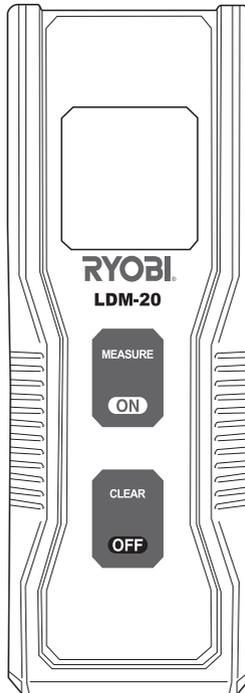


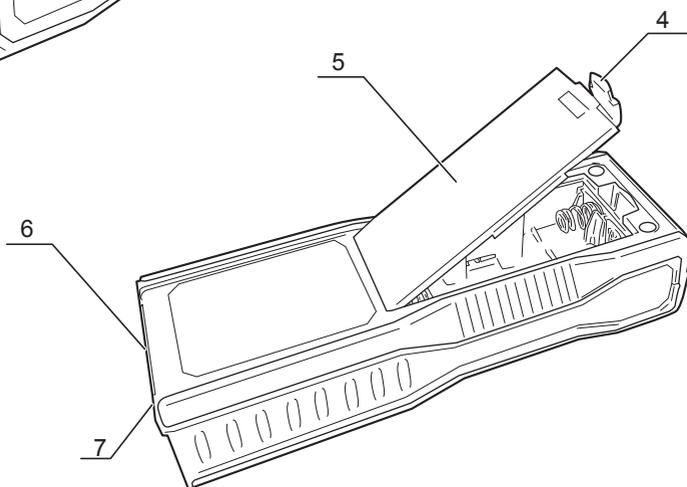
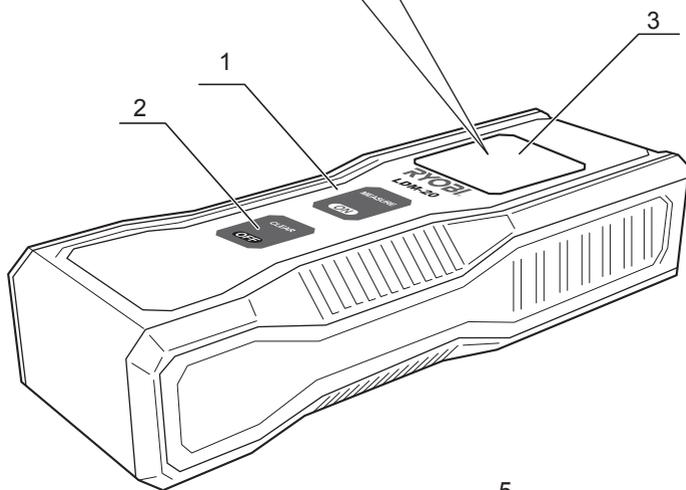
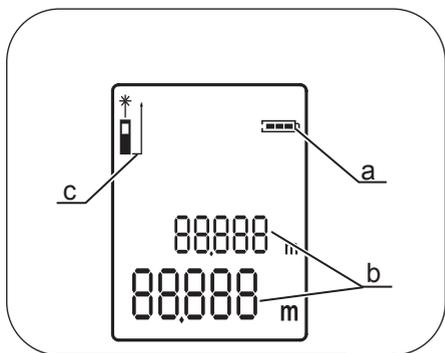
RYOBI®

LDM-20

GB OWNER'S OPERATING MANUAL



CE



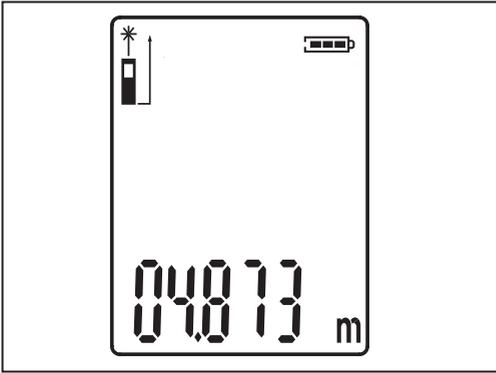


Fig. 1

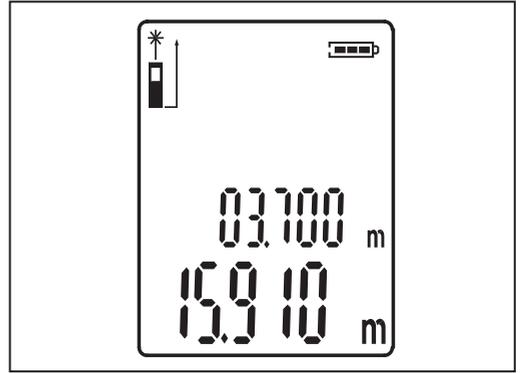


Fig. 2

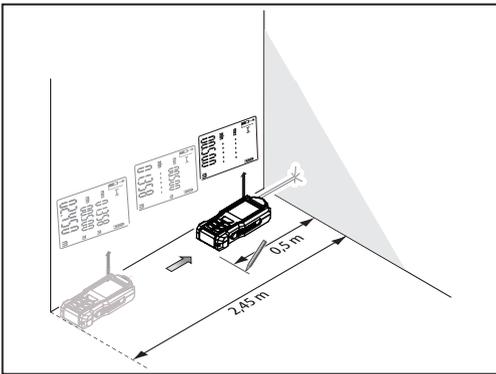


Fig. 3

THANK YOU FOR BUYING A RYOBI PRODUCT.
 To ensure your safety and satisfaction, carefully read through this OWNER'S MANUAL before using the product.

General Safety Rules

All instructions must be read and observed in order to work safely with the measuring tool. Never make warning signs on the measuring tool unrecognizable.

SAVE THESE INSTRUCTIONS FOR FUTURE REFERENCE AND INCLUDE THEM WITH THE MEASURING TOOL WHEN GIVING IT TO A THIRD PARTY.

Caution! The use of other operating or adjusting equipment or the application of other processing methods than those mentioned here can lead to dangerous radiation exposure.

- The measuring tool is provided with a warning label.



- If the text of the warning label is not in your national language, stick the provided warning label in your national language over it before operating for the first time.



Do not direct the laser beam at persons or animals and do not stare into the direct or reflected laser beam yourself, not even from a distance. You could blind somebody, cause accidents or damage your eyes.

- If laser radiation strikes your eye, you must deliberately close your eyes and immediately turn your head away from the beam.
- **Do not use the laser viewing glasses as safety goggles or in traffic.** The laser viewing glasses are used for improved visualisation of the laser beam, but they do not protect against laser radiation.
- **Do not make any modifications to the laser equipment.**
- **Have the measuring tool repaired only through qualified specialists using original spare parts.** This ensures that the safety of the measuring tool is maintained.
- **Do not allow children to use the laser measuring tool without supervision.** They could unintentionally blind other persons or themselves.
- **Do not operate the measuring tool in explosive environments, such as in the presence of flammable liquids, gases or dusts.** Sparks can be created in the measuring tool which may ignite the dust or fumes.

APPLICATIONS

The measuring tool is intended for measuring distances, lengths, heights, clearances, and for the calculation of areas and volumes. The measuring tool is suitable for measuring indoors and outdoors.

DESCRIPTION

1. Measuring/On button
2. Off/clear button
3. Display
4. Latch of battery lid
5. Battery lid
6. Laser beam outlet
7. Reception lens

LCD DISPLAY

- a. Battery indicator
- b. Measured value/result
- c. Measurement reference level

SPECIFICATIONS

Measuring range (typically)	0.2 – 20m
Measuring accuracy (typically)	±3.0mm
Operating temperature	0 °C ... +40 °C
Laser class	2
Laser type	650 nm, <1mW
Batteries	2 x 1.5 V LR03 (AAA)
Net weight	50g

INSERTING/REPLACING BATTERIES

Using alkaline batteries is recommended for operation of the measuring tool.

Lesser measurements are possible if using 1.2V rechargeable batteries.

1. Press the latch of battery lid (4) in the direction of the arrow and remove the battery lid (5).
2. Insert 2pcs new battery according to the polarity indicators in the battery compartment. Be sure the polarity (+/-) is correct!
3. Close the battery lid and lock it securely in place.
 - When inserting, pay attention to the correct polarity according to the representation on the inside of the battery compartment.
 - When the battery symbol flashes, the batteries must be replaced; measurements are no longer possible.
 - Always replace all batteries at the same time. Do not use different brands or types of batteries together.
 - **Remove the batteries/rechargeable batteries from the measuring tool when not using it for longer periods.** When storing for longer periods, the batteries can corrode and self-discharge.

OPERATION

INITIAL OPERATION

- **Do not leave the switched-on measuring tool unattended and switch the measuring tool off after use.** Other persons could be blinded by the laser beam.
- **Protect the measuring tool against moisture and direct sun light.**
- **Do not subject the measuring tool to extreme temperatures or variations in temperature.** As an example, do not leave it in vehicles for longer periods. In case of large variations in temperature, allow the measuring tool to adjust to the ambient temperature before putting it into operation.

- **Avoid heavy impact to or falling down of the measuring tool.** After severe exterior effects to the measuring tool, it is recommended to carry out an accuracy check each time before continuing to work.

SWITCHING ON AND OFF

To **switch on** the measuring tool, press the measuring/on button (1) for a few seconds.

When switching on the measuring tool, the laser beam is also switched on.

To **switch off** the measuring tool, press the off/memory clear button (2) for a few seconds.

If none of the buttons are pressed for approx. 3 minutes, the measuring tool is switched off automatically in order to extend the service life of the battery.

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.

SINGLE LENGTH MEASUREMENT (Fig. 1, 2)

1. Press measuring/on button to activate the laser, and aim at the object which is to be measured.
2. Press measuring/on button again to take measurement. The measured value is indicated at the bottom in the display (3).
3. Press the measuring/on button again to take a second measurement. The second length is shown in the lowest row of the display.

The measured value typically appears after 0.4 seconds and at the latest after 3 seconds. The duration of the measurement depends on the distance, the light conditions and the reflection properties of the target surface. The end of the measurement is indicated by a signal tone. The laser beam is switched off automatically upon completion of the measurement.

When no measurement has taken place approx. 30 seconds after sighting, the laser beam is switched off automatically to save the batteries.

CONTINUOUS/TRACKING MEASUREMENT (Fig. 3)

For continuous/tracking measurements, the measuring tool can be moved relative to the target, whereby the measuring value is updated approx. every 0.4 seconds. In this manner, as an example, you can move a certain distance away from a wall, while the actual distance can always be read. To start continuous measurements, push measuring/on button for a few second.

To stop continuous measurement, press off/clear button . Pres measuring/on button to exit and return to the single length measurement mode.

HOLD FUNCTION

While continuous measurement is in process, press the measuring/on button to hold the measurement process, and the current measuring value is displayed on the display, but is no longer continuously updated.

DISPLAY BACKLIT

When switching on the measuring tool, the display backlight is also switched on. The indications on the display is clearly visible even in dark situation.

If none of the measuring tool button are pressed for approx. 30 seconds, the backlight will be turned off automatically. Press any button to turn it on again.

WORKING ADVICE GENERAL INFORMATION

The reception lens (7) and the laser beam outlet (6) must not be covered when taking a measurement. The measuring tool must not be moved while taking a measurement (with the exception of the continuous measurement function). Therefore, place the measuring tool, as far as this is possible, against or on the measuring points. Measurement takes place at the centre of the laser beam, even when target surfaces are sighted at an incline.

INFLUENCE EFFECTS ON THE MEASURING RANGE

The measuring range depends upon the light conditions and the reflection properties of the target surface. For improved visibility of the laser beam when working outdoors and when the sunlight is intense, use the laser viewing glasses (accessory) and the laser target plate (accessory), or shade off the target surface.

INFLUENCE EFFECTS ON THE MEASURING RESULT

Due to physical effects, faulty measurements cannot be excluded when measuring on different surfaces. Included here are:

- 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).

If required, use the laser target plate (accessory) on these surfaces.

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

ERROR CODE

Message code	Possible Cause	Remedy
204	Calculation error	Read instruction and measure again
208	Input current too high	Contact your dealer
220	Battery too low	Replace batteries
252	Temperature too high	Operate in optimum temperature (-10°~ +40°)
253	Temperature too low	Operate in optimum temperature (-10°~ +40°)
255	Received laser light too weak,	change to another target or cover the target with a piece of white paper. or over time
256	Received laser light too intense	change to another target or cover the target with a piece of white paper.
261	Out of range	Measure target within the range (0.15~20m)
500	Hardware defective	Power off the measuring tool and re-start. If it is still not workable, please contact your dealer.

ACCURACY CHECK OF THE MEASURING TOOL

The accuracy of the measuring tool can be checked as follows:

- Select a permanently unchangeable measuring section with a length of approx. 3 to 10 metres; 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 after another. The deviation of the individual measurements from the mean value must not exceed $\pm 2\text{mm}$ (max.). Log the measurements, so that you can compare their accuracy at a later point of time.

MAINTENANCE

This laser distance measure has been designed to be a low-maintenance tool. However, in order to maintain its performance, you must always follow these simple directions.

1. **Always** handle the tool with care. Treat it as an optical device, such as a camera or binoculars.
2. **Avoid** exposing the tool to shock, continuous vibration or extreme hot or cold temperature.
3. **Always** store the tool indoors. When not in use, **ALWAYS** store the tool in its protective case.
4. **Always** Keep the tool free of dust and liquids. Use only a clean, soft cloth for cleaning. If necessary, slightly moisten the cloths with pure alcohol or a little water.
5. Do not touch the lens with your fingers.
6. Check the batteries regularly to avoid deterioration. **ALWAYS** remove the batteries from the tool, if it is not going to be used for an extended period of time.
7. Replace the batteries when the battery icon is continuously empty displayed on the LCD.
8. **Do not** disassemble the laser measuring tool; this will expose the user to hazardous radiation exposure.
9. **Do not** attempt to change any part of the laser lens.

SAVE THESE INSTRUCTIONS FOR FUTURE REFERENCE.

RYOBI POWER EQUIPMENT WARRANTY

Subject to the warranty conditions below, this RYOBI tool (hereinafter called "the Product"), is warranted by Ryobi (herein called "the Company") to be free from defects in material or workmanship for a period of 24 months from the date of original purchase covering both parts and labour. Under the terms of this warranty, the repair or replacement of any part shall be the opinion of the Company or its authorised agent. Should service become necessary during the warranty period, the owner should contact the authorised Ryobi retailer from whom the product was purchased, or the nearest Company branch office. In order to obtain warranty service, the owner must include the Sales Docket and Warranty Certificate to confirm date of purchase. This Product is sold by the dealer or agent as principal and the dealer has no authority from the Company to give any additional warranty or guarantee on the Company's behalf except as herein contained or herein referred to.

Warranty Conditions

This warranty only applies provided that the Product has been used in accordance with the manufacturer's recommendations under normal use and reasonable care (in the opinion of the Company) and such warranty does not cover consumable components, damage, malfunction or failure resulting from

misuse, neglect, abuse, or used for a purpose for which it was not designed, or is not suited and no repairs, alterations or modifications have been attempted by other than an Authorised Service Agent. This guarantee will not apply if the tool is damaged by accident or if repairs arise from normal wear and tear.

Accessories such as bits, blades, sanding discs, cutting lines, etc., are excluded from this guarantee. Normal consumable parts, such as carbon brushes, bearings, chucks, cord assembly's, spark plugs, recoil pulleys and bump head assembly's are specifically excluded from this guarantee.

The Company accepts no additional liability pursuant to this warranty for the costs of traveling or transportation of the Product or parts to and from the service dealer or agent - which costs are not included in the warranty.

Nothing herein shall have the effect of excluding, restricting or modifying any conditions, warranty, right or liability imposed, to the extent only that such exclusion, restriction or modification would render any term herein void.



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email: stevens@ryobi.co.za

THIS WARRANTY FORM SHOULD BE RETAINED BY THE CUSTOMER AT ALL TIMES.

For your record and to assist in establishing date of purchase (necessary for in-warranty service), please keep your purchase docket and this form, completed with the following particulars.

PURCHASED FROM:.....

ADDRESS OF DEALER:.....

DATE:..... MODEL NO..... SERIAL NO.....

Present this form with your Purchase Docket when Warranty Service is required.