



50 FT. LASER & TAPE MEASURE

INSTRUCTIONS



LTM1

Please read these instructions carefully and thoroughly before using the product.

INTRODUCTION

Thank you for purchasing General Tools & Instruments' (General's) LTM1 50 Ft. Laser & Tape Measure. The LTM1 is designed to replace a conventional tape measure in the hands of both DIYers and professionals. Its design adds an optical distance measuring system with a laser pointer and digital readout to the familiar housing of a conventional heavy-duty tape measure.

The optical measurement system works by shining an invisible infrared beam on a target, which reflects the beam back to the tool. The time it takes the beam to return is proportional to the distance to the target. A red laser pointer is used only to aim the beam, and not to carry any information. The LTM1's laser range of 50 ft. makes it suitable for most indoor measuring tasks and many outdoor jobs as well. The LTM1's conventional tape measure is 16 ft. long and $\frac{3}{4}$ in. wide. It should be used for measuring distances less than 10 inches, as well as distances between targets on the same plane (two points on a floor or wall, for example).

Why is the LTM1 better than a conventional tape measure?

- **It's faster.** It takes much less time—and only one hand—to hold the tool against a wall, aim at the opposite wall and press the measurement button than it does—requiring both hands—to secure one end of a conventional tape measure, walk the other end to the far wall, write down the reading and retract the tape. The longer the distance to be

measured, the more time saved. Using the laser, the average measurement can be made up to 10 times faster than by a tape measure.

- **It's more accurate.** Thanks to precision optics, the LTM1 can measure the distance between any two points further than 10 inches apart with $\pm 1/4$ in. accuracy and 1/16 in. resolution. It's impossible to get that level of precision from a tape that can bend or sag. What's more, it's much easier to read the LTM1's digital display, which can be held at eye level, than to read a conventional tape measure whose position may make tiny hash marks hard to see.
- **It's safer.** Because the LTM1 can measure distances from a distance, it takes the risk out of routine but tricky tasks. For example, it makes it unnecessary to stand on a stepladder and reach to measure the height of a ceiling.

WHAT'S IN THE PACKAGE

The LTM1 comes on a blister-packed card along with:

- Two "AAA" Alkaline batteries
- A small Phillips-head screwdriver for opening the battery compartment

PRODUCT OVERVIEW

Fig. 1 shows the key components of the LTM1. Fig. 2 shows all possible display icons and indications. Use Fig. 1 to familiarize yourself with the position and function of all components—especially the red measurement button (Callout 1)—before moving on to the safety, setup and operating instructions.

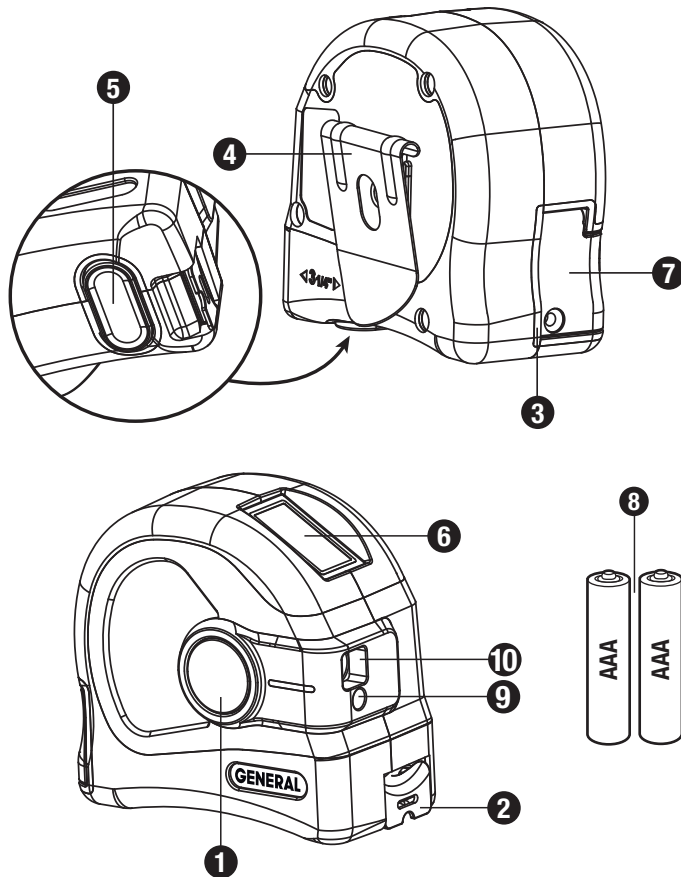
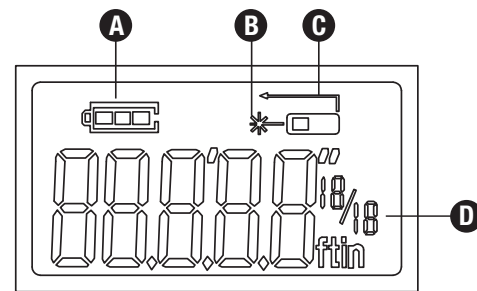


Fig. 1. The LTM1's key components

1. Red measurement button. Press to activate laser pointer.
2. Conventional 16 ft. tape measure
3. Laser measurement reference point
4. Metal belt clip
5. Gray tape retraction button
6. Laser measurement display (see Fig. 2)
7. Hinged battery compartment cover
8. Two "AAA" Alkaline batteries (included)
9. Red laser pointer exit
10. Infrared transmitter/receiver port

Fig. 2. The LTM1's laser measurement display



- A. Battery charge indicator
- B. Laser measurement enabled icon. When flashing, indicates that the laser pointer is activated and ready to be aimed at a target.
- C. Indicates that laser measurements are referenced to the edge of the housing opposite the laser pointer exit (Fig. 1, Callout 3).
- D. Distance readout

SAFETY INSTRUCTIONS

CAUTION!

- The LTM1's Class II laser pointer emits less than 1 mW of radiation at 620 to 690 nm (nanometers). However, avoid looking directly at the laser, and never point it at people or animals. Eye protection is normally afforded by the blink reflex. U.S. law prohibits pointing a laser beam at aircraft; doing so is punishable by a fine of up to \$10,000 and imprisonment.
- Do not operate the LTM1 in explosive environments containing flammable liquids, gases or dust. Sparks may be created in the tool which may ignite the dust or fumes.
- Keep the LTM1 away from cardiac pacemakers. A magnet inside the tool generates a field that can impair their function. Likewise keep the tool away from magnetic data storage media, whose contents may be erased by the magnetic field.

SETUP INSTRUCTIONS

INSTALL BATTERIES

The LTM1 is ready to use after you install the two supplied "AAA" batteries. To open the battery compartment (Fig. 1, Callout 7), use the included Phillips-head screwdriver to turn the screw securing the compartment cover counterclockwise until it swings up on its hinge at the top. Install the batteries in series by following the polarity marks on the inside of the cover. Then swing the cover down and tighten the screw to secure it.

OPERATING INSTRUCTIONS

To make a laser distance measurement, hold the back (battery compartment side) of the tool against a wall or the floor and press the red measurement button (Fig. 1, Callout 1). This activates the display, the laser pointer and the infrared transmitter/receiver. It also causes the laser measurement enabled icon (Fig. 2, Callout 1) to flash. This indicates that the tool is ready to make a laser measurement. **Within 15 seconds**, aim the laser pointer at the opposite wall or the ceiling of the room or space and press the red button again. The distance between the two surfaces will be displayed on the LCD. The laser pointer will automatically extinguish after each laser measurement.

If you take more than 15 seconds to press the measurement button a second time, the laser measurement enabled icon (and the red spot on the target) will disappear. To attempt another laser measurement, you must press the button twice more—once to reactivate the laser pointer and infrared transmitter/receiver while you re-aim, and the second time to actually make the measurement.

To power off the LTM1 manually, press and hold the red measurement button for at least three seconds.

To measure a distance using the measuring tape, extract the blade from the housing by pulling on the tab at the end of the blade (Fig. 1, Callout 2). The blade will remain at its extracted length, making it easy to hook the tab behind the target. To retract the blade, press the gray tape retraction button on the bottom of the LTM1 (Fig. 1, Callout 5).

OPERATING & MAINTENANCE TIPS

Because the LTM1's laser pointer silently powers off 15 seconds after being activated, you'll often find that when you press the red button intending to make a measurement, all you have done is reactivate the pointer and infrared transmitter/receiver. As noted earlier, what you must do in this case is press the button twice more—once to reactivate the laser pointer and IR transmitter/receiver while you re-aim, and the second time to actually make the measurement.

When measuring horizontal distances, keep the tool as horizontal as possible.

When measuring long distances, use a target plate made of white paper or cardboard. Pressing the back of the tool against a surface (rather than holding it in your hand) helps to steady the laser pointer on distant targets.

If the display shows “all dashes” rather than a distance reading, the likely cause is one of the following:

- The laser pointer is moving too quickly. To steady the pointer, press the back of the tool (the side with the battery compartment) against the wall or floor.
- The target is beyond the maximum range (50 ft.) of the IR transmitter/receiver, or closer than the minimum range of 10 in. In other words, the returned IR signal is too weak or too strong.
- The target is too reflective. In this case, use a target plate made of white paper or cardboard, as recommended above.
- The target is flooded with ambient light. “Masking” the target with white paper or cardboard should solve the problem.
- The target is an LCD or plasma TV/computer screen. This type of display absorbs incoming IR radiation and reflects nothing back to the tool.
- The ambient temperature is outside the specified operating range (32° to 104°F).

Replace the batteries when the on-screen battery charge icon begins flashing. Use alkaline batteries only. To avoid having an old battery leak acid and ruin the tool, remove both batteries when you do not expect to use the LTM1 for a long period of time (several months).

Clean the LTM1 by wiping it with a damp soft cloth. Never use solvents or abrasives.

Keep the tool away from water and extreme temperatures.

FEATURES AND SPECIFICATIONS

- Laser measurement system range/accuracy/resolution: 50 ft./ $\pm 1/4$ in./1/16 in.
- Laser measurement unit: feet + fractional inches
- Laser measurement display: 5-digit LCD measuring 1 x 1/2 in., with 1/4 in. high digits
- Laser automatically powers off after 15 seconds (for safety reasons)
- Display automatically powers off after 60 seconds (to conserve battery charge)
- Battery charge indicator
- Tape measure length and width: 16 ft. and 3/4 in.
- Familiar heavy-duty tape measure housing with metal belt clip
- Power source: Two "AAA" Alkaline batteries (included)
- Typical battery life: >3,000 measurements
- Laser output: <1mW (Class II) @ wavelength of 620 to 690 nm
- Operating temperature: 32° to 104°F
- Storage temperature: 14° to 140°F
- Dimensions: 3.25 x 3.25 x 2.25 in.
- Weight: 12 oz.
- 1-year limited warranty

General will replace or repair the defective unit, at its option, subject to verification of the defect.

This warranty does not apply to defects resulting from abuse, neglect, accident, unauthorized repair, alteration, or unreasonable use of the product. It also does not cover products purchased from unauthorized distributors. A proof of purchase must accompany each warranty claim.

Any implied warranties arising from the sale of a General product, including but not limited to implied warranties of merchantability and fitness for a particular purpose, are limited to the above. General shall not be liable for loss of use of the product or other incidental or consequential damages, expenses, or economic loss, or for any claim of such damage, expenses, or economic loss. State laws vary. The above limitations or exclusions may not apply to you.



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