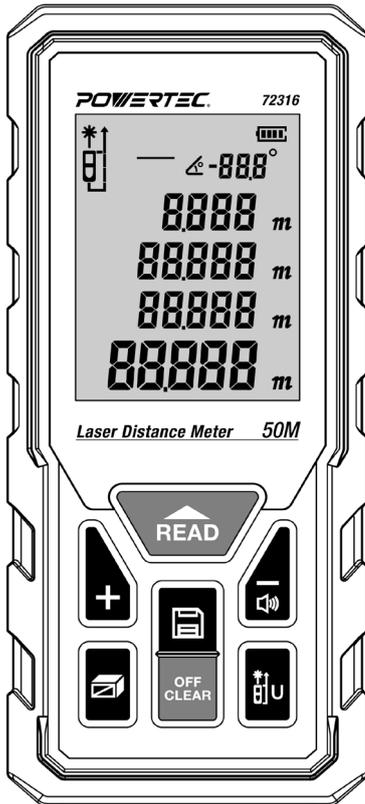


POWERTEC®

Laser Distance Meter



The **POWERTEC 72316** Laser Distance Meter is a handheld device using laser technology to measure distances accurately.

NOTE: The **POWERTEC 72316** Laser Distance Meter is designed for indoor use. If outdoor use is required, please use on a cloudy day.



WARNING

Risk of personal injury or damage to device. Read and understand all safety regulations and instructions in this manual before operation. Improper operation could cause damage to the device or give inaccurate readings.

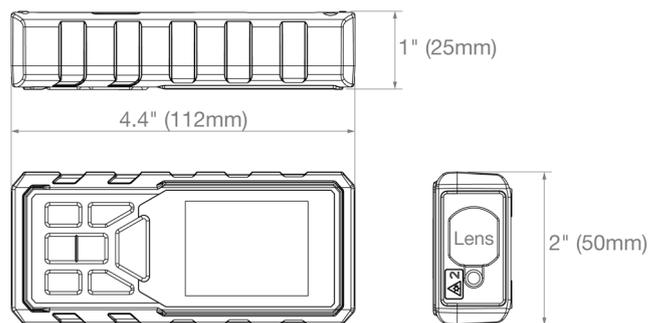
- The instrument may not be disassembled or repaired in any way. It is illegal to modify or change the performance of the laser emitter.
- Keep device out of reach of children and avoid use by any unauthorized personnel.

SPECIFICATIONS

Working Range	165ft (50m)
Distance measurement (Tolerance)	0~10 meter: ± 3mm
	>10~50 meter: ± 5mm
Measurement unit options	m/in/ft
Continuous measurement function	yes
Area measurement function	yes
Volume measurement function	yes
Pythagorean proposition measurement function	Full mode
Add and subtract measurement function	yes
Delay Measurement	yes
Min/Max value	yes
Max storage	99 units
Automatic backlight	yes
Buttons/Keys sound	yes
Laser level	II
Laser type	630-670nm, <1mW
Automatically cut off laser	20 seconds
Automatic shutdown	150 seconds
Battery	2x1.5V AAA alkaline battery
Working temperature	32°F-104°F (0°C-40°C)
Angle Range	±90° (Tolerance ± 1°)
Dimension	4.4" x 2" x 1" (112 x 50 x 25mm)

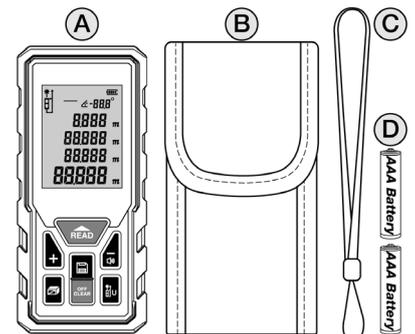
NOTE: Use a reflective target plate to help measuring during daylight or if the target has poor reflection properties.

DIMENSIONS

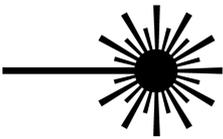


CONTENTS

Item	Description	Qty
A	Laser Distance Meter	1
B	Storage Case	1
C	Security Strap	1
D	Battery 1.5V AAA	2



LASER SAFETY



! DANGER

LASER RADIATION!

Risk of serious personal injury.
Avoid direct eye contact with light source.

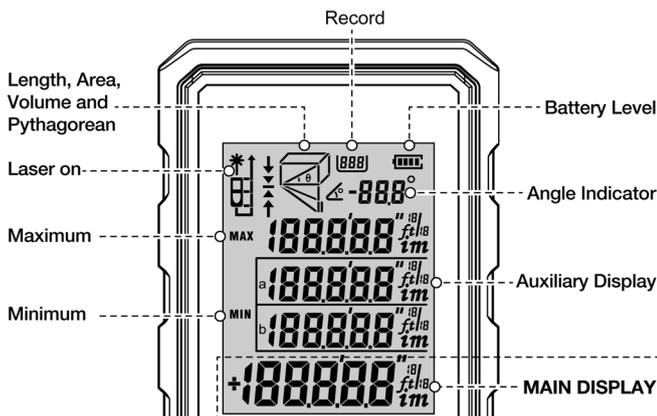
Laser Specific Precautions:

- Risk of eye injury. Avoid all eye exposure to beams. Keep the beam away from eyes and faces.
- Do NOT deliberately stare into the beam—this can cause injury to the retina in the back of the eye.
- Use laser protective eyewear. When laser is in use, all persons in the area should also have the same type of laser protective eyewear as the operator of the device.
- Do not use sunglasses for laser protection. Sunglasses are NOT laser protective eyewear.
- Always be aware of the beam location. Keep it away from people's eyes and heads.
- Watch out for reflected beams from mirrors, glass and shiny surfaces. Reflections off mirrors, glass, and shiny surfaces can be just as hazardous as the direct beam.
- It is illegal and unsafe to aim a laser at or near aircraft, vehicles, or medical equipment.
- Only allow use by responsible persons.
- Do not use it in an inflammable, explosive environment.
- Dispose of used batteries safely. Never place them in the trash.
- For quality issues or questions regarding the meter, please contact local distributors or manufacturer in a timely manner, they are there to help.

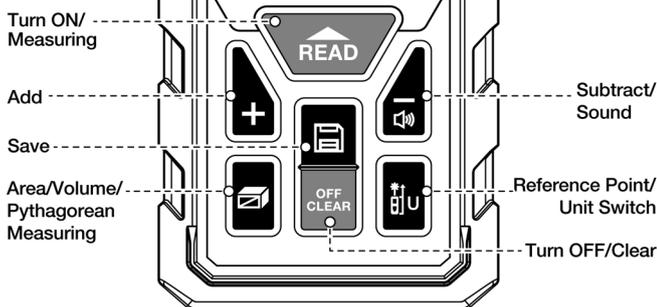
OPERATIONAL FEATURES

DISPLAY / KEYBOARD

DISPLAY



KEYBOARD



BATTERY INSTALLATION / REPLACEMENT

- Remove battery cover from the back of device.
- Insert (2) 1.5V AAA alkaline batteries in the correct polarity—replace battery cover.
- If device is stored for a period of time, remove batteries to avoid corrosion to batteries and meter casing.

! WARNING

Dispose of used battery safely. Never place into trash.

TURN DEVICE ON/OFF

- In OFF status, press READ , device and laser will start up simultaneously and stand by for measurement.
- In ON status, long-press OFF/CLEAR  for 3 seconds to turn the device OFF.
- When idle, device will automatically shut OFF after 150 seconds.

UNIT SETTING

- Long-press REFERENCE , reset current measurement unit, the default unit is: 0.000m. (Six units for selection.)

UNITS

LENGTH	AREA	VOLUME
0.000 m	0.000 m ²	0.000 m ³
0.00 m	0.00 m ²	0.00 m ³
0.0 in	0.0 ft ²	0.0 ft ³
0.00 ft	0.00 ft ²	0.00 ft ³
0-1/6 in	0.00 ft ²	0.00 ft ³
0'00"-1/16 in	0.00 ft ²	0.00 ft ³

CHANGING REFERENCE POINT

- The device reference point by default is rear.
- Press REFERENCE  to change the reference point.

DELAY MEASUREMENT

- Long-press AREA/VOLUME , a second number shows on the screen.
- Short-press ADD  or SUBTRACT  to adjust the time.
- Press READ  to start count down. Measuring will start when display time is 0.

BACK LIGHT ON/OFF

- The back light is set to turn on and off automatically.
- The back light remains on while operating, and will automatically shut off in 15 seconds with no activity.

SOUND ON/OFF

- Long-press SOUND —turns buzzer ON or OFF.

SELF-CALIBRATION

- **This function maintains device precision.**
- Power off—press and hold OFF/CLEAR —then press READ .
- Release READ —continue to hold OFF/CLEAR  until "CAL" and a figure under it display on the screen—then release.
- Adjust the figure with ADD  or SUBTRACT  according to the accuracy of the meter.
- Adjustment range: -9 to 9mm—then, short-press READ  to save the calibration result.

ANGLE INDICATOR (top right of display)

- Angle indicator reads the angle at which the device is being held, in ranges between -90° to 90° , helping to maintain the correct angle when taking measurements.

RECORD FUNCTION

- While in MEASURING MODE, long-press SAVE  for 3 seconds to record the measured results.
- Record in the same manner while in AREA, VOLUME and PYTHAGOREAN modes.
- All calculated records can be saved on the device.

READ / DELETE THE RECORDINGS

- Short-press SAVE  enters record—press ADD  or SUBTRACT  to scroll through results.
- Short-press OFF/CLEAR  deletes most recent recordings.
- Long-press OFF/CLEAR  deletes all recordings.
- Press SAVE  or READ  to exit record mode.

LENGTH MEASUREMENT AND CALCULATION

- Turn laser beam ON by short-pressing READ  under measuring mode—press READ again—laser will show 4 dashes (- - - -) displayed in the MAIN DISPLAY.
- Press READ  a third time and the single measurement of length results will be shown in the MAIN DISPLAY.

Length Addition and Subtraction:

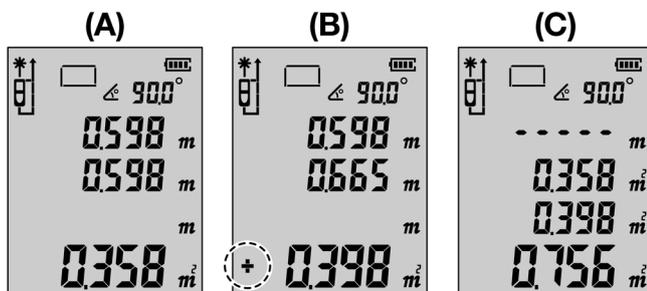
- After obtaining a Length measurement: Press ADD  or SUBTRACT  once to select the function.
- Pressing ADD  shows "+" in the MAIN DISPLAY and enters into Addition Mode. Value of last measurement and the cumulative result will be shown on the screen.
- Pressing SUBTRACT  shows "-" in the MAIN DISPLAY and enters into Subtraction Mode. Value of last measurement and the cumulative result will be shown on the screen.

NOTE: The Addition and Subtraction functions can also be applied to Area and Volume.

For Example:

Area cumulative function:

- Measure first area as shown in (A).
- Short-press ADD —then short-press READ  to measure second area (B). The "+" will be shown on the bottom left of the screen.
- Short-press READ  again for cumulative result of the two areas, shown in (C).
- Press OFF/CLEAR  to exit the mode.



Continuous Measuring:

- While in measuring mode—press and hold READ  for a few seconds to enter Continuous Measuring Mode.

NOTE: The device will continuously beep while in continuous measuring mode.

(Continued next column)

- Maximum measuring result displays in auxiliary display area, present result displays in MAIN DISPLAY.
- Short-press READ  or OFF/CLEAR  to exit continuous measuring mode.

Area Measurement:

- Press AREA/VOLUME ,  will display. Length side of the rectangle will blink first.

Follow instructions below:

- Press READ  once for Length.
- The Width side of rectangle will blink—press READ  again for Width.
- Device will calculate and show results in the MAIN DISPLAY area.
- Rectangle will close and results of both measurements will show in the AUXILIARY DISPLAY.
- Press OFF/CLEAR  once to delete the measurements and recalculate if necessary.
- Press OFF/CLEAR  again to exit the mode.

Volume Measurement:

- Press AREA/VOLUME ,  twice to enter volume measurement mode.  Will display at top of screen. Length side will blink first.

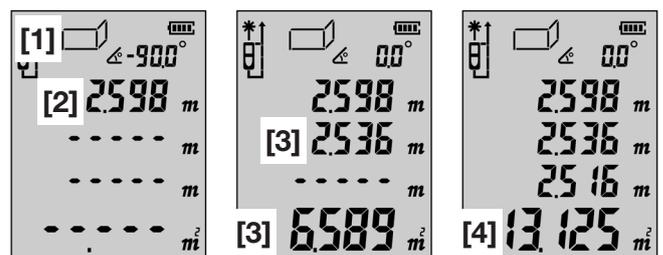
Follow instructions below:

- Press READ  once for Length.
- Width side of rectangle will blink—press READ  again for Width.
- The Height side of rectangle will blink—Press READ  a third time for Height.
- The device calculates and displays the result in the MAIN DISPLAY.
- The cuboid will close and the results of all three measurements will be shown in the AUXILIARY DISPLAY.
- Press OFF/CLEAR  once to delete the measurements and recalculate if necessary.
- Press OFF/CLEAR  again to exit the mode.

Paint Surface Area Measurement:

With the Meter in AREA MODE , this function uses the ADD/SUBTRACT to total the areas of several surfaces.

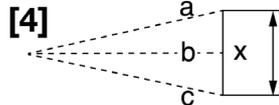
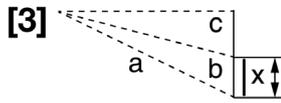
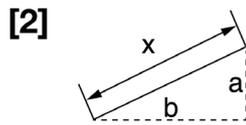
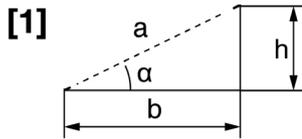
- [1] Press AREA/VOLUME  three times and  will show on the display.
- [2] Height line for wall will blink. Press READ  to measure Height of first wall.
- [3] Length line of first wall will blink. Press READ  again to measure bottom edge of first wall—area results of first wall will show in MAIN DISPLAY.
- [4] Length line for second wall will blink. Press READ  to measure bottom edge of next wall, the MAIN DISPLAY will show the sum of two walls.



- Repeat this process for remaining walls to be painted.
- Press OFF/CLEAR  to clear previous results and start a new measurement.
- Press OFF/CLEAR  a second time to exit the mode.

PYTHAGOREAN SHAPES

There are four Pythagorean modes for hard to reach targets.



[1] Calculate the length of two legs by measuring the Hypotenuse and the angle:

- Short-press AREA/VOLUME  four times, when the Hypotenuse of  is blinking:
- Press READ , to measure Length of Hypotenuse (a), and device calculates the angle (α) between the upper and lower ends of the wall.
- Device calculates the horizontal distance (b) and vertical height (h). The four readings are recorded in the display. Top line hypotenuse, second line angle, third line (b) and forth line (h).

[2] Calculate the Hypotenuse by measuring the Length of two legs.

- Short-press AREA/VOLUME  five times, when one leg of  is blinking:
- Press READ , to measure Length of one leg (a).
- Press READ , to measure Length of another leg (b).
- Device calculates the length of Hypotenuse (x) and is shown in MAIN DISPLAY.

[3] Short-press AREA/VOLUME  six times, when one leg of  is blinking:

- Press READ , to measure Length of side (a).
- Press READ , to measure Length of median line (b).
- Press READ , to measure Length of another side (c).
- Device calculates Length of leg line (x).

[4] Short-press AREA/VOLUME  seven times until the Hypotenuse of  is blinking:

- Press READ , to measure Length of Hypotenuse (a).
- Press READ , to measure Length of one leg (b).
- Press READ , to measure Length of Hypotenuse (c).
- Device calculates Length of full leg line (x).

NOTE: Leg measurement must be shorter than the Hypotenuse measurement or "Err 5" appears on screen. To guarantee accuracy, ensure all measurements start from the same point.

TROUBLESHOOTING

Error Message	Cause	Solution(s)
Err	Out of distance measuring range	Use device within range
Err 1	Weak signal	<ul style="list-style-type: none"> • Choose a more reflective surface • Use a reflective target plate
Err 2	Signal too strong	<ul style="list-style-type: none"> • Choose a less reflective surface • Use a reflective target plate
Err 3	Low battery voltage	Replace the 1.5V AAA batteries
Err 4	Temperature is out of range	Use device within specified temperature range
Err 5	Pythagorean measuring error	Re-measure to ensure Hypotenuse is larger than the Cathetus
Err 6	Angle sensor error	Call Service Center at 1-847-780-6120

DEVICE MAINTENANCE

CAUTION

Keep the device surface clean. Never use an abrasive cleaner to clean the device or the lens.

- **Inspect the lens:** Check the lens under a light source for any streaks or smudges.
- **Remove loose debris:** Use a lens blower or a soft brush (such as a camel's hair brush) to remove any loose dust or particles from the lens surface.
- **Prepare a cleaning solution:** If needed, use a damp microfiber cloth or lens cleaning wipe with a lens cleaning solution. Do not apply the solution directly to the lens, as it can seep into the lens barrel.
- **Clean the lens:** Gently wipe the lens surface in a circular motion, starting from the center and moving towards the edges. Apply light pressure and avoid scrubbing.
- **Dry the lens:** Use a clean, dry part of the microfiber cloth or a fresh lens tissue to remove any remaining moisture.
- **Avoid harsh chemicals and abrasive materials:** Do not use paper towels, tissues, or cleaning agents not specifically designed for lenses, as they can scratch the lens surface or leave streaks.
- **Don't touch the lens with your fingers:** Oils from your fingers can smudge the lens and attract dust.
- **Clean in a dust-free environment:** Minimize the risk of dust settling on the lens during cleaning.
- **Clean gently:** Avoid applying excessive pressure when cleaning to prevent damage.
- **Consider lens cleaning pens:** Lens cleaning pens with a brush and a cleaning tip can be useful for removing fine particles and cleaning the lens.

NOTE: Store the Laser Distance Meter in included case, in a cool & dry place, away from direct sunlight and heat sources. If used infrequently, remove batteries and store them separately to prevent accidental short circuits.

Visit us on the web at www.powertecproducts.com



Put these instructions and the original sales invoice in a safe, dry place for future reference.

Southern Technologies, LLC • Chicago, IL 60606