

# opticon

## Tracker 670 Laser Rangefinder Operation Manual



## Introduction

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The Tracker 670 is a compact easy to use laser rangefinder designed for a range of outdoor activities such as golf, hunting, site surveying, walking and rambling. A compact 6x magnification monocular, the Tracker 670 provides accurate measurements of targets up to a range of 600 metres. It can also simultaneously measure the angular distance to and height of an individual target being observed.

## Contents

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Your Tracker 670 is quality checked before being packed. However, please check the following list to ensure that you have received all the items. If not, please contact us at the address shown on page 8.

- 1 Tracker 670 laser rangefinder
- 1 soft carry case
- 1 wrist strap
- 1 CR2 lithium battery
- 1 lens cleaning cloth

## Quick Start Guide

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For a detailed guide see page 4.

Use the power button marked 'O' to activate the unit. When powered on the device is set to Range-Finding Mode. To toggle between Range and Range & Angle measurement, briefly press the 'MODE' button. The LCD will show either Range or Range & Angle.

In **Range** mode, pressing the power button briefly will capture the distance to the target in the centre of the crosshair display. The maximum range that can be measured depends on the size and properties of the target object. Large, bright objects can be measured more accurately and at a greater distance than small, dark objects. To change the unit of measure, press and hold the 'MODE' button for 2 seconds. The display will toggle between 'M' (metres) and 'Y' (yards).

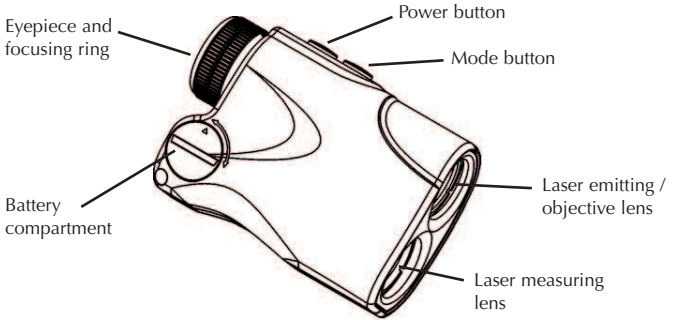
In **Range & Angle** mode, press the power button once the target object is in the centre of the crosshairs. The LCD will display the shortest distance to the target, as well as the horizontal distance, the angle of inclination plus the approximate height of the target. To change the unit of measure, press and hold the 'MODE' button for 2 seconds. The display will toggle between 'M' (metres) and 'Y' (yards).

The unit will power off automatically if not used for 20 seconds.

## Tracker 670 Product Features

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The illustration below shows the main features of the Tracker 670.



### Operating Modes

The Tracker 670 has two operating buttons marked 'O' and 'MODE'. Depending on the status of the device, these buttons will power on the device, set the operating modes and capture the measurement data.

### Focusing

The eyepiece is used to view the internal LCD screen and to observe the target. The eyepiece also acts as a focusing ring and has a quarter turn of travel (+/- 5 dioptre adjustment). Adjust the focus until both the LCD screen and the target are in focus. Note: If the LCD screen is out of focus but the target is in focus, the target distance is too close to be measured.

### Laser

Using a Class 1M eye-safe laser beam, the Tracker 670 emits short bursts of laser energy from the emitting lens. These are then reflected from the target and returned to the measuring lens. The device should be held so that the emitting lens is above the measuring lens. Note: the laser beam is not visible to the naked eye.

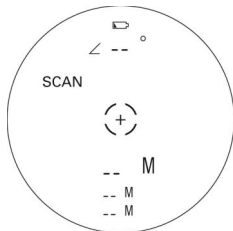
### Battery

The battery compartment can be accessed by unscrewing the compartment lid. It houses a 3V CR2 non-rechargeable lithium battery. The battery should provide 1500-2000 measurements under normal operating conditions. Alternating between range and range/angle scanning modes will reduce battery life more quickly.

## Tracker 670 LCD Screen Features

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The internal LCD screen shows a selection of the following icons and text depending on mode.



When the unit is turned on the central crosshair appears and the unit is ready to take a measurement in either measurement mode.

During measurement, the laser indicator (⚡) symbol will flash to indicate that the laser is transmitting and the word 'scan' will appear in the top left of the screen.

The device uses a Class 1M eye-safe laser but it is recommended that users do not look into the laser emitting lens whilst the device is powered on.

At the top of the display is a low battery indicator. This will show when the battery needs replacing. The accuracy of the measurements taken and the range of the device will be reduced when the low battery indicator is showing.

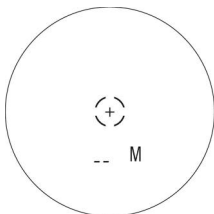
The crosshair markings on the display are designed to assist the user in accurately positioning the laser on the target object. For best results centre the target inside the crosshairs. For distant targets, rest your arm on a solid surface or hold it firmly against your chest. This will help to stabilise the unit and make the measurement more accurate.

The range measured is shown using up to three digits. If a measurement cannot be made, either because the object is too far away, is too small, too dark to reflect the laser beam the display will not show a result.

The Tracker 670 is accurate to within plus or minus one metre.

## Operating the Tracker 670

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Power on the device by briefly pressing the power button. When first powered on the LCD will be displayed as shown.

To toggle between range and range/angle modes, briefly press the 'MODE' button.

## Range Finding or Distance Measurement Mode

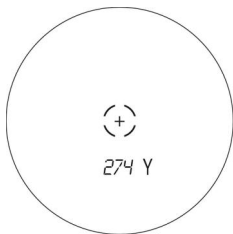
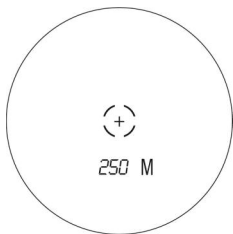
The best measurement results will be obtained when measuring large, bright and highly reflective objects. Small, dark objects will be difficult to range-find over a long distance. For example, a large mirror could be targeted at up to the device's maximum range of 600 metres with excellent accuracy. Large objects such as trees or buildings can be targeted accurately at around 450 metres. Smaller objects such as a golf flag, a deer or a person could be targeted at a range of up to 200 metres.

Weather conditions will also affect the maximum range and accuracy of measurement. Overcast but clear days will give the best results whilst a very sunny or very foggy day will reduce range and accuracy. The minimum distance that can be measured is 7 metres (8 yards).

To begin measurement, briefly press the power button. The distance measured will be shown on the LCD.

To switch between measuring in metres and yards, press and hold the 'MODE' button for 2 seconds. The bottom left of the LCD will show 'M' or 'Y'. To switch back again, press and hold the 'MODE' button for a further 2 seconds.

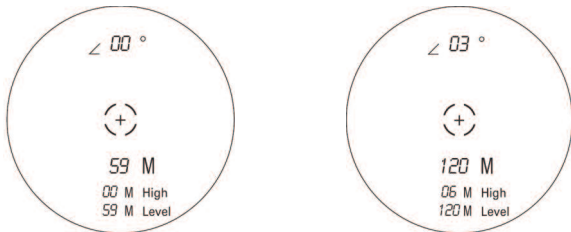
The Tracker 670 will power off automatically if not used for 20 seconds.



## Range and Angle Measurement Mode

Press 'MODE' button to change from Range to Range and Angle Mode. To begin measurement, briefly press the power button. The distance measured will be shown on the LCD.

In this mode the unit will simultaneously measure the angular distance to and height of an individual target being observed.



To switch between measuring in metres and yards, press and hold the 'MODE' button for 2 seconds. The bottom left of the LCD will show 'M' or 'Y'. To switch back again, press and hold the 'MODE' button for a further 2 seconds.

The Tracker 670 will power off automatically if not used for 20 seconds.

## **Care & Cleaning**

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The Tracker 670 will withstand the typical bumps and knocks that, for example a mobile phone or MP3 player would get in normal everyday use. Avoid dropping the device on hard surfaces and take care not to crush it if it is packed in a rucksack or case. The Tracker 670 is not waterproof and should not be submerged in water. It will resist some moisture but should not be used in very rainy or snowy conditions.

Avoid subjecting the device to extreme changes of temperature. When taking it from a very cold outdoor environment to a warmer environment (such as indoors), the lenses may mist over. Once the device has warmed up, the misting will disappear.

### **Battery Care**

The battery should be removed from the battery compartment if the device is not going to be used for any length of time i.e. more than one month.

### **Cleaning**

To clean the outer glass surfaces of the eyepiece and objective lenses, gently remove excess dirt and dust using compressed air or a blower brush. Breathe on exposed glass surface and then wipe with an optical cleaning cloth in a circular motion until the surface is clean again.

## **Warranty and Repair**

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The Tracker 670 contains a laser device and there are no user-serviceable parts inside. As such, the product casing should not be opened except by trained service personnel. If your instrument develops a fault, our Service Department is on hand to help you.

The Tracker 670 is guaranteed for up to 2 years under the following conditions: In the case of defects attributable to faulty processing or materials, we will assume responsibility for the labour and material costs during the first 12 months after purchase. We reserve the right to decide whether defective parts should be repaired or replaced.

During the next 12 months we will assume responsibility for material costs only, charging corresponding labour costs.

We will accept no liability for damage caused by incorrect use, water penetration, or for any repairs or actions which have been carried out outside our firm.

Parts such as carrying straps, rubber eyecups, rubberised coatings etc. are excluded from the guarantee.

This guarantee is in addition and does not affect your statutory rights.

## **TRACKER 670 Technical Specifications**

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Specifications are subject to change without notice.

Maximum distance measurement	600 metres *
Minimum distance measurement	7 metres
Laser type	Class 1M 905nm eye safe
Objective lens size	23mm
Magnification	6x
Field of view (FOV)	7°
Exit pupil diameter	3.8mm
Dioptre adjustment range	+/- 5
Operating temperature range	-20°C to +50°C
Range measurement accuracy	+/- 1 metre (1 yard) *
Battery type	1 off CR2 3V Lithium battery
Net weight	185 grammes
Dimensions (w x h x d) in millimetres	41 x 72 x 104

\* The actual maximum distance measured and the accuracy of the measurement will depend on the size, colour and reflectance of the target object. Other factors such as the time of day, weather conditions and the elevation of the target from the user will also have an impact on the range and accuracy of the device