

# Powerline

PLM70 70m Laser Distance Measurer



# INSTRUCTION MANUAL

# SAFETY

Please read this instruction manual before operating this product. Please store this instruction manual in the carry case for future reference.

## **CAUTION: Class 2 Laser Product**

Do not stare directly into the laser beam from apertures.

Keep out of reach of children.

Due to the electromagnetic radiation interference to other equipment and devices please do not use the laser distance measurer in an airplane or around medical equipment.

Do not use in a flammable, explosive environment.

Discarded batteries or devices shall not be processed with household garbage. Please follow related laws and regulations.

Do not disassemble the instrument or attempt to perform any internal servicing as this will void your warranty. No user serviceable parts included.

Only approved and authorised service technicians can carry out warranty repairs.

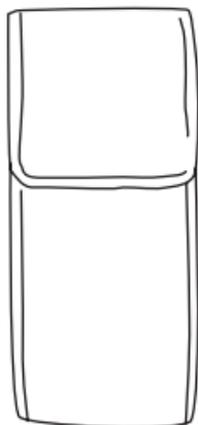
# ITEM CHECKLIST

Please ensure the following items are included with your laser distance measurer.

If anything is missing please contact your retailer.



Powerline PLM70



Carry case

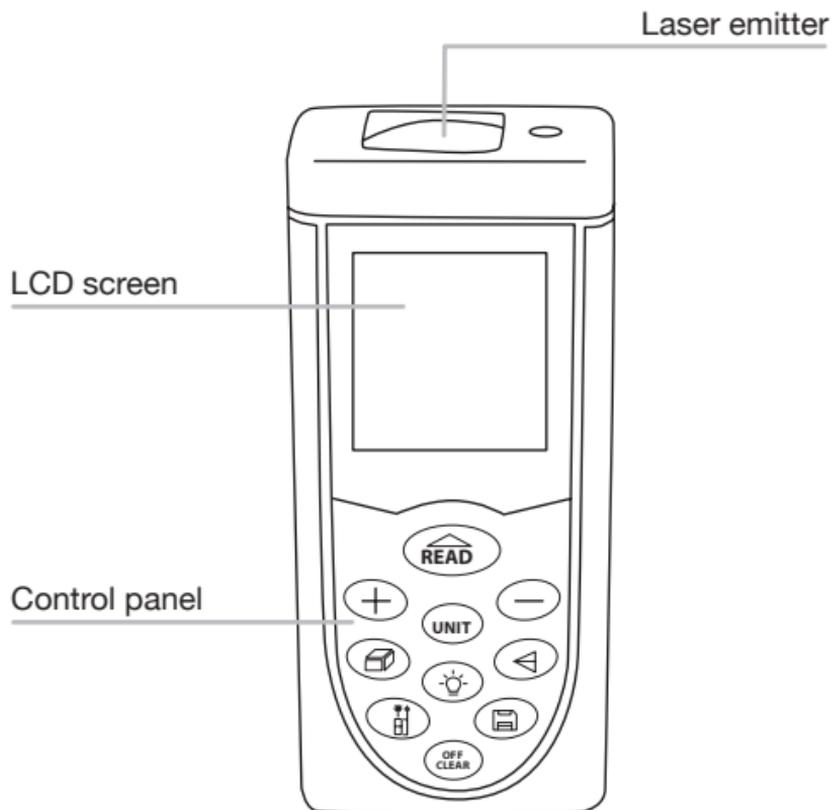


Carry strap



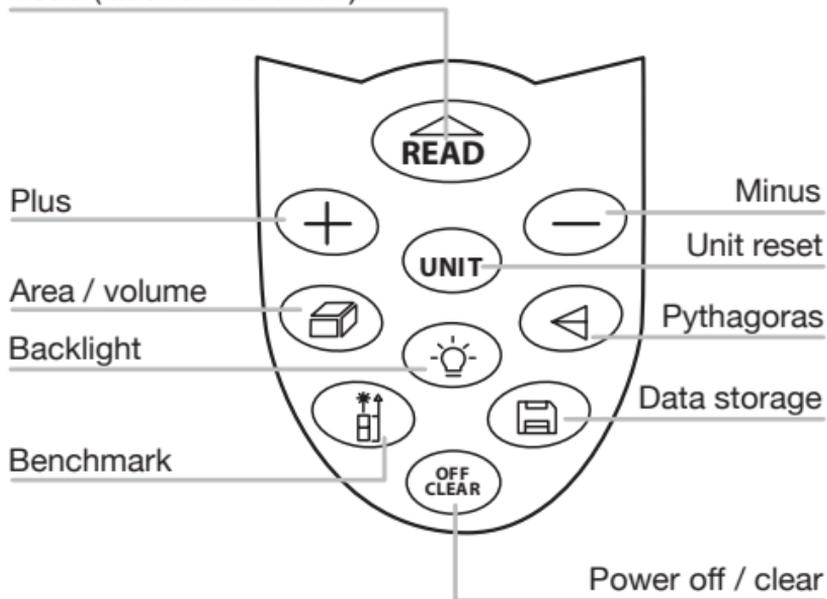
Batteries

# PRODUCT OVERVIEW

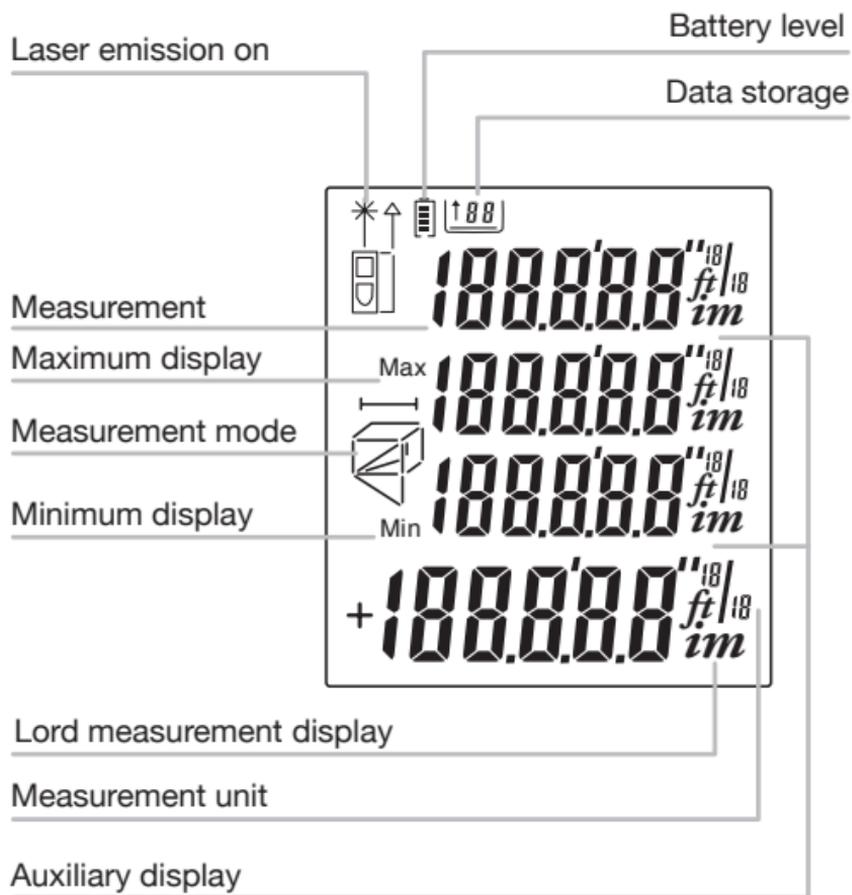


# CONTROL PANEL

Read (laser emission on)



# DISPLAY SCREEN



# USING YOUR DISTANCE MEASURER

## Power Supply

- ▶ The Powerline PLM70 is supplied with three AAA alkaline batteries.
- ▶ To replace batteries remove the battery door at the back of the device. Place batteries according to polarity and replace battery door.
- ▶ For infrequent use please take out the battery to avoid corrosion to the body of the device.

## Operation

- ▶ To turn the measurer on, press the *read* button. The instrument and laser will start simultaneously and begin measurement.
- ▶ To turn off press and hold the *off / clear* button for 3 seconds.
- ▶ The device will shut off automatically after 150 seconds without use.

## Unit Setting

To reset the current unit of measurement press the *unit* button. The unit default is 0.000m.

Optional units as below:

Length	Area	Volume
0.000m	0.000m <sup>2</sup>	0.000m <sup>3</sup>
0.00m	0.00m <sup>2</sup>	0.00m <sup>3</sup>
0.0in0	0.00ft <sup>2</sup>	0.00ft <sup>3</sup>
0.00ft0	0.00ft <sup>2</sup>	0.00ft <sup>3</sup>

## **Backlight Setting**

Press and hold the *backlight* button to turn the backlight on or off.

## **Measurement Benchmark Setting**

To switch between front and back benchmark press the *benchmark* button.

# **Measurement**

## **Single Measurement**

- Press the *read* button. The laser will be emitted.
- Re-press the *read* button for a single distance measurement. Results will be displayed on the display screen.

## **Continuous Measurement**

- Press the and hold the *read* button. Minimum and maximum results will be displayed on the display screen.
- Press the *read* button to exit continuous measurement.

## **Area Measurement**

- Press the *area / volume* button. A rectangle will appear on the display screen with one edge flashing. Follow the instructions displayed on the screen as below:
  - Press the *read* button to measure the first edge (length).
  - Press the *read* button to measure the second edge (width).
- Area will be calculated automatically with results shown on the display screen.
- Press the *off / clear* button to clear measurement.

### **Volumetric Measurement**

- Press the *area / volume* button twice. A cube will appear on the display screen with one edge flashing. Follow the instructions displayed on the screen as below:
- Press the *read* button to measure the first edge (length).
- Press the *read* button to measure the second edge (width).
- Press the *read* button to measure the third edge (height).
- Volume will be calculated automatically with results shown on the display screen.
- Press the *off / clear* button to clear measurement.

### **Pythagoras Measurement**

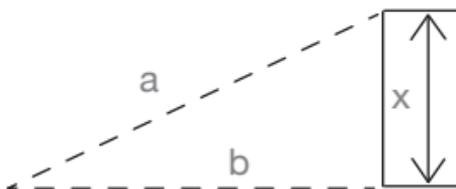
To calculate the unilateral distance of a triangle pythagorean mode can be used. When taking measurements of the triangle ensure the length of the right side is shorter than the length of the hypotenuse. If not, the instrument will display an error signal.

To ensure the accuracy of measurement, take measurements from the same starting point of the first order hypotenuse. Then follow with the measurement of the right side.

Please follow the instructions according to the method required. (See diagrams on page 10 - 11 to determine the appropriate method).

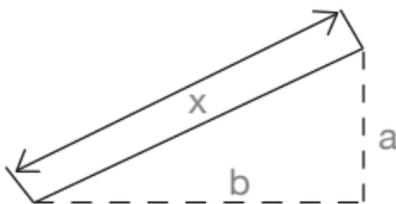
1. Press the *pythagoras* button to enter pythagorean mode. A triangle will appear on the display screen with the hypotenuse flashing. Follow the instructions displayed on the screen as below:

- ▶ Press the *read* button to measure the length (a) of the hypotenuse.
- ▶ Press the *read* button to measure the length (b) of the side.
- ▶ Length (x) will be calculated automatically with results shown on the display screen.



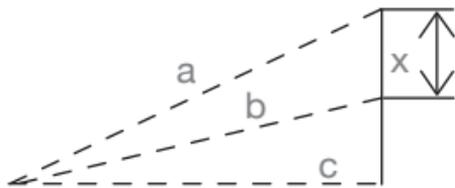
2. Press the *pythagoras* button twice to enter pythagorean mode. A triangle will appear on the display screen with the vertical side flashing. Follow the instructions displayed on the screen as follows:

- ▶ Press the *read* button to measure the length (a) of the side.
- ▶ Press the *read* button to measure the length (b) of the next side.
- ▶ Length (x) of the hypotenuse will be calculated automatically with results shown on the display screen.



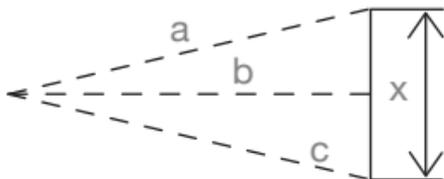
**3.** Press the *pythagoras* button three times to enter pythagorean mode. A triangle will appear on the display screen with the hypotenuse flashing. Follow the instructions displayed on the screen as below:

- ▶ Press the *pythagoras* button to measure the length (a) of the hypotenuse.
- ▶ Press the *read* button to measure the length (b) of the hypotenuse. (See diagram)
- ▶ Press the *read* button to measure the length (c) of the next hypotenuse. (See diagram)
- ▶ Length (x) of the vertical side will be calculated automatically with results shown on the display screen.



**4.** Press the *pythagoras* button four times to enter pythagorean mode. A triangle will appear on the display screen with the hypotenuse flashing. Follow the instructions displayed on the screen as below:

- ▶ Press the *pythagoras* button to measure the length (a).
- ▶ Press the *read* button to measure the length (b). (See diagram)
- ▶ Press the *read* button to measure the length (c). (See diagram)
- ▶ Length (x) of the vertical side will be calculated automatically with results shown on the display screen.



## **Adding and Subtracting Measurement**

Single distance measurement can be done through adding or subtracting to get an accumulated add or subtract operation.

- ▶ To add two measurements together take the first reading by pressing the *read* button.
- ▶ Press the *plus* button. A “+” symbol will appear on the display screen.
- ▶ Take the second reading by pressing the *read* button. The values will be added automatically with the results shown on the display screen.
  
- ▶ To subtract two measurements take the first reading by pressing the *read* button.
- ▶ Press the *minus* button. A “-” symbol will appear on the display screen.
- ▶ Take the second reading by pressing the *read* button. The values will be subtracted automatically with the results shown on the display screen.

## **Storage and Browsing**

After a reading has been taken the data may be stored. Press and hold the *data storage* button for three seconds. The data will automatically be stored in the unit’s memory.

To view stored measurements press the *data storage* button. Press the plus or minus button to browse through the data.

To remove stored data press and hold the *power off / clear* button.

# TROUBLE SHOOTING

**Err1** *Signal is too weak.*

Measure target locations which are with stronger reflecting surfaces.

**Err2** *Signal is too strong.*

Measure target locations which are with weaker reflecting surfaces.

**Err3** *Battery voltage too low.*

Replace battery.

**Err4** *Beyond working temperature.*

Carry out measurement with the meter in the specified scope.

**Err5** *Improper measurement in pythagorean proposition.*

Re-measure and ensure the length of the hypotenuse is longer than that of the right side.

**Err6** *Memory damage.*

Please contact the supplier.

# CARE AND MAINTENANCE

- Inaccurate measurement results may occur in harsh environments such as strong sunlight, excessive temperature fluctuations, weak reflective surfaces or low battery.
- Whenever possible, store the instrument in a cool, dry place. Do not store in high temperatures or strong humidity for long periods of time.
- Remove the batteries before storing the device for long periods of time without use.
- To remove dust clean the instrument with a damp, soft cloth.

# WARRANTY

**The Powerline PLM70 comes with a 6 year manufacturers warranty.**

Our goods come with guarantees that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for a major failure and for compensation for any other reasonably foreseeable loss or damage. You are also entitled to have the goods repaired or replaced if the goods fail to be of acceptable quality and the failure does not amount to a major failure.

Separate to the above Australia Consumer Law, *Spot-on* offers a global warranty.

## **Customer Support**

To assist you with any queries or technical questions please contact the customer support line: 1300 658 338  
Operates 5 days a week: 8am - 5pm (EST)

# SPECIFICATIONS

Specifications	PLM70
Product code	50107
Warranty	6 Years
Accuracy	±1.5mm
Range	0.2 - 70m
Minimum unit displayed	1mm
Measurement unit options	mm/in/ft
Continuous measurement function	yes
Area measurement function	yes
Volume measurement function	yes
Add and subtract measurement function	yes
Max storage	99 units
Automatic backlight	yes
Buttons sound	yes
Laser class	2 Red
Laser type	65nm, <1mW
Automatic laser cut off	20s
Automatic shutdown	150s
Storage temperature	-20° - 60°
Working temperature	0° - 40°
Storage humidity	RH85%
Battery	1.5V 3x AAA
Weight (Exc battery)	130g
Dimensions	124x54x23mm

Available from



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