INSTRUCTION MANUAL

MT145

20M LASER DISTANCE METER

Contents

Page no

1. Safety Instruction

1.1. Permitted Use

Measuring distances

1.2. Prohibited Use

- Using the instrument without instruction.
- Using outside the stated limits.
- Deactivation of safety systems and removal of explanatory and hazard labels.
- Opening of the equipment by using tools (screwdrivers, etc.), as far as not specifically permitted for certain cases.
- Carrying out modification or conversion of the product.
- Use of accessories from other manufacturers without the express approved.
- Deliberate or irresponsible behavior on scaffolding, when using ladders, when measuring near machines which are running, or near parts of machines or installations which are unprotected.
- Aiming directly into the sun.
- Inadequate safeguards at the surveying site (e.g.when measuring on roads, construction sites, etc).

1.3. Laser Classification

- This produces a visible laser beam which emerges from the front of the instrument.
- **Laser Class 2 products:** Do not stare into the laser beam or direct it towards other people unnecessarily, protect the eye by avoiding the laser.

⚠ **WARNING:** Looking directly into the beam with optical aids (e.g.binoculars, telescopes) can be harmful.

⚠ **CAUTION:** Looking into the laser beam may be hazardous to the eyes.

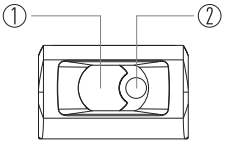
Precautions: Do not look into the laser beam, make sure the laser is aimed above or below eye level.

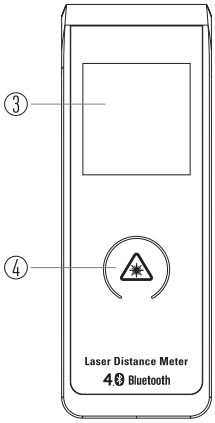
Precautions: Do not look directly into the beam with optical aids.

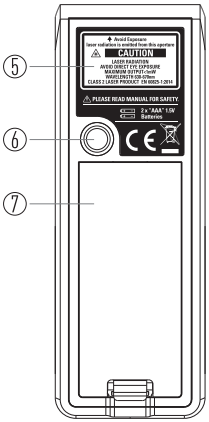
2. DESCRIPTION

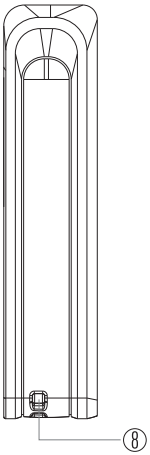
2.1. Meter Description

1 - Laser Receiving Lens
2 - Laser Emitter
3 - LCD Display
4 - ON/MEAS Button
5 - Label
6 - Triangular Bracket Fixed Hole
7 - Battery Cover
8 - Lanyard Hole



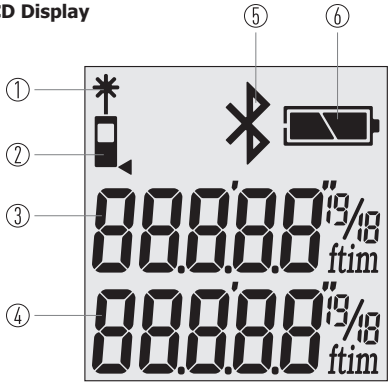






2.2. Symbols Used on LCD Display

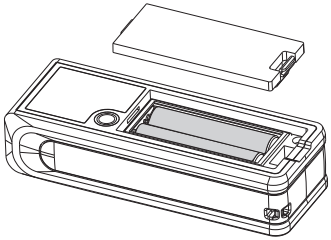
1 - Laser Active
2 - Reference Level (Rear)
3 - Intermediate Line
4 - Summary Line
5 - Bluetooth
6 - Battery



3. INITIAL OPERATION AND SETTING

3.1. Inserting/Replacing Batteries

1. Remove battery compartment lid.
2. Insert batteries, observing correct polarity.
3. Close the battery compartment again.
   - Replace the batteries when the symbol "▭" flashes permanently in the display.
   - Use alkaline batteries only.
   - Remove the batteries before any long period of non-use to avoid the danger of corrosion.

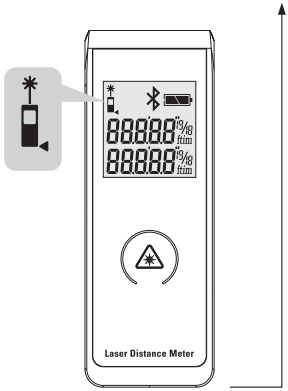


3.2. Switching On and Off

- Press the ON/MEAS Button to switch the instrument and laser on.
- Press and hold the ON/MEAS Button for 3 seconds to switch off the instrument.
- The instrument switches off automatically after three minutes of inactivity.

3.3. Reference Level Setting

The default reference setting is from the rear of the instrument.



3.4. Distance Unit Setting For Instrument

- When switching on, press and hold the ON/MEAS Button longer until the screen display Unit icon and switch "m" or "ft-in" unit.
- The following unit can be set:

Distance	Area	Volume
0.000m	0.000m²	0.000m³
0'00"1/16	0.000ft²	0.000ft³

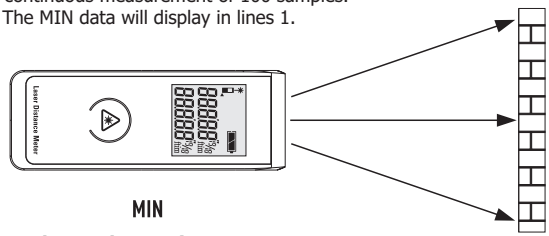
4. MEASURING

4.1. Single Distance Measurement

- Press the **ON/MEAS** Button to activate the laser.
- Press the **ON/MEAS** Button again to trigger the distance measurement, the measured value is displayed immediately.

4.2. Continuous Measurement (Tracking) & Min Measurement

- The continuous measurement function (Tracking) is used for the transferring of measurements, e.g., from construction plans.
- In continuous measurement mode, the measuring tool can be moved to the target, whereby the measured value is updated approx. every 0.5 seconds in the third line, the corresponding minimum value is displayed dynamically in the first line.
- As an example, the user can move from a wall to the required distance, while the actual distance can be read continuously.
- For continuous measurement, hold down the **ON/MEAS** Button will start the continuous measurement, and press the **ON/MEAS** Button again to stop the function, the function is terminated automatically after continuous measurement of 100 samples.
- The MIN data will display in lines 1.



4.3. Bluetooth Function

- Bluetooth function can transfer measurement data directly to mobile phone by Meterbox APP.
- This APP is available in the Apple App store or Google play.
- Whilst the first connection between the Phone/PC and the Laser distance meter is being established, a prompt for the Pin-code of the instrument may be displayed, in this case, enter the code "**0000**" into your Phone/PC.

5. TECHNICAL DATA

Function	Range
Range	0.05 to 20m (0.2in to 66ft)*
Measuring accuracy up to 10m (2σ, standard deviation)	Typically: ±1.5 mm(1/16 in)**
Measuring Units	m, ft', in"
Laser Class	Class II
Laser Type	650nm, <1mW
Smallest Unit Displayed	1mm
Continuous Measurement	*
Min Measurement	*
Display Illumination and Two-Line Display	*
Tripod Thread	*
Beep Indication	*
Bluetooth 4.0 EDR	*
Range of Bluetooth	10m
Bluetooth with Apple	*
iPod/iPhone support	
Bluetooth with SPP support	*
Dust Protect/Splash Proof	IP54
Operating Temperature	0 to 40°C (32 to 104°F)
Storage Temperature	-10 to 60°C (14 to 140°F)
Batteries	Type "AAA" 2 x 1.5V
Battery Life	Up to 4,000 measurements
Auto Laser Switch-Off	After 30 seconds
Auto Instrument Switch-Off	After 3min
Dimension	100 x 36 x 23mm
Weight	80g

* Use a target plate to increase the measurement range during daylight or if the target has poor reflection properties 10m (33 ft).

** In unfavourable use variations, the deviation in favourable conditions (good target surface properties, room temperature) up to 1 conditions, such as intense sunshine, poorly reflecting target surface or high temperature over distances above 10m (33ft) can increase by ±0.15mm/m (±0.0018 in/ft).

6. TROUBLESHOOTING-CAUSES AND CORRECTIVE MEASURES

Code	Cause	Corrective Measure
208	Received signal too weak, measurement time too long.	Use target plate
	Distance out of range.	
252	Temperature too high	Cool down instrument
253	Temperature too low	Warm up instrument
255	Hardware error	Switch ON/OFF the device several times, if the symbol still appears, please contact your dealer for assistance.

7. Measuring Condition

7.1. Measuring Range

- The range is limited as per Technical Specifications.
- At night or dusk and if the target is in shadow the measuring range without target plate is increased.
- Use a target plate to increase the measurement range during daylight or if the target has poor reflection properties.

7.2. Target Surfaces

- Measuring errors can occur when measuring toward colorless liquids (e.g. water) or dust free glass, styrofoam or similar semi-permeable surfaces.
- Aiming at high gloss surfaces may deflect the laser beam and lead to measurement errors.
- Against non-reflective and dark surfaces the measuring time may increase.

7.3. Care

- Do not immerse the instrument in water.
- Wipe off dirt with a damp, soft cloth.
- Do not use aggressive cleaning agents or solutions.
- Handle the instrument as you would a telescope or camera.

MAJOR TECH (PTY) LTD

South Africa

www.major-tech.com

sales@major-tech.com

Australia

www.majortech.com.au

info@majortech.com.au