



FREEMANS
TEST & MEASURE



LASER DISTANCE METER

- ✓ Illuminated LCD Display
- ✓ Multi-function Keypad
- ✓ Reference Point
- ✓ Self Calibration
- ✓ Delay Measurement
- ✓ Staking-Out Function
- ✓ Rubberize body for comfortable handling
- ✓ Vial Bubble
- ✓ Carrying Case



WATCH VIDEO

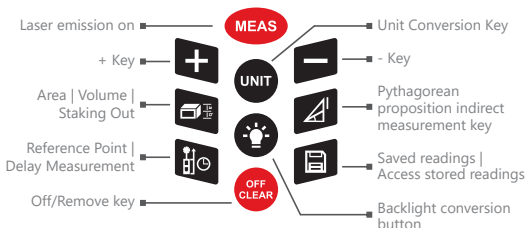
40m **60m** **100m**

www.freemansgroup.com

USER MANUAL



Nomenclature & Button Functions



Single Measurement

Short Press the **MEAS** key to switch on the device. Short Press again to switch on the laser pointer. The laser beam pointer will flash on the display, and the laser pointer is on.



Short Press **MEAS** to generate a single measurement.

Continuous Measurement

Short Press the **MEAS** key to switch on the device. Long press **MEAS** to enter continuous measurement mode. Once in this mode, the device will sound an alarm. The maximum and minimum measured values, along with current measurement value will appear on the display.



Short Press **MEAS** or **OFF CLEAR** to exit continuous measurement.

Area Measurement






Press the  key and a  will show on the screen. The length of the object will flash on the display. Please follow the below instructions for calculating the area of an object

- 1) Press the **MEAS** key once to measure the object's length.
- 2) Press the **MEAS** key again to take the object's width.
- 3) The device will automatically calculate the area, and the result will display on the screen. The length and width measured will also be visible.
- 4) Press **OFF CLEAR** to clear the most recent result and measure again if necessary. Press **OFF CLEAR** again to exit mode.


Volumetric Measurement



Double press the  key and a cube  will display on the screen with one edge flashing.

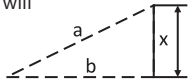
Complete the following operations according to tips appearing on the display screen :



- 1) Press the  key to once to measure the first edge (length).
- 2) Press the  key again to measure the second edge (width).
- 3) Press the  key to measure the third edge (height).
- 4) The device will automatically calculate the volume, and it will appear on the display. The length, width and height will also be displayed.
- 5) Press  to clear the most recent result and measure again if necessary. Press  again to exit this mode.



Pythagorean Indirect Measurement

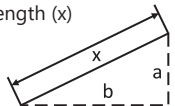
Press the  key to enter Pythagorean mode—a triangle with its hypotenuse flashing, will appear on the display screen.



- 1) Press the  key to measure the length of the dotted line (a) in the diagram.
- 2) Press the  key to measure the length of the base, the dotted line (b), in the diagram. The device will automatically calculate the length (x) of the solid line.






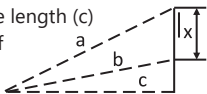
Double press the  key and you will see  on the display screen, that is a triangle with vertical leg flashing.



- 1) Press the  key to firstly measure the length (a) of dotted line vertical leg according to screen prompt.
- 2) Press the  key to measure the length (b) of the other dotted line, the base of the triangle. Length (x) of the solid line hypotenuse will be calculated automatically by the meter.






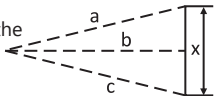
Triple press the  key to enter Pythagorean mode. A triangle  with its hypotenuse flashing, will appear on the display screen.

- 1) Press the  key to firstly measure the length (a) of dotted line hypotenuse according to the screen prompt.
- 2) Press the  key to measure the length (b) of dotted line hypotenuse (the hypotenuse of the smaller triangle).
- 3) Press the  key to measure the length (c) of another dotted line, the base of both the triangles. Length (x) of the solid line on the right side will be calculated automatically by the meter.



Press the  key four times to enter Pythagorean mode. A triangle  with its hypotenuse flashing, will appear on the display screen.

- 1) Press the  key to measure the length of dotted line (a), in the diagram.
- 2) Press the  key to measure the length of the base, dotted line (b) in the diagram.
- 3) Press the  key to measure the length of the base, the dotted line (c) in the diagram.



The device will automatically calculate the length (x) of the solid line.

Under Pythagorean proposition measurement mode the length of the right side of the triangle must be shorter than the hypotenuse length so that the **FREEMANS** Laser Distance Meter can make the necessary calculation, otherwise it will display an error signal.

Under Pythagorean proposition measurement mode :

- 1) Measurements must be made from the same starting point
- 2) The hypotenuse must be measured first and the right side second in order to ensure accurate measurements.

Add and Subtract Measurements

You can use your **FREEMANS** Laser Distance Meter for the addition and subtraction of linear measurements.

- 1) Press the **+** key, and a sign appears on the main measurement screen. You are now in addition mode, and can add multiple linear measurements, as desired.
- 2) Press the **-** key, and a "-" sign appears on main measurement screen. You are now in subtraction mode, and can subtract multiple linear measurements, as desired
- 3) You can also use your **FREEMANS** Laser Distance Meter to add and subtract area measurements. After calculating area in area measurement mode as described above, simply press the **+** or **-** key and proceed to measure another area. The **FREEMANS** Laser Distance Meter will automatically add / subtract the two areas.

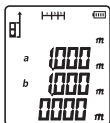
Self Calibration

Now you can calibrate your **FREEMANS** Laser Distance Meter at your convenience, simply by following the steps below:





- 1) In the power off mode, press and hold the **UNIT** key.
- 2) Press and release the **MEAS** key while still holding the **UNIT** key.
- 3) Release the **UNIT** key once "CAL" appears on the screen. You are in Self calibration mode.

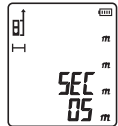
Staking-Out Function

- 1) Long Press **☰**, the device will switch to staking-out mode.
- 2) As shown in the below picture, the user can set two different values a and b. The user can also adjust these values by pressing **+** or **-**. Long press **+** or **-** to adjust the values of a or b more quickly.
- 3) Press **MEAS** after setting the values for the device to enter staking-out mode.
- 4) The User will be instructed by arrows, sound and icons. **↓** means the device needs to move backwards, whereas **↑** means the device needs to move forwards. When the device gets very near the specified point, the device will show **⚡**.




Delay Measurement

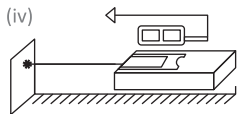
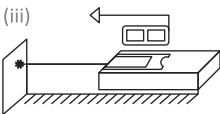
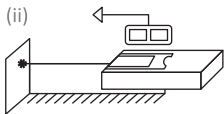
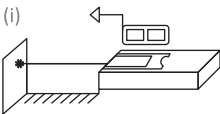
- 1) Long Press the  key and 'sec' will appear on the display screen.
- 2) Beneath 'sec' there will be a number which shows the number of seconds by which the measurement will be delayed.
- 3) Adjust the measurement delay time using the  or  keys. Press  to activate the delay measurement function.
- 4) The minimum available delay time is 3 seconds and the maximum is 60 seconds.




Reference Point

Short Press the  key to switch between the different available reference points. There are four reference points:






- 1) Front End
- 2) Screw
- 3) Back End
- 4) End Piece (used for 'dead corner' measurement, for eg. measuring the distance from one angle of a wall to another angle of the wall).



Measurement Storage

Under measurement mode, press and hold the  key for 3 seconds, to store the measurement reading in the **FREEMANS** Laser Distance Meter memory stick.

Browse Measurements

- 1) Short Press the  key to access stored measurement data. Press the  or  key to browse forward or backwards between the various stored readings.
- 2) Short press the  key to delete an individual record.
- 3) Long press the  key to delete all stored records.

Troubleshooting

The following table explains how to interpret and solve error messages that may appear on the display screen during use of the **FREEMANS** Laser Distance Meter:

Error Messages	Causes	Solutions
Err 1	Signal too weak	Measure targets with stronger reflective properties
Err 2	Signal too strong	Measure targets with weaker reflective properties
Err 3	Battery voltage low	Replace battery
Err 4	Beyond working temperature	Carry out measurement in specified temperature scope
Err 5	Improper measurement on Pythagorean proposition	Re-measure and ensure length of the hypotenuse is longer than that of the right side.
Err 6	Memory damage	Contact supplier

Technical Specifications

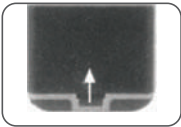
Product Features	Size		
	40m	60m	100m
Measurement Accuracy	+/- 1.5mm		
Measurement Units	mm/in/ft		
Least Count	0.05mm		
Measurement Time	<0.5s		
Continuous Measurement Function	Yes		
Outdoor Target Reflection Board	No	No	Yes
Area Measurement Function	Yes		
Volume Measurement Function	Yes		
Pythagorean Measurement Function	Yes		
Self Calibration	Yes		
Delay Measurement	Yes		
Staking Out	Yes		
Continuous Distance (Tracking) Measurement	Yes		
Add/Subtract Function	Yes		
Add/Subtract Area	Yes		
Min/Max Value	Yes		
Maximum Storage	99 units		
Automatic Backlight	Yes		
Button/Key Sound	Yes		
Laser Level	II		
Laser Type	635nm, <1mW		
Automatic Laser Cut-off	20s		
Automatic Unit Shutdown	150s		
Storage Temperature	-20°C to 60°C		
Working Temperature	0°C to 40°C		
Storage Humidity	RH85%		
Battery	2 x 1.5V AAA		
Battery Life	Upto 8,000 Measurements		
Weight (Battery Included)	160g		
Dimensions	118 x 54 x 26.5mm		
Vial Bubble	Yes		
End Piece	Yes		
1Year Warranty	Yes		
Protection	IP 54		
Carrying Pouch	Yes		
CE Certification	Yes		

Maintenance Instructions & Precautions _____

- 1) Do not aim the laser at anyone's eyes or other body parts (including your own). Do not aim the laser at any surface with strong reflective properties.
- 2) Please do not dis-assemble or attempt to repair the **FREEMANS** Laser Distance Meter.
- 3) Clean the surface of the device using a damp, soft cloth. Never use erosive liquids to clean your **FREEMANS** Laser Distance Meter.
- 4) Store the device in the packaging provided, in a cool, dry area. Do not store your device in high temperature or high humidity conditions for long periods of time.
- 5) If you are not using your device for extended periods of time, please remove its batteries. This will prevent fluid leakage.
- 6) Do not use this around around medical equipment, inflammables or explosives.
- 7) Batteries should be disposed off/recycled in line with local regulations.
- 8) Keep out of reach of children at all times.

Battery Replacement

- 1) Remove the battery door at the back of the device and remove the used batteries. Replace the new batteries accounting for correct polarity, before refitting the battery door.
- 2) Only 1.5V AAA alkaline batteries can be used with the **FREEMANS** Laser Distance Meter.
- 3) If the **FREEMANS** Laser Distance Meter is not used for long periods of time, it is advisable to remove its batteries. This will avoid any leakage and/or corrosion.



Warranty

All **FREEMANS** Test & Measure products are covered by a **1-year limited guarantee** against defects in material & workmanship and if found defective will be replaced free of charge. This is **valid from the date of final sale**. The guarantees do not cover damage caused by misuse, modification, accident or fair wear and tear.



FREEMANS
TEST & MEASURE

Please Retain this Instruction Manual or Sale Invoice in Order to Claim Your Warranty (If Applicable).

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FREEMANS

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LASER DISTANCE METER



LASER LINE LEVEL



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MEASURING
WHEELS