



# **SLDR, SLDG**

## Laser Detectors

# Users Manual

December 2018

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## ***Introduction***

The SLDR and SLDG Laser Detectors (the Detector or Product) are battery-powered instruments that sense laser beams that may be difficult to see with the human eye. Use the Product with a laser level to identify new level and grade marks. The SLDR senses a red laser beam. The SLDG senses a green laser beam.

## ***How to Contact Fluke***

To contact Fluke, call one of the following telephone numbers:

- Technical Support USA: 1-800-44-FLUKE (1-800-443-5853)
- Calibration/Repair USA: 1-888-99-FLUKE (1-888-993-5853)
- Canada: 1-800-36-FLUKE (1-800-363-5853)
- Europe: +31 402-675-200
- Japan: +81-3-6714-3114
- Singapore: +65-6799-5566
- China: +86-400-921-0835
- Brazil: +55-11-3530-8901
- Anywhere in the world: +1-425-446-5500

Or, visit the PLS website at [www.plslaser.com](http://www.plslaser.com).

To view, print, or download the latest manual supplement, visit [www.plslaser.com](http://www.plslaser.com).

## ***Safety Information***

A **Warning** identifies conditions and actions that pose hazards to the user; a **Caution** identifies conditions and actions that may damage the Product or the equipment under test.

### **Warning**








**To prevent personal injury:**

- **Read all safety information before you use the Product.**
- **Carefully read all instructions.**
- **Do not alter the Product and use only as specified, or the protection supplied by the Product can be compromised.**

- Do not use the Product if it operates incorrectly.
- Do not use the Product if it is altered or damaged.
- Remove the batteries if the Product is not used for an extended period of time, or if stored in temperatures above 50 °C. If the batteries are not removed, battery leakage can damage the Product.

Table 1 is a list of the symbols that can be used on the Product or in this manual.

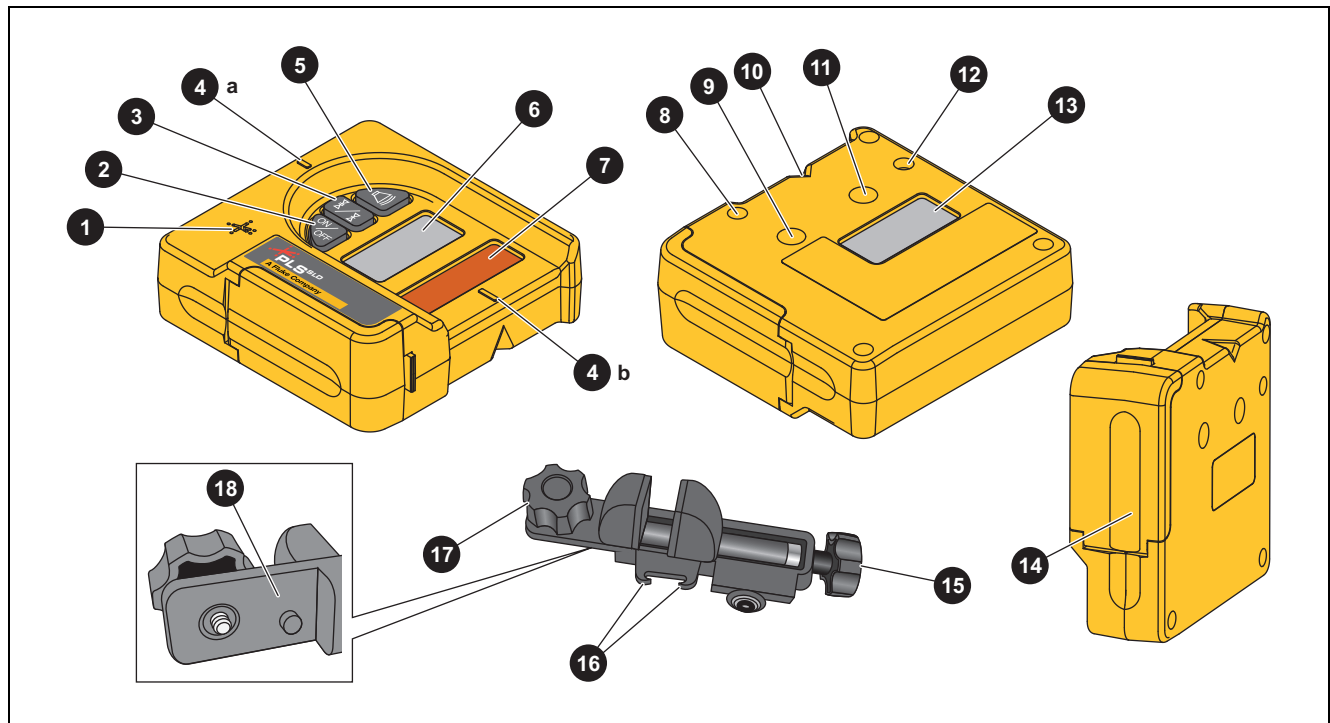
**Table 1. Symbols**

Symbol	Description	Symbol	Description
	Consult user documentation.		Conforms to European Union directives.
	WARNING. RISK OF DANGER		Conforms to relevant Australian Safety and EMC standards.
	Battery or battery compartment.		Conforms to relevant South Korean EMC Standards.
	This product complies with the WEEE Directive marking requirements. The affixed label indicates that you must not discard this electrical/electronic product in domestic household waste. Product Category: With reference to the equipment types in the WEEE Directive Annex I, this product is classed as category 9 "Monitoring and Control Instrumentation" product. Do not dispose of this product as unsorted municipal waste.		

## Product Familiarization

Table 2 shows the features of the Product.

Table 2. Features



Item	Description	Function
1	Beeper output signal	Fast - Detector is too low. Solid - Detector is on-grade. Slow - Detector is too high.
2	Power button	Turns on/off the Product.
3	Detection accuracy button	Sets the detection accuracy level.
4	On-grade marks	Align with the laser beam position on the LCD and the offset notch to confirm the measurement is on-grade.
5	Beeper button	Turns on/off the beeper.
6	Front LCD	See Table 3.
7	Laser beam reception window	Detects a laser beam when faced towards a laser.
8	Horizontal clamp guide	Use to align the clamp horizontally.
9	Horizontal rod clamp screw thread	Accepts the rod clamp screw to attach the clamp to the Detector horizontally.

**Table 2. Features (cont.)**

Item	Description	Function
10	Offset notch	Use to transfer reference marks 53.18 mm from the edge of the detector.
11	Vertical rod clamp screw thread	Accepts the rod clamp screw to attach the clamp to the Detector vertically.
12	Vertical clamp guide	Use to align the clamp vertically.
13	Rear LCD	Functions the same as the Front LCD. See Table 3.
14	Battery door	Secures the battery.
15	Rod clamp screw	Turn clockwise to attach the clamp to the Detector.
16	Alignment point	Secures and aligns the rod clamp to the Detector in either a horizontal or a vertical position.
17	Reference indicator	Use to align with the on-grade marks on the Detector for grade rod readings.
18	Clamp screw knob	Secures the clamp to a measuring rod or staff.

Table 3 lists the functions on the Control Panel.

**Table 3. Control Panel**

Item	Description
1	Medium detection accuracy (1.75 mm)
2	Fine detection accuracy (0.75 mm)
3	Detector is too high.
4	Detector is too low.
5	Beeper on/off status
6	Battery level status
7	Laser beam position

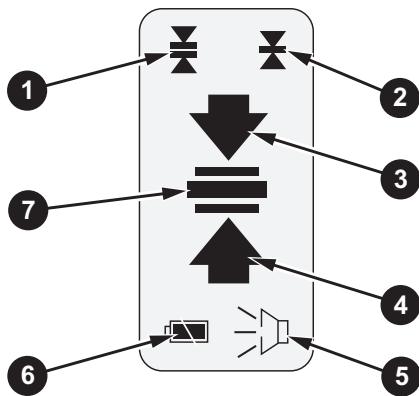
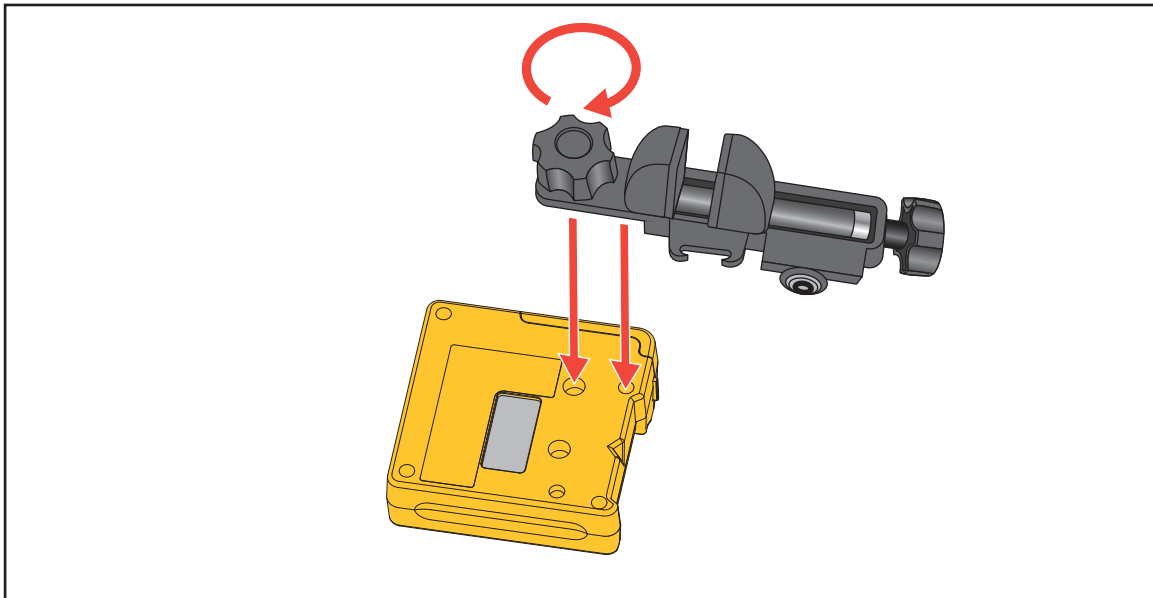




Figure 1 shows how to attach the rod clamp to the Product.



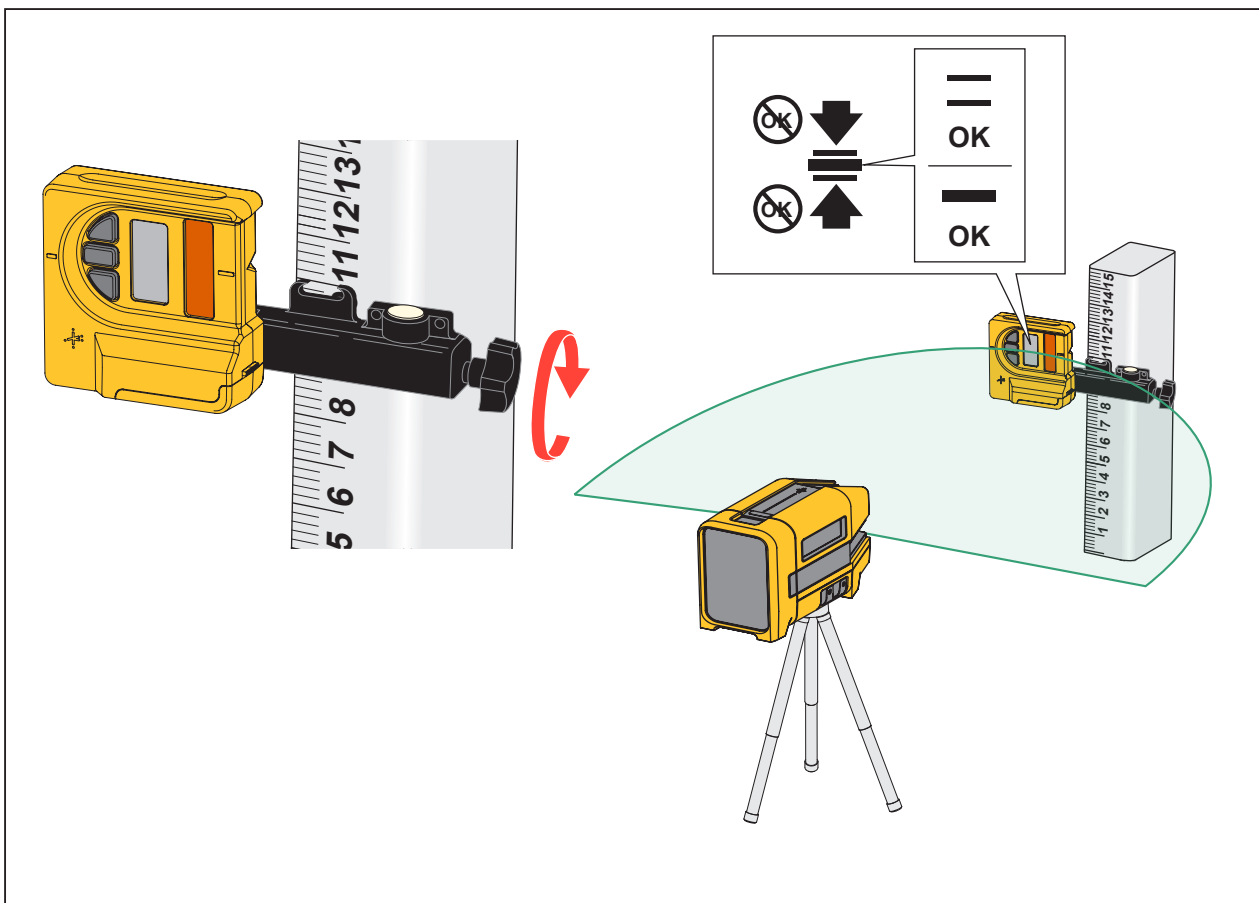
**Figure 1. Rod Clamp Attachment**

## Use the Detector

Use the Detector and a laser level to identify new level and grade marks.

To identify new level and grade marks:

1. Put the bottom of the laser level on a stable surface or tripod.
2. Connect the Detector to a measuring rod or staff.
3. Turn on the laser level and the Detector and direct the laser beam toward the laser reception window of the Detector. See Figure 2.
4. Move the Detector up and down the rod until the laser level on the LCD indicates the Detector is level with the laser beam. If the beeper is on, the Detector also emits a solid output signal when the Detector is level with the laser.
5. Secure the Detector to the rod and take measurements as needed.



**Figure 2. Level and Detector**

## **Maintenance**

To maintain the Product, clean the case, front and rear LCDs, and laser beam reception window and replace the battery.

### **⚠ Caution**

**To prevent damage to the Product, do not drop the Product. Treat the Product as a calibrated instrument.**

## **Clean the Product**

### **⚠ Caution**

**To prevent damage to the Product, do not use abrasives, isopropyl alcohol, or solvents to clean the Product.**

Clean the case with a damp cloth and a weak soap solution.

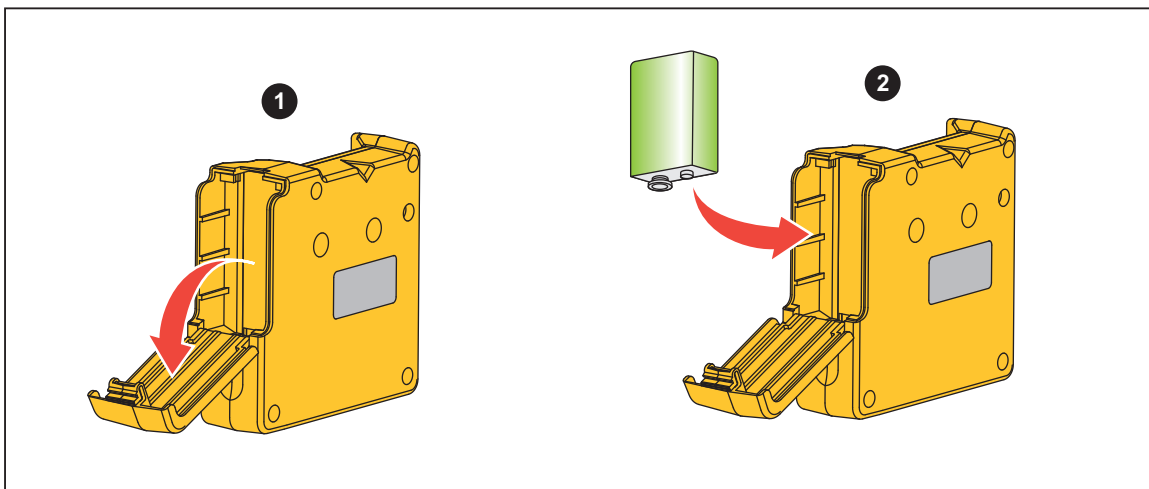
To clean the front LCD, rear LCD, and the laser beam reception window, use a pressurized can of air or a dry nitrogen-ion gun, if available, to blow off particulates from the surfaces.

## **Batteries**

Replace the battery when the battery indicator shows a low battery.

To install or replace the battery (see Figure 3):

1. Open the battery compartment.
2. Install one 9 V batter with the correct polarity.
3. Close the battery compartment.



**Figure 3. Battery Replacement**

## Specifications

**Working Range** ..... ≥6 m to ≤60 m (≥20 ft to ≤200 ft)

**Detection Height** ..... ≤50 mm (2 in)

### Accuracy

Fine ..... 0.75 mm

Medium ..... 1.75 mm

### Power

Batteries ..... 1 x 9 V Alkaline IEC LR61

Battery Life ..... ≥30 hrs, continuous use, as tested

### Dimensions

**(H x W x L)** ..... 83 mm x 83 mm x 32 mm (3.25 in x 3.25 in x 1.25 in)

### Weight

Without Clasp ..... 136 g (4.8 oz)

With Clasp ..... 227 g (8 oz)

### Temperature

Operating ..... -18 °C to +50 °C

#### Storage

Without Battery ..... -40 °C to +70 °C (-40 °F to +158 °F)

With battery ..... -20 °C to +50 °C (-0.4 °F to +122 °F)

### Altitude

Operating ..... 2000 m

Storage ..... 12 000 m

**Safety** ..... IEC 61010-1: Pollution Degree 2

### Electromagnetic Compatibility (EMC)

International ..... IEC 61326-1: Basic Electromagnetic Environment  
CISPR 11: Group 1, Class B

*Group 1: Equipment has intentionally generated and/or uses conductively-coupled radio frequency energy that is necessary for the internal function of the equipment itself.*

*Class B: Equipment is suitable for use in domestic establishments and in establishments directly connected to a low voltage power supply network which supplies buildings used for domestic purposes.*

*Emissions that exceed the levels required by CISPR 11 can occur when the equipment is connected to a test object*

Korea (KCC) ..... Class B Equipment (Broadcast communications equipment for home)

USA (FCC) ..... 47 CFR 15 subpart B. This product is considered an exempt device per clause 15.103.