

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

GLM165-22
GLM165-27C



BOSCH

1-877-BOSCH99 (1-877-267-2499) www.boschtools.com

Call Toll Free for
Consumer
Information and
Service Locations

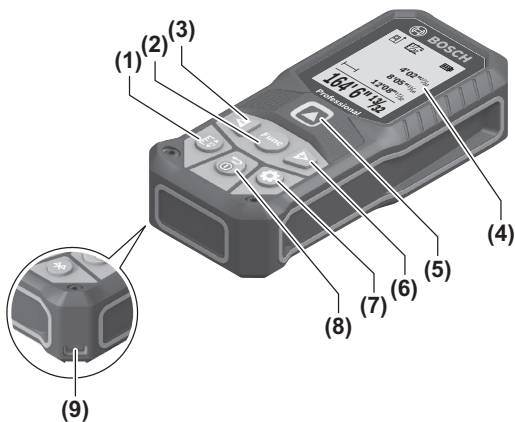
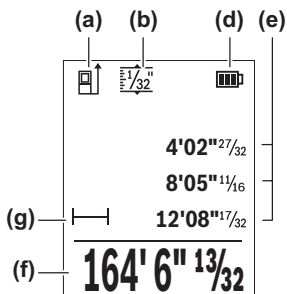
Pour obtenir des informations
et les adresses de nos centres
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Lláme gratis para obtener
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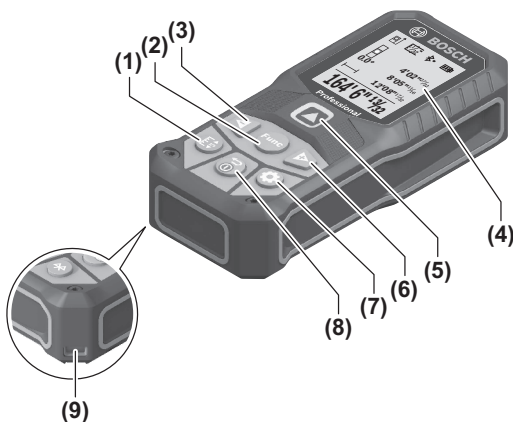
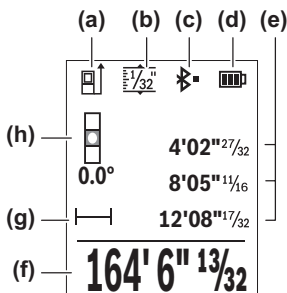
For English Version
See page 8

Version française
Voir page 40

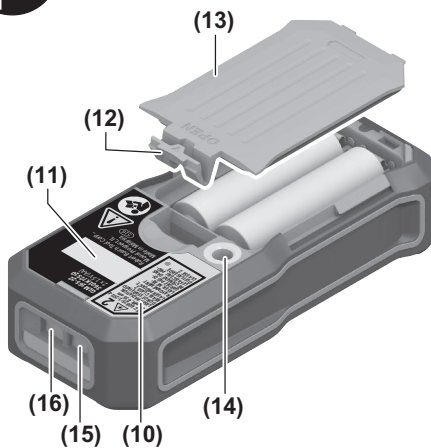
Versión en español
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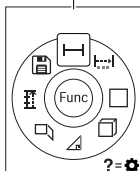
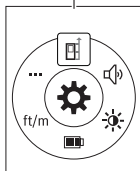
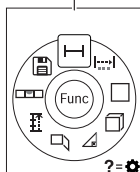
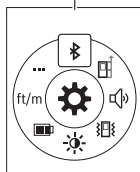
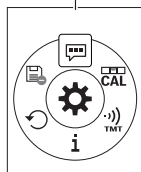
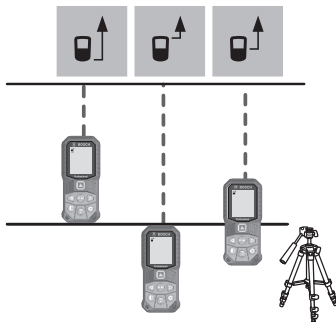


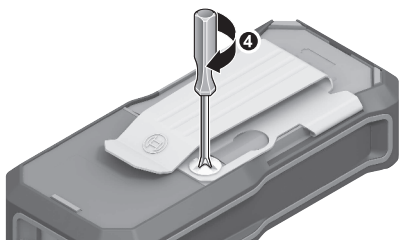
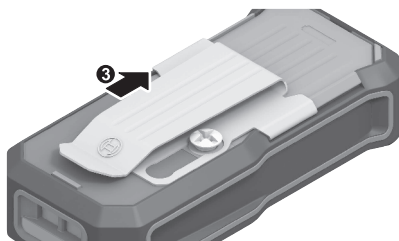
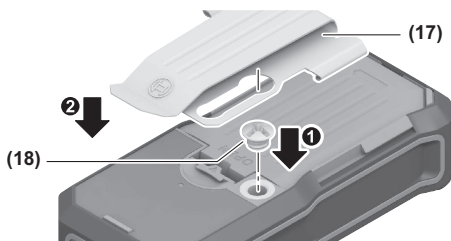
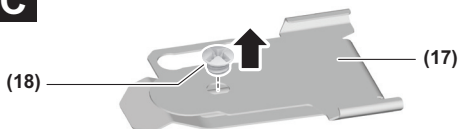
GLM165-22



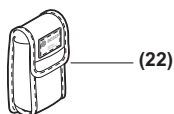
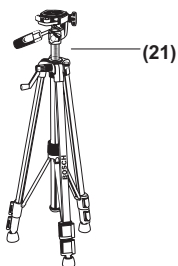
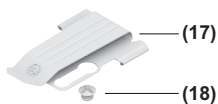
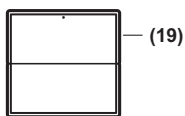
GLM165-27C



A**GLM165-22****(i)****(j)****(k)****GLM165-27C****(i)****(j)****(k)****B**

C

D



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 radia-

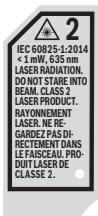
tion and complies with 21 CFR 1040.10 and 1040.11 except for deviations pursuant to Laser Notice No. 50, dated June 24, 2007. This can lead to persons being blinded.

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® (GLM165-27C only)

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.

“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.

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 | 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. |
|  | Laser warning symbol, alerts user to laser radiation, do not stare into beam. |

Technical Data

Laser Measure GLM165-22, GLM165-27C

| | |
|---|--|
| Article Number | 3.601.K72.S10 3.601.K72.T10 |
| Measuring range (typical): | 6 in – 165 ft (0.15 – 50 m) ^A |
| Measuring accuracy (typical) | ±1/16 in (±1.6 mm) ^B |
| Lowest indication unit | 1/32 in (0.8 mm) |
| General | |
| Operating temperature | +14 °F to 113 °F (-10 °C to 45 °C) ^C |
| Storage temperature | -4 °F to 158 °F (-20 °C to 70 °C) |
| Relative air humidity, max. | 90 % |
| Max. altitude: | 2000 m |
| Pollution degree according to IEC 61010-1: | 2 ^D |
| Laser class | 2 |
| Laser type | 635 nm, <1 mW |
| Laser beam diameter at 77 °F (25 °C) approx. – at 33 ft (10 m) distance – at 165 ft (50 m) distance | 4/11 in (9 mm) 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. – Laser – Laser measure (without measurement) | 20 s ^E 5 min ^F |

| | |
|---|---|
| Degree of protection | IP65 |
| Batteries | 2 x 1,5 V LR6 (AA) |
| Laser Measure GLM165-27C only | |
| 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° ^{G,H,I} |
| Lowest indication unit | 0.1° |
| Data transmission | |
| <i>Bluetooth®</i> | <i>Bluetooth®</i> 4.2 (Low Energy) ^J |

- ^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 In the real time measuring function, the maximum operating temperature is 104 °F (40 °C).
- ^D Non-conductive soiling only, whereby occasional temporary conductivity caused by condensation is expected.

- ^E Shut-off after approximately 5 minutes in the real time measuring function
- ^F *Bluetooth*® deactivated
- ^G After user calibration at 0 ° and 90 °; An additional grade error of ± 0.01 °/degree to 45 ° (max.) has to be taken into account.
- ^H Left side of the tool is the reference side for inclination measurement.
- ^I At 77 °F (25 °C) operating temperature.
- ^J *Bluetooth*® devices must support the GATT 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)** Rounding button
- (2)** Function button **[Func]**
- (3)** Minus button **[-]**
- (4)** Display
- (5)** Measuring button **[▲]**
- (6)** Plus button **[+]**
- (7)** Basic settings button **[⚙]**
- (8)** On/off button **[🔌]**
- (9)** Loop for carrying strap^{A)}
- (10)** Laser warning label
- (11)** Serial number
- (12)** Battery compartment cover locking mechanism
- (13)** Battery compartment cover
- (14)** 1/4" tripod socket
- (15)** Reception lens
- (16)** Laser beam output
- (17)** Belt clip^{A)}
- (18)** Screw for belt clip^{A)}
- (19)** Laser target plate^{A)}
- (20)** Laser viewing glasses^{A)}
- (21)** Tripod^{A)}
- (22)** Protective bag

A) Accessories shown or described are not included with the product as standard. You can find the complete selection of accessories in our accessories range.

Display elements

- (a) Reference level of measurement
- (b) Rounding function accuracy reference
- (c) Connection status (GLM165-27C only)
 -  *Bluetooth*® activated,
no connection established
 -  *Bluetooth*® activated,
connection established
- (d) Battery indicator
- (e) Measured-value lines
- (f) Result line
- (g) Measuring function
- (h) Slope angle display (GLM165-27C only)
- (i) Display measuring functions
- (j) Display settings
- (k) Display more settings

Assembly

Inserting/Replacing the Batteries

Alkaline batteries (2 x 1,5 V LR6 (AA)) are recommended for the laser measure.

Press the locking mechanism **(12)** to open the battery compartment cover **(13)** and remove the battery compartment cover. 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 measuring tool and the laser, briefly press the measuring button **(5) [▲]**.
- To switch on the measuring tool without the laser, briefly press the on/off button **(8) [⏻]**.



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.

Working Advice



WARNING The laser measure (GLM165-27C only) 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 **15** and the laser beam outlet **16** 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 (GLM165-27C only)

(see figure G)

Regularly check the accuracy of the grade measurement. Hold down the function button **2** [Func]. Press the plus button **6** [►] or the minus button **3** [◄] to scroll until the highlighted box appears over the icon

 . Press the measure button **5** []. 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  . 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 $\pm 5/32"$ (± 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 **14** onto the quick-change plate of a tripod **21**. 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 **5** and using the plus button **6** [] and minus button **3** [] 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



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 www.boschtools.com/Service/ProductRegistration. 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 1-877-267-2499.

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 www.boschtools.com or call 1-877-267-2499.

ANY IMPLIED WARRANTIES SHALL BE LIMITED IN DURATION 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 IMPLIED WARRANTY LASTS, SO THE ABOVE LIMITATION MAY NOT APPLY TO YOU.

IN NO EVENT SHALL SELLER BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES (INCLUDING BUT NOT LIMITED TO LIABILITY FOR LOSS OF PROFITS) ARISING FROM THE SALE OR USE OF THIS PRODUCT. SOME STATES IN THE U.S., AND SOME CANADIAN PROVINCES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATION MAY NOT APPLY TO YOU.

THIS LIMITED WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS, AND YOU MAY ALSO HAVE OTHER RIGHTS WHICH VARY FROM STATE TO STATE IN THE U.S., OR PROVINCE TO PROVINCE IN CANADA AND FROM COUNTRY TO COUNTRY.

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