

***e*xtreme**

32x

OPTICAL LEVEL




I N S T R U C T I O N M A N U A L

SAFETY

Read the following safety instructions before attempting to operate this product.


Keep these instructions in a safe place or store in the carry case for future reference.

SAVE ALL WARNINGS AND INSTRUCTIONS FOR FUTURE REFERENCE.

 **WARNING:** Read and understand all instructions.

- Use only accessories that are recommended for your model.
- 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.

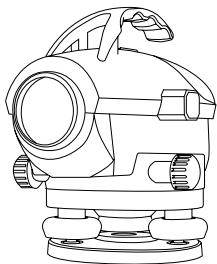
- Position the optical level securely on a level surface. Damage or serious injury could result if the optical level falls.

 **WARNING: DO NOT DISASSEMBLE THE OPTICAL LEVEL.** There are no user serviceable parts inside. Disassembling the optical level will void all warranties on the product. Do not modify the product in any way.

ITEM CHECKLIST

Please ensure the following items are included with your optical level.

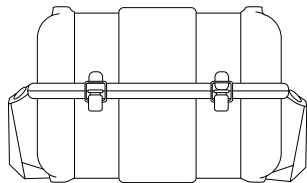
If anything is missing please contact your retailer.



Extreme 32x
with attached lens cap
(not pictured)

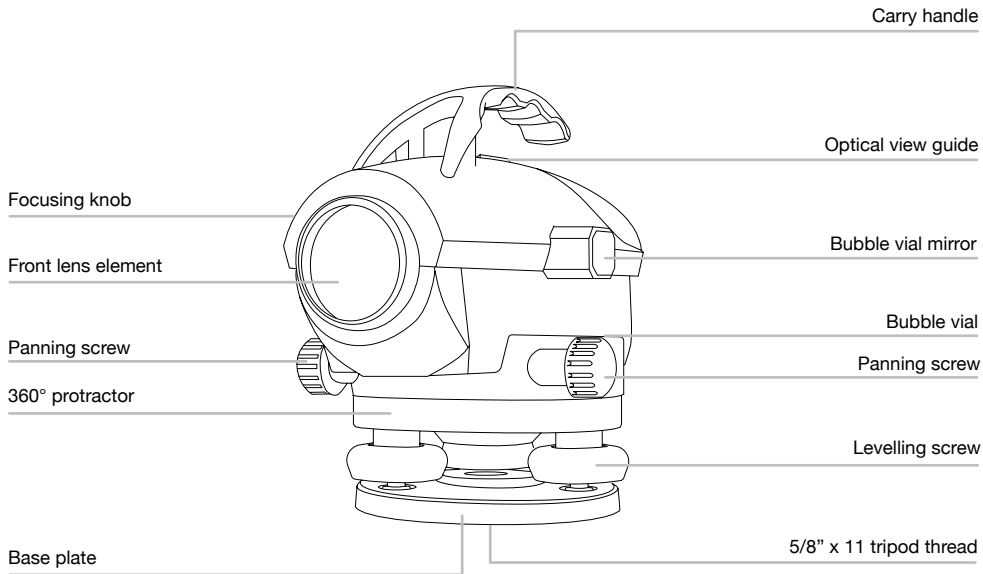


Plumb bob



Carry case

OPTICAL LEVEL OVERVIEW



USING YOUR OPTICAL LEVEL

SET UP

- Stand the tripod on a level surface with legs spaced for stability.
- Thread the tripod yoke through the 5/8" x 11 thread on the base of the instrument. Screw into place until secure.
- Centre the bubble vial by turning the levelling screws.

OPERATION

- Point the instrument towards the desired area.
- Use a bright background or hold a white sheet of paper in front of the area. Turn the eyepiece until the cross hairs are a sharp black.
- Turn the level towards the staff using the optical view guide.
- Turn the panning screw to set the vertical hair down the centre of the staff.

Measurement

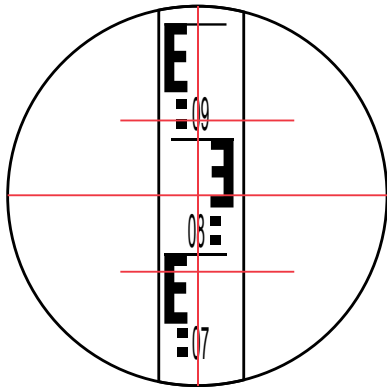
- Read the staff where it is cut by the middle hair.

Distance measurement

- Read the staff where it is cut by the upper and lower hairs.
- Calculate the distance between the upper and lower hairs.
- Multiply the figure by 100 to calculate the distance between the instrument and the staff.

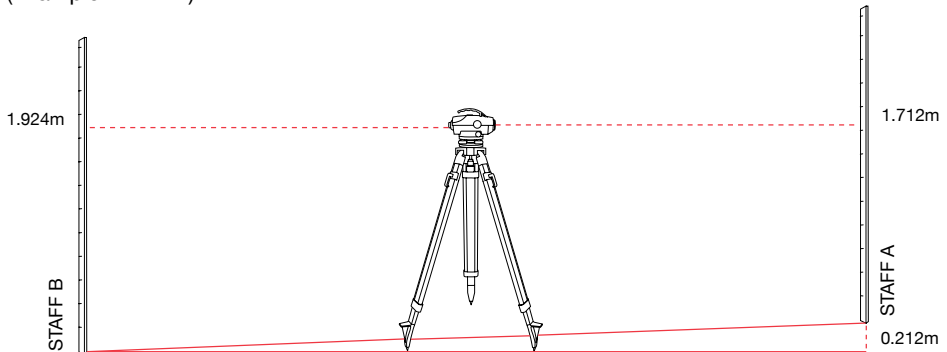
Angle measurement

- Point the instrument towards the first point.
- Set the protractor base to 0°
- Point the instrument towards the second point.
- The angle result will be in the protractor reading.



Height measurement

- Place the instrument onto a solid tripod between two staves.
- Level off the optical using the bubble vial.
- Take an accurate measurement reading from staff A. (Example. 1.924m). Take an accurate measurement reading from staff B (Example. 1.712m)
- Subtract the measurement of staff B from staff A. (Example. $1.924\text{m} - 1.712\text{m} = 0.212\text{m}$). This calculation shows that staff B is 0.212m higher than staff A.



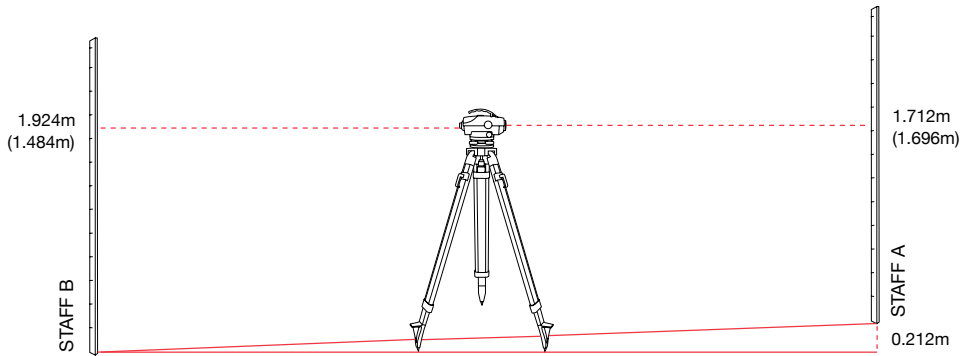
CHECKING ACCURACY

BUBBLE VIAL

- Centre the bubble by adjusting the levelling screws until level.
- Turn the instrument 90° at a time and check the position of the bubble inside the vial. If the bubble moves out of the centre ring a service and calibration is required.

COMPENSATOR

- Place the instrument onto a solid tripod between two staves spaced 30m to 50m apart.
- Level off the optical using the bubble vial.
- Take an accurate measurement reading from staff A. (Example. 1.924m). Take an accurate measurement reading from staff B (Example. 1.712m)
- Subtract the measurement of staff B from staff A. (Example. $1.924\text{m} - 1.712\text{m} = 0.212\text{m}$). This calculation shows that staff B is 0.212m higher than staff A.
- Position the instrument and tripod 1m from Staff A while keeping it in between both Staff A and Staff B.
- Take an accurate measurement reading from Staff A. (Example. 1.696m. Subtract the height difference that was calculated in step 3 from the current measurement reading (Example. $1.696\text{m} - 0.212\text{m} = 1.484\text{m}$).
- Take an accurate measurement reading from staff B. The measurement reading for staff B should be approximately 1.484m based on the calculation above.
- If the compensator accuracy is less or greater than 3mm after following the measurements and calculations shown in these steps, a service and calibration is required.



CARE AND MAINTENANCE

- This is a precision measuring instrument and should always be handled with care and transported within the carry case provided.
- Whenever possible, store the instrument in a dry, shady location.
- Calibration of the instrument is recommended: every six months, if ongoing accurate levelling is required, or an impact has occurred.
- The operator should check the accuracy of the instrument before precision levelling is attempted. Failure to do so may result in inaccurate measurements.
- Clean the instrument with a dry, soft cloth after use in dusty, damp or wet conditions before storing. Use lens paper to clean the lens. Do not use your finger.
- Smudges and fingerprints may be removed with a damp tissue or a soft, lint-free cloth.

WARRANTY

The Extreme 32x comes with a 10 (ten) 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	Extreme 32x
Product code	60163
Warranty	10 Years
Accuracy	$\pm 1\text{mm}$ at 1km (double run)
Compensator range	15°
Magnification	32x
Minimum focus	1m
Objective aperture	36mm
Weight (kg)	1.80
Dimensions (mm)	210 x 175 x 135



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