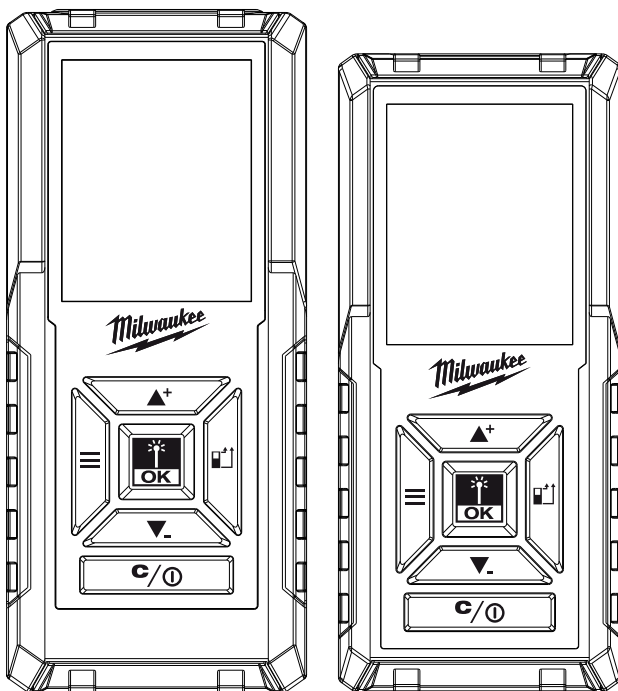




MANUAL



Cat. No. / No de cat.  
48-22-9802, 48-22-9803

## LASER DISTANCE METERS



**WARNING** To reduce the risk of injury, user must read and understand operator's manual.

# IMPORTANT SAFETY INSTRUCTIONS

**WARNING** READ AND UNDERSTAND ALL INSTRUCTIONS. Failure to follow all instructions listed below, may result in electric shock, fire and/or serious personal injury.

## SAVE THESE INSTRUCTIONS.

1. **SAVE THESE INSTRUCTIONS - THIS OPERATOR'S MANUAL CONTAINS IMPORTANT SAFETY AND OPERATING INSTRUCTIONS.**
2. **DO NOT ALLOW PERSONS UNFAMILIAR WITH THE APPLIANCE, THESE SAFETY INSTRUCTIONS, AND THE TOOL'S OPERATORS MANUAL TO OPERATE THE TOOL.** This appliance can be dangerous in the hands of untrained users.
3. **DO NOT OVERREACH. KEEP PROPER FOOTING AND BALANCE AT ALL TIMES.** This enables better control of the appliance in unexpected situations.
4. **ENSURE ADEQUATE SAFEGUARDS AT THE WORK SITE** (e.g. surveying site when measuring on roads, construction sites, etc.)
5. **WARNING** THE DEVICE PRODUCES VISIBLE LASER BEAMS, WHICH ARE EMITTED FROM THE APPLIANCE. THIS DEVICE IS A CLASS 2 LASER PRODUCT IN ACCORDANCE WITH IEC 60825-1:2007.
6. **LASER LIGHT - DO NOT STARE INTO BEAMS OR VIEW DIRECTLY WITH OPTICAL INSTRUMENTS.** Do not point laser light at others. Laser light can cause eye damage.
7. **AVOID DANGEROUS ENVIRONMENTS.** Do not use in rain, snow, damp or wet locations. Do not use in the presence of explosive atmospheres (gaseous fumes, dust or flammable materials).
8. **MAINTAIN TOOLS. IF DAMAGED, HAVE THE TOOL REPAIRED BEFORE USE.** Accidents may be caused by poorly maintained tools.
9. **USE TOOLS ONLY WITH SPECIFICALLY DESIGNATED ACCESSORIES.** Use of any other accessories may create risk of injury.
10. **THIS TOOL IS DESIGNED TO BE POWERED BY 2-AAA BATTERIES PROPERLY INSERTED INTO THE TOOL.** Do not attempt to use with any other voltage or power supply.
11. **DO NOT LEAVE BATTERIES WITHIN THE REACH OF CHILDREN.**
12. **DO NOT MIX NEW AND USED BATTERIES.**
13. **DO NOT MIX BRANDS (OR TYPES WITHIN BRANDS) OF BATTERIES.**
14. **DO NOT MIX RECHARGEABLE AND NON-RECHARGEABLE BATTERIES.**
15. **INSTALL BATTERIES ACCORDING TO POLARITY (= / -) DIAGRAMS.**
16. **PROPERLY DISPOSE OF USED BATTERIES IMMEDIATELY.**
17. **DO NOT INCINERATE OR DISMANTLE BATTERIES.**
18. **UNDER ABUSIVE CONDITIONS, LIQUID MAY BE EJECTED FROM THE BATTERY, AVOID CONTACT. IF CONTACT ACCIDENTALLY OCCURS, FLUSH WITH WATER. IF LIQUID CONTACTS EYES, ADDITIONALLY SEEK MEDICAL HELP.** Liquid ejected from the battery may cause irritation or burns.
19. **KEEP HANDS AWAY FROM ALL MOVING PARTS.**

20. **WATCH OUT FOR ERRONEOUS MEASUREMENTS IF THE TOOL IS DEFECTIVE OR IF IT HAS BEEN DROPPED, MISUSED OR MODIFIED.**
21. **CARRY OUT PERIODIC TESTS MEASUREMENTS.** Particularly after the tool has been subject to abnormal use, and before, during and after important measurements.
22. **DO NOT DISPOSE OF TOOL OR BATTERIES TOGETHER WITH HOUSEHOLD WATER MATERIAL!** Appliance and batteries that have reached the end of their life must be collected separately and returned to an environmentally compatible recycling facility.
23. **HAVE YOUR TOOL SERVICED BY A QUALIFIED REPAIR PERSON USING ONLY IDENTICAL REPLACEMENT PARTS.** This will ensure that the safety of the tool is maintained.
24. **MAINTAIN LABELS AND NAMEPLATES.** These carry important information. If unreadable or missing, contact a MILWAUKEE service facility for a free replacement.
25. **THE DEVICE CONFORMS TO THE MOST STRINGENT REQUIREMENTS OF THE RELEVANT ELECTROMAGNETIC COMPATIBILITY (EMC) STANDARDS AND REGULATIONS.** Yet, the possibility of causing interference in other devices cannot be totally excluded.

## READ AND SAVE ALL INSTRUCTIONS FOR FUTURE REFERENCE.

### SYMBOLGY



Volts



Direct Current



**WARNING** Laser Light - Do Not Stare Into Beam



Read Operator's Manual



Laser product - Avoid Exposure: Laser Radiation Is Emitted From This Aperture

LASER 2

Class 2 Laser Product



European Conformity Mark

### SPECIFICATIONS

Cat. No. ....	48-22-9802
Range .....	150' (45.7 m)
Cat. No. ....	48-22-9803
Range .....	330' (100.6 m)

Volts.....	3 DC (2 x AAA)
Laser Class.....	2
Laser Type.....	635nm, < 1 mW
Storage Temperature .....	-13°F to 158°F
Operating Temperature .....	14°F to 122°F
Distance Measurement:	

Typical tolerance* .....	± 1.5 mm / 0.06 in **
Maximum tolerance***.....	± 4.0 mm / 0.16 in ***
Smallest unit displayed.....	1 mm / 0.001 m

\* Applies for 100 % target reflectivity (white painted wall), low background illumination, 25 °C

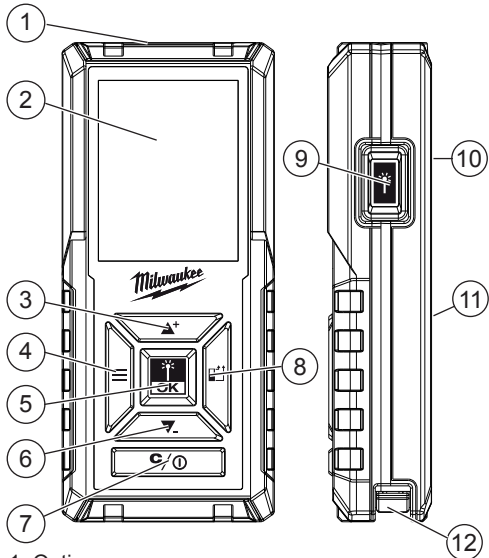
\*\* An additional tolerance of 0.1 mm/m should be taken into account

\*\*\* An additional tolerance of 0.15 mm/m should be taken into account

\*\*\*\* Applies to targets with lower reflectivity, high background illumination, or temperatures approaching the lower/upper limit

The Laser/OK button is available below the screen in the center of the buttons , as well as on the side of the meter .


## FUNCTIONAL DESCRIPTION



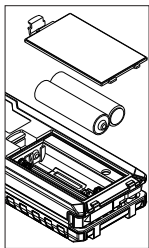
- |                         |                              |
|-------------------------|------------------------------|
| 1. Optics               | 8. Reference Location button |
| 2. Display              | 9. Laser button              |
| 3. Up / Add button      | 10. Threaded mount           |
| 4. Menu button          | 11. Battery door             |
| 5. Laser/OK button      | 12. Battery                  |
| 6. Down/Subtract button |                              |
| 7. Clear/Power button   |                              |

## ASSEMBLY

### Changing Batteries

Only use alkaline batteries. Do not use zinc-carbon batteries. If the meter will not be used for a long time, remove the batteries as a protection against corrosion. Change batteries when the battery symbol  begins flashing in upper bar. To change the batteries:

1. Press in the tab and lift out the battery door.
2. Insert two AAA batteries according to the polarity marked in the compartment.
3. Install the battery door.



## BUTTONS

### Clear/Power

To turn the meter on and off, press and hold the Clear/Power button until the unit beeps. The Length measurement mode is active.

To clear a measurement, press the Clear/Power button quickly.



### Laser/OK

Press the Laser/OK button to:

- Turn the laser ON
- Store the measurement
- Select OK in the Menu

**⚠ WARNING** Laser Light - Do Not Stare Into Beam or view directly with optical instruments. Do not point laser light at others. Laser light can cause eye damage.

### Up/Add and Down/Subtract

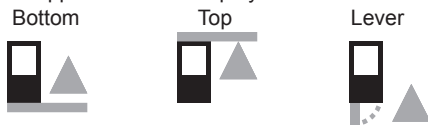
Use the Up/Add  and Down/Subtract  buttons to navigate through menus and perform calculations.

### Reference Location

The reference location indicates to the meter whether the measurement should take place from the top of the meter, the bottom of the meter, or the tip of the lever.

Press the Reference Location button to toggle between the Top and Bottom reference locations. Extend the lever to automatically select the Lever reference location.

The reference icon of the selected location is shown on the upper bar of the display.



### Menu

Press the Menu button to display HISTORY, MEASUREMENT options, and SETTINGS options.

**NOTE:** The Menu button is used to save certain calculations.

## USE

### Making a Measurement

Each measurement requires pressing the Laser/OK button twice, first to lock in the measurement, and second to save the measurement.

1. Select the measurement type from the Menu (LENGTH defaults). See Menu Options for more detail regarding the measurement types.
2. Aim the laser at the target.
3. Press Laser/OK to lock in the measurement.
4. Press Laser/OK again to save the measurement into the history.
5. Continue taking measurements to complete the requirements for the measurement type.
6. If a measurement is incorrect, press Clear/Power to cancel the measurement and turn off the laser. Press Laser/OK again to turn on the laser and begin the next measurement.

### Using the Level (48-22-9803 only)

The level bar is shown along the side of the display, and the degree of angle is shown in the upper bar. The level also is used during Indirect calculations to determine angles.

### Auto Level (48-22-9803 only)

Auto level will lock in the measurement when the meter reaches level (0°). To use, press and hold the Laser/OK button while tilting the meter to reach level. Press the Laser/OK button again to store the measurement.