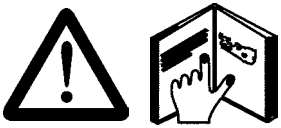
ROD-EYE Mini and Basic

User Manual

Version 1.1
English

- when it has to be **right**

Leica Geosystems



This manual contains important Safety Directions as well as instructions for setting up the product and operating it. Read carefully through the User Manual before you switch on the instrument.

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INTRODUCTION

The ROD-EYE Mini and ROD-EYE Basic sensors are designed to operate with rotating lasers, to detect and indicate the position of the plane of laser light.

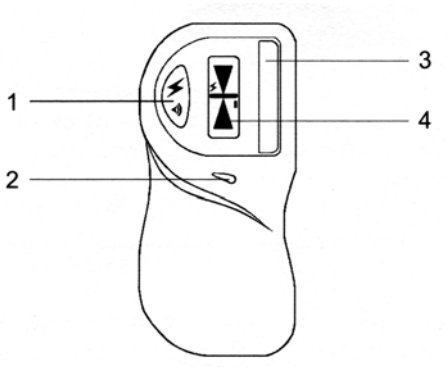
The ROD-EYE Mini is design for general construction applications. The Mini model has both an LCD indication on the front panel that gives the operator a visual indication, as well as an audio indicator that emits three distinct audio tones for high, low and on-grade.

The ROD-EYE Basic for interior applications is designed to work with visible beam rotating lasers. The Basic interior model has light emitting diodes mounted in the display on the front panel that gives the operator a bright visual indication of the sensors position. Like the Mini model, the Basic model also has an audio indicator that emits three distinct audio tones for high, low and on-grade. This model also has a magnet built into the top of the housing to allow the sensor to be easily attached to ceiling grid. A safety strap is included with the sensor to protect the sensor from falling.

All of Leica Geosystems's ROD-EYE Sensors have been designed to be used to typical construction environments. They are built to be rugged and withstand the abuse that can occur in daily use, and at the same time provide precise and repeatable accuracy.

ROD-EYE Mini (GENERAL CONSTRUCTION)

Front View



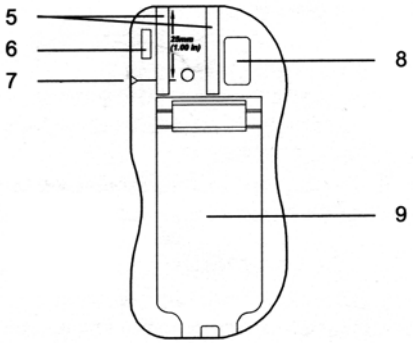
1 **Power Switch** - Turns the detector on and off and is used to select the audio level. Press and hold the switch for approximately two seconds, and the sensor turns off.

2 **Audio Speaker** - A fast beeping signal indicates that the sensor is too high. A solid tone indicates that the sensor is on-grade. And, a slow beeping signal indicates that the sensor is too low.

3 **Laser Reception Window** - The set of photocells located behind this window detect the laser beam. The window (photocells) must be directed towards the laser.

4 **Liquid Crystal Display (LCD)** - The LCD arrows indicate the position of the sensor relative to the laser beam.

Rear View



5 **Clamp Slots** - Two dovetailed slots for mounting the rod bracket.

6 **Tab Slot** - Locks the rod clamp to the sensor.

7 **Offset Notch** - This notch is used for transferring reference marks. The notch is 1" (25 mm) below the top of the sensor.

8 **Serial Number Label** - Use as your reference should you have any questions regarding your sensor.

9 **Battery Compartment** - The compartment is watertight and holds two "AA" alkaline batteries. New batteries must be installed in the positions noted on the diagram found in the compartment. Use a coin to open the battery door.

ROD-EYE Mini Operation

Press the Power Button once to turn on the sensor. The beeper will sound and all the symbols on the LCD will be displayed. The power symbol will be displayed, indicating that the sensor is turned on.

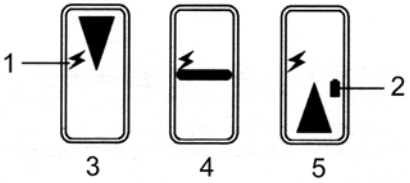
Pressing the Power Button again will toggle the sensor through the audio volumes (High, low and off). Pressing and holding the switch for approximately two seconds will turn the sensor off.

The sensor will automatically shut off after 30 minutes on non-use.

Direct the front of the sensor towards the laser beam to detect the rotating laser. When the photocells are activated by the laser, the LCD and audio will immediately begin indicating the position of the beam as it strikes the sensor.

A low battery indicator will appear when there is approximately one hour of life left in the battery.

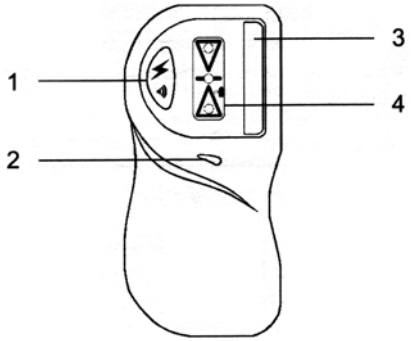
LCD Grade Indication



1 Power On
2 Low Battery Indicator
3 High
4 On-grade
5 Low

ROD-EYE Basic (INTERIOR APPLICATIONS)

BASIC FRONT VIEW



1 **Power Switch** - Turns the detector on and off and is used to select the audio level. Press and hold the switch for approximately two seconds, and the sensor turns off.

2 **Audio Speaker** - A fast beeping signal indicates that the sensor is too high. A solid tone indicates that the sensor is on-grade. And, a slow beeping signal indicates that the sensor is too low.

3 **Laser Reception Window** - The set of photocells located behind this window detect the laser beam. The window (photocells) must be directed towards the laser.

4 **Light Emitting Diode (LED) Display** - The LED's indicate the position of the sensor relative to the laser beam. The center, green LED will flash slowly to indicate that the sensor is on. A smaller LED to the side of the arrows will indicate when the batteries are low.

5 **Magnetic Mount** - A magnet built into the top of the housing is used to attach the sensor to ceiling grid.

ROD-EYE Basic Operation

Press the Power Button once to turn on the sensor. The beeper will sound and the LED's will flash. The center green LED will continue to flash slowly, indicating that the sensor is turned on.

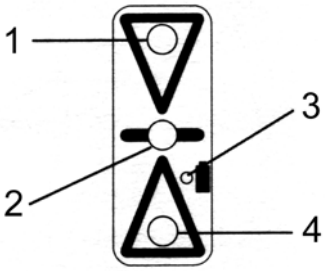
Pressing the Power Button again will toggle the sensor through the audio volumes (High, low and off). Pressing and holding the switch for approximately two seconds will turn the sensor off.

The sensor will automatically shut off after 30 minutes on non-use.

Direct the front of the sensor towards the laser beam to detect the rotating laser. When the photocells are activated by the laser, the LCD and audio will immediately begin indicating the position of the beam as it strikes the sensor.

The amber low battery LED indicator will appear when there is approximately one hour of life left in the battery.

A safety clip attaches to the back of the sensor. Attach the sensor to the ceiling grid with a string to protect it against falling.

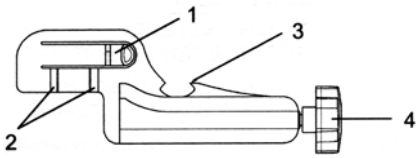


1 Red Light - High Indication
2 green Light - On-grade
3 Amber Light - Low Battery Indication
4 Red Light - Low Indication

ROD-EYE Mini Brackets

A general purpose Grade Rod Bracket comes with the ROD-EYE Mini Sensor for mounting to grade rods. To secure the bracket to the detector, slide the dovetail on the bracket into the grooves on the back of the detector. A snapping action will ensure that the bracket is securely attached.

To remove the bracket, depress the thumb release tab and slide the bracket upward.



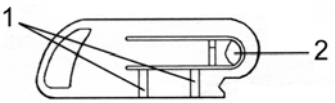
1 **Bracket Locking and Release Tab** - for securing and releasing the bracket from the sensor.

2 **Dovetail Slots** - attached bracket to the detector.

3 **Reference Indicators** - aligned with the on-grade mark of the sensor.

4 **Clamping Screw** - Tightens the bracket to the grade rod.

A Safety Bracket and Strap (lanyard) comes with the ROD-EYE Basic Sensor for providing a safety attachment when using the sensor's magnetic mount attached to ceiling grid.



1 Dovetail Slots

2 Thumb Release

MAINTENANCE

Keep it Clean.
Clean the front of your ROD-EYE Sensor with a mild detergent and a soft cloth. Do not use your fingers or a dry cloth to clean the window(s). Take care not to scratch the glass on the laser reception window.

The ROD-EYE Sensor contains static sensitive components.
Do not attempt any internal repairs on your unit. Opening the sensor will void the warranty.

Take care of your batteries.
The ROD-EYE Sensor uses two "AA" alkaline batteries. Remove the batteries if the sensor is to be stored for a period of time. Avoid extreme temperatures that can cause battery degradation and early failure of the batteries.

Contact your dealer, Leica Geosystems, or an Authorized Factory Service Center if you have questions regarding your ROD-EYE Mini or ROD-EYE Basic Sensor.

WARRANTY

Your ROD-EYE Sensor is guaranteed against defects in materials and workmanship under normal use and service for a period of 12 months provided that the ROD-EYE Sensor has been properly used and cared for as stated in the User Manual. Any evidence of an attempt to repair the ROD-EYE Sensor by other than factory authorized personnel using Leica Geosystems certified replacement parts, will automatically void the warranty.

Leica Geosystems's liability under this warranty is limited to repairing or replacing any product returned to a factory authorized service center for that purpose. The foregoing states the entire liability of Leica Geosystems, Inc. in connection with the ROD-EYE Sensor, and they shall not be held responsible for any consequential damage of any kind. The foregoing is in lieu of all other warranties expressed or implied.

SPECIFICATIONS

	ROD-EYE Mini	ROD-EYE Basic
Detection Accuracy (Typical)	±0.080" (±2.0 mm)	±0.030" (±.75 mm)
Display	LCD	LED
Sealing	Dustproof, Waterproof	Dustproof, Waterproof
Detection Range (dependent on laser)	Up to 500' (150 m) Radius	Up to 300' (90 m) Radius
Mounting	Rod Bracket	Magnetic Mount, Safety Clip
Audio Volumes	High 100+ dBA Low 65 dBA	High 100+ dBA Low 65 dBA
Display Channels	Three	Three
Window Capture Height	1.5" (38 mm)	1.5" (38 mm)
Reception Angle	±45	±45
Offset Notch	1" (25 mm)	1" (25 mm)
Low Battery Indication	Yes (LCD symbol)	Yes (Amber LED)
Battery Life	200+ Hours	100+ Hours
Battery Size	Two "AA"	Two "AA"
Automatic Shut-off	30 Minutes	30 Minutes
Operating Temperature	-4°F to +140°F (-20°C to +60°C)	-4°F to +140°F (-20°C to +60°C)
Approximate Size	4.5 x 2.1 x 1.3" (114 x 53 x 32 mm)	4.5 x 2.1 x 1.3" (114 x 53 x 32 mm)

Specifications are subject to change without notice.

The symbols used in the User Manual have the following meaning:

DANGER:
Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.

WARNING:
Indicates a potentially hazardous situation or an unintended use which, if not avoided, could result in death or serious injury.

CAUTION:
Indicates a potentially hazardous situation or an unintended use which, if not avoided, may result in minor or moderate injury and/or appreciable material, financial and environmental damage.

Important paragraphs which must be adhered to in practice as they enable the product to be used in a technically correct and efficient manner.

The following directions should enable the person responsible for the product, and the person who actually uses the product, to anticipate and avoid operational hazards. The person responsible for the product must ensure that all users understand these directions and adhere to them.

Intended Use of Instruments

Permitted uses

The ROD-EYE Mini and Basic are intended for the following applications:

- Detecting a rotating laser beam.

Prohibited uses

- Use of the product without instruction.
- Use outside of the intended limits.
- Disabling safety systems.
- Removal of hazard notices.
- Opening the product using tools (i.e. screwdriver) unless this is specifically permitted for certain functions.
- Modification or conversion of the instrument.
- Use after misappropriation.
- Use with accessories from other manufacturers without the prior express approval of Leica Geosystems.

WARNING:
Adverse use can lead to injury, malfunction, and material damage. It is the task of the person responsible for the instrument to inform the user about hazards and how to counteract them. The laser unit is not to be used until the user has been instructed how to work with it.

Limits of Use

See section "Specifications."

Environment:
Suitable for use in an atmosphere appropriate for permanent human habitation: not suitable for use in aggressive or explosive environment.

Responsibilities

Area of responsibility of the manufacturer of the original equipment Leica Geosystems AG, Heerbrugg (hereinafter referred to as Leica Geosystems):
Leica Geosystems is responsible for supplying the product, including the user manual and original accessories, in a completely-safe condition.

Responsibilities of the manufacturers of non-Leica Geosystems accessories:
The manufacturers of non-Leica Geosystems accessories for the product are responsible for developing, implementing and communicating safety concepts for their products, and are also responsible for the effectiveness of those safety concepts in combination with the Leica Geosystems product.

Responsibilities of the person in charge of the product:

WARNING:
The person responsible for the product must ensure that it is used in accordance with the instructions. This person is also accountable for the training and the deployment of personnel who use the instrument and for the safety of the equipment in use.

The person in charge of the instrument has the following duties:

- To understand the safety instructions on the product and the instructions in the user manual;
- To be familiar with local regulations relating to accident prevention;
- To inform Leica Geosystems immediately if the equipment becomes unsafe.

Hazards of Use

Main hazards of use

WARNING:
The absence of instruction, or the inadequate imparting of instruction, can lead to incorrect or adverse use, and can give rise to accidents with far-reaching human, material, financial, and environmental consequences.

Precautions: All users must follow the safety directions given by the manufacturer and the directions of the person responsible for the product.

CAUTION:
Watch out for erroneous measurements if the product is defective or if it has been dropped or has been misused or modified.

Precautions: Periodically carry out test measurements and perform the field adjustments indicated in the user manual, particularly after the product has been subjected to abnormal use and after important measurements.

CAUTION:
If the accessories used with the equipment are not properly secured and the equipment is subjected to mechanical shock (i.e. blows, falling), the equipment may be damaged or people may sustain injury.

Precautions: When setting-up the product, make sure that the accessories (i.e. tripod, tribrach, connecting cables) are correctly adapted, fitted, secured, and locked in position. Avoid subjecting the equipment to mechanical shock.

WARNING:
If the product is improperly disposed of, the following can happen:

- If polymer parts are burnt, poisonous gases are produced which may impair health.
- If batteries are damaged or are heated strongly, they can explode and cause poisoning, burning, corrosion or environmental contamination.
- By disposing of the product irresponsibly you may enable unauthorized persons to use it in contravention of the regulations, exposing them-selves and third parties to the risk of severe injury and rendering the en-vironment liable to contamination.
- Improper disposal of silicone oil may cause environmental contamination.

Precautions:

The product must not be disposed with household waste.

Dispose of the product appropriately in accordance with the national regulations in force in your country.

Always prevent access to the product by unauthorized personnel.

Product specific treatment and waste management information can be downloaded from the Leica Geosystems home page at http://www.leica-geosystems.com/treatment or received from your Leica Geosystems dealer.

Electromagnetic Compatibility (EMC)

The term "electromagnetic compatibility" is taken to mean the capability of the product to function smoothly in an environment where electromagnetic radiation and electrostatic discharges are present, and without causing electromagnetic disturbances to other equipment.

WARNING:
Electromagnetic radiation can cause disturbances in other equipment.

Precautions: Although the product meets the strict regulations and standards which are in force in this respect, Leica Geosystems cannot completely exclude the possibility that other equipment may be disturbed.

CAUTION:
There is a risk that disturbances may be caused in other equipment if the product is used in conjunction with accessories from other manufacturers, i.e. walkie-talkies, non-standard cables, external batteries.

Precautions: Use only the equipment and accessories recommended by Leica Geosystems. When combined with the product, they meet the strict requirements stipulated by the guidelines and standards.

CAUTION:
Disturbances caused by electromagnetic radiation can result in the tolerance limits for measurements being exceeded.

Precautions: Although the product meets the strict regulations and standards which are in force in this connection, Leica Geosystems cannot completely exclude the possibility that the product may be disturbed by very intense electromagnetic radiation, i.e. near radio transmitters, walkie-talkies, diesel generators. Check the plausibility of results obtained under these conditions.

FCC Statement (applicable in the U.S.)

WARNING:
This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC rules.

These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation.

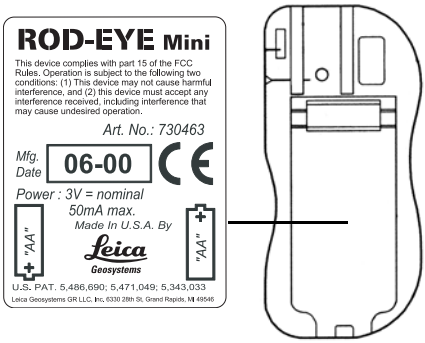
If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Increase the separation between the equipment and the receiver.
- Consult the dealer or an experienced radio/TV technician for help.
- Reorient or relocate the receiving antenna.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

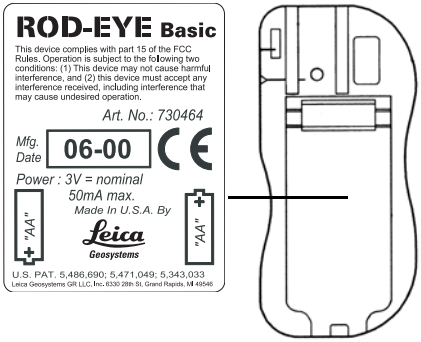
WARNING:
Changes or modifications not expressly approved by Leica Geosystems could void the user's authority to operate the equipment.

Product Labeling:

ROD-EYE Mini - Rear View



ROD-EYE Basic - Rear View



Leica Geosystems AG, Heerbrugg, Switzerland, has been certified as being equipped with a quality system which meets the International Standards of Quality Management and Quality Systems (ISO standard 9001) and Environmental Management Systems (ISO standard 14001).

Total Quality Management - Our commitment to total customer satisfaction.

Ask your local Leica Geosystems agent for more information about our TQM program.

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