

FLUKE®

3PR, 3PG

Point Laser Levels

Users Manual

August 2016

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Introduction

The 3PR and 3PG Point Laser Levels (the Product) are battery-powered, self-leveling, professional grade instruments. Use the Product to layout reference points and to make sure conditions are level and plumb. The 3PR emits a dashed red line and is for use indoors. The 3PG emits a dashed green line and is for use outdoors.

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
- Anywhere in the world: +1-425-446-5500

Or, visit Fluke's website at www.fluke.com.

To register your product, visit <http://register.fluke.com>.

To view, print, or download the latest manual supplement, visit <http://us.fluke.com/usen/support/manuals>.

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 eye damage and personal injury:











- **Read all safety information before you use the Product.**
- **Carefully read all instructions.**
- **Use the Product only as specified or hazardous laser radiation exposure can occur.**
- **Use the Product only as specified, or the protection supplied by the Product can be compromised.**

- Do not look directly into the laser with optical tools (for example, binoculars, telescopes, microscopes). Optical tools can focus the laser and be dangerous to the eye.
- 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.

- Do not use the Product if it operates incorrectly.
- Do not look into the laser. Do not point laser directly at persons or animals or indirectly off reflective surfaces.

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

Table 1. Symbols

Symbol	Description	Symbol	Description
	WARNING. RISK OF DANGER.		Certified by CSA Group to North American safety standards.
	Consult user documentation.		Conforms to European Union directives.
	WARNING. LASER RADIATION. Risk of eye damage.		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.		
	Indicates a Class 3R laser. AVOID DIRECT EYE EXPOSURE The following text may appear with the symbol on the product label: "IEC/EN 60825-1. Complies with 21 CFR 1040.10 and 1040.11 except for deviations pursuant to Laser Notice 50, dated June 24, 2007." In addition, the following pattern on the label will indicate wavelength and optical power: $\lambda = xxxnm, x.xxmw$.		

Product Familiarization

Table 2 shows the features of the Product.

Table 2. Product Features

Item	Description
1	Power switch
2	Indicator LED Green - On Red - Tilt, the Product is not level Yellow - Battery low
3	Up laser
4	Horizontal laser
5	Down laser
6	Optical windows
7	Accessory mount
8	Floor stand
9	Wall bracket
10	Battery door
11	Holster
--	Soft case (not shown)

Level

To identify new level and grade marks:

1. Put the bottom of the Product on a stable surface.
2. Turn the Product around on its center until the horizontal laser points to the target area. See Figure 1.
3. Place a mark at the level or grade point on the target area.
4. Repeat steps 2 and 3 for each point as needed.

Note

When the Product is mounted on a tripod, make sure the tripod head is perfectly level. Errors in marks can result if a tripod is out of level.

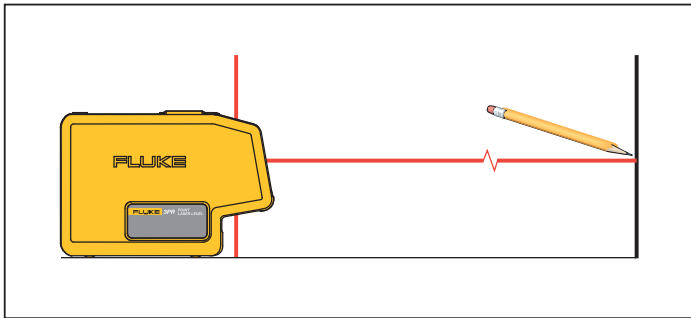


Figure 1. New Level Mark

To determine if an existing item is level:

1. Point the horizontal laser at the target area.
 2. Measure the distance from the item to the laser. See Figure 2.
 3. Repeat step 2 at various distances from the Product.
- If the measurements are the same from each distance from the Product, the condition is level.

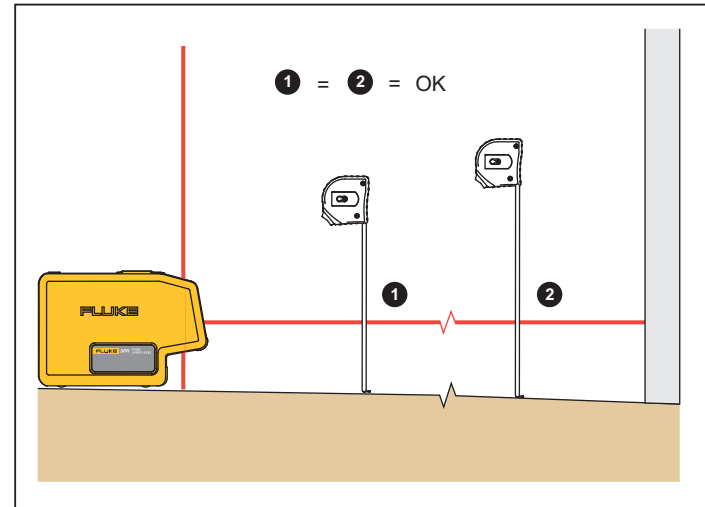


Figure 2. Level of Existing Item

Plumb

The Product can send plumb marks up, down, or cantilevered over the edge of a building or shaft opening.

To identify new plumb marks on a ceiling or roof:

1. Place a cross mark on the point to be transposed.
2. Center the down laser over the cross mark. See Figure 3.
3. Place a mark at the point where the up laser intersects the target area.

To identify new plumb marks on a floor, repeat the steps above but interchange the down and up lasers.

Note

Use the floor stand with the Product to increase the sight angle of down laser.

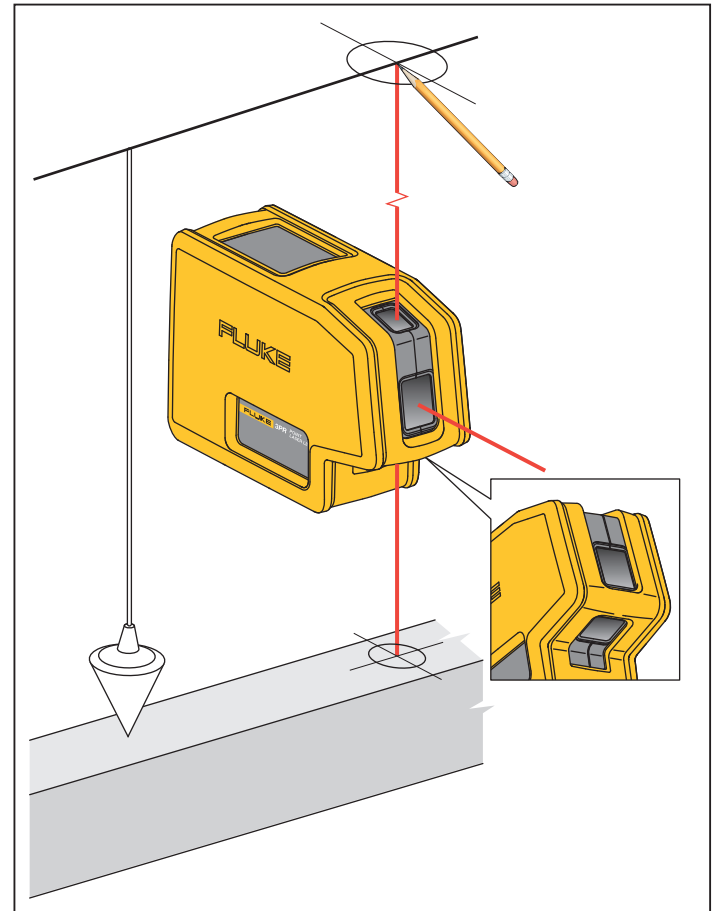


Figure 3. New Plumb Mark

To determine if an existing item is plumb:

1. Point either the up or down laser at the target area.
2. Measure the distance from the item to the laser. See Figure 4.
3. Repeat step 2 at various distances from the Product.

If the measurements are the same from each distance from the Product, the item is plumb.

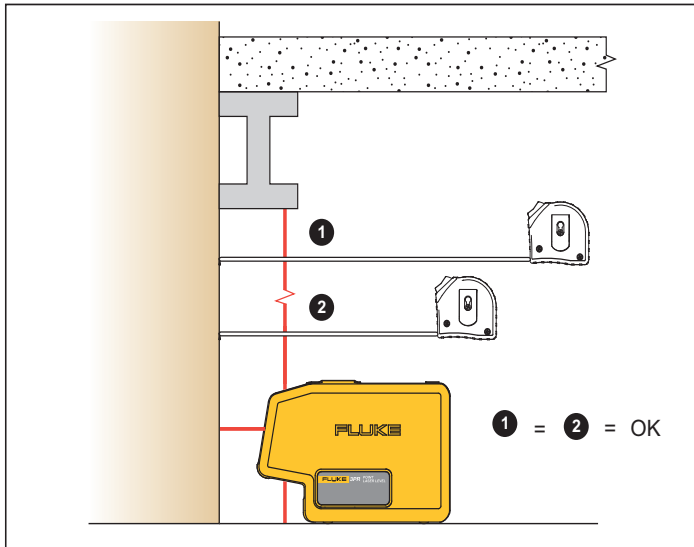


Figure 4. Plumb of Existing Item

Check Accuracy of the Product

Periodically check the accuracy of the Product.

Check Accuracy of Level

To check the accuracy of the level:

1. Find a horizontal site that is almost level, preferably a concrete slab, that is ≥ 7.62 m (25 ft) wide with two opposing walls to use as targets. You can also use scrap wood as targets. See Figure 5.
2. Place the Product about 15 cm (6 in) from target **A**.
3. Point the horizontal laser at target **A**.
4. Place a mark **1** at the point where the horizontal laser intersects the target area.
5. Turn the Product 180° on its center so that the horizontal laser intersects with target **B**.
6. Place a mark **2** at the point where the horizontal laser intersects the target area.
7. Repeat steps 2 through 6 with the Product 15 cm from target **B**.

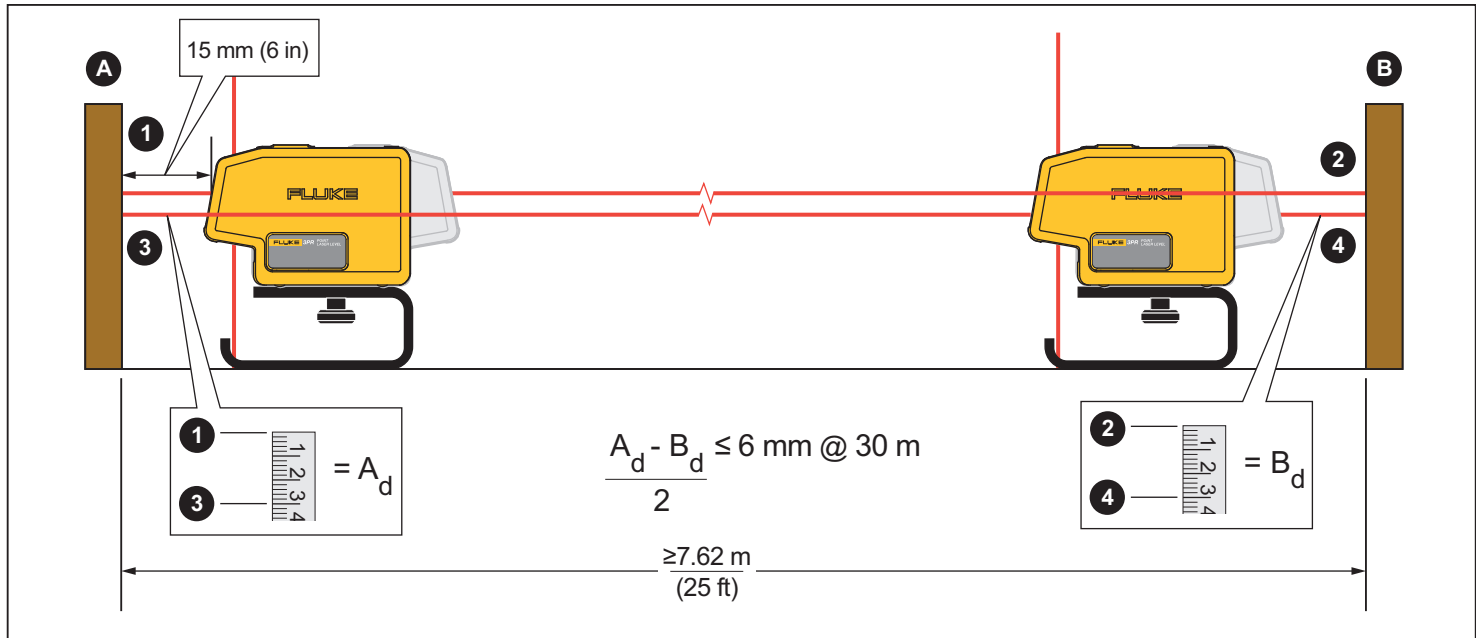


Figure 5. Level Accuracy

8. Measure the distance between mark 1 and mark 3 on target A and mark 2 and mark 4 on target B.

If the distances are the same, the laser is level.

9. If the distances are not the same, subtract the lesser measurement from the greater measurement and divide by two to calculate the difference of error.

If the distance is $\leq 6 \text{ mm @ } 30 \text{ m}$, the laser is within calibration accuracy.

Check Accuracy of Plumb

To check the accuracy of the plumb:

1. Find a site that has a ≥ 3.05 m (10 ft) vertical height.
2. Place a cross mark at the bottom of the site.
3. Center the down laser on both axes of the cross mark. See Figure 6.

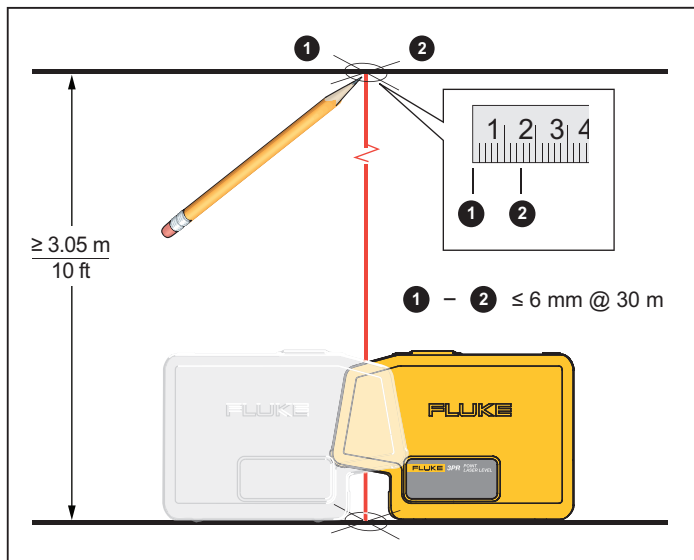


Figure 6. Plumb Accuracy

4. Place a cross mark at the point where the up laser intersects the target area at the top of the site.
5. Turn the Product 180 ° on its center.
6. Repeat step 3 and step 4.

If the first and second cross marks on the target area at the top of the site are the same, the laser is plumb.

7. If the cross marks are not the same, measure the distance between the center points of the two cross marks and divide by two to calculate the difference of error.

If the distance is ≤ 6 mm @ 30 m, the laser is within calibration accuracy.

Maintenance

The Product does not require maintenance but treat the Product as a calibrated instrument. Do not drop the Product.

Warning

To prevent eye damage and personal injury, do not open the Product. The laser beam is dangerous to the eyes. Have the Product repaired only through an approved technical site.

Clean the Product

Clean the case with a damp cloth and a weak soap solution. Do not use abrasives, isopropyl alcohol, or solvents to clean the case or optic windows.

Batteries

Replace the batteries when the Indicator LED is yellow.

To install or replace the batteries (See Figure 7.):

1. Remove the Product from the holster.
2. Remove the battery compartment lid.
3. Install three AA batteries with the correct polarity.
4. Replace the battery compartment lid.
5. Put the Product back into the holster.

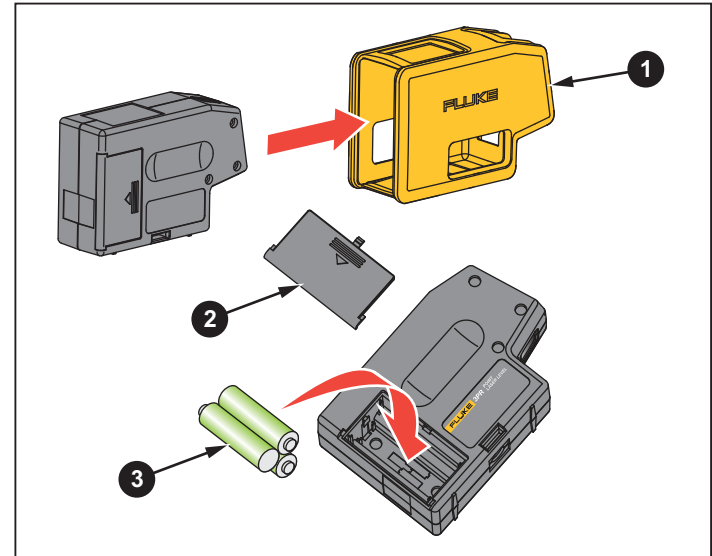


Figure 7. Battery Replacement

Specifications

Light Source	Semiconductor laser diode
Working Range	≤30 m
Accuracy	≤6 mm @ 30 m
Leveling	Automatic
Leveling Range	≤6 °
Power	
Batteries	3 x AA Alkaline IEC LR6
Battery Life	
Red	≥30 hrs, continuous use
Green	10 hrs to 12 hrs, continuous use
Dimensions	
(H x W x L)	140 mm x 102 mm x 57 mm
Weight	
(with batteries)	0.52 kg
Temperature	
Operating	-18 °C to +50 °C
Storage	-40 °C to +70 °C
	with battery: -20 °C to +50 °C
Relative Humidity	
	0 % to 90 % (0 °C to 35 °C)
	0 % to 75 % (35 °C to 40 °C)
	0 % to 45 % (40 °C to 50 °C)
Altitude	
Operating	2000 m
Storage	12 000 m

Safety

General	IEC 61010-1: Pollution Degree 2
Laser	IEC 60825-1: Class 3R
Max output power	<5 mW
Wavelength	Red: 635 nm
	Green: 510 nm

Electromagnetic Compatibility (EMC)

International	IEC 61326-1: Industrial Electromagnetic Environment
	CISPR 11: Group 1, Class A

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 A: Equipment is suitable for use in all establishments other than domestic and those directly connected to a low-voltage power supply network that supplies buildings used for domestic purposes. There may be potential difficulties in ensuring electromagnetic compatibility in other environments due to conducted and radiated disturbances.

Korea (KCC)	Class A Equipment (Industrial Broadcasting & Communication Equipment)
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Class A: Equipment meets requirements for industrial electromagnetic wave equipment and the seller or user should take notice of it. This equipment is intended for use in business environments and not to be used in homes.

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