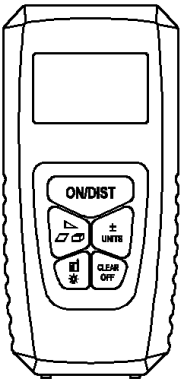
HAND-HELD LASER DISTANCE METER



USER MANUAL V 1.0

Safety Regulations

⚠ Before using this product, please carefully read and understand all the terms and operational guidelines in this manual. Hazardous laser radiation damage, electric shock or personal injury may occur if operations are not implemented under those safety regulations in this operation manual.

⚠ Do not change the performance of the laser in any way, otherwise it may cause dangers due to laser exposure. Activate the laser only when you use the instrument. Don't stare at the laser directly. Please keep your instrument safe from use of any unauthorized persons.

- Don't shoot at others with the laser intentionally or in dark.
- Don't shoot the laser beam onto objects with high-reflective surface.
- Don't place the laser meter in reach of the child.

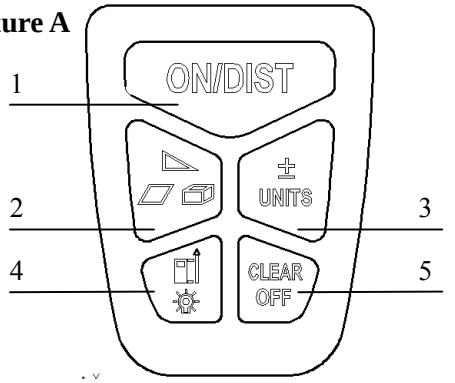
⚠ Do not repair the equipment without authorization. If the equipment is damaged, please contact your local dealer.

⚠ Electromagnetic radiation may interfere other instruments or devices (such as medical instruments like pacemakers or hearing aid .)

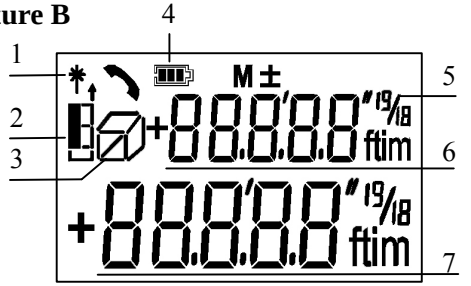
- Do not use the instrument near gas stations and other inflammable and explosive places.
- Do not use the instrument near medical equipment.
- Do not use this instrument on the plane.

⚠ Please follow your local laws to dispose the obsolete instrument.

Picture A



Picture B



Congratulations on your purchase of PD-23 distance meter.

The safety regulations and instructions along with the user manual should be read carefully before initial operat -ion.

Overview

Keyboard

See Picture A

1 ON / Single measure / Continuous measure
2 Area / Volume / Pythagorean measure
3 Plus / Minus / Units
4 Reference / Illumination
5 Clear / OFF

Display

See Picture B

1 Laser ON
2 Reference (front/rear)
3 Area / volume/ Pythagorean
4 Battery display
5 Units with exponents ($^{2}/_{3}$)
6 Auxiliary Display (e.g. intermediate values)
7 Main display

Start Up

Inserting / Replacing Batteries

Remove the battery cover, insert the battery correctly. Close the battery compartment. Replace the battery when this symbol constantly blinks in the display.

· Only use alkaline batteries.

· Batteries should be removed in case of danger of corrosion, if the device will not be used for a long time.

Selecting Units

Press this key until the desired unit is displayed.

Optional units:

length	area	volume
0.000 m	0.000 m^{22}	0.000 $m^{3\ 3}$
0.00m	0.00 m^2	0.00 m^3
0.00 ft	0.00 ft^2	0.00 ft^3
0' 0" 1/16	0.00 ft^2	0.00 ft^3
0.0 in	0.00 ft^2	0.00 ft^3

Operation

Switching on/off

Device and laser are switched on to wait to measure. Holding down this key 

for 2 seconds to switch the device off, The device also switches off automatically after 3 minutes of inactivity i.e. no key is pressed within that interval.

Clear-Key

Cancel the last action. Within a function (area, volume, etc.) single measurement can be deleted step by step and re-measured

Illumination


Press this key for 2 seconds to switch the illumination on or off.

Reference Setting

Default reference setting is from the rear of the device.


Press this key to switch the reference. The reference returns automatically to the default setting (rear reference) after power off.

Measuring

Single Measurement

ON/DIST Press this key to activate the laser. Press again to implement the distance measurement.

Continuous Measurement

ON/DIST Press the key briefly to activate the laser，press and hold key for about 2 seconds to start continuous measuring . Press again shortly: continuous measurement is stopped.

During continuous measuring , the latest measured value is displayed on the main display area, auxiliary display area shows the last measured value.

Function

Addition / Subtraction

Single distance, area, volume measurement all can be realized by using addition/subtraction to accumulate or regressive

± UNITS Press this key to switch to addition or subtraction，Operational symbol will appear in the front of the main display. After selecting the algorithm，In the distance measurement mode, the instrument will automatically operate after the completion of

measurement，the result is displayed in the main display area，measured value will be displayed in the auxiliary display area；In the area, volume mode， After the completion of area or volume measurement，press ON/DIST key to calculation，the result is displayed in the main display area，latest measured value will be displayed in the auxiliary display area.

Area

 Press this key once，This symbol is displayed. press key ON/DIST to take the first line measurement，press ON/DIST again and take the second line measurement, after this the area of operation will be automatically, the result is displayed in the main display area.

Volume

 Press this key briefly，This symbol is displayed. Press to ON/DIST take the three lines measurement and then the volume value will be displayed in the main display area and the third line measured value is displayed in the auxiliary area.

Pythagorean

Pythagorean measurement is used in the condition that the objective needing to be measured is covered or has no effective reflecting surface and can't be measured directly. The accurate measured result can be got only when the laser beam and measured goal are at the right angle.

 Press this key briefly，this symbol ◿ is displayed in the screen, according to the on-screen prompts. according to the on-screen prompts，press ON/DIST to take Right angle edge - right angle, or bevel edge - right angle edge operation then the instrument will automatically realize Pythagorean operation，the result is displayed in the main display area.

• When measuring in Pythagorean measurement mode，Right-angle edge length must be less than the length of the hypotenuse，Otherwise the equipment will report mention information.

• Under the Pythagorean measurement mode，make sure to start the measurement from the same starting point；In Hypotenuse - right angle edge model, it is also necessary to ensure that right-angle side is perpendicular to the measured surface.

Appendix

Display Notices

In the course of using the instruments，information as below may be displayed on the screen:

InFo	Cause	Correction
204	Data overflow	Repeat steps
205	measurement range transfinite	Use the meter in distance allowed
252	Temperature too high	Let device cool down
253	Temperature too low	Warm device up
255	Received signal too weak	Measure target point with stronger reflectance
256	Received signal too strong	Measure target point with weaker reflectance
257	Pythagorean measurement Violation	Re-measure and ensure the hy -potenuse is greater than right angle edge
258	Initialization error	reboot
Error	**Cause**	**Correction**
	Hardware error	If the signal still appears after repeatedly switching on/off the equipment, please contact your dealer.

Technical Specifications

Range (for extended Distan-ces, use a target Plate)	0.05 m to 40 m
Measuring accuracy	typically： ± 3 mm *
Minimum unit displayed	1 mm
Laser class	II
Laser type	635 nm, < 1 mW
Automatic power off	after 180 s
Display illumination	√
Continuous measurement	√
Addition / subtraction	√
Battery life, 3 V compound battery	up to 5000 measurements
Dimensions and weight	116*54*35 mm, 155 g
Temperature range: Storage： Operation	-2 5□ to +70 □ 0 □ to +40 □

- In unfavorable conditions, such as intensive sunshine, very weakly reflecting target surface or large temperature fluctuations, measuring accuracy may deteriorate.

Maintenance

Do not immerse the instrument into water. You can use wet soft cloth to wipe the surface, but do not use corrosive lotion. Clean optical components like cleaning Eyeglasses and camera lenses （The laser emission window and receiving lens）.

Packing list

NO.	Name	quantity	unit	Remarks
1	Main body	1	pc	
2	AAA battery	2	pcs	
2	Instrument cap	1	pc	
4	Lanyard	1	pc	
5	User manual	1	pc	

Testing：　　Date：