

TITANIUM

TRL-10R Kit RED ROTARY LASER

Product Code: 88110

REVISION 2020.1.0



Instruction Manual

SAFETY

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

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 the tool only with the specifically designated batteries.
- Store the tool out of reach of children and other untrained persons. Laser tools are dangerous in the hands of untrained users.
- 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.
- 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 tool 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 tool 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 set up the tool at a position where the laser beam can cross any person at head height.
- Do not let children come in contact with the tool.
- Turn the tool off when it is not in use. Leaving the tool on increases the risk of staring into the laser beam.
- Do not operate the tool around children or allow children to operate the laser. Serious eye injury may result.
- Position the tool securely on a level surface. Damage to the tool or serious injury could result if the tool falls.
- Do not remove or deface warning labels.
- If the text on the warning label is not in your native language, cover it with the appropriate label supplied before commencing operation of the laser.



WARNING!
Do Not Disassemble The Laser.

There are no user serviceable parts inside. Disassembling the tool 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.



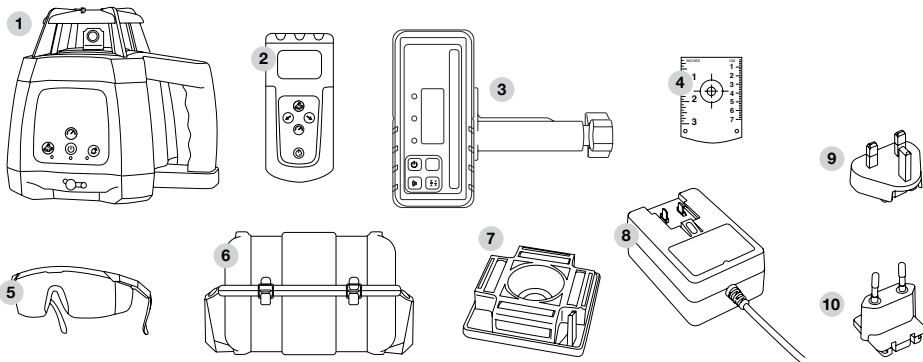
CAUTION!
Class 2 Laser Product

- Never look into the laser beam directly and intentionally.
- Do not use optical tools to view the laser beam.
- Do not set up the tool at a position where the laser beam can cross any person at head height.
- Do not let children come in contact with the laser.

ITEM CHECKLIST

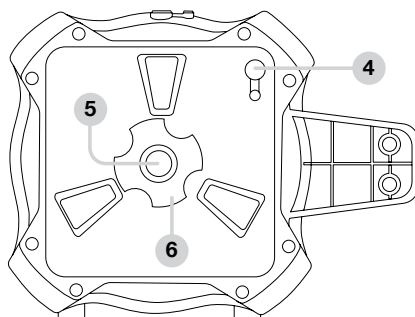
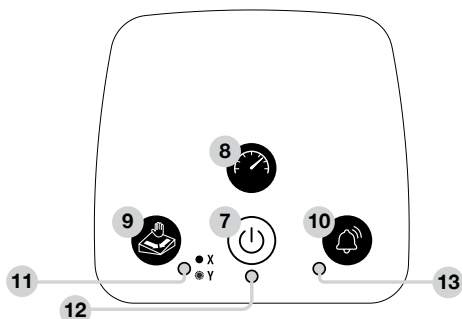
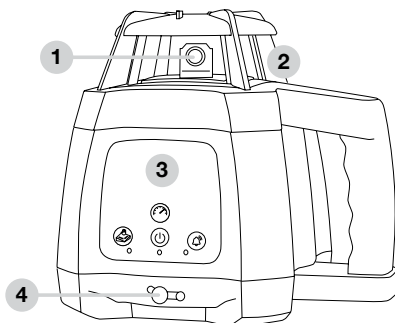
Please ensure the following items are included with your laser level. If anything is missing please contact your retailer.

- | | | |
|--------------------|--|----------------------|
| 1 Titanium TRL-10R | 5 Laser glasses | 9 Adaptor head (UK) |
| 2 Remote control | 6 Hard carry case | 10 Adaptor head (EU) |
| 3 Detector & clamp | 7 Rechargeable battery pack | |
| 4 Laser target | 8 Mains power / indoor charger adaptor | |



LASER OVERVIEW

- 1 Rotating laser port
- 2 Protective lighthouse
- 3 Control panel
- 4 Rechargeable battery charging port
- 5 5/8" x 11 thread for horizontal operation on a tripod
- 6 Battery thumb screw
- 7 Power button
- 8 Speed control button
- 9 Manual grade mode button
- 10 Tilt alarm button
- 11 X / Y axis indicator (manual grade mode)
 - X-axis = solid LED light
 - ⚡ Y-axis = flashing LED light
- 12 Power indicator
- 13 Tilt alarm indicator



USING THE LASER

POWER SUPPLY

Rechargeable battery pack

- The laser level is supplied with a rechargeable Ni-MH battery pack that is located in the base of the laser level.
- The rechargeable battery pack is supplied only partially charged. Charge the rechargeable battery pack before use. Keep the rechargeable battery pack in the carry case when not in the laser level.
- The **power indicator** light will flash when the battery is low. The laser level should be re-charged as soon as possible.
- Battery pack capacity decreases at low temperatures; a depleted pack may not function when cold.

Indoor charger




- The indoor charger is for indoor use only.
- Do not store in locations where moisture can be present or where the chargers could be exposed to extreme temperatures.
- If a charger becomes damaged, stop using immediately and seek a replacement.




WARNING! Only use the supplied charger. Using an incorrect charger will void the warranty. Do not charge alkaline batteries.

Charging the rechargeable battery pack

- Attach the desired adaptor head onto the charger.
- Insert the charger into one of the two charging ports (Fig.1). The charging ports are located on the battery pack and underneath the control panel. Progress will be shown by the power indicator display on the charger as following:

-  *Red (flashing)* = Charger and battery are not connected.
-  *Red (constant)* = Battery is charging
-  *Green (constant)* = Battery is charged

- Charging time is approximately 5 hours for a depleted battery.

 The battery pack does not need to be inserted in the laser level whilst charging via the port on the battery pack.

Removing and inserting the rechargeable battery pack

- Loosen the battery thumb screw on the base of the laser level and remove the battery pack.
- Insert the battery pack, ensuring the metal pins are aligned. Tighten the battery thumb screw.



WARNING! Do not attempt to disassemble the battery pack.

HORIZONTAL MEASUREMENT SETUP

Level surface set up

- Select a place as close and practical to the work site as possible, and ensure that the location is clear of traffic.
- Place the laser level onto a reasonably level surface with the lighthouse facing upwards.

VERTICAL MEASUREMENT SETUP


Level surface set up

- Select a place as close and practical to the work site as possible, and ensure that the location is clear of traffic.
- Place the laser level onto a reasonably level surface with the control panel facing upwards.

OPERATION

Powering on

- Press the **power** button once and the laser level will power on and begin automatically self-levelling. When this levelling process is complete, the penta prism inside the lighthouse will start rotating.
- If the laser level is outside the self levelling range the laser level will not level causing the laser beam to flash continuously. If this occurs, reposition the laser level onto a level surface until the laser level can level off.

 In bright outdoor conditions, visible distance will be significantly reduced. For outdoor use, it is recommended to use the included detector.

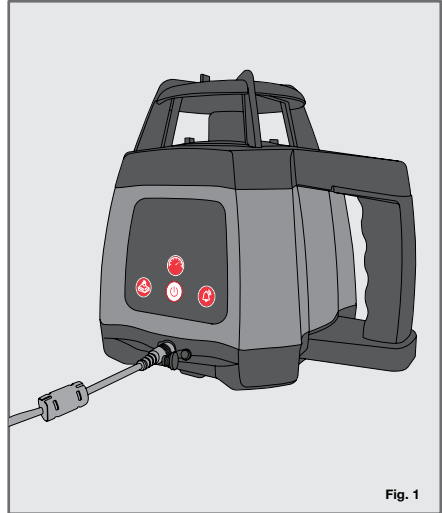


Fig. 1

Powering off


- Press the **power** button once and the laser level will power off.

Speed control

- Press the **speed control** button on the remote control to cycle through various rotational speeds.

Sleep mode

- Press the **sleep** button on the remote control to enter into sleep mode.
- The laser diode will stop spinning and shut off. (The unit is not turned off in sleep mode).
- Press the **sleep** button on the remote control to exit sleep mode.

 After 60 minutes of inactivity during sleep mode, the laser level will turn off automatically.

Tilt alarm

- Once the laser level has been levelled off the tilt alarm can be enabled by pressing the **tilt alarm** button. The **tilt alarm indicator** light will flash continuously whilst active.
- If the laser level is disturbed while the alarm is active the laser level will stop rotating and will need to be powered off and on again to reset to a level position.

Setting up a manual grade / slope

- To create a manual grade / slope, press the **manual grade mode** button on the laser level control panel or remote control. The laser level will now be in manual mode with the X-axis active. The LED **X / Y axis indicator** on the laser control panel will display a solid light to indicate X-axis is selected.
- Press the **grade adjustment arrow buttons** on the remote control.
- To change to the Y-axis, press the **manual grade mode** button. The LED **X / Y axis indicator** on the laser control panel will flash to indicate the Y-axis is selected. The laser level can now be adjusted on the Y-axis.
- Press the **grade adjustment arrow buttons** on the remote control.

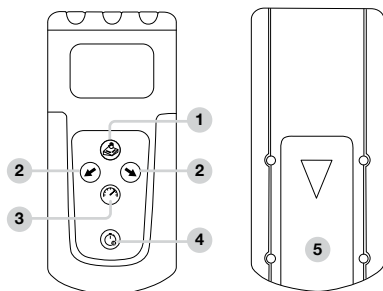
- To adjust the grade, press the **manual grade mode** button to cycle between X and Y axis
- To cancel manual grade mode, and return to normal levelling press the **power** button off and on again to reset the levelling process.

i When in manual mode the laser level will not self level and correct for vibrations and/or disturbances.

i Grade adjustments can only be made by pressing the grade adjustment arrow buttons on the remote control.

REMOTE CONTROL**REMOTE CONTROL OVERVIEW**

- | | |
|---|------------------------|
| 1 Manual grade mode button | 3 Speed control button |
| 2 Grade adjustment (manual mode) button | 4 Sleep mode button |
| | 5 Battery compartment |

**REMOTE CONTROL OPERATION****Power supply**

- The remote is powered by two AA alkaline batteries.

Battery replacement

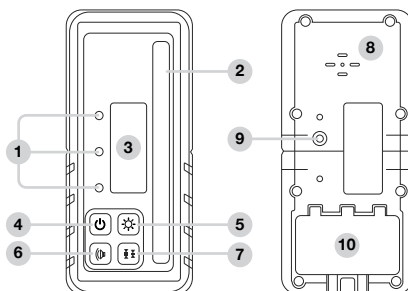
- Remove the **battery cover door** and the batteries.
- Insert the batteries according to polarity and replace the **battery cover door**.

Operating the remote control

- Ensure the laser level is turned on and the laser head is rotating.
- Grade set-up function is done via the remote control. To set up a manual grade / slope refer to page 6.
- For details on other remote control functions including speed control and sleep mode, refer to page 5.

DETECTOR & CLAMP**DETECTOR OVERVIEW**

- | | |
|----------------------|------------------------------|
| 1 LED indicator | 6 Speaker on / off button |
| 2 Laser sensor | 7 Detection mode button |
| 3 LCD display screen | 8 Speaker |
| 4 Power button | 9 Staff clamp mounting point |
| 5 Screen backlight | 10 Battery compartment |



DETECTOR LCD SCREEN OVERVIEW

- 1 Arrow indicator
- 2 Detection mode
- 3 Centre alignment
- 4 Brightness indicator
- 5 Battery indicator
- 6 Speaker indicator

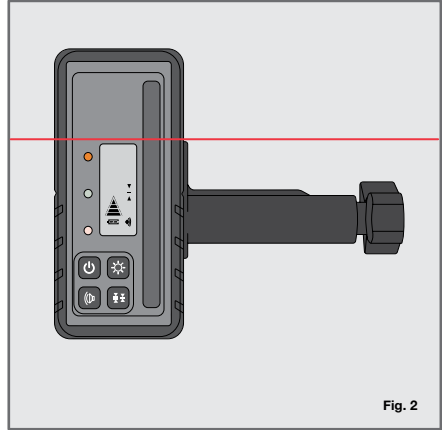
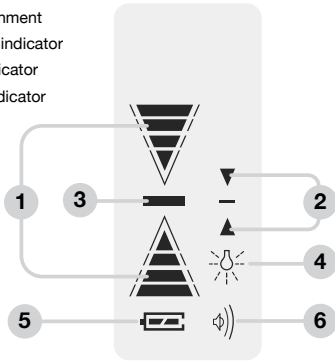


Fig. 2

POWER SUPPLY

- The detector is powered by one 9V alkaline battery.

Battery replacement

- Remove the **battery cover door** and the batteries.
- Insert the batteries according to polarity and replace the **battery cover door**.

MOUNTING TO THE STAFF CLAMP

- Insert the staff clamp screw into the staff clamp mounting point.
- Rotate the staff clamp thumb screw until the clamp is secured in place.

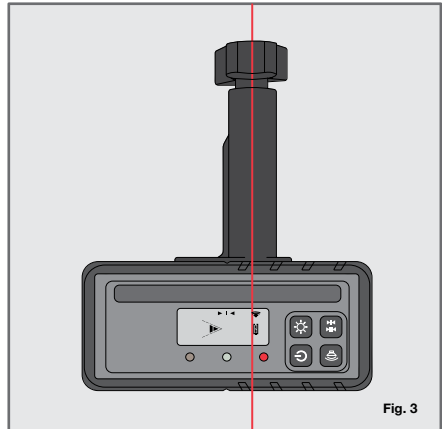


Fig. 3

DETECTOR OPERATION

- Power the detector on by pressing the **power button**. The LCD screen will turn on and the speaker will emit a small tone to indicate the detector is operating.
- The LCD screen will display the battery level, detection mode and speaker function.
- To change between broad, coarse and fine mode press the **detection mode** button.
- To change the speaker volume or turn the speaker off, press the **speaker** button.
- To turn on the backlight, hold down the **mode** button for approximately 3 seconds.
- Move the detector into the path of the laser beam.
- Hold the detector upright for horizontal beams (Fig. 2) or rotate 90° for vertical beams (Fig.3).
- The direction arrows or level line on the LCD screen will indicate the position of the laser beam. A digital increment display will indicate the position of the laser beam (Fig. 2 & 3). The detector will emit a constant beep once the level position has been located (Fig. 4).

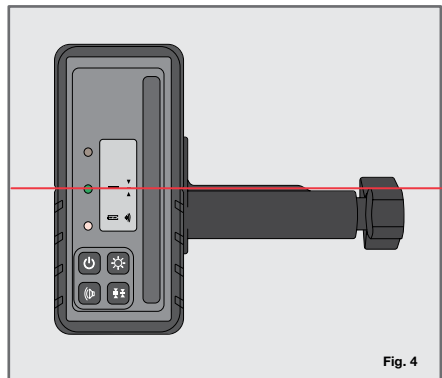


Fig. 4

- i** A construction tripod (flat, domed or elevating) can be purchased from your nearest measurement tool dealer. The below instructions are generic only and set-up methods may vary between models. Refer to the documentation from the tripod manufacturer for details.
- Extend the tripod legs to the required height and ensure the legs are spread wide enough so that the tripod platform is stable. Secure the legs in place (refer to the documentation from the tripod manufacturer for details).

- Place the laser level onto the tripod with the lighthouse facing upwards and mount the male 5/8" thread into the base until firm. Do not over tighten as this may cause damage to the laser level or tripod.
- If using an elevating tripod with a measuring scale on the centre column, the height can be adjusted as required.



WARNING! Attaching the laser level to a tripod without the correct thread size may cause damage.

CALIBRATION CHECK

Before doing any precision levelling it is advised to check the calibration of the laser level.

- Set up the laser level on a tripod at about 30m facing a wall or staff with a detector.
- Allow the laser to level.
- Detect and note laser position on the wall or staff.
- Without moving the tripod, rotate the laser level 180°.
- Detect and note laser position on the wall or staff.
- Calculate the distance between the two readings.
- The difference should be within 6mm at 30m.
- If the laser level is out of calibration it is advised to send it to an authorised service centre.

CARE & MAINTENANCE

1. This is a precision measuring tool and should always be handled with care and transported within the carry case provided.
2. Always turn the laser level off when transporting the laser level or moving around the job site.
3. Whenever possible, store the laser level in a dry, shady location.
4. When the laser level is not in use or is being stored, it is highly recommended to remove the batteries.
5. Calibration of the laser level is recommended: every six months, if ongoing accurate levelling is required, or an impact has occurred.
6. The operator should check the accuracy of the laser level before precision levelling is attempted. Failure to do so may result in inaccurate measurements.
7. Clean the laser level with a dry, soft cloth after use in dusty, damp or wet conditions before storing.
8. Smudges and fingerprints may be removed with a damp tissue or a soft, lint-free cloth.

TROUBLE SHOOTING

Error	Cause & Solution
Laser does not turn on	<ul style="list-style-type: none"> • The battery pack may require charging or need to be replaced due to age and / or a high number of charging cycles. • Check the battery compartment for signs of damage and ensure that the compartment is clean and that the battery terminals are not bent.
Laser does not remain on for long periods of use.	<ul style="list-style-type: none"> • Check the battery pack. The battery pack may require charging or need to be replaced due to age and/or a high number of charging cycles. • Check the battery compartment for signs of damage and ensure that the compartment is clean and that the battery terminals are not bent.
Laser does not level off	<ul style="list-style-type: none"> • The laser level may be outside of its levelling range and may require an adjustment before self-levelling can commence. • The laser level may have impact damage.

Battery pack will not charge or is not lasting long in use

- Check the battery pack. The battery pack may require charging or need to be replaced due to age and / or a high number of charging cycles.
- Check the battery compartment for signs of damage and ensure that the compartment is clean and that the battery terminals are not bent.

Detector does not detect the laser beam

- Check the batteries on the detector. They may be low and need replacing.
- Check the laser settings and ensure the laser is producing a beam.
- Check the line of sight and ensure there is no interference.
- Check that the laser level and detector are within the operating range.

WARRANTY

All Titanium measurement tools are carefully checked and tested to our precise quality assurance standards.

We offer a warranty in accordance with the following conditions:

1. Our warranty provides the correction of deficiencies to the tool once verified by an authorised service centre that the deficiencies were caused by a manufacturing fault within the warranty period.
2. The standard warranty period is 3 years from the date of purchase. The warranty period can be extended to 7 years upon registration of the tool within 30 days of purchase.
3. The warranty does not cover:
 - a) Calibrations and components that are subject to wear and tear.
 - b) Defects in the tool caused by non-compliance with the operation instructions, improper use, abnormal environmental conditions, inappropriate operating conditions or insufficient maintenance.
 - c) Defects caused by using accessories or spare parts other than approved parts.
 - d) Services or repairs carried out by non-authorised persons.
4. Defects recognised by an authorised service centre as being covered by the warranty shall be corrected either by repair or replacement of the tool.
5. The warranty claim must be lodged within the warranty period. This requires the complete tool with the original sales receipt containing the purchase date and place of purchase. Partial or disassembled tools cannot be submitted for a warranty claim.
6. Services provided under warranty do not lengthen or renew the warranty of the tool.

The above guarantees apply to tools that are purchased in the countries and regions specified online at www.titaniumlaser.tools

3 YEAR STANDARD WARRANTY PERIOD

1. The warranty period for your tool is 3 years from the date of purchase.
2. The warranty period for batteries, battery packs and chargers is 1 year from the date of purchase.
3. Calibrations are not covered under warranty as they are deemed wear and tear.
4. All products have a standard warranty period, you do not have to register your products to obtain the standard warranty period.
5. To claim under this warranty, the date of purchase of the tool must be documented by an invoice/receipt.

7 YEAR EXTENDED WARRANTY PERIOD

1. The extended warranty is available on selected tools only.
2. You may extend the warranty period for your tool (laser level, optical level or laser distance measurer) to 7 years from the date of purchase. Accessories are excluded from the warranty extension and remain at the 3 year warranty period.
3. The warranty period for batteries, battery packs and chargers is 1 year from the date of purchase.
4. Calibrations are not covered under warranty as they are deemed wear and tear.
5. To obtain the extended warranty, the registration process must be completed within 30 days from the date of purchase.
6. Failure to register your product online and/or submission of a valid invoice/receipt will void the warranty extension.
7. Please ensure ALL information submitted/uploaded is correct.

Extended warranty is ONLY available via online registration, offline (mailing in of warranty registration) will not be accepted.

Visit www.titaniumlaser.tools to register.

CUSTOMER SUPPORT

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

Australia: 1300 658 338

New Zealand: 0800 367 527

United Kingdom: 0808 189 1152

All other countries / regions:

Visit www.titaniumlaser.tools for more information

EU DIRECTIVES & DISPOSAL

This device complies with all necessary standards for the free movement of goods within the EU. This product is an electric device and must be collected separately for disposal according to the European Directive on waste electrical and electronic equipment.

SPECIFICATIONS

Specifications	TRL-10R
Product code	88110
Warranty	7 Years*
Accuracy	±1.5mm at 30m (±0/16in / 0.06in at 100ft)
Operating range	300m / 1600ft (diameter)
Levelling range	±9% / ±5°
Laser class	2 Red
Battery life	20 hours+
IP rating	65
Weight (kg)	2.38
Dimensions (mm)	210 x 157 x 200

*With online registration (3 years without registration). Please refer to page 9 for details.

TITANIUM

© 2020. *Titanium Laser Tools*