STANLEY®

5 - Beam Self-Leveling Multi-Line Laser

MultiLine

77-122

Please read these instructions before operating the product

Self-Leveling

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Contents

Safety

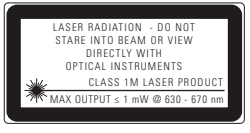
User Safety

Carefully read the Safety Instructions and User Manual before using this product. The person responsible for the instrument must ensure that all users understand and adhere to these instructions.

Retain this manual for future reference.

IMPORTANT: The following labels are on your laser tool for your convenience and safety. They indicate where the laser light is emitted by the level. **ALWAYS BE AWARE** of their location when using the level.

EN 60825-1



DO NOT remove any warning label(s) on the housing. This instrument must only be used for leveling and layout tasks as outlined in this manual.

ALWAYS make sure that any bystanders in the vicinity of use are made aware of the dangers of looking directly into the laser tool.

DO NOT use in combination with other optical instruments. Do not modify the instrument, or make manipulations or use in other applications than those described in the manual.

DO NOT look into the beam with optical aids, such as magnifiers, binoculars or Telescopes.

DO NOT stare into the laser beam or direct it towards other persons. Make sure the instrument is not set at eye level. Eye protection is normally afforded by natural aversion responses such as the blink reflex.

DO NOT direct the laser beam at other persons.

ALWAYS turn the laser tool "OFF" when not in use. Leaving the laser tool "ON" increases the risk of someone inadvertently staring into the laser beam.

DO NOT operate the laser tool in combustible areas such as in the presence of flammable liquids, gases or dust.

DO NOT disassemble the laser tool. There are no user serviceable parts inside. Disassembling the laser will void all warranties on the product. Do not modify the product in any way. Modifying the laser tool may result in hazardous laser radiation exposure.

DO NOT use this instrument in areas where a risk of explosion is present.

NOTE: Since the laser beam is of the focused type, ensure you check the beam's path over a relatively long distance and take all necessary precautions to ensure the beam cannot interfere with other persons.

Battery Safety

WARNING: Batteries can explode or leak and can cause injury or fire. To reduce this risk:

ALWAYS follow all instructions and warnings on the battery label and package.

DO NOT short any battery terminals

DO NOT charge alkaline batteries.

DO NOT mix old and new batteries. Replace all of them at the same time with new batteries of the same brand and type.

DO NOT mix battery chemistries.

DO NOT dispose of batteries in fire.

ALWAYS keep batteries out of reach of children.

ALWAYS remove batteries if the device will not be used for several months.

NOTE: Ensure that the correct batteries as recommended are used.

NOTE: Ensure the batteries are inserted in the correct manner, with the correct polarity.

End of Life

DO NOT dispose of this product with household waste.

ALWAYS dispose of batteries per local code.

PLEASE RECYCLE in line with local provisions for the collection and disposal of electrical and electronic waste under the WEEE Directive.

Declaration of Conformity

The Stanley Works declares that the CE Mark has been applied to this product in accordance with the CE Marking Directive 93/68/EEC.

This product conforms with EN60825-1:2007.

For further details please refer to www.stanleyworks.com.

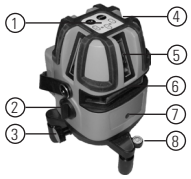
Product Description

Package Contents

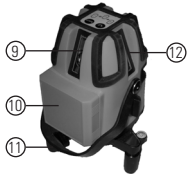
1. Laser Unit
2. IR Remote Controller
3. Laser Target
4. Laser Detector with Detector Clamp
5. Glasses
6. Carrying Case
7. Batteries (Laser Unit - 4 x AA, IR Remote Controller - 2 x AA, Laser Detector - 1 x 9V)
8. User Manual

Product Overview

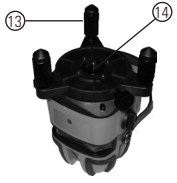
Laser Unit



1. Keyboard
2. Main Power / Transport Lock
3. Fine Tuning Wheel
4. Window for 90° Vertical Reference Beam Laser
5. Window for Front Vertical Beam Laser
6. Window for Horizontal Beam Laser
7. IR Sensor
8. Bubble Level

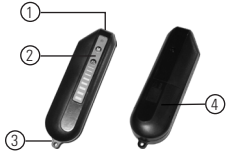


9. Window for Rear Vertical Beam Laser
10. Laser Warning Label
    Battery Compartment Cover
11. Handle
12. Window for 90° Vertical Reference Beam Laser



13. Adjustable Legs 3x
14. 5/8 - 11 Threaded Mount
    Window for Down Beam Laser

IR Remote Controller



1. IR LED
2. Keyboard
3. Location for Lanyard
4. Battery Compartment Cover

Specifications

Laser Unit

Leveling Accuracy:	≤ 2 mm / 10 m (≤ 5/64 in / 30 ft)
Down Beam Accuracy:	≤ 1.5 mm / 5 m (≤ 1/16 in / 15 ft)
Square Beam Accuracy:	≤ 1 mm / 5 m (≤ 1/32 in / 15 ft)
Horizontal / Vertical Accurracy	≤ 1.5 mm / 3 m (≤ 1/16 in / 10 ft)
Working Range:	Self-Leveling to ± 3°
Working Distance: with Laser Detector:	≤ 15 m (≤ 50 ft) ≤ 50 m (≤ 165 ft)
Laser Class:	Class 1M
Laser Wavelength:	635 nm ± 5 nm
Operating Time:	6 h
Power Voltage:	6 V
Power Supply:	4 x AA Batteries (Alkaline)
IP Rating:	IP54
Operating Temperature Range:	-10° C to +40° C (+14° F to +104° F)
Storage Temperature Range:	-20° C to +60° C (-4° F to +140° F)
Weight (without Base and Batteries):	980 g (34,5 oz)

Size:	110 mm × 105 mm × 180 mm (4 5/16 in × 4 1/8 in × 7 1/16 in)

IR Remote Controller

Power Voltage:	3 V
Power Supply:	2 x AA Batteries (Alkaline)
Weight (without Batteries):	37 g (1,3 oz)
Size:	35 mm × 25 mm × 120 mm (1 3/8 in × 1 in × 4 3/4 in)

Laser Unit

Battery Installation / Removal

1. Turn laser unit to back. Open battery compartment cover by pressing and sliding out.

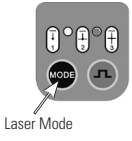
2. Install / Remove batteries. Orient batteries correctly when placing into laser unit.

3. Close and lock battery compartment cover by sliding in until securely closed.

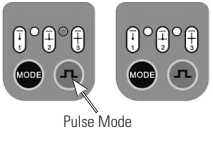
Function

1. Transport lock in locked position. Laser power is OFF.

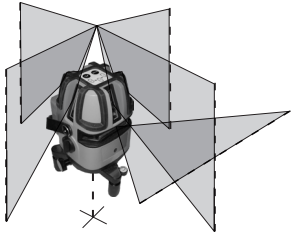
2. Transport lock in unlocked position. Laser power is ON. Down laser beam and horizontal laser beam turn on. Left LED indicator lights green when laser power is on.



3. Press laser mode key to toggle through available laser modes - horizontal only, both horizontal and vertical, horizontal and vertical with left and right 90° vertical reference beam, horizontal with all 4 vertical.



4. Press pulse mode key to toggle between pulse mode ON and OFF. Indicator LED lights green when on. Pulse mode allows use with a laser detector.



5. Laser beam(s) blink to indicate the laser unit is out of the working range. Reposition laser unit to be more level.

8. Low battery - Left LED blinks red to indicate when battery power is low. Replace batteries.

Laser Unit Base

1. Turn any of the adjustable legs as needed to level the laser unit within its workable range. Use the bubble vial for reference.

2. Use fine adjustment wheel to gradually rotate the projection of the laser beam(s).

3. 5/8 - 11 thread mount available for optional accessories.

IR Remote Controller

Battery Installation / Removal

1. Turn laser unit to back. Open battery compartment cover by pressing and sliding out.

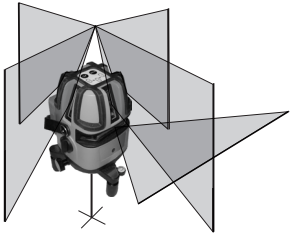
2. Install / Remove batteries. Orient batteries correctly when placing into laser unit.

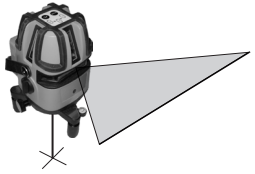
3. Close and lock battery compartment cover by sliding in until securely closed.

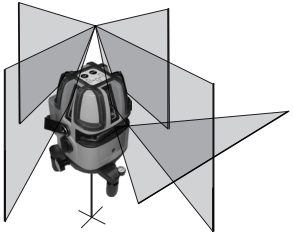
Function

1. Aim remote controller towards laser unit and press laser mode key to toggle through available laser modes.
2. Press pulse mode key to toggle between pulse mode ON and OFF.

Applications





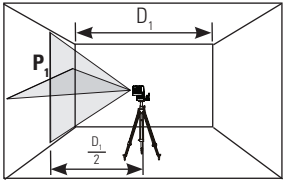


1. Plumb:
   Using the vertical laser beam, establish a vertical reference plane. Position the desired object(s) until they are aligned with the vertical reference plane to ensure object(s) are plumb.
   Establish 2 reference points that need to be plumb. Align either the down laser beam or the up laser cross to a set reference point. The opposing laser beam(s) will be projecting a point which is plumb. Position the desired object until the laser beam is aligned with the second reference point that needs to be plumb with the set reference point.
2. Level:
   Using the horizontal laser beam, establish a horizontal reference plane. Position the desired object(s) until they are aligned with the horizontal reference plane to ensure object(s) are level.
3. Square:
   Using either the vertical and horizontal laser beams with or without the 90° vertical reference laser beam, establish a point where the vertical and horizontal beams cross. Position the desired object(s) until they are aligned with both the vertical and horizontal laser beams to ensure object(s) are square.
4. Pulse Mode:
   Setting laser unit to pulse mode allows use of optional laser detectors.

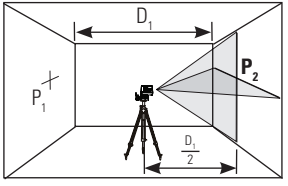
NOTE: The laser unit has been calibrated at the time of manufacturing. Periodically check the accuracy of the laser unit to ensure that the calibrated specifications are maintained.

Level Beam Accuracy

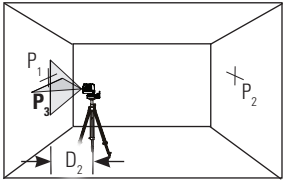
1. Place laser unit as shown with laser ON. Mark point P_1 at cross.



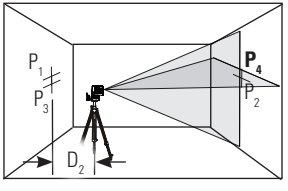
2. Rotate laser unit 180° and mark point P_2 at cross.



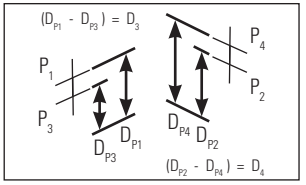
3. Move laser unit close to wall and mark point P_3 at cross.



4. Rotate laser unit 180° and mark point P_4 at cross.



5. Measure the vertical distance from the floor to each point. Calculate the difference between distances D_{P1} and D_{P3} to get D_3 and distances D_{P2} and D_{P4} to get D_4.



6. Calculate the maximum allowed offset distance and compare to the difference of D_3 and D_4 as shown in the equation. If the sum is not less than or equal to the calculated maximum offset distance the unit must be returned to your Stanley Distributor.

Maximum Offset Distance:

$$\text{Max} = 0{,}2\ \tfrac{mm}{m} \times (D_1\ m - (2 \times D_2\ m))$$
$$= 0{,}0024\ \tfrac{in}{ft} \times (D_1\ ft - (2 \times D_2\ ft))$$

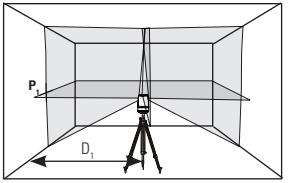
Compare:

$$D_3 - D_4 \leq \pm \text{Max}$$

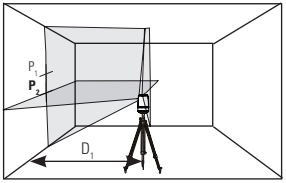
Example: D_1 = 10 m, D_2 = 0,5 m
D_{P1} = 30,75 mm, D_{P2} = 29 mm, D_{P3} = 30 mm, D_{P4} = 29,75 mm
D_3 = (*30,75 mm - 30 mm*) = 0,75 mm
D_4 = (*29 mm - 29,75 mm*) = - 0,75 mm
0,2 $\frac{mm}{m}$ x (*10 m* - (2 x *0,5 m*) = 1,8 mm (maximum allowed offset distance)
(*0,75 mm*) - (- 0,75 *mm*) = 1,5 mm
1,5 mm ≤ 1,8 mm (**TRUE**, unit is within calibration)

Horizontal Beam Accuracy

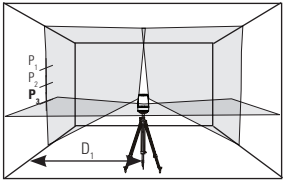
1. Place laser unit as shown with horizontal, vertical, and both 90° vertical reference laser beams ON. Mark point P_1 where the horizontal and left 90° vertical reference laser beams cross.



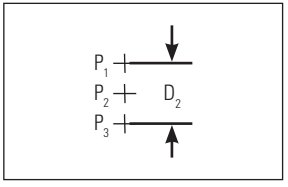
2. Rotate laser unit 90° and align front vertical laser beam with point P_1 . Mark point P_2 where the horizontal and front vertical laser beams cross.



3. Rotate laser unit 90° and align right 90° vertical reference laser beam with point P_1 . Mark point P_3 where the horizontal and right 90° vertical reference laser beams cross.



4. Measure the vertical distance D_2 between the highest and lowest point.



5. Calculate the maximum allowed offset distance and compare to D_2 . If D_2 is not less than or equal to the calculated maximum offset distance the unit must be returned to your Stanley Distributor.

Maximum Offset Distance:

$$\text{Max} = 1\,\tfrac{mm}{m} \times D_1\,m \quad = 0{,}012\,\tfrac{in}{ft} \times D_1\,ft$$

Compare:

$$D_2 \leq \text{Max}$$

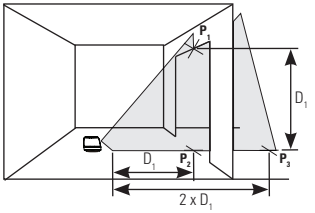
Example: $D_1 = 5$ m, $D_2 = 1$ mm

$1\,\frac{mm}{m} \times 5\,m = 5$ mm (maximum allowed offset distance)

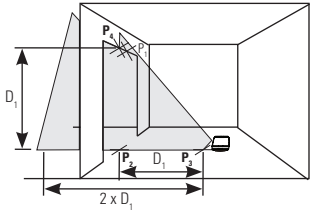
$1\,mm \leq 5$ mm (**TRUE**, unit is within calibration)

Vertical Beam Accuracy

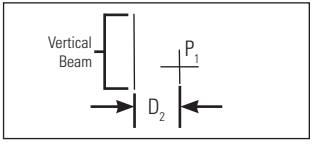
1. Measure the height of a door jamb or reference point to get distance D_1 . Place laser unit as shown with laser ON. Aim vertical beam towards door jamb or reference point. Mark points P_1 , P_2 , and P_3 as shown.



2. Move laser unit to opposite side of door jamb or reference point and align vertical beam with P_1 and P_2 .



3. Measure the horizontal distances between P_1 and the vertical beam from the 2nd location.



4. Calculate the maximum allowed offset distance and compare to D_2 . If D_2 is not less than or equal to the calculated maximum offset distance the unit must be returned to your Stanley Distributor.

Maximum Offset Distance:

$$\text{Max} = 1\,\tfrac{mm}{m} \times D_1\,m \quad = 0{,}012\,\tfrac{in}{ft} \times D_1\,ft$$

Compare:

$$D_2 \leq \text{Max}$$

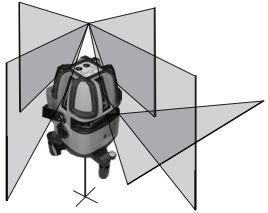
Example: $D_1 = 2$ m, $D_2 = 1$ mm

$1\,\frac{mm}{m} \times 2\,m = 2$ mm (maximum allowed offset distance)

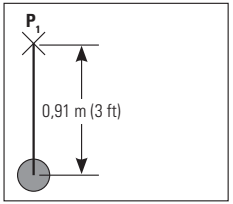
$1\,mm \leq 2$ mm (**TRUE**, unit is within calibration)

90° Vertical Beam Accuracy

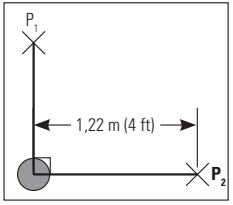
You will need at least 1.5 m^2 (16 ft^2) of floor space and possibly an assistant for this check.



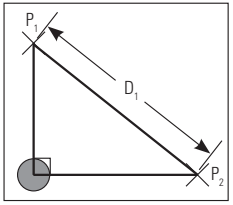
1. Place the laser unit on a level floor, and turn on all beams.



2. Measure exactly 0,91 m (3 ft) out from the center of the laser unit along the front vertical laser beam. Mark this point P_1 .



3. Measure exactly 1,22 m (4 ft) out the center of the instrument along either of the 90° vertical reference beams, and mark this point P_2 .



4. Measure from point A to point B; this distance D_1 should equal 1,52 m ± 1.2 mm (5 ft ± 3/64 in). If not, the unit must be returned to your Stanley Distributor.

5. Repeat steps 1 through 4 to check the other beams.

Maintenance and Care

Laser unit is not waterproof. **DO NOT** allow to get wet. Damage to internal circuits may result.

DO NOT leave laser unit in direct sunlight or expose it to high temperatures. The housing and some internal parts are made of plastic and may become deformed at high temperatures.

DO NOT store the laser unit in a cold environment. Moisture may form on interior parts when warming up. This moisture could fog up laser windows and cause corrosion of internal circuit boards.

When working in dusty locations, some dirt may collect on the laser window. Remove any moisture or dirt with a soft, dry cloth.

DO NOT use aggressive cleaning agents or solvents.

Store the laser unit in its case when not in use. If storing for extended time, remove batteries before storage to prevent possible damage to the instrument.

One Year Warranty

Stanley Tools warrants its electronic measuring tools against deficiencies in materials and/or workmanship for one year from date of purchase.

Deficient products will be repaired or replaced, at Stanley Tools' option, if sent together with proof of purchase to:

Stanley UK Sales Limited
Gowerton Road
Brackmills, Northampton NN4 7BW

This Warranty does not cover deficiencies caused by accidental damage, wear and tear, use other than in accordance with the manufacturer's instructions or repair or alteration of this product not authorised by Stanley Tools.

Repair or replacement under this Warranty does not affect the expiry date of the Warranty.

To the extent permitted by law, Stanley Tools shall not be liable under this Warranty for indirect or consequential loss resulting from deficiencies in this product.

This Warranty may not be varied without the authorisation of Stanley Tools.

This Warranty does not affect the statutory rights of consumer purchasers of this product.

This Warranty shall be governed by and construed in accordance with the laws of England and Stanley Tools and the purchaser each irrevocably agrees to submit to the exclusive jurisdiction of the courts of England over any claim or matter arising under or in connection with this Warranty.

IMPORTANT NOTE: The customer is responsible for the correct use and care of the instrument. Moreover, the customer is completely responsible for periodically checking the accuracy of the laser unit, and therefore for the calibration of the instrument.

Calibration and care are not covered by warranty.

Subject to change without notice

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MAKE SOMETHING GREAT™

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