FREEMANS
PROFESSIONAL

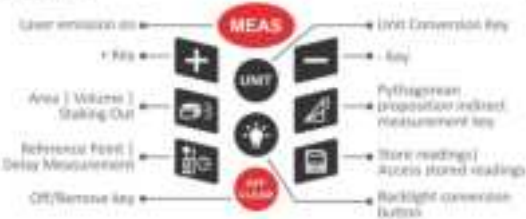
LASER DISTANCE METER

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

Please Retain this instruction manual in order to claim your warranty (if applicable.)

40m | 60m | 100m

Keyboard



Single Measurement

Press the MEAS key under measurement mode, the laser is emitted to shoot measuring location.

Continuous Measurement

Long press the MEAS key to enter into continuous measurement mode, maximum and minimum measurement results will be displayed on the screen.

Press the MEAS key to exit continuous measurement mode.

Area Measurement

Press the key and you will see ▭, on the display screen, that is a Rectangle with one edge flashing.

Complete the following operations according to screen tips:

Press the MEAS key to measure the first edge (length).

Press the MEAS key to measure the second edge (width).

Area will be calculated automatically by the meter, and the results showed on main display screen.

Press the key to remove previous measured result and get ready for the next measurement.

Volumetric Measurement

Double press the key and you will see on the display screen, that is a tube with one edge flashing.

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

Press the key to measure the first edge (length).

Press the key to measure the second edge (width).

Press the key to measure the third edge (height).

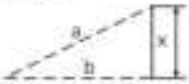
Volume will be calculated automatically by the meter, and the results showed on main display screen.

Press the key to remove previous measured result and get ready for the next measurement.

Pythagorean Proposition Indirect Measurement

Press the key to enter Pythagorean mode :

1) Press the key and you will see on the display screen, that is, a triangle with its hypotenuse flashing.



Press the key to firstly measure the length (a) of dotted line hypotenuse according to screen prompt.

Press the key to measure the length (b) of the dotted line, the base of the triangle. Length (x) of the solid line right side will be calculated automatically by the meter.

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

Press the key to firstly measure the length (a) of dotted line vertical leg according to screen prompt.

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.

3) Press the key 3 times and you will see on the display screen, that is triangle with hypotenuse flashing.

Press the key to firstly measure the length (a) of dotted line hypotenuse according to screen prompt.

Press the key to measure the length (b) of dotted line hypotenuse (the hypotenuse of the smaller triangle).

Press the key to measure the length (c) of another dotted line, the base of both the triangles. Length (x) of the solid line right side will be calculated automatically by the meter.

4) Press the key 4 times and you will see on the display screen that is triangle with hypotenuse flashing.

Press the key to firstly measure the length of dotted line (a), according to screen prompt.

Press the key to measure the length of the dotted line (b).

Press the key to measure the length of dotted line (c). Length (x) of the solid line right side will be calculated automatically by the meter.

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 :
(i) measurements must be made from the same starting point
(ii) the hypotenuse must be measured first and the right side second in order to ensure accurate measurements.

Delay Measurement

You can use this function to take a delayed measurement as follows :

(i) Press the key and 'sec' will appear on the display screen.

(ii) Beneath 'sec' there will be a figure which shows the number of seconds by which the measurement will be delayed.

(iii) Adjust the measurement delay time using the or keys.

(iv) The minimum available delay time is 3 seconds and the maximum is 60 seconds.

Reference Point

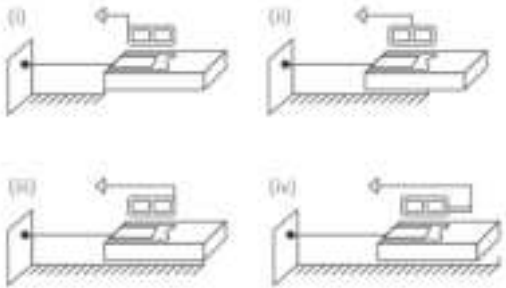
Press the key to switch between the different available reference points. There are four reference points :

(i) Front End.

(ii) Screw.

(iii) Back End.

(iv) End Piece (used for 'dead corner' measurement, for eg. measuring the distance from one angle of a wall to another angle of the wall).



Add and Subtract Measurements

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

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.

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.

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 :

(i) In the power off mode, press and hold the UNIT key.

(ii) Press and release the MEAS key.

(iii) Release the UNIT key once "CAL" appears on the screen. You are in Self calibration mode.

Staking-Out Function

Long press ⊿, the device will switch to staking-out mode. As shown in the below picture, the user can set two different values a and b; User can also adjust these two values by pressing + or −. Long press + or − to adjust the values of a or b more quickly. Press MEAS after setting the values, the device enter staking-out mode. User can get instructions by sound and icon.

↓ means the device needs to go back, ↑ means the device needs to go forward. When the device get very near to the point, the device will show ⧗

Measurements 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

Press the  key to access stored measurement data.

Press the or  key to browse forwards or backwards between the various stored readings.

Short press the  key to delete an individual record.

Long press the  key to delete all stored records.

Tips

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

Information	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	m/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		
1 Year Warranty	Yes		
Protection	IP 54		
Carrying Pouch	Yes		
CE Certification	Yes		

Maintenance

(i) Store in a cool dry place. The **FREEMANS** Laser Distance Meter should not be stored in high temperature or high humidity for a long time.

(ii) If not using the instrument for a long time, please remove the battery to avoid fluid leakage.

(iii) Please keep the device surface clean using a wet soft cloth. Never use erosive liquids to clean the meter.

Packing List

No.	Item	Unit	Qty.	Note
1	Laser Distance Meter Body	Unit	1	
2	Carry Bag	Piece	1	
3	Holding Rope	Piece	1	
4	AAA Battery	Set	2	
5	Manual	Copy	1	
6	Gift Box	Set	1	
7	Outdoor Target Reflection Board	Set	1	Only 100m

Checked by: Date:

(i) Do not aim the laser at your eyes or other body parts.

(ii)Do not aim the laser at any surface with strong reflective properties.

(iii) Please do not dis-assemble or attempt to repair the **FREEMANS** Laser Distance Meter.

(iv) Keep out of reach of children.

(v) Do not use around medical equipment, inflammables or explosives.

(vi) Respect your environment, please discard used batteries in recycling boxes.

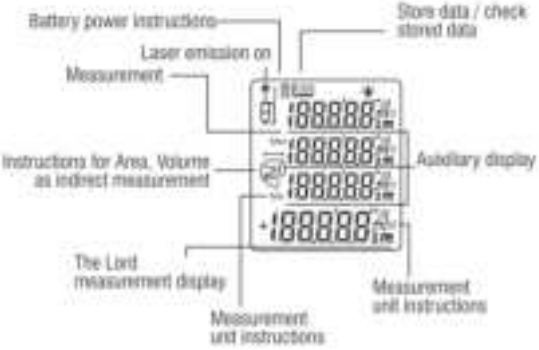
Installation and Replacement of Battery

(i) Remove the battery door on the back of device, and place the battery according to the correct polarity, then refit the battery door.

(ii) Only 1.5V AAA alkaline batteries can be used with the **FREEMANS** Laser Distance Meter.

(iii) If the FREEMANS Laser Distance Meter is likely to be unused for a long time, remove the batteries to avoid leakage and corrosion.

Instructions for Area, Volume and Indirect Measurement



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LASER DISTANCE METER

DIGITAL SPIRIT LEVEL

DIGITAL MEASURING TAPE

DIGITAL MEASURING WHEEL