

Firecore FRL300R

Firecore FRL300R Rotary Laser Level Instruction Manual

Model: FRL300R

1. INTRODUCTION

This manual provides detailed instructions for the safe and effective operation, maintenance, and troubleshooting of the Firecore FRL300R Rotary Laser Level. Please read this manual thoroughly before using the device to ensure optimal performance and safety.

2. SAFETY INFORMATION

Always adhere to the following safety guidelines to prevent injury and damage to the device:

- Laser Radiation:** This product emits Class 2 laser radiation. Do not stare directly into the laser beam. Avoid direct eye exposure.
- Operating Environment:** Use the device in a well-ventilated area. Avoid operating in extremely dusty, humid, or explosive environments.
- Battery Safety:** Use only the specified rechargeable battery. Do not short-circuit, disassemble, or expose the battery to high temperatures.
- Maintenance:** Do not attempt to repair or modify the device yourself. Refer all servicing to authorized personnel.
- Storage:** Store the device in its protective case in a cool, dry place, away from direct sunlight and extreme temperatures.

3. PACKAGE CONTENTS

Verify that all items listed below are included in your package:

- Firecore FRL300R Rotary Laser Level Unit
- Dedicated Laser Receiver (FRD100)
- Remote Control
- Rechargeable Battery (1 unit)

- AC Adapter
- Type-C Charging Cable
- Storage Case
- Japanese Instruction Manual (Please refer to this English manual for detailed instructions)



Image: The Firecore FRL300R Rotary Laser Level, its dedicated receiver, remote control, and accessories neatly packed within the durable storage case.

4. PRODUCT OVERVIEW

The Firecore FRL300R is a robust and precise rotary laser level designed for various leveling and surveying tasks. Its ergonomic design ensures ease of handling and durability in demanding work environments.



Image: The main unit of the Firecore FRL300R Rotary Laser Level, its accompanying laser receiver, and the protective carrying case.

可視半導赤色 レーザー技術



Image: A close-up view of the Firecore FRL300R's control panel and the visible semiconductor red laser technology in operation.

人間工学からデザイン



Image: A hand holding the Firecore FRL300R, illustrating its ergonomic design with four handles for comfortable and secure grip.

5. SETUP

- Charging the Battery:** Before first use, fully charge the included rechargeable battery using the AC adapter and Type-C charging cable. The 3-stage indicator on the unit will show the charging status. Charging is possible even when the unit is in its case or mounted on a tripod.
- Inserting the Battery:** Open the battery compartment and insert the charged battery, ensuring correct polarity.
- Mounting the Unit:** For accurate measurements, mount the FRL300R on a stable tripod. Ensure the tripod is placed on a firm, level surface.
- Initial Placement:** Place the unit as level as possible manually before turning it on. The auto-leveling function will fine-tune the level within its 5° range.

15h

連続使用15時間



充電式リチウム電池



Type-C端子



Image: The Firecore FRL300R Rotary Laser Level connected to a power strip via its Type-C charging cable, indicating its charging capability.

6. OPERATING INSTRUCTIONS

The FRL300R offers various modes for different surveying needs. Use the control panel on the unit or the remote control for operation.

6.1. Power On/Off and Auto-Leveling

- Press the power button to turn the unit on. The FRL300R will automatically begin self-leveling within a $\pm 5^\circ$ range. No bubble tubes or leveling screws are required.
- Once leveled, the laser beam will rotate, indicating it is ready for use.

自動整準モード

気泡管も整準ネジも不要！電源を入れる
だけで±5°の範囲内で完全自動整準を行います



Image: The Firecore FRL300R Rotary Laser Level mounted on a tripod, demonstrating its automatic leveling function within a ±5° range.



Image: The Firecore FRL300R Rotary Laser Level actively emitting a 360-degree rotating red laser beam, creating a visible horizontal plane.

6.2. Slope Setting Function

- The FRL300R features a convenient slope mode for setting gradients along the X-axis.
- Activate the slope mode using the dedicated button on the control panel or remote.
- Adjust the slope as required for specific civil engineering or construction tasks.

勾配設定可能

×軸の勾配したい時に便利なスロープモードを搭載しています、スロープキーを使用すると×軸の勾配設定が可能です



Image: The Firecore FRL300R Rotary Laser Level on a tripod, with an overlay indicating its slope setting capability for X-axis gradient adjustments.

6.3. Pulse Mode

- Engage pulse mode for use with the dedicated laser receiver (FRD100) in bright conditions or over long distances (up to 300m diameter).
- The receiver will detect the pulsed laser beam, providing audible and visual indications for precise leveling.

パルスモード



Image: A construction worker using the Firecore FRL300R Rotary Laser Level with the laser receiver in pulse mode to accurately measure a level line on a construction site.

6.4. Impact/Tilt Warning Mode

- The unit is equipped with an impact/tilt warning mode. If the device experiences significant shaking or impact while the laser is active, it will stop rotating.
- The laser head will flash to alert the operator of the disturbance, ensuring measurement accuracy is maintained.



Image: The Firecore FRL300R Rotary Laser Level in a construction setting, illustrating its warning mode where the unit stops rotation if moved or impacted.

6.5. Remote Control Operation

- The included remote control allows for convenient operation of the FRL300R from a distance, mirroring the functions available on the main unit.

パルスモード



Image: A hand holding the remote control for the Firecore FRL300R Rotary Laser Level, demonstrating its remote operation capability on a construction site.

7. MAINTENANCE

- Cleaning:** After each use, wipe the device with a soft, dry cloth. Do not use abrasive cleaners or solvents. Ensure the laser output window is clean for optimal performance.
- Storage:** Always store the FRL300R in its original protective case when not in use. This protects it from dust, moisture, and physical damage.
- Battery Care:** If storing for an extended period, ensure the battery is partially charged (around 50%) and remove it from the unit. Recharge periodically to maintain battery health.
- IP55 Rating:** The device has an IP55 dustproof and waterproof rating, making it resistant to dust ingress and low-pressure water jets. However, it is not designed for submersion. Clean off any mud or debris promptly.



Image: The Firecore FRL300R Rotary Laser Level being subjected to dust and water, illustrating its IP55 dustproof and waterproof capabilities.

8. TROUBLESHOOTING

| Problem | Possible Cause | Solution |
|---|---|---|
| Laser does not turn on. | Battery is low or not inserted correctly. | Charge the battery fully. Ensure the battery is inserted with correct polarity. |
| Laser beam is not rotating or flashing. | Unit is not level (outside $\pm 5^\circ$ auto-leveling range) or has been impacted. | Manually adjust the unit to be closer to level. If impacted, the warning mode may be active; reposition the unit and restart. |
| Inaccurate measurements. | Unit is not stable, or laser output window is dirty. | Ensure the tripod is stable and on a firm surface. Clean the laser output window. |
| Remote control not working. | Remote battery is low or line of sight is obstructed. | Replace remote control batteries. Ensure clear line of sight between remote and unit. |

If the problem persists after attempting these solutions, please contact Firecore customer support.

9. SPECIFICATIONS

| Feature | Specification |
|------------------------------|-----------------------------|
| Model | FRL300R |
| Brand | Firecore |
| Horizontal Accuracy | $\pm 3\text{mm}/30\text{m}$ |
| Measurement Range (Diameter) | 300m |
| Auto-Leveling Range | $\pm 5^\circ$ |

| Feature | Specification |
|-----------------------------|--|
| Laser Safety Standard | Class 2 |
| Laser Output | Less than 1mW |
| Battery Type | Lithium Polymer |
| Continuous Use Time | Up to 15 hours |
| Dustproof/Waterproof Rating | IP55 |
| Product Dimensions | 26.5 cm (length) x 22 cm (width) x 0.1 cm (height) |
| Product Weight | 4.4 kg |
| Material | Plastic |
| Color | Yellow |

10. WARRANTY AND SUPPORT

For warranty information, technical support, or service inquiries, please contact Firecore customer service through the official channels provided at the time of purchase or on the Firecore brand website. Please have your product model (FRL300R) and purchase details ready when contacting support.

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Related Documents

| | |
|--|--|
|  <p>FIRECORE 3x360° Line Laser User Manual</p> | <p>Firecore 3x360° Line Laser User Manual - F95T-XG Comprehensive user manual for the Firecore F95T-XG 3x360° Line Laser. Includes safety instructions, product overview, operating modes, specifications, maintenance, troubleshooting, and warranty information.</p> |
|  | <p>FIRECORE FSL201MR 3-in-1 Laser Level with Laser Measure User Manual Comprehensive user manual for the FIRECORE FSL201MR 3-in-1 Laser Level with Laser Measure, detailing product specifications, operation, charging, maintenance, and safety instructions.</p> |

FIRECORE®



SELF-LEVELING
360-Degree
CROSS LINE LASER

MODEL G30

Please read these instructions before operating the product.

For technical questions, warranty, parts? Or for changes in your order, contact:

www.firecore.com

[FIRECORE G30 Self-Leveling 360-Degree Cross Line Laser User Manual](#)

Comprehensive user manual for the FIRECORE G30 Self-Leveling 360-Degree Cross Line Laser, covering specifications, safety instructions, operation, maintenance, and troubleshooting.

[FIRECORE FLP370C Laser Level Pole with Tripod User Guide](#)

A user guide for the FIRECORE FLP370C Laser Level Pole with Tripod, detailing its specifications, installation steps, and maintenance care.

