "live" conductor is detected, indication **e** appears on the display **3**. Move the measuring tool repeatedly over the area to localise the "live" conductor more precisely. After moving over the "live" conductor several times, it can be indicated very accurately. When the measuring tool is very close to the conductor, the illuminated ring **1** rapidly flashes red and the audio signal beeps swiftly.

Notes:

- "Live" conductors can be detected easier when power consumers (e.g. lamps, machines) are connected to the sought conductor and switched on.
- **Under certain conditions (such as below metal surfaces or behind surfaces with high water content), "live" conductors cannot be securely detected.** The signal strength of a "live" conductor depends on the position of the cable. Therefore, apply further measurements in close proximity or use other information sources to check if a "live" conductor exists.
- Voltage-free conductors can be detected as metal objects. This does not apply for stranded conductors (contrary to solid conductors or cable).
- Static electricity can lead to inaccurate indication of electric lines, e.g., over a large range. To improve the indication, place your free hand flat on the wall next to the measuring tool, in order to remove the static electricity.

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

If required, detected objects can be marked. Perform a measurement as usual. Once you have found the boundaries or the centre of an object, mark the sought location through the marking hole **2**.

Temperature Control

The measuring tool is equipped with a temperature control indicator, as accurate measurements are only possible as long as the temperature within the measuring tool remains constant.

When the temperature control indicator **f** lights up, the measuring tool is not within the operating temperature range or was subject to large variations in temperature. **Switch the measuring tool off and allow it to adjust to the ambient temperature before switching it on again.**


Warning Function

When indicator **b** lights up on the display, the measurement must be restarted. Remove the measuring tool from the wall and place it on the base material at a different location.

When indicator **b** flashes on display **3**, send the measuring tool to an authorised customer services agent.

Recalibration

When the main scale **h** indicates a continuously high amplitude, even though there is no object near the measuring tool, the measuring tool can be manually recalibrated.

- Switch the measuring tool off.
- Remove all objects near the measuring tool that could be detected, including your wrist watch or rings made of metal, and hold the measuring tool up.
Pay attention that battery indicator **g** indicates at least 1/3 capacity: 
- Switch the measuring tool on again. When the measuring tool starts, immediately press and hold the the On/Off button **4**. Hold the On/Off button until the illuminated ring **1** slowly flashes red, indicating the calibration of the measuring tool.
- When the calibration was successful, ring **1** lights up green and the measuring tool automatically ready for operation again.

Note: If the measuring tool does not automatically start, repeat the recalibration. If the measuring tool still does not start, send it to an authorised customer services agent.

Maintenance and Service

Maintenance and Cleaning

- ▶ **Check the measuring tool each time before use.** In case of visible damage or loose components inside the measuring tool, safe function can no longer be ensured.

Keep the measuring tool clean and dry at all times to ensure proper and safe working.

Do not immerse the measuring tool in water or other fluids.

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 **6** on the front or back side of the measuring tool.

Do not remove the contact pads **5** on the backside 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.

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