

PLM 40 Mk II

Powerline

40_M LASER DISTANCE MEASURER



INSTRUCTION MANUAL

SAFETY

Read the following safety instructions before attempting to operate this product. Keep these instructions in a safe place for future reference.

SAVE ALL WARNINGS AND INSTRUCTIONS FOR FUTURE REFERENCE.

WARNING: Read and understand all instructions.

- › Use the laser measurer only with the specified batteries.
- › Store the laser measurer out of reach of children and other untrained persons. Lasers are dangerous in the hands of untrained users.
- › 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.
- › Tool service must be performed only by qualified repair personnel. Repairs, service or maintenance performed by unqualified personnel will void the warranty. Only approved and authorised service technicians can carry out warranty repairs.
- › Do not use optical tools such as a telescope or transit to view the laser beam. Serious eye injury could result.

- › Do not place the laser in a position which may cause anyone to intentionally or unintentionally stare into the laser beam. Serious eye injury could result.
- › Do not position the laser near a reflective surface which may reflect the laser beam toward anyone's eyes. Serious eye injury could result.
- › Do not use optical tools to view the laser beam.
- › Do not remove or deface warning labels.

WARNING: DO NOT DISASSEMBLE THE LASER MEASURER. There are no user serviceable parts inside. Disassembling the laser will void all warranties on the product. Do not modify the product in any way. Modifying the tool may result in hazardous laser radiation exposure.

CAUTION: Class 2 Laser Product

- › Never look into the laser beam directly and intentionally.
- › Do not use optical tools to view the laser beam.
- › Do not let children come in contact with the laser measurer.

ITEM CHECKLIST

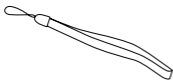
Please ensure the following items are included with your laser distance measurer. If anything is missing please contact your retailer.



Powerline PLM40 Mk II



Carry pouch



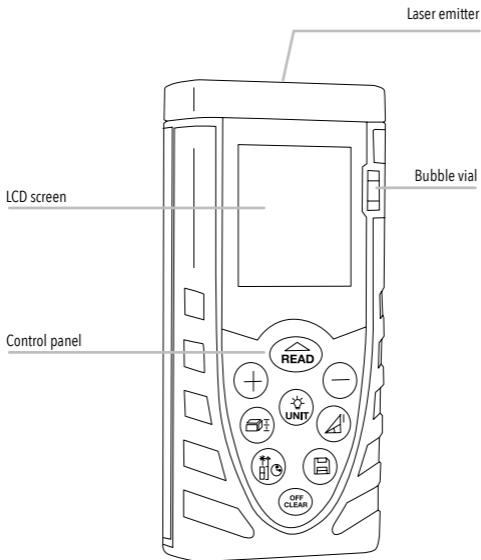
Carry strap



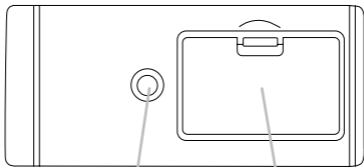
Alkaline batteries

PRODUCT OVERVIEW

LASER MEASURER FRONT



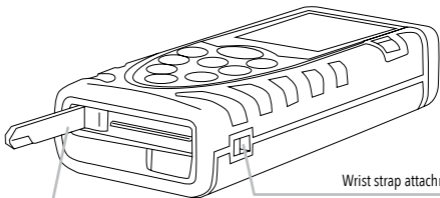
LASER MEASURER BACK



1/4" thread for operation
on a tripod

Battery compartment

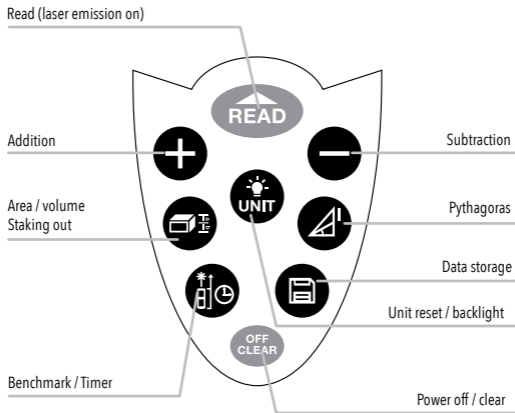
LASER MEASURER BOTTOM



End piece

Wrist strap attachment

CONTROL PANEL



DISPLAY SCREEN

Battery level

Staking-out

Data storage

Laser emission on

Measurement

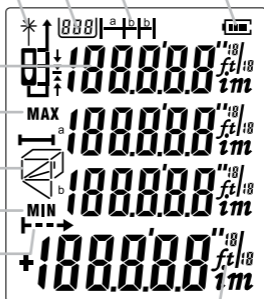
Maximum display

Measurement mode

Minimum display

Continuous measuring

Measurement unit



USING YOUR LASER MEASURER

POWER SUPPLY

- › The Powerline PLM40 Mk II is supplied with two 1.5v 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

ON/OFF

- › Press and hold the *read* button to turn the laser distance measurer on.
- › Press and hold the *off / clear* button for 3 seconds to turn the unit off. The device will shut off automatically after 150 seconds without use.

UNIT SETTING

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

OPTIONAL UNITS		
Length	Area	Volume
0.000m	0.000m ²	0.000m ³
0.00m	0.00m ²	0.00m ³
0.0in0	0.00ft ²	0.00ft ³
0.00ft0	0.00ft ²	0.00ft ³
0 1/16 in	0.00ft ²	0.00ft ³
0'00' 1/16"	0.00ft ²	0.00ft ³

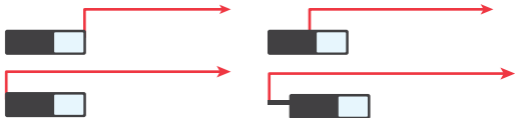
BACKLIGHT SETTING

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

REFERENCE POINT SETTING

To cycle between the benchmark reference points press the *benchmark* button.

There are four reference points: top, middle, bottom and end piece.



MEASUREMENT

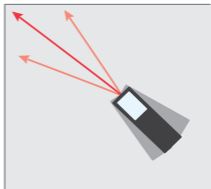
SINGLE MEASUREMENT

- › 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.



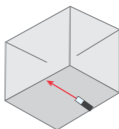
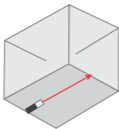
CONTINUOUS MEASUREMENT

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



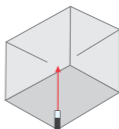
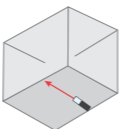
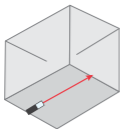
AREA MEASUREMENT

- Press the *area / volume* button. A rectangle will appear on the display screen with one edge flashing.
- 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.



VOLUME MEASUREMENT

- Press the *area / volume* button twice. A cube will appear on the display screen with one edge flashing.
- 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.

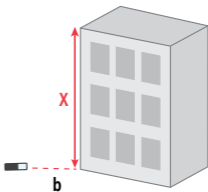
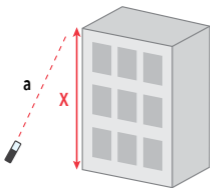
To ensure the accuracy of measurement, take measurements from the same starting point of the first order hypotenuse. Then follow with the measurement of the right side.

Please follow the instructions according to the method required. (See diagrams on page 11 - 13 to determine the appropriate method).

1. Calculate the side of a right angle triangle

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 follows:

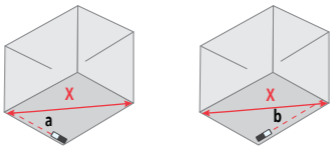
- Press the *read* button to measure the length (a) of the hypotenuse.
- Press the *read* button to measure the length (b) of the rectangular side.
- Length (x) will be calculated automatically with results shown on the display screen.



2. Calculate the hypotenuse of a right angle triangle

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:

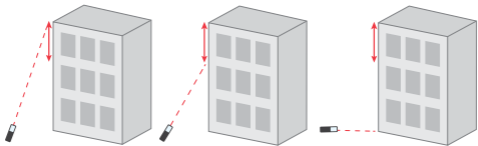
- Press the *read* button to measure the length (a) of the rectangular side.
- Press the *read* button to measure the length (b) of the next rectangular side.
- Length (x) of the hypotenuse will be calculated automatically with results shown on the display screen.



3. Calculate partial length of a right angle triangle

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 follows:

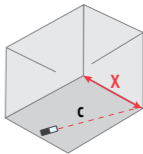
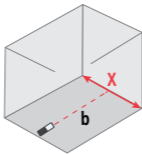
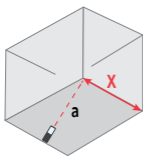
- Press the *read* button to measure the length (a) of the hypotenuse.
- Press the *read* button to measure the length (b) of the second hypotenuse.
- Press the *read* button to measure the length (c) of the rectangular side.
- Length (x) of the vertical side will be calculated automatically with results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



4. Calculate the third side of a triangle

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 follows:

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



OTHER FUNCTIONS

DELAYED MEASUREMENT (TIMER)

- Press the *benchmark / timer* button.
- Press the *addition* or *subtraction* button to adjust the time (Minimum 3 seconds, maximum 60 seconds).
- Once the time has been set, press the *read* button.

ADDING AND SUBTRACTING MEASUREMENT

Addition


- Take the first reading by pressing the *read* button.
- Press the *addition* 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.

Subtraction

- To subtract two measurements take the first reading by pressing the *read* button.
- Press the *subtraction* 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.

STAKING-OUT FUNCTION

The staking-out function allows the user to enter a value into the unit. The unit will then guide the user into finding the exact reference point.

- Press and hold the *area / volume / staking-out* button to enter staking-out mode.
- Press the *addition or subtraction* button to enter a value. Press and hold the *addition or subtraction* button to enter a larger gap.
- Once the value has been set, press the *read* button. The unit will display an arrow pointing forwards or backwards, depending on the location of the user. Move forward or back until the unit shows the centred symbol: 

STORAGE AND BROWSING

Save a reading

Press and hold the *data storage* button for three seconds. The data will automatically be stored in the memory of the unit.

View storage

To view stored measurements, press the *data storage* button. Press the *addition* or *subtraction* buttons to browse through the data.

Remove records

To remove a record, press the *power off / clear* button. To remove all stored data press and hold the *power off / clear* button.

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.

TROUBLE SHOOTING

ERROR CODE	CAUSE & SOLUTION
ERR1	Signal is too weak. Measure target locations that have stronger reflecting surfaces.
ERR2	Signal is too strong. Measure target locations that have 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 mode. Re-measure and ensure the length of the hypotenuse is longer than that of the right side.
ERR6	Memory damage. Please contact the supplier.

WARRANTY

The Powerline PLM40 Mk II comes with a 6 year manufacturers warranty.

AUSTRALIA

"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."

For more information please visit consumerlaw.gov.au

NEW ZEALAND

For more information please visit consumerprotection.govt.nz

CUSTOMER SUPPORT

To assist you with any queries or technical questions please contact customer support

Australia: 1300 658 338

New Zealand: 0800 367 527

SPECIFICATIONS

Specifications	PLM40 Mk II
Product code	50204
Accuracy	±1.5mm
Minimum measurement range (top reference point)	0.05m
Maximum measurement range	40m
Minimum unit displayed	0.05mm
Measurement unit options	m/in/ft
Continuous measurement function	yes
Area measurement function	yes
Volume measurement function	yes
Add and subtract measurement function	yes
Max storage	100 units
Automatic backlight	yes
Buttons sound	yes
Laser class	2 Red
Laser type	635nm, <1mW
Automatic laser cut off	20s
Automatic shutdown	150s
Storage temperature	-20° - 60° C
Working temperature	0° - 40° C
Storage humidity	RH85%
Battery	2x 1.5v AAA
Weight (Inc battery)	180g
Dimensions	118x54x26.5mm



www.spoton.com.au