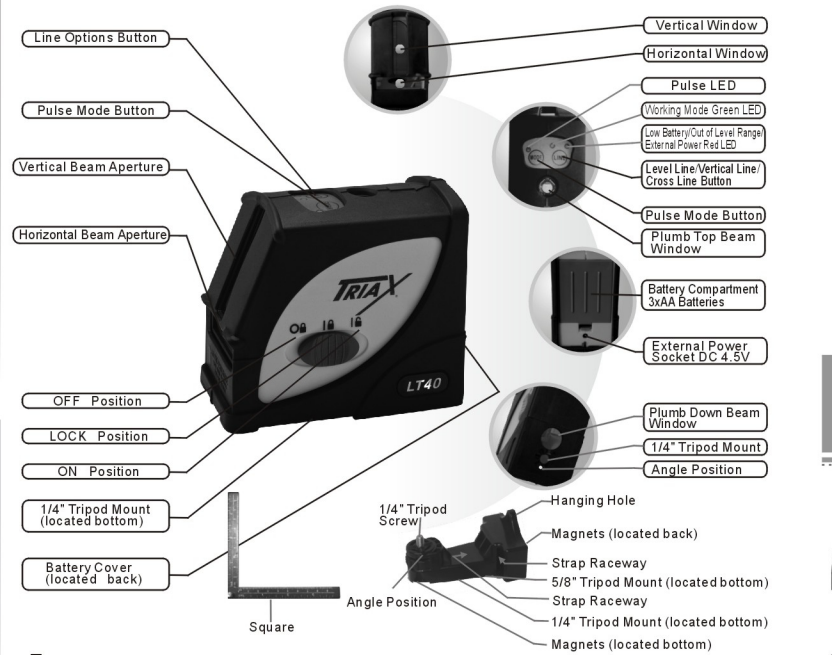




## Triax LT40 Cross line laser



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## User Safety

**AVOID EXPOSURE:** Laser radiation is emitted from this product. Use of controls, adjustments or procedures other than those specified herein may result in laser radiation exposure. Never stare directly into beam or view directly with optical instrument.



This symbol is attached to the LT40 at the laser aperture.

**IMPORTANT:** "DANGER" labels are attached to every LT40. They are not to be removed or defaced.

Do not disassemble or attempt to perform any internal services. Doing so will void the warranty. Repairs or service to this device are to be performed by authorized service centers only. Do not aim the laser beams in LT40 at others.

LT40 contains semiconductor laser diodes with wavelengths of 635-650 nanometers. The total continuous output of the beams never exceeds 4.99 milliwatts. LT40 complies with US CDRH performance standards, 21 CFR, Subchapter J. and the regulations stipulated in EN60825 - 1/1994.

## Battery Replacement



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1. Open the battery cover.  
2. Replace all three batteries.  
3. Return the battery cover to its original position.

Note: Alkaline batteries offer the longest battery life when used in this device. Without other instruction, the external power socket just can work with external DC 4.5V power supply, instead of recharger. This device can not use rechargeable batteries.

## TRIA X LT40

### Pendulum Lock

The LT40 is a precision instrument and should be treated with care. When not in use, the pendulum should always be in Off position (figure 1). Locking the pendulum allows the LT40 to better withstand vibration and trauma incurred during transportation or if the unit is dropped.

The LT40 can be used in either the locked line angle position or automatic leveling mode.

### Locked Line Angle

In the locked line angle position (figure 2), the pendulum is in the locked position and will not automatically level or plumb the lines. When in the locked line angle position, both the horizontal and vertical beams will be on. The green LED will blink with one time per second.

Note: The unit cannot change between Level Line Mode and Plumb Line Mode while in the locked angle position.

### Automatic Leveling

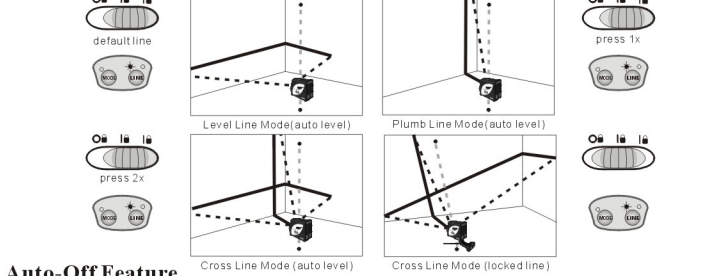
When the pendulum is unlocked (figure 3), the pendulum is free to automatically level or plumb. In order for the LT40 to automatically level, the base of the unit needs to be within 5 degrees of level. When the pendulum is unlocked and the LT40 is within 5 degrees of level, the unit will be within self-leveling range and the green LED will go on. When the base of the unit is 5 degrees or more out of level, the laser beams and the red LED will blink with one time per second. If the device is out of level over 3 minutes, it will be shut off automatically. The red LED will blink and laser beams will be turned off. To restart the device, the pendulum lock should be pushed to off position and start again (in continuous working mode, the device will not be shut off automatically).

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## TRIA X LT40

### Level, Plumb and Cross Line Options

The LT40 has three line options, accessible by the line options button located on the top of the instrument. If the unit has been turned on, the plumb top and down beams will always be on. Use the line options button to cycle through the level (horizontal), plumb (vertical) or cross line modes, as shown below.



### Auto-Off Feature

A battery saving Auto-Off feature has been incorporated into LT40, which will shut the device off automatically in 60 minutes unless overridden. To override the Auto-Off feature press and hold the line options button when turning the unit on. The green LED will flash with two times per second to indicate the Auto-Off feature has been overridden.

### Low Battery Indicator

When the battery becomes low, the red LED will flash with two times per second. Note: LT40 can be used for up to one hour during low battery indication before it will turn off completely. Using the external power supply, the red LED will go on.

### Pulse Mode

To press pulse mode button, the device will enter into pulse working mode and can work with optional laser detector outdoors. To press the button again, reenter into the indoor mode. In pulse mode, the pulse LED will go on.

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## Using the Universal Mount

LT40 comes with a multi-purpose universal mount that allows the unit to be attached to multiple surfaces including wood, metal, pipes, construction tripods, camera tripods and flat surfaces.

**1/4" x 20 Tripod Mount**  
Use this threaded hole, located on the bottom of the universal mount, to mount the universal mount and the attached LT40 to a camera tripod.

**5/8" x 11 Tripod Mount**  
Use this threaded hole, located on the bottom of the universal mount, to mount the universal mount and the attached LT40 to a surveyor's tripod.

**Screw / Nail Attachment Hole**  
Use the attachment hole to fasten the universal mount and the attached LT40 to walls with drywall screw of at least 2" (5cm) long.

**Strap Raceways**  
Use the horizontal and vertical strap raceways to fasten the universal mount and the attached LT40 to objects such as pipes and wooden studs with a width of approximately 6" (15cm) or less.

**Magnets**  
Use the magnets, located on the back of the universal mount, to fasten the universal mount and the attached LT40 to objects such as steel studs. Use the magnets, located on the bottom of the universal mount, to mount the square, the universal mount and the attached LT40 on the floor.

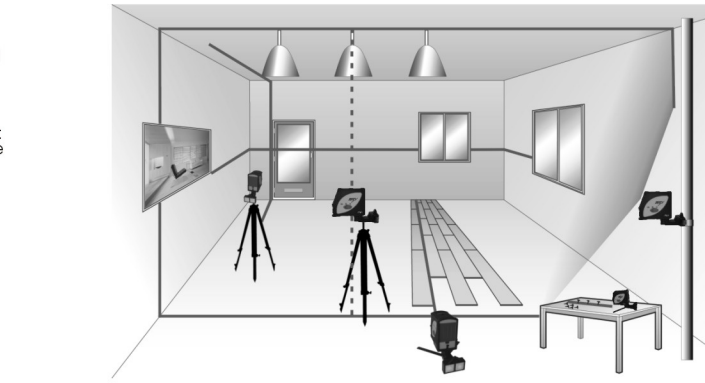
**Square**  
Square can be used as a right-angled ruler. If the LT40 will work on the floor, install the square on the universal mount to strengthen the stability of unit.



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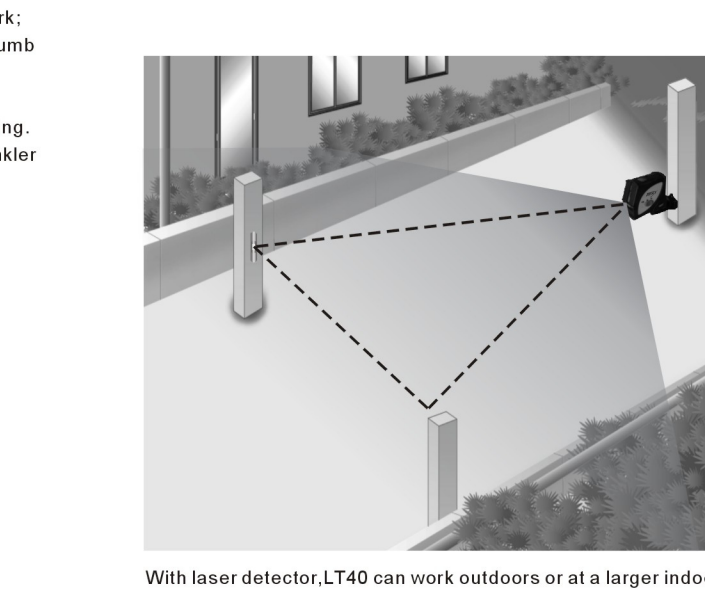
## Applications

- ✦ **Carpentry:** Level and set cabinets and counter tops. Install trim and millwork;
- ✦ **Stair layout:** Level and plumb decks; plumb framing and partition walls; plumb window and door frames.
- ✦ **Concrete:** Set forms and footings.
- ✦ **Electrical:** Level electrical outlets; transfer lighting layout from floor to ceiling.
- ✦ **Plumbing:** Layout piping, sewer lines, drainage and feed lines; transfer sprinkler system layout from floor to ceiling.



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## Applications



With laser detector, LT40 can work outdoors or at a larger indoor range.

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## Laser Offsets

### Laser Offsets

Use the laser offset information provided in the illustration to speed plumbing and leveling operations.



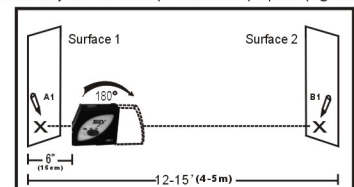
## Calibration

It is recommended that you check your LT40 periodically to assure its accuracy.

### To check level:

Choose two walls approximately 12-15 feet (4-5 meters) apart (figure 1).

Figure 1



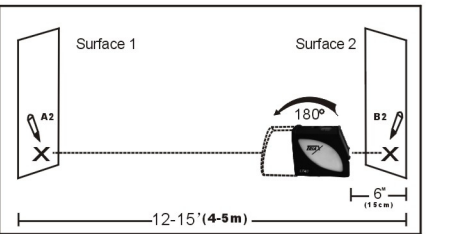
## Calibration

Turn on the LT40 to the "auto level" setting. With the laser 6 inches (15cm) away from and facing Surface #1, carefully mark the center of the line where the lines cross. Label this mark "A1" (figure 1).

Swivel the laser 180 degrees and mark the center of the line where the lines cross on Surface#2. Label this mark "B1" (figure1).

Now move the laser 6 inches (15cm) away from and facing Surface #2 (figure 2). Carefully mark the center of the line where the lines cross. Label this mark "B2" (figure 2).

Figure 2



Swivel the laser 180 degrees and mark the center of the line where the lines cross on Surface #1 (figure2). Label this mark "A2" .

Next, measure the distance between "A1" and "A2" and between "B1" and "B2" .If the distances are the same, the laser is in calibration. If the difference between the two sets of marks is greater than 1/8" (3,17mm) the laser is out of calibration.

For more information on calibration, contact the distributors or service center.

## Calibration

### To check plumb:

Choose a door jamb with a minimum of 8 feet (2,5 meters) clearance on each side of the door. Turn on the LT40 to "auto level" setting.

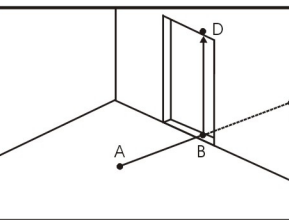


Figure 3

With your laser at point "A" (figure 3), make two marks on the floor.

Make the first mark at 8 feet (2,5 meters) from point "A" centered on the door header above. Mark this point "B" .

Make a second mark 16 feet (5 meters) from point "A" . Make this point "C" .

Without moving the laser, make a third mark on the door header. Make this point "D" .

Now move the laser to point "C" . EXACTLY align the beam with point "B" . Notice where the beam falls at point "D" . If it is within a light 1/6" (16mm) of point "D" , the laser is in calibration.

Note: If level and plumb are within specification, square will be in specification.

For more information on calibration, contact the distributors or service center.

## Specifications

- Accuracy:  $\pm 3\text{mm} @ 10\text{m}$   
Plumb beams:  $\pm 1.5\text{mm} @ 5\text{m}$
- Self-leveling Range:  $\pm 5^\circ$
- Operating Range: 30m indoors  
Outdoor Mode...Up to 50m outdoors, working with laser detector R40.
- Fan Angle:  $140^\circ$  vertical and  $130^\circ$  horizontal
- Out-of-level Indication: Blinking laser lines and audible alarm
- Unit Tripod Mount: 1/4 "x20 camera tripod
- Pendulum Lock/Off: Protects pendulum during transportation and storage for added durability.
- Unit Dimensions: 110mm x 57mm x 97mm
- Unit Weight: 470g
- Universal Mount Dimensions: 89mm x 57mm x 46mm
- Universal Mount Weight: 200g
- Storage Temperature:  $-20^\circ\text{C} \sim +70^\circ\text{C}$
- Operating Temperature:  $-10^\circ\text{C} \sim +50^\circ\text{C}$
- Laser Diode: 635nm diodes
- Power Supply: 3 "AA " batteries
- Operating time: 12 hours continuous use(2 lines on)  
Specifications subject to change without notice.

## Care & Maintenance

This device is a product of superior design and manufacture and should be treated with care. The suggestions below will help the user fulfill any warranty obligations and also allow the user to enjoy this product for many years.

### When using the device:

Keep it and all its parts and accessories out of small childrens' reach.

The LT40 is built to be operated under wet conditions (IEC 529; IP 54), however the unit should always be dried off before storage.

Do not store it hot areas. High temperatures can shorten the life of electronic devices, damage batteries, and warp or melt certain plastics.

Do not store it in cold areas. When the device warms up to its normal operating temperature, moisture can form inside where it may damage circuit boards.

Although LT40 is dust and dirt resistant, do not store in dusty, dirty areas as long-term exposure to these elements may damage internal moving parts.

Do not attempt to open it. Non-expert handling of the device may damage it and will void the warranty.

Do not drop, knock, or shake it. Rough handling can break the unit or compromise its functionality.

Do not use harsh chemicals, cleaning solvents, or strong detergents to clean it. Wipe it with a soft cloth, slightly dampened in a mild soap-and water solution.

Keep the laser aperture windows clean by periodically wiping them with a cotton swab dipped in isopropyl alcohol.

## Warranty

Sokkia Europe warrants for a period of one(1) calendar year from the date of purchase that its product are free of defect in material and workmanship, and conform to Sokkia Europe's published technical specifications under normal operating conditions.

This warranty is void and does not apply if the product has been damaged by accident, abuse, misuse, normal wear and tear, or if the product has been modified, altered, or the case opened, or is repaired by anyone other than Sokkia Europe or its authorized repair center(s).

Sokkia Europe will, at its option and expense, repair or replace any products found to be defective under the above warranty. Repairs and replacement units may contain new and/or reconditioned components.

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## Repair

Should you experience problems with the conduct that are not addressed by this user guide please contact us.

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## Accessories

- Laser
- Universal mount
- Square
- Strap
- User guide
- 3 "AA" batteries
- Pouch



## CE & FDA

We hereby declare that these products:

LT40

Corresponds with the following standards or normative documents:

EMC/EMI: EN55022:1998+A1:2000+A2:2003,  
EN61000-3-2/-3:EN 60825-1/1994  
EN55024:1998+A1:2001+A2:2003,  
(EN61000-4-2/-3/-4/-5/-6/-11)  
Type Approval: EN61010-1:2001+CORRIG.1+2  
EN60825-1:1994+A1+A2+CORIG.

And in accordance with the regulations stipulated in directive 89/336/EEC and amended directive 92/31/EEC.

Complies with US CDRH Performance Standards,21 CFR, Subchapter J.

FDA Accession Number:0510834-03

Complies with the RoHs Directive.