**IMPORTANT:**
**Read Before Using**

**IMPORTANT :**
**Lire avant usage**

**IMPORTANTE:**
**Leer antes de usar**

# Operating/Safety Instructions
# Consignes de sécurité/d'utilisation
# Instrucciones de funcionamiento y seguridad

## GLM 50 C

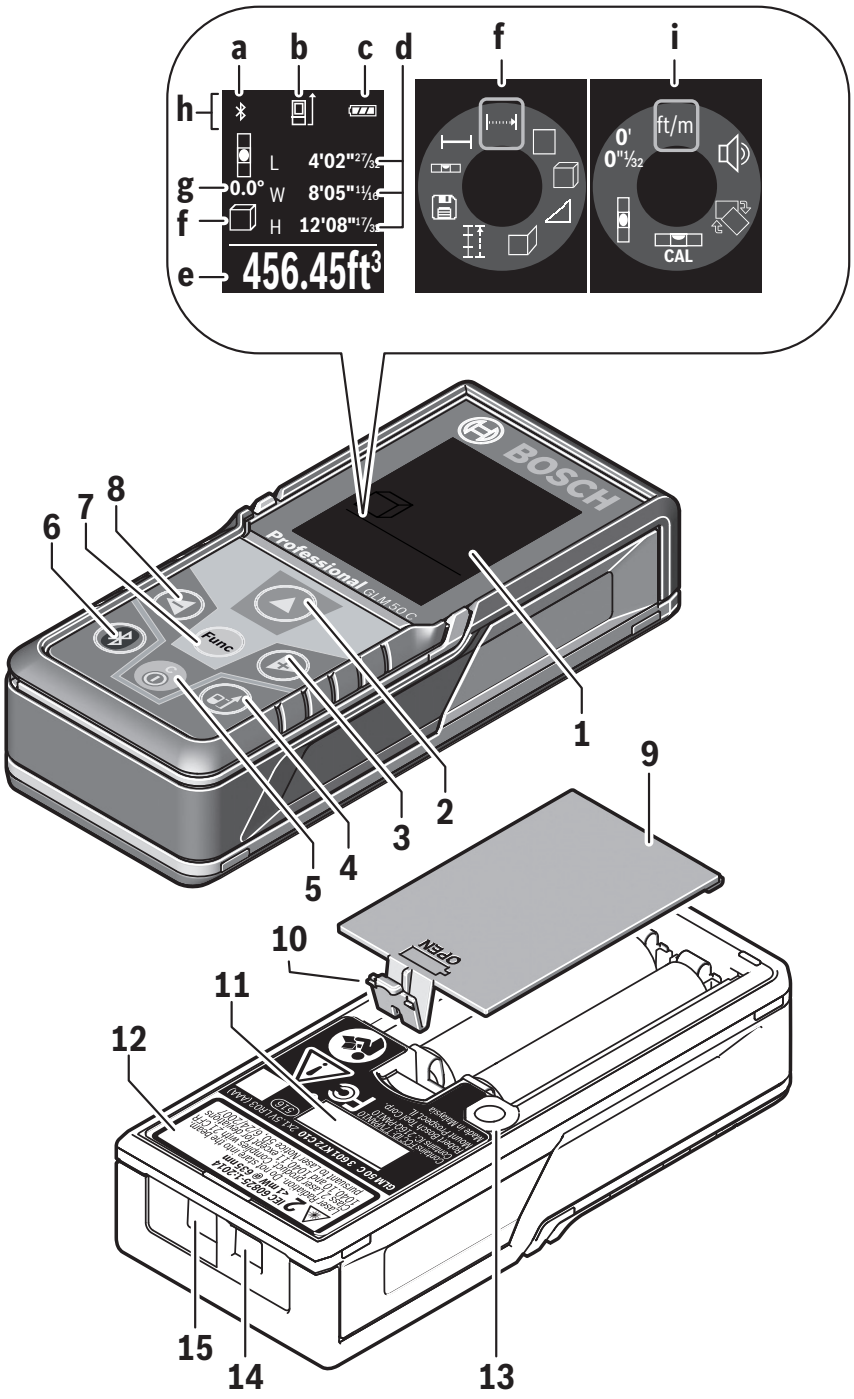

**BOSCH**

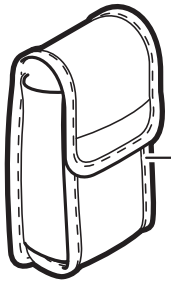
Call Toll Free for Consumer Information and Service Locations

Pour obtenir des informations et les adresses de nos centres de service après-vente, appelez ce numéro gratuit

Llame gratis para obtener información para el consumidor y ubicaciones de servicio

**For English Version**
**See page 8**





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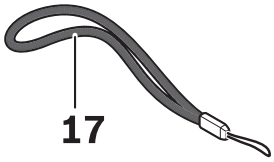

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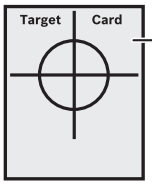


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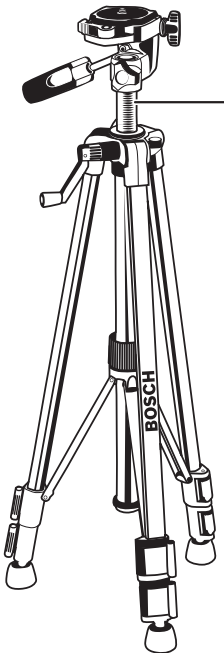


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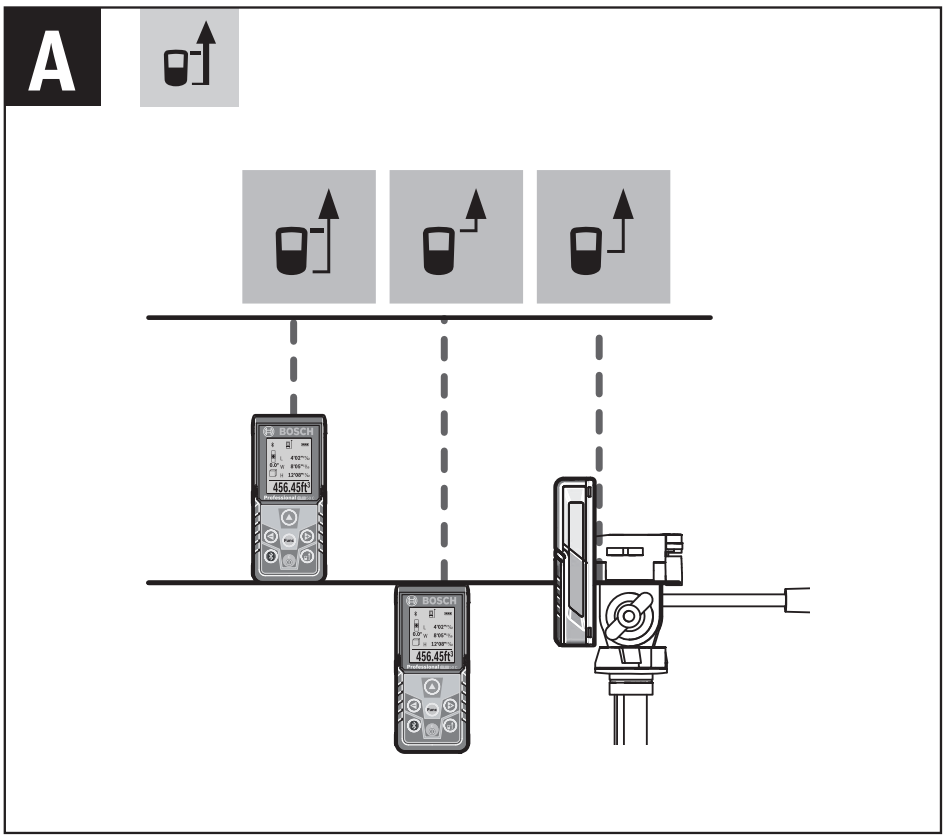


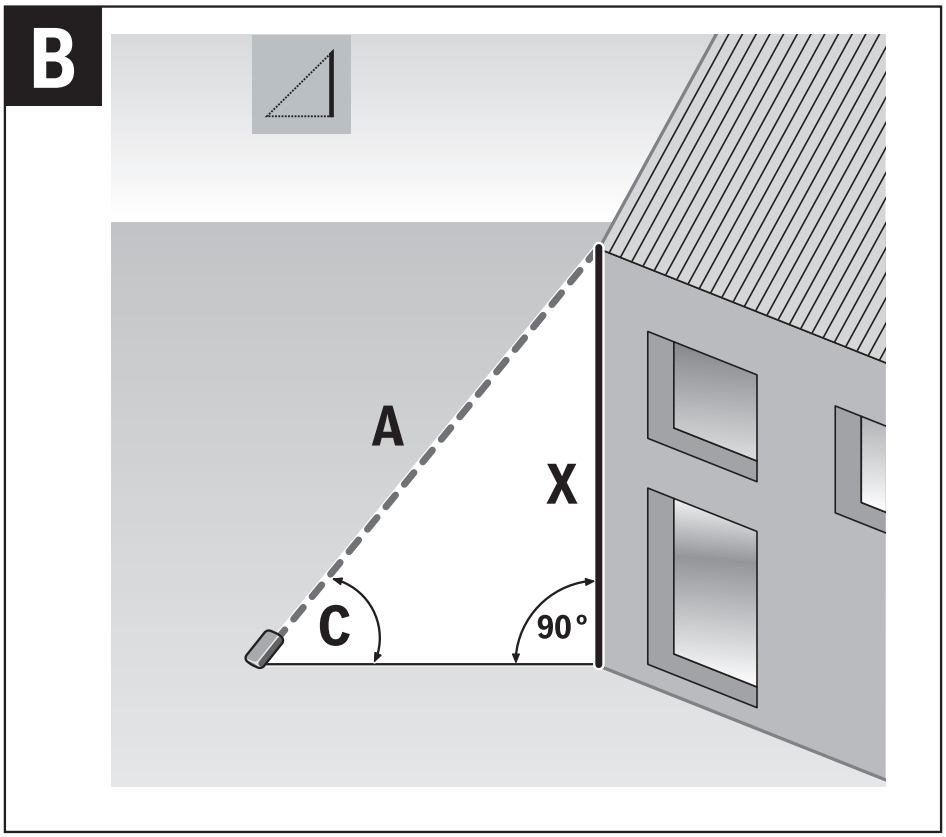

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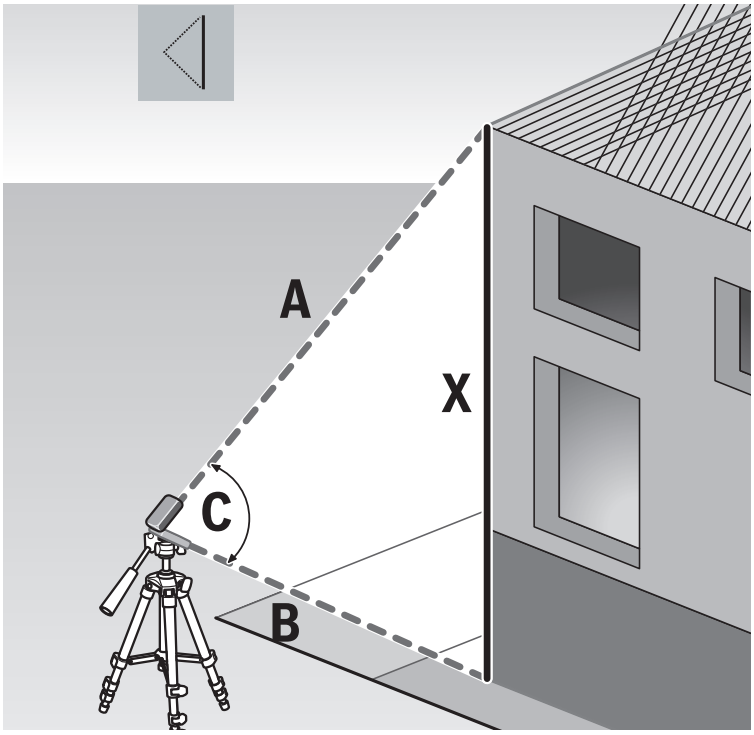


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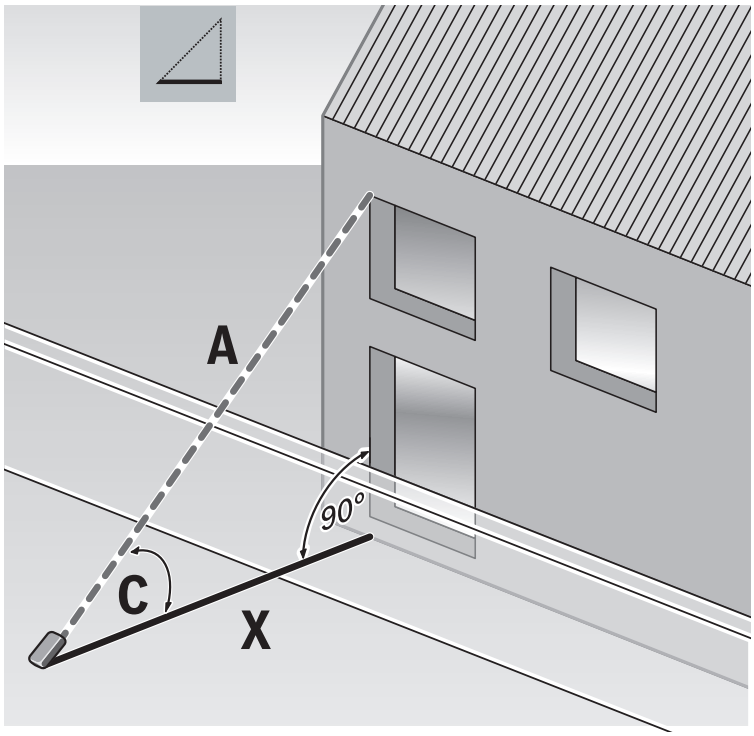

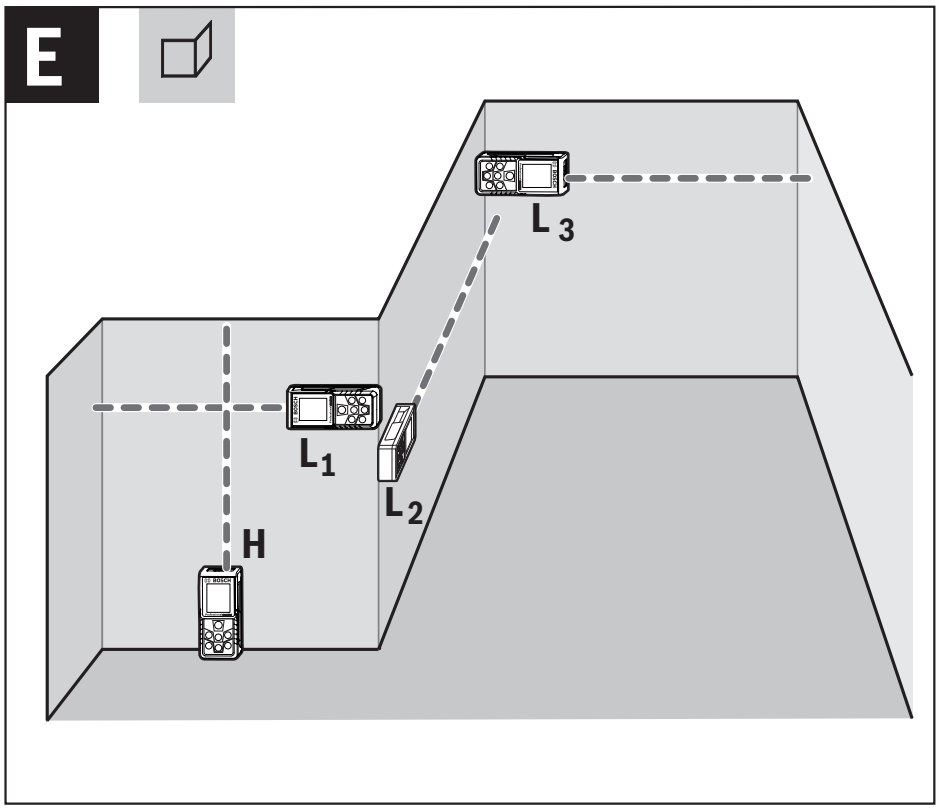


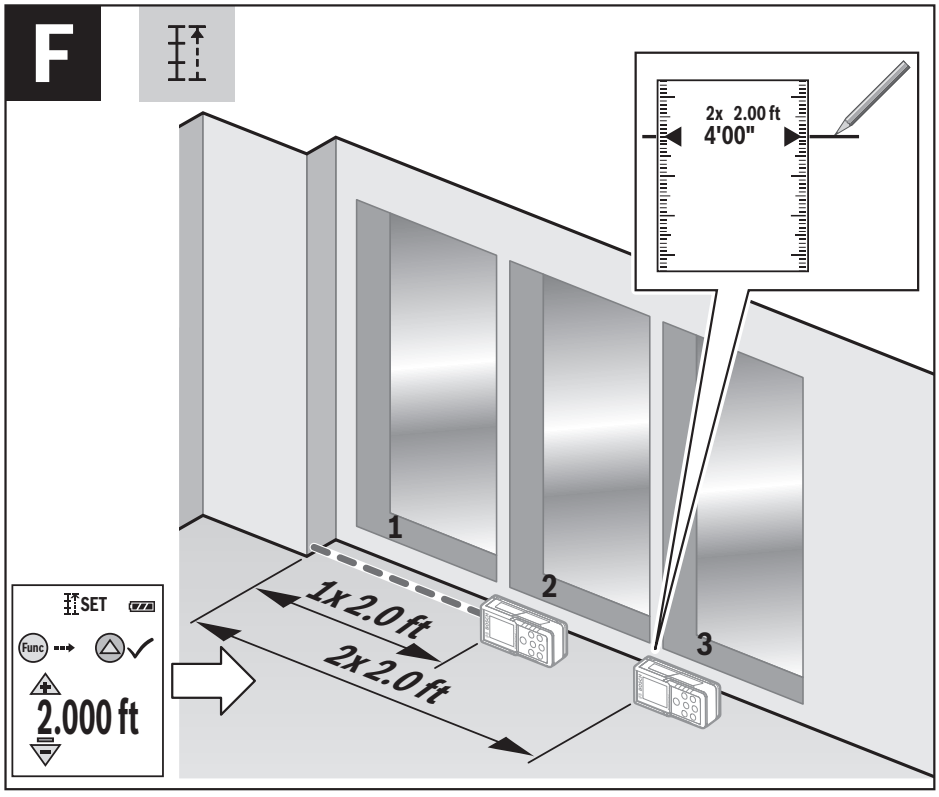

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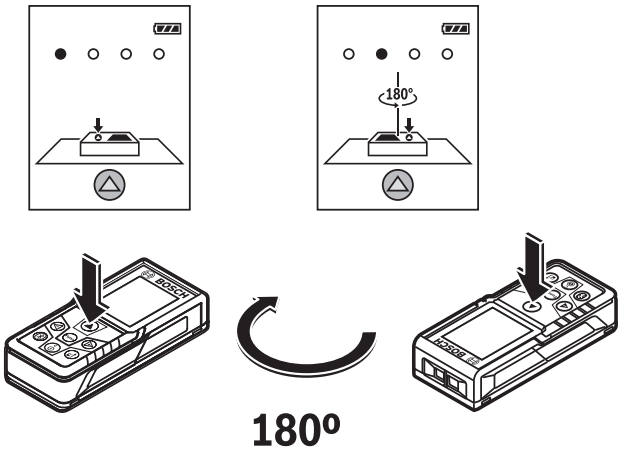
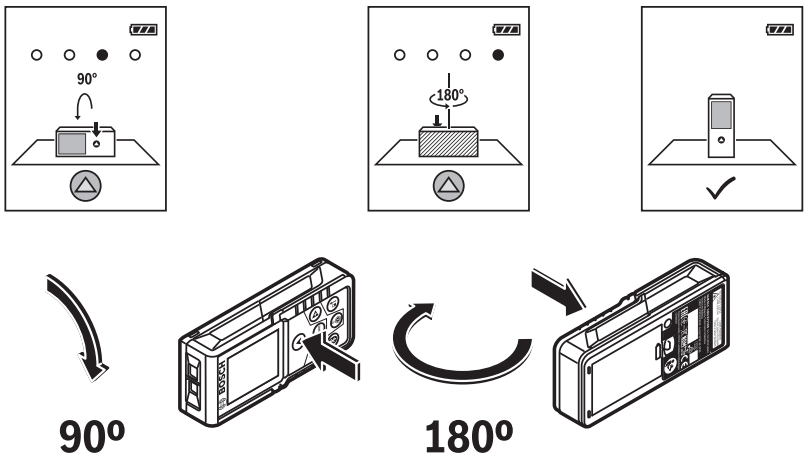


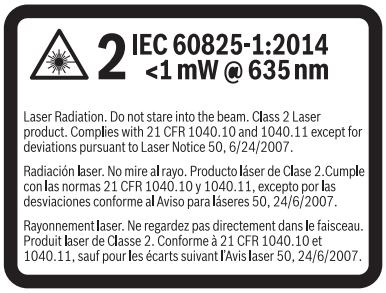
# General Safety Rules

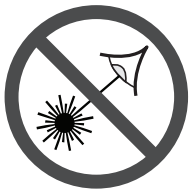
**⚠WARNING Read all instructions. Failure to follow all instructions listed below may result in hazardous radiation exposure, electric shock, fire and/or serious injury.**

The term “laser measure” in the warnings listed below refers to your battery-operated (cordless) laser measuring tool.

**SAVE ALL WARNINGS AND INSTRUCTIONS FOR FUTURE REFERENCE**

**The following label is on your laser measure for your safety. ALWAYS BE AWARE of its location when using the laser measure.**



**DO NOT direct the laser beam at persons or animals and do not stare into the laser beam yourself. This laser measure produces class 2 laser radiation and complies with 21 CFR 1040.10 and 1040.11 except for deviations pursuant to Laser Notice No. 50, dated June 24, 2007. This can lead to persons being blinded.**

**DO NOT stare directly at the laser beam or project the laser beam directly into the eyes of others.** Serious eye injury could result.

**DO NOT place the laser measure in a position that may cause anyone to stare into the laser beam intentionally or unintentionally.** Serious eye injury could result.

**DO NOT operate the laser measure around children or allow children to operate the laser measure.** Serious eye injury could result.

**ALWAYS: Make sure that any bystanders in the vicinity of use are made aware of the dangers of looking directly into the laser measure.**

**Never aim the beam at a workpiece with a reflective surface. Bright shiny reflective sheet steel or similar reflective surfaces are not recommended for laser use.** Reflective surfaces could direct the beam back towards the operator.

**Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.**

**DO NOT use any optical tools such as, but not limited to, telescopes or transits to view the laser beam.** Serious eye injury could result.

**DO NOT leave the laser measure "ON" unattended in any operation mode. ALWAYS turn the laser measure "OFF" when not in use.** Leaving the laser measure "ON" increases the risk of someone inadvertently staring into the laser beam.

**DO NOT operate the laser measure in combustible areas such as in the presence of flammable liquids, gases or dust.**

**Do not use the laser viewing glasses as safety goggles.** The laser viewing glasses are used for improved visualization 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 color perception.

**ALWAYS position the laser measure securely.** Damage to the laser measure and/or serious injury to the user could result if the laser measure falls.

**Take care to recognize the accuracy and range of the laser measure.** Measurement may not be accurate if used beyond the rated range of the laser measure.

**DO NOT remove or deface any warning or caution labels.** Removing labels increases the risk of exposure to laser radiation.

## Electrical safety

**Batteries can explode or leak, cause injury or fire. To reduce this risk, always follow all instructions and warnings on the battery label and package.**

**DO NOT short any battery terminals.**

**DO NOT charge alkaline batteries.**

**DO NOT mix old and new batteries. Replace all of them at the same time with new batteries of the same brand and type.**

**DO NOT mix battery chemistries.**

**Dispose of or recycle batteries per local code.**

**DO NOT dispose of batteries in fire.**

**Keep batteries out of reach of children.**

**Remove batteries if the device will not be used for several months.**

## Maintenance

**DO NOT disassemble the laser measure. There are no user serviceable parts inside. Disassembling the laser will void all warranties on the product. Do not modify the product in any way.** Modifying the laser measure may result in hazardous laser radiation exposure.

**ALWAYS remove the batteries when cleaning the laser light aperture to laser lens.**

**DO NOT use this laser measure for any purpose other than those outlined in this manual.** This could result in serious injury.

**ALWAYS use only the accessories that are recommended by the manufacturer of your laser measure.** Use of accessories that have been designed for use with other laser measures could result in serious injury.

**Repair and servicing must always be performed by a qualified repair facility.** Repairs performed by unqualified personnel could result in serious injury.

## *Bluetooth®*

**Do not use the laser measure with *Bluetooth®* in the vicinity of gas stations, chemical plants, areas where there is danger of explosion and areas subject to blasting. Do not use the laser measure with *Bluetooth®* in airplanes. Do not use the laser measure with *Bluetooth®* in the vicinity of medical devices. Avoid operation in the direct vicinity of the human body over longer periods of time.** When using the laser measure with *Bluetooth®*, interference with other devices and systems, airplanes and medical devices (e.g., cardiac pacemakers, hearing aids) may occur.

The *Bluetooth®* word mark and logos are registered trademarks owned by Bluetooth SIG, Inc. and any use of such marks by Robert Bosch Tool Corporation is under license.

## FCC Caution

The manufacturer is not responsible for radio interference caused by unauthorized modifications to this equipment. Such modifications could void the user's authority to operate the equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

1) This device may not cause harmful interference, and
2) This device must accept any interference received, including interference that may cause undesired operation.

**NOTE!** This equipment has been tested and found to comply with the limits for a Class B digital devices, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there

is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

“This device has been designed to operate with the antennas listed below, and having a maximum gain of 0.9 dB. Antennas not included in this list or having a gain greater than 0.9 dB are strictly prohibited for use with this device. The required antenna impedance is 50 ohms.”

“To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (e.i.r.p.) is not more than that permitted for successful communication.”

“Exposure to Radio Frequency (RF) Signals: The wireless device is a radio transmitter and receiver. It is designed and manufactured not to exceed the emission limit for exposure to radio frequency (RF) energy set by the Ministry of Health (Canada), Safety Code 6. These limits are part of comprehensive guidelines and established permitted levels of RF energy for the general population.

These guidelines are based on the safety standards previously set by international standard bodies. These standards include a substantial safety margin designed to assure the safety of all persons, regardless of age and health.

This device and its antenna must not be co-located or operating in conjunction with any other antenna or transmitter.

This device has been shown to be capable of compliance for localized specific absorption rate (SAR) for uncontrolled environment / general public exposure limits specific in ANSI/IEEE C95.1-1992 and had been tested in accordance with the measurement procedures specified in IEEE 1528-2003."

## Symbols

**IMPORTANT:** Some of the following symbols may be used on your laser measure. Please study them and learn their meaning. Proper interpretation of these symbols will allow you to operate the laser measure better and safer.

| Symbol | Name | Designation/ Explanation |
|---|---|---|
|  | Warning symbol | Alerts user to warning messages |
|  | Read manual symbol | Alerts user to read manual |
|  | This symbol designates that this laser measure complies with Part 15 of the FCC Rules. | |

# Technical Data

| **Laser Measure GLM 50 C** | |
|---|---|
| Article Number | **3601K72C10** |
| Measuring range (typical): | 6 in – 165 ft (0.15 – 50 m)[A] |
| Measuring accuracy (typical) | ±1/16 in (±1.5 mm)[B] |
| Lowest indication unit | ±1/32 in (0.5 mm) |
| **Indirect Distance Measurement and Vial** | |
| Measuring range | 0°–360° (4 x 90°) |
| **Angle Measurement** | |
| Measuring range | 0°–360° (4 x 90°) |
| Measuring accuracy (typical) | ±0.2° [C,D,E,] |
| Lowest indication unit | 0.1° |
| **General** | |
| Operating temperature | +14 °F to 113 °F (-10 °C to 45 °C)[F] |
| Storage temperature | -4 °F to 158 °F (-20 °C to 70 °C) |
| Relative air humidity, max. | 90 % |
| Laser class | 2 |
| Laser type | 635 nm, <1 mW |
| Laser beam diameter at 77 °F (25 °C) approx.<br>– at 33 ft (10 m) distance<br>– at 165 ft (50 m) distance | <br>4/11 in (9 mm)<br>1-3/4 in (45 mm) |
| Weight | 0.22 lb (0.1 kg) |
| Dimensions | 4.2 x 1.8 x 0.9 in (106 x 45 x 24 mm) |

| | |
|---|---|
| Automatic switch-off after approx.<br>– Laser<br>– Laser measure (without measurement) | <br>20 s [G]<br>5 min [H] |
| Degree of protection | IP 54 (dust and splash proof)[J] |
| Batteries | 2 x 1.5 V AAA (LR03) |
| **Data transmission** | |
| *Bluetooth®* | *Bluetooth®* 4.0 (Classic and Low Energy)[K] |

[A] The working range increases depending on how well the laser light is reflected from the surface of the target (scattered, not reflective) and with increased brightness of the laser point to the ambient light intensity (interior spaces, twilight). In unfavorable conditions, e.g., with extreme illumination or a badly reflecting surface, the measuring range may be limited.

[B] In favorable conditions, a deviation influence of ±0.05 mm/m must be taken into account. In unfavorable conditions, e.g., with extreme illumination, badly reflecting surface or the room temperature deviating heavily from 77 °F (25 °C), the maximum deviation can be up to ±3.0 mm. Additionally, a deviation influence of 0.15 mm/m must be taken into account.

[C] After user calibration at 0° and 90°, an additional grade error of +/-0.01°/degree to 45° (max.) has to be taken into account.

[D] Left side of the tool is the reference side for inclination measurement.

[E] At 77 °F (25 °C ) operating temperature.

[F] In the real time measuring function, the maximum operating temperature is 104 °F (40 °C).

[G] Shut-off after approximately 5 minutes in the real time measuring function

[H] *Bluetooth®* deactivated

[I] *Bluetooth®* activated

[J] Battery compartment not included.

[K] For *Bluetooth®* low energy devices, establishing a connection may not be possible, depending on model and operating system. *Bluetooth®* devices must support the SPP profile.

The laser measure can be clearly identified with the serial number **11** on the type plate.

## Intended Use

The laser measure is intended for measuring distances, lengths, heights and clearances. The laser measure is suitable for measuring indoors.

# Features

The numbering of the product features shown refers to the illustration of the laser measure on the graphic page.

**1** Display

**2** Measure button [▲]

**3** Plus button [▶]

**4** Measuring reference button

**5** Clear / On/Off button [c ⏻]

**6** *Bluetooth*® button

**7** Function button [**Func**]

**8** Minus button [◀]

**9** Battery lid

**10** Latch of battery lid

**11** Serial number

**12** Laser warning label

**13** 1/4” tripod thread

**14** Reception lens

**15** Laser beam outlet

**16** Protective pouch

**17** Hand strap

**18** Target cards

**19** ID Tag*

**20** Tripod**

* Optional accessory

** Not included as standard delivery

## Display elements

**a** Status *Bluetooth®*


*Bluetooth®* activated, no connection established


*Bluetooth®* activated, connection established

**b** Measuring reference point

**c** Battery indicator

**d** Measured-value lines

**e** Result line

**f** Measuring functions:


Length measurement


Real time measurement


Area measurement


Level


Volume measurement


Indirect distance measurement


Indirect height measurement


Double indirect height measurement


Indirect length measurement


Wall-surface measurement


Stake out function


Memory functions

**g** Indicator for angle of inclination

**h** Status bar

**i** Basic settings


Sound

Calibration


Spirit level


Display rotation

Units of measurement

Font size

# Assembly

## Inserting/Replacing the Batteries

AAA Alkaline batteries are recommended for the laser measure.

To open the battery lid **9**, press the latch **10** and remove the battery lid. Insert the batteries. When inserting, pay attention to the correct polarity according to the representation on the inside of the battery compartment.

When the empty battery symbol first appears on the display, then approximately 100 measurements are still possible. When the battery symbol is empty and red flashing, measurements are no longer possible. Replace the batteries.

**Always replace all batteries at the same time. Only use batteries from one brand and with identical capacity.**

**Remove the batteries from the laser measure when not using it for extended periods.** When storing for extended periods, the batteries can corrode and discharge themselves.

# Operation

**⚠WARNING** **Do not leave the switched-on laser measure unattended and switch the laser measure off after use.** Other persons could be blinded by the laser beam.

**Protect the laser measure against moisture and direct sun light.**

**Do not subject the laser measure 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 laser measure to adjust to the ambient temperature before putting it into operation. In case of extreme temperatures or variations in temperature, the accuracy of the laser measure can be impaired.

**Avoid heavy impact to or falling down of the laser measure.** After severe exterior effects to the laser measure, it is recommended to carry out an accuracy check (see “Accuracy Check of the Distance Measurement”, page 36) each time before continuing to work.

### Switching On and Off

– To switch on the laser measure and the laser, press the measure button **2** [▲] or clear/ on/off button **5** [⏻].
– To switch off the laser measure press and hold clear/ on/off button **5** [⏻].

**⚠WARNING** **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.**

The values in the memory and the device settings are retained when you switch the laser measure off.

### Measuring Procedure

Once switched on, the laser measure is in the real time measuring function with large font. The laser is automatically activated and the laser measure is measuring. You can set other measuring functions by press-

ing the function button **7** [**Func**] and using the plus button **3** [▶] and minus button **8** [◀] to scroll through the measuring functions. (see Measuring Functions, page 22)

After switching on, the rear edge of the laser measure is preset as the reference point for the measurement. To change the reference point (see Selecting the Reference Point, page 21)

Place the laser measure against the desired starting point of the measurement (e.g. wall) and aim at the surface you wish to measure to.

Note: The measured value typically appears within 0.5 seconds and no more than 4.25 seconds. The duration of the measurement depends on the distance, the lighting conditions and the reflective properties of the target surface.

**Selecting the Reference Point (see figure A)**

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

- The rear edge of the laser measure (when the rear edge of the laser measure is up against the wall and you want to take a measurement from the wall to another object)
- The front edge of the laser measure (when the laser measure is resting on a table and you want to measure from the edge of table to another object)
- The tripod thread of the laser measure (when attached to a tripod)

To select between the three reference points, press the measuring reference button **4**. Cycle through the desired reference measuring point options by pressing plus button **3** [▶] or minus button **8** [◀]. Press the measure button **2** [▲] to make your selection. If the laser measure is turned off and then turned back on, the reference point will reset to the rear edge of the laser measure.

## Menu “Basic Settings”

To access the “Basic Settings” Menu, hold down the function button **7** [**Func**]. Use the plus button **3** [▶] or minus button **8** [◀] to cycle through the settings.

Turn sound

On or Off

CAL Calibration

Turn Spirit level

On 0.0° or Off

Automatic Display rotation

On or Off

0' 0"1/32 Switch between Font size

Large 0' 0"1/32 and Small

ft/m Switch between units

0” 1/32
0’00” 1/32
0.000 m
0.00 cm
0.000 ft

## Display Backlight

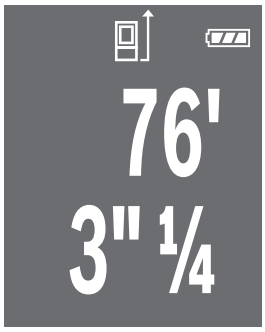
The backlit display is automatically turned on when activating the laser measure or pressing any of the buttons once the laser measure is activated. The backlit display dims after approximately 20 seconds to preserve the batteries. When none of the buttons are pressed for approximately 30 seconds, the display backlight goes out.

## Measuring Functions

**Real Time Measurement** (Large Font)

For real time measurements, the laser measure can be moved relative to the target, whereby the measuring value is updated approx. every 0.5 seconds. In this manner for example, the distance displayed on the screen will change in real time as you move further or closer to the measured target.

For real time measurements, press the function button **7** [**Func**] and use the plus button **3** [▶] or minus button **8** [◀] to cycle through the measurement functions until the highlighted square appears over the indicator for real time measurement and the words **“Real Time”** appear in the status bar. Select real time measurement by pressing the measure button **2** [▲]. Activate the laser by pressing the measure button **2** [▲]. The laser will be switched on and measuring will begin immediately.



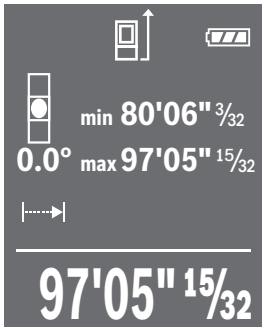

Watch the numbers move in real time as you move the laser measure towards or away from the object you are aiming at.

Press the measure button **2** [▲] to hold the measurement.

Press the measure button **2** [▲] to reactivate real time measuring.

**Real Time Measurement** (Small Font)

To switch to small font in real time measuring, hold down the function button **7** [**Func**]. Press the plus button **3** [▶] or minus button **8** [◀] to cycle through the menu options until the highlighted square appears over the indicator for changing size. Press the measure button **2** [▲] and use the plus button **3** [▶] or minus button **8** [◀] to select the small font as indicated by the . Press the measure button **2** [▲] to make your selection and the laser measure will return to real time measuring.




Watch the numbers move in real time in result line **e** as you move the laser measure towards or away from the object you are aiming at.

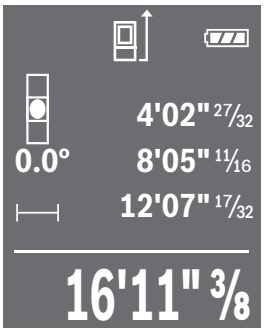
Press the measure button **2** [▲] to hold the measurement.

Press the measure button **2** [▲] to reactivate real time measuring.

The maximum and minimum measurements appear in the measured-value lines **d**.

**Length Measurement** ⊢⊣

For length measurement, press the function button **7** [**Func**] and use the plus button **3** [▶] or minus button **8** [◀] to cycle through the measurement functions until the highlighted square appears over the indicator for length measurement ⊢⊣ and the word **"Length"** appears in the status bar. Select length measurement by pressing the measure button **2** [▲]. Activate the laser by pressing the measure button **2** [▲]. The laser will be switched on. Aim the laser at the object you want to measure the distance to. Press the measure button **2** [▲] again to take the measurement. The measurement will be shown in the result line **e**.




Press the measure button **2** [▲] and the previous measurement will move to the bottom line of the measured-value lines **d**.

Press the measure button **2** [▲] for a new measurement which will display on the result line **e**.

Press the measure button **2** [▲] and the measurement from the bottom line of the measured-value lines **d** will move to the middle line of the measured-value lines **d** and the measurement from the result line **e** will move to the bottom line of the measured-value lines **d**.

Press the measure button **2** [▲] for a new measurement which will display on the result line **e**.

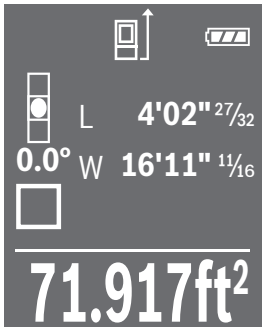
As you continue to take measurements, this cycle will continue. The unit can display up to 3 previous measurements.

The last three measurements will display on the measured-value lines **d** and the current measurement will display on the result line **e**.

**Area Measurement** □

For area measurements, press the function button **7** [**Func**] and use the plus button **3** [▶] or minus button **8** [◀] to cycle through the measurement functions until the highlighted square appears over the indica-

tor for area measurement ☐ and the word **“Area”** appears in the status bar. Select area measurement by pressing the measure button **2** [▲]. Activate the laser by pressing the measure button **2** [▲]. The laser will be switched on.

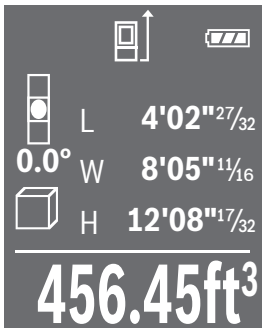



Aim and press the measure button **2** [▲] again to take the measurement for length which will appear on the top line of the measured-value lines **d**.

Aim and press the measure button **2** [▲] again to take the measurement for width which will appear on the middle line of the measured-value lines **d** and the area will automatically be calculated and display on the result line **e**.

**Volume Measurement** ☐

For volume measurements, press the function button **7** [**Func**] and use the plus button **3** [▶] or minus button **8** [◀] to cycle through the measurement functions until the highlighted square appears over the indicator for volume measurement ☐ and the word **“Volume”** appears in the status bar. Select volume measurement by pressing the measure button **2** [▲]. Activate the laser by pressing the measure button **2** [▲]. The laser will be switched on.

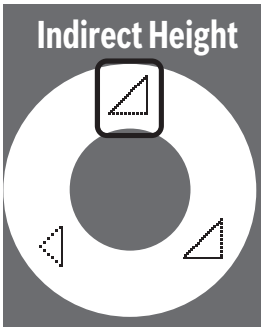



Aim and press the measure button **2** [▲] again to take the measurement for length which will appear on the top line of the measured-value lines **d**.

Aim and press the measure button **2** [▲] again to take the measurement for width which will appear on the middle line of the measured-value lines **d**.

Aim and press the measure button **2** [▲] again to take the measurement for height which will appear on the bottom line of the measured-value lines **d** and the volume will automatically be calculated and display on the result line **e**.

**Indirect Measurement**



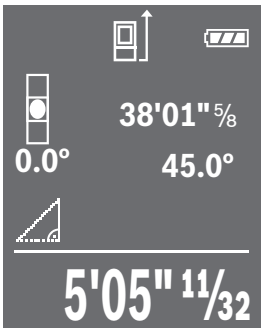

For indirect measurement, three measuring modes are available. Each measuring mode can be used for determining distances.

The indirect measurement is used to measure distances that cannot be measured directly because an obstacle is obstructing the laser beam or no target surface is available as a reflector.

**Note:** Indirect measurement is always less accurate than length measurement or real time measurement. Depending on the application, greater measuring errors are possible than with length measurement or real time measurement. To improve the measuring accuracy, we recommend using a tripod (accessory).

**a. Indirect height measurement** (see figure B)

Press the function button **7** [**Func**] and use the plus button **3** [▷] or minus button **8** [◁] to cycle through the measurement functions until the highlighted square appears over the indicator for indirect measurement and the word **"Indirect"** appears in the status bar. Press the measure button **2** [▲]. Press the plus button **3** [▷] or minus button **8** [◁] to cycle through the indirect measurement functions until the highlighted square appears over the indicator for indirect height and the words **"Indirect Height"** appear in the status bar. Press the measure button **2** [▲] to select indirect height measurement.




Press the measure button **2** [▲] to activate the laser. Tilt the laser measure while keeping the base of the laser measure stable and point the laser at the height of the object you wish to measure. Press the measure button **2** [▲] to take your measurement.

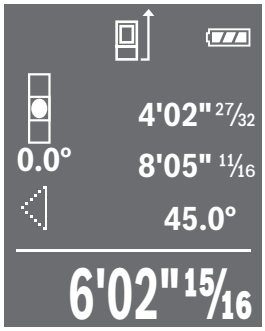
The desired indirect height measurement **X** will display in the result line **e**. The measuring values for the distance **A** and the angle

**C** at which you took the measurement will display in the measured-value lines **d**.

**b. Double indirect height measurement** (see figure C)

The laser measure can measure a vertical distance on a surface, by taking two indirect measurements to that surface.

Press the function button **7** [**Func**] and use the plus button **3** [▶] or minus button **8** [◀] to cycle through the measurement functions until the highlighted square appears over the indicator for indirect measurement and the word **"Indirect"** appears in the status bar. Press the measure button **2** [▲]. Press the plus button **3** [▶] or minus button **8** [◀] to cycle through the indirect measurement functions until the highlighted square appears over the indicator for double indirect height and the words **"Double Height"** appear in the status bar. Press the measure button **2** [▲] to select double indirect height measurement.



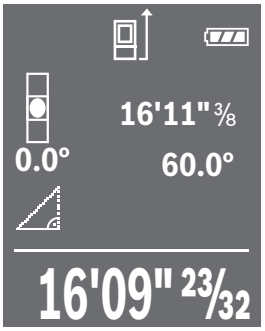

Press the measure button **2** [▲] to activate the laser. Make sure the measuring reference point remains stable. Press the measure button **2** [▲] to take the first measurement **A**. Press the measure button **2** [▲] to take the second measurement **B**.

The desired indirect height measurement **X** will display in the result line **e**. The measuring values for the distances **A** and **B** and the angle **C** at which you took the measurement will display in the measured-value lines **d**.

**c. Indirect Length measurement** (see figure D)

Press the function button **7** [**Func**] and use the plus button **3** [▶] or minus button **8** [◀] to cycle through the measurement functions until the highlighted square appears over the indicator for indirect measurement and the word **"Indirect"** appears in the status bar. Press the measure button **2** [▲]. Press the plus button **3** [▶] or minus button **8** [◀] to cycle through the indirect measurement functions until the highlighted square appears over the indicator for indi-

rect length and the words **“Indirect Length”** appear in the status bar. Press the measure button **2** [▲] to select double indirect length measurement.




Press the measure button **2** [▲] to activate the laser. Tilt the laser measure while keeping the base of the laser measure stable and point the laser on a diagonal at the object you wish to measure to. Press the measure button **2** [▲] to take the measurement **A**.

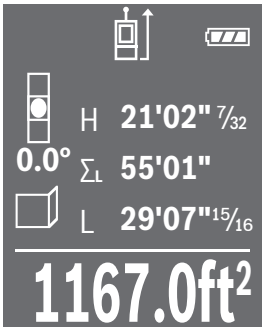
The desired indirect length measurement **X** will display in the result line **e**. The measuring values for the distances **A** and the angle **C** at which you took the measurement will display in the measured-value lines **d**.

**Wall Surface Measurement** (see figure E)

The wall surface measurement is used to determine the sum of several individual surfaces which all have same height. This function can be useful if you were trying to determine the surface area of many walls to be painted in order to know how much paint to buy.

In the example shown in figure E, the total surface of several walls that have the same room height **H**, but different lengths **L**, are to be determined.

Press the function button **7** [**Func**] and use the plus button **3** [▶] or minus button **8** [◀] to cycle through the measurement functions until the highlighted square appears over the indicator for wall surface measurement and the words **“Wall Area”** appear in the status bar. Press the measure button **2** [▲] to select Wall Surface Measurement. Press the measure button **2** [▲] to activate the laser.




Place the laser measure on the floor and aim the laser at the ceiling, then press the measure button **2** [▲] to measure the room height **H**. The measured value is displayed in the top measured-value line **d**. The laser remains active.

Press the measure button **2** [▲] to measure the length $\mathbf{L_1}$ of the first wall. The surface area is automatically calculated and displayed in the result line **e**. The length measurement value is displayed in the middle and bottom measured-value lines **d**. The laser remains active.

Press the measure button **2** [▲] to measure the length $\mathbf{L_2}$ of the second wall. The individual measured value will display in the bottom line of the measured-value lines **d** as indicated by **L**. $\mathbf{L_1}$ and $\mathbf{L_2}$ will be added to show the sum of both lengths in the middle line of the measured-value lines as indicated by $\mathbf{L_\Sigma}$. The sum of both lengths $\mathbf{L_\Sigma}$ is multiplied to the stored height **H**. The total surface area is displayed in result line **e**.

You can continue with the above measuring actions and measure any number of lengths $\mathbf{L_X}$, which are automatically added and multiplied with height **H**. The total surface area in line **e** keeps on increasing as you add more walls to the measurement.

The first height measurement **H** remains the same value throughout the wall surface measurement calculation.

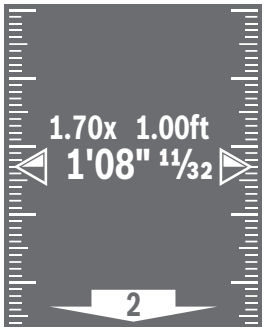
**Stake out function** (see figure F)

The stake out function is used to repeatedly measure a predefined length. The purpose of this could be to cut material in equal pieces or to set up studs in drywall construction. The minimum adjustable length is 0.01 ft. and the maximum length is 165 ft.

Press the function button **7** [**Func**] and use the plus button **3** [▷] or minus button **8** [◁] to cycle through the measurement functions until the highlighted square appears over the indicator for stake out measurement and the word **"Stake Out"** appears in the status bar. Select stake out measurement by pressing the measure button **2** [▲].


Set the desired length by pressing the function button **7** [**Func**] to scroll through the digits you want to change and by pressing the plus button **3** [▷] or minus button **8** [◁] to change the value of each digit.

Press the measure button **2** [▲] to go to the stake out measurement display. Press the measure button **2** [▲] again to start the stake out measurement function. Move the laser measure slowly from the starting point.




The laser measure continuously measures the distance to the starting point. The defined length and actual measuring value are shown in the display. The large arrows that display at the top or bottom of the screen indicate the positions of the previous or next pre-set measurement. For example, if the bottom arrow shows the number 2, then you are approaching the second set of the pre-set measurement if you slide the laser measure in the direction the bottom of the laser measure. If the top arrow shows the number 2, you are moving away from the second set of the pre-set measurement if you slide the laser measure in the direction of the bottom of the laser measure.

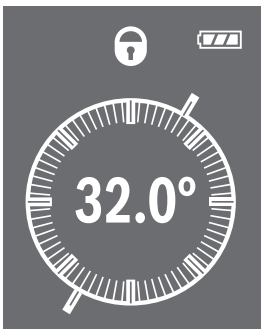
The left factor indicates how many times the defined length has been reached. The green arrows on each side of the display indicate the achievement of a length for marking purpose.

**Inclination Measurement / Digital spirit level**

For inclination measurement/digital spirit level, press the function button **7** [**Func**] and use the plus button **3** [▶] or minus button **8** [◀] to cycle through the measurement functions until the highlighted square appears over the indicator for inclination measurement and the word **"Level"** appears in the status bar. Select inclination measurement by pressing the measure button **2** [▲].


There are two modes of inclination measurement as indicated by the images to the left.

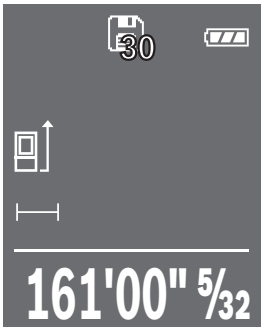
The digital spirit level is used to check horizontal or vertical alignment of an object. If the inclination exceeds 3°, the ball flashes in the display.




Inclination measurement is used to measure a slope or incline. The left side of the laser measure serves as the reference level for inclination measurement.

**Memory Function**

The last 30 measurements are automatically stored (can be any type of measurement: length, area, volume, etc.). To retrieve stored measurements, press the function button **7** [**Func**] and use the plus button **3** [▶] or minus button **8** [◀] to cycle through the measurement functions until the highlighted square appears over the indicator for memory and the word **"Memory"** appears in the status bar. Select memory by pressing the measure button **2** [▲]. Use the plus button **3** [▶] or minus button **8** [◀] to scroll through the most recent measurements.




If there is no value yet saved to memory, **0'00"** is shown at the bottom of the display and "**0**" at the top.

The oldest value is located in position 1 in the memory, while the newest value is in position 30 (when 30 measuring values have been taken). If an additional measurement beyond the 30th measurement is taken, the oldest value in the memory is deleted.

**Deleting the Memory**

To delete the measurements stored in a given memory position, simply press the Clear/ On/Off button **5** [C] while on the measurement you want to delete.

By simultaneously pressing the measuring reference button **4** and the Clear/ On/Off button **5** [C], all values stored in memory are deleted.

## Adding/Subtracting Values

### Adding Values

Measured or calculated values can be added or subtracted.

The following example shows how to add areas:

Measure an area as described in the “Area Measurement” section (page 24).

Press the plus button **3** [▷]. The calculated area and the symbol “**+**” are shown on the display.

Press the measure button **2** [▲] to take another area measurement. Measure an area as described in the “Area Measurement” section (page 24). Once the second measurement is complete, the result of the second area measurement is shown on the result line **e**. Press the measure button **2** [▲] to display the sum of the two added area measurements.


**Note:** While in length measurement mode, the sum of adding two different measurements will display immediately.

To exit addition, press the function button **7** [**Func**].

### Subtracting Values

To subtract values, press the minus button **8** [◁]. The subsequent steps are the same as for “Adding Values”.

### Deleting Measured Values

Press the Clear/ On/Off button **5** [c/ⓘ] to delete the last measured value in all measuring functions. Repeated press of the Clear/ On/Off button will delete the values in reverse order.

## Target Card

The target card **18** is designed to use your laser measure where there is no surface to point the laser at (e.g. the end of a table). Remove the protective cover from the bottom of the target card. Attach the adhesive portion of the target card to the object you wish to measure (e.g. the edge of the table). You now have a surface (target) to point the laser at and get your measurement.

## *Bluetooth®*

The laser measure is equipped with a *Bluetooth®* module, which enables data transmission via radio technology to mobile terminals/devices with *Bluetooth®* (e.g., smartphones, tablets).

For information on the necessary system requirements for a *Bluetooth®* connection, please refer to the Bosch website at

For data transmission via *Bluetooth®*, there may be time delays with the communication of your laser measure to your smart device (smartphone, tablet). This could be a result of too far of a distance between the laser measure and smart device to the object that is being measured.

### Activating *Bluetooth®* for Data Transmission to a Mobile Device (Smartphone or Tablet)

To activate *Bluetooth®*, press the *Bluetooth®* button **6**. Press the plus button **3** [▶] to activate as indicated by *Bluetooth®* symbol appearing white and the number 1 highlighted.



Special Bosch apps are available to use with your laser measure to record and transfer measurements to your mobile phone or tablet (see App Quick Start Guide included in packaging). These apps can be downloaded in their respective app stores.

The connection between your mobile device and the laser measure is established after the Bosch application has started. If multiple active laser measures are found, select the appropriate laser measure based on the serial number.

The connection status and the active connection symbol (**a**) are displayed in the status bar (**h**) of the laser measure.

**Deactivating *Bluetooth®***

To deactivate Bluetooth®, press the *Bluetooth®* button **6**. Press the minus button **8** [◀] to deactivate. The *Bluetooth®* icon will become blue and be accompanied by the number 0.

# Working Advice

**WARNING** **The laser measure is equipped with a radio interface. Local operating restrictions, e.g. in airplanes or hospitals, are to be observed.**

Further information on laser measure and apps can be found on the Bosch product page by scanning the QR code on Page 3 or the QR code on the box.

**General Information**

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

The laser measure must not be moved while taking a measurement. Therefore, place the laser measure, as much as possible, against or on a firm stop or supporting surface.

**Influence on the Measuring Range**

The measuring range depends on the light conditions and the reflection properties of the target surface.

**Influence on the Measuring Result**

Due to physical effects, faulty measurements cannot be excluded when measuring on different surfaces which include:

- 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).

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

**Accuracy Check and Calibration of the Grade Measurement** (see figure G)

Regularly check the accuracy of the grade measurement. Hold down the function button **7** [**Func**]. Press the plus button **3** [▶] or the minus button **8** [◀] to scroll until the highlighted box appears over the icon CAL. Press the measure button **2** [▲]. Follow the steps

in figure G. Place the laser measure on a table or surface and measure the grade. Turn the laser measure 180° and measure the grade again. The difference of the indicated reading may not exceed 0.3°. If the deviation is greater, the laser measure must be recalibrated. Select CAL. Follow the directions on the display.

After severe temperature changes or impacts, we recommend to check the accuracy and, if required, to recalibrate the laser measure. After a temperature change, the laser measure must adjust to the new temperature before calibrating.

**Accuracy Check of the Distance Measurement**

The accuracy of the distance measurement can be checked as follows:

- Select a permanent measuring section with a length of approx. 10 ft to 33 ft (3 m to 10 m); its length must be precisely known (e.g. the width of a room or a door opening). The measuring distance must be indoors; the target surface for the measurement must be smooth and reflect well.
- Measure the distance 10 times in a row.

The deviation of the individual measurements from the mean value must not exceed ± 5/32” (± 4 mm). Log the measurements so that you can compare their accuracy at a later point in time.

**Working with the Tripod (Accessory)**

The tripod is particularly useful for measuring greater distances. Position the laser measure with 1/4” thread **13** onto the quick-change plate of a tripod **20**. Tighten the laser measure with the locking screw of the quick-change plate.

Set the corresponding reference point for the measurement with a tripod by pushing the measuring reference button **4** and using the plus button **3** [▶] and minus button **8** [◀] to scroll until the highlighted box appears over the [⊡].

### Error Message

If a measurement is not done correctly, the error message **“Error”** appears in the display  Turn the laser measure off and on again, and start the measurement again.

The symbol to the left will appear if there is a defect with the laser measure.  If this is the case, have the laser measure checked by an after sales service agent for Bosch power tools.

## Maintenance and Service

**WARNING** **Keep the laser measure clean at all times.**

Do not immerse the laser measure into 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.

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

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

### ENVIRONMENT PROTECTION

Recycle raw materials & batteries instead of disposing of waste. The unit, accessories, packaging & used batteries should be sorted for environmentally friendly recycling in accordance with the latest regulations.

# LIMITED WARRANTY OF BOSCH LASER AND LASER MEASURE PRODUCTS

Robert Bosch Tool Corporation (“Seller”) warrants to the original purchaser only, that all Bosch lasers and laser measures will be free from defects in material or workmanship for a period of one (1) year from date of purchase. Bosch will extend warranty coverage to two (2) years when you register your product within eight (8) weeks after date of purchase. Product registration card must be complete and mailed to Bosch (postmarked within eight weeks after date of purchase), or you may register on-line at  If you choose not to register your product, a one (1) year limited warranty will apply to your product.

**30 Day Money Back Refund or Replacement -**

If you are not completely satisfied with the performance of your laser and laser measures, for any reason, you can return it to your Bosch dealer within 30 days of the date of purchase for a full refund or replacement. To obtain this 30-Day Refund or Replacement, your return must be accompanied by the original receipt for purchase of the laser or optical instrument product. A maximum of 2 returns per customer will be permitted.

SELLER’S SOLE OBLIGATION AND YOUR EXCLUSIVE REMEDY under this Limited Warranty and, to the extent permitted by law, any warranty or condition implied by law, shall be the repair or replacement of parts, without charge, which are defective in material or workmanship and which have not been misused, carelessly handled, or misrepaired by persons other than Seller or Authorized Service Center. To make a claim under this Limited Warranty, you must return the complete Bosch laser or laser measure, transportation prepaid, to any BOSCH Factory Service Center or Authorized Service Center. Please include a dated proof of purchase with your tool. For locations of nearby service centers, please use our

on-line service locator or call

THIS WARRANTY PROGRAM DOES NOT APPLY TO TRIPODS AND RODS. Robert Bosch Tool Corporation (“Seller”) warrants tripods and leveling rods for a period of one (1) year from date of purchase.

THIS LIMITED WARRANTY DOES NOT APPLY TO OTHER ACCESSORY ITEMS AND RELATED ITEMS. THESE ITEMS RECEIVE A 90 DAY LIMITED WARRANTY.

To make a claim under this Limited Warranty, you must return the complete product, transportation prepaid. For details to make a claim under this Limited Warranty please visit

ANY IMPLIED WARRANTIES SHALL BE LIMITED IN DURA-TION TO ONE YEAR FROM DATE OF PURCHASE. SOME STATES IN THE U.S., AND SOME CANADIAN PROVINCES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IM-PLIED WARRANTY LASTS, SO THE ABOVE LIMITATION MAY NOT APPLY TO YOU.

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THIS LIMITED WARRANTY APPLIES ONLY TO PROD-UCTS SOLD WITHIN THE UNITED STATES OF AMERI-CA, CANADA AND THE COMMONWEALTH OF PUERTO RICO. FOR WARRANTY COVERAGE WITHIN OTHER COUNTRIES, CONTACT YOUR LOCAL BOSCH DEALER OR IMPORTER.