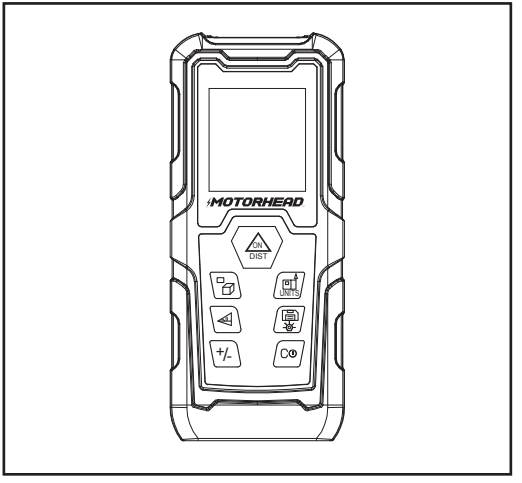
196Ft/60M
Laser Distance Measure w/ Digital Level & 50-Set Data Storage
(MH-02-LM-B1-196-1)



Customer Service
Phone # 1-866-608-5212
E-Mail: support@motorheadtool.com
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CONTENTS

Safety Precautions

! Be sure you've read and understood all provisions and operating instructions contained herein before use of the instrument. Failure to follow these safety rules and operating instructions may result in laser radiation, electric shock or personal injury, which are all dangerous.

! Don't try in any way to change the properties of the laser device as it may expose you to laser radiation hazard.

! Don't look directly into the laser beam as the laser device generates radiation. It is a Class 2 laser product and can have the laser function turned on only when the instrument is in use.

! Any operation or use outside those described in this manual may result in laser radiation and personal harm.

! The operation of this instrument together with other optical instruments will increase harm to human eyes.

! The instrument has a built-in laser generator which emits Class II levels of laser radiation with wavelength 620-670nm and max output power ≤1mW. Laser beams at this level won't cause optical damage. However, don't look directly into the laser beam as it will cause instant blindness.

! The label is on the back of the instrument, on top of which the triangle mark indicates the position of the laser rangefinder emitting the laser beam. In use of this instrument, full attention shall be given to the position of laser beam emission and persons nearby in the workplace, in order to avoid any harm due to direct transmission into human eyes.

1. Don't remove or damage any warning label fixed on the instrument.

2. Keep the instrument out of the reach of children. Don't point the laser beam emitted from the instrument at any person.

3. Don't operate the instrument when there are children nearby or leave it within reach of children without parental supervision.

4. Don't place the instrument somewhere that the laser beam can be intentionally or unintentionally ignored.

5. Don't emit the laser beam to a highly reflective surface as the laser beam will be easily reflected back to the eyes of the user or bystanders.

6. Deactivate the laser function when the instrument isn't in use. Failure to do so will increase the risk of inadvertently looking into the laser beam.

7. Don't try to alter the properties of the laser. Failure to do so may result in serious laser radiation injury.

8. Don't try to repair or disassemble this instrument on your own. Unauthorized repair may result in serious laser radiation injury. Any repair must be conducted bya licensed technician.

9. Don't use this instrument in a place where flammables exist, such as flammable liquids, gasses and dusts.

10. The performance of the instrument can be guaranteed only with the use of original spare parts.

11. Keep the instrument out of reach of children.

Refrain From:

1. Opening or repairing the device
2. Measuring in direct sunlight.
3. Measuring outside of specified range.
4. Immersing the equipment in water.
5. Cleaning the lens using alcohol or any other organic solvent.
6. Wiping the lens directly with fingers or other rough surfaces.
7. Powering the equipment beyond the rated DC voltage.

Instrument Care and Maintenance

In order to maintain good performance of the instrument, basic care and maintenance is required as follows:

1. Don't expose the instrument to an extremely cold or hot environment. Do not subject the instrument to external compression or vibration for extended durations.

2. Keep this instrument indoors and place it in the packaging container when not in use.

3. Keep the instrument far away from dusty and moist environments when in use. Clean only with a soft cloth slightly moistened by water. Make sure to squeeze the moistened cloth to remove excess moisture. Cleaning with corrosive or volatile substances will permanently damage the instrument.

4. Take care of optical components (such as laser receiving lens and laser beam emitting holes) the same as spectacles and cameras. Optical components can be cleaned only with clean soft cloth or cotton bud slightly moistened by distilled water and then squeezed dry.

5. Don't touch the lens of the instrument with hand.

6. Check the battery level of the instrument regularly and remove the battery if the instrument isn't intended to be used for an extended period.

7. Replace the battery when the battery indicator icon on the screen indicates the power is empty.

8. Don't disassemble the instrument on your own. Unauthorized disassembly may result in laser radiation injury.

9. Don't try to change any optical parts installed on the instrument lens.

FCC SAFETY

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 device, 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.

Faults, Causes & Troubleshooting

Fault	Causes	Troubleshooting
The instrument can't be started.	The battery is incorrectly cradled.	Reload the battery according to the cell polarity inside the battery compartment.
	Low battery	Replace with a new battery
	Power button has poor contact.	Try to press the power button slightly hard, if this doesn't function please contact MH customer service.
Error code displayed on the screen	Refer to error information.	Refer to error information.

Error Messages

The following error messages may appear on the screen when you are using the instrument:

Error Code	Cause of Error	Remedy
ERR02	Error distance (e.g. out of range or can't test)	Please measure within the effective measurement range.
ERR03	The target to which the laser beam is pointed reflects the laser beam poorly.	Change to another target or place a piece of white paper on the target.
ERR06	Low battery	Replace with a new battery.

Technical Specification

Recommended Operating Environment	Indoor, 0%~80%RH, altitude 0~2000m
Measuring Range	0.05-60m
Measuring Accuracy	±2mm, with a 0.05mm/m increment
Instrument Dimension	122*52*26mm
Recommended Target	White wall or a piece of A4 white paper
Laser Radiation Class and Type	Class-II, with wavelength 620~670nm and max output ≤ 1mW
Instrument Auto-off Time	5 min
Laser Auto-off Time	20 sec
Battery	3V DC (Two 1.5V"AAA" batteries)
Battery Life (AAA alkaline batteries shall be used)	More than 5000 single measurements
Ambient Temperature for Operation	0~40°C
Storage Temperature	-20~60°C
Data Auto Save	Auto save 50 data sets
Supported Measurement units	Meter / Inch /Feet

Display Screen Overview (Figure 1)

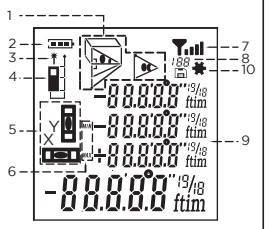


FIG. 1

1. Functional icon display
2. Battery power level display
3. Laser icon
4. Measurement benchmark display icon
5. Instrument X/Y bi-directional level testing icon
6. MAX/MIN icons in continuous measurement
7. Laser ranging signal strength icon
8. Historic record icon
9. Ranging data display primary vision area
10. Measurement error indicator icon (It will appear with ERR02 or ERR03)

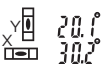
Illustrations to Display Screen Icons

- Full Battery; Low Battery;
- Measurement error indication
- Strong Laser Signal; Weak Laser Signal;
- Historic Record;
- Pre-reference; Post-reference; Extended Reference;

-  Rectangular area measurement;  Cubic volume measurement;

 Triangle area measurement;  Right trapezoidal area measurement;

 Rectangular area cumulative measurement;

-  X/Y bi-directional level testing;

 Pythagorean theorem;  Dual Pythagorean theorem +;

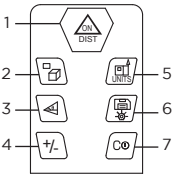
 Dual Pythagorean theorem -;

 Measure the distance between any two points in the space **(NOTE: Two points to be measured must be on the same vertical plane with the instrument's measuring reference);**

 Measure the vertical and horizontal distances of any point in the space from a measuring reference

Touch Buttons & Their Functions

1.POWER ON/MEASURE Button: Tap this button quickly to start the instrument; tap this button quickly to start a single measurement; and keep tapping this button to start a continuous measurement.



2.FUNCTION APPLICATION Button: Tap this button quickly to enter into rectangular area measurement, cubic volume measurement, triangle area measurement, right trapezoidal area measurement, rectangular area cumulative measurement

3.ADDITIONAL FUNCTION Button: Tap this button quickly to enter into instrument X/Y bi-directional level testing, Pythagorean theorem, dual Pythagorean theorem +, dual Pythagorean theorem -, measurement of distance between any two points, and measurements of vertical and horizontal distances of any point to the measurement reference.

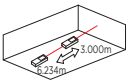
4.ADD/SUBTRACT/HISTORICAL DATA DELETION OPERATION Button: Tap this button quickly to enter into measurement based on cumulative addition or subtraction; keep tapping this button (about 3 seconds) to delete the historical data. (Note: (1): Only one historical data can be deleted at a time. (2): After deleting data, please press shutdown to exit)

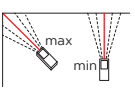
5.MEASUREMENT REFERENCE SETTING/UNIT SETTING Button: Tap this button quickly to set the measurement reference. This instrument has three measurement references, i.e. post-reference, pre-reference, and extended reference. Keep tapping this button for a bit longer to set the unit of measurement (including: m, in(decimal display mode), in(score display mode),ft, and "ft+/in"(feet + inches (score display)).

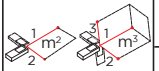
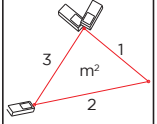
6.HISTORIC RECORD/BACKLIGHT Button: Tap this button quickly to enter into historic record page, keep tapping this button (about 3 seconds) to turn backlight on or off.

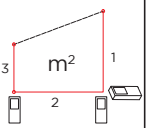
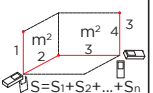
7.EXIT/POWER OFF Button: Tap this button quickly to exit the current measurement mode and return to the start interface; and keep tapping this button to shut down this instrument.

Instrument Functions, Applications, and Operations

<table>
<tr><th colspan="5">Basic Functions</th></tr>
<tr><th>Touch Button</th><th colspan="2">Function Description</th><th>Corresponding Display Icon</th><th>Operation Description</th></tr>
<tr><td rowspan="3">ON
DIST</td><td colspan="2"> 
</td><td>Start Interface</td><td>Tap this button to activate the laser function, aim at the target, and tap this button again to start measurement.</td></tr>
<tr><td colspan="2">Continuous measurement</td><td rowspan="2">MIN

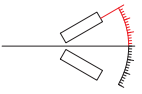
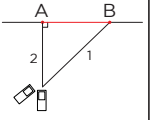
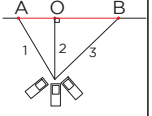
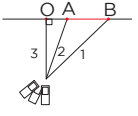
MAX</td><td rowspan="2">Keep tapping this button to enter into continuous measurement mode; For dimension selected for afixed position, the continuous measurement mode can be applied to find the point of the desired distance or to find the max and minvalues.</td></tr>
<tr><td> 
</td><td>Max value and min value in continuous measurement</td></tr>
</table>

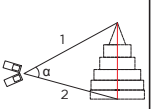
		Rectangular area measurement		Tap this button to select the area measurement modes or the cubic volume measurement mode, and carry out corresponding measurement operations.
		Cubic volume measurement		
		Triangle area measurement		Tap this button to select the triangle area measurement mode, and proceed with the measurements of three sides of the triangle.

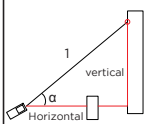
		Right trapezoidal area measurement		Tap this button to select the right trapezoidal area measurement mode and proceed with corresponding measurements
		Accumulative area measurement		Tap this button to select accumulative area measurement mode and proceed with corresponding measurements.

NOTES:

1. **Under the said triangle area measurement mode, make sure the corresponding three points be correctly located when placing the instrument.**
2. **Under the said right trapezoidal area measurement mode, make sure three sides to be measured be mutually perpendicular to each other as shown in the figure.**

Additional Functions				
Touch Button	Function Description		Corresponding Icon	Operation Description
		Automatically detect the instrument's X/Y bi-directional levelness, with accuracy of 0.8°		Tap this button to enter into auto detection of the instrument's X/Y bi-directional levelness.
		Pythagorean theorem measurement		Tap this button to enter into corresponding Pythagorean theorem measurement mode and proceed with corresponding measurements.
		Dual Pythagorean theorem + measurement		
		Dual Pythagorean theorem - measurement		

		Measure the distance between any two points on the vertical plane by making use of the theory by which two known sides of a triangle and the included angle thereof can be used to determine the length of the other side.		Tap this button to select the desired measurement mode and proceed with corresponding measurement. **NOTES:** **1. Make sure the measurement reference remain unchanged throughout measurements (i.e., the reference for the second measurement is unchanged in relation to the reference for the first measurement).** **2. Make sure two points to be measured are on the same vertical plane with the reference point. Failure to do so may result in incorrect measurements**

		Measure the vertical and horizontal distances of a point in the space to the reference, with both measurements displayed on the screen concurrently.		Tap this button to select this measurement mode and proceed with corresponding measurements. **NOTE:** **After reference selection, the calculation of measurement result starts from the reference position**

NOTE: Under any of the Pythagorean theorem measurement modes, the measurement of the right-angle side must be correct (meaning that the laser beam is relatively perpendicular to the plane to be measured); otherwise, the result will vary greatly.

Two-Year Limited Warranty

MOTORHEAD warrants its electronic measuring tools against deficiencies in materials and /or workmanship for two years from date of purchase WITH PROOF of SALE.

This Warranty does not cover deficiencies caused by accidental damage, wear and tear, use other than in accordance with the manufacturer's instructions or repair or alteration of this product not authorized by MOTORHEAD.

Repair or replacement under this Warranty does not affect the expiry date of the Warranty. To the extent permitted by law, MOTORHEAD shall not be liable under this Warranty for indirect or consequential loss resulting from deficiencies in this product. This Warranty may not be varied without the authorization of MOTORHEAD.

This Warranty does not affect the statutory rights of consumer purchasers of this product. This Warranty shall be governed by and construed in accordance with the laws of the country sold where in and MOTORHEAD and the purchaser each irrevocably agrees to submit to the exclusive jurisdiction of the courts of that country over any claim or matter arising under or in connection with this Warranty.

For warranty service please call MOTORHEAD Customer Service at **1-866-608-5212** or e-mail **support@motorheadtool.com.**

Register your product at **MOTORHEADTOOL.COM** for a **free extended warranty** and additional offers!

WARNING: For adult use only. This product is not a toy. Keep out of reach of children.
WARNING: For adult use only. Not for children 17 years of age or younger.
WARNING: Wear safety goggles – user and bystander.
CAUTION
LASER RADIATION. DO NOT STARE INTO BEAM.
WARNING: LASER LIGHT. LASER RADIATION. Avoid direct eye exposure.
Do not stare into beam. Only turn laser beam on when needed. Class 2 Laser Product.
CAUTION:
Do not mix old and new batteries.
Do not mix alkaline, standard (carbon-zinc), or rechargeable (nickel-cadmium) batteries.
Caution -- use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure

⚠**WARNING**: This product can expose you to chemicals including lead and lead compounds, Di(2-ethylhexyl)phthalate (DEHP), which are known to the State of California to cause cancer ,and chemicals including Di-n-butyl Phthalate (DBP), which are known to the State of California to cause birth defects or other reproductive harm.
For more information go to www.P65Warnings.ca.gov.

Customer Service: 1-866-608-5212
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8:00 AM – 8:00 PM EST
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