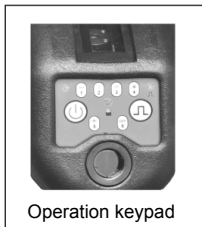
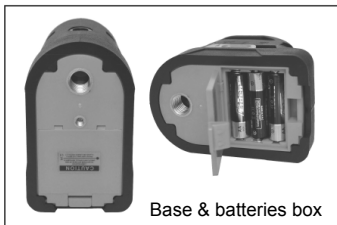
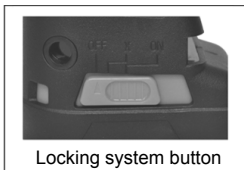
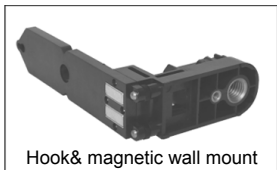


**SIGNATURE**

  
Self-Leveling

# AUTO-LEVELING CROSS LINE DOT LASER



Please read this manual carefully before operating the laser.

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ROHS Compliant

## **1. User safety:**

- 1.1 Never stare directly into beam or view directly.
- 1.2 Don't aim the laser beams .
- 1.3 Keep the laser out of the reach of children.
- 1.4 Never repair or replacement by yourself.
- 1.5 Don't dispose in fire or heat.
- 1.6 Risk of battery leakage.
- 1.7 Take care of this laser, please pay more attention on the following points:
  - 1.7.1 Never put the laser on the magnetic area or vibrative area.
  - 1.7.2 Maintenance
    - 1) The light turns dark because of the dirty glass. Please clean the glass with the special cleanser.
    - 2) Please clean the laser with the dry soft cloth. Don't clean the laser with the detergent or other cleansers.
    - 3) Clean the unit dry and put it into the bag when it is raining.
  - 1.7.3 Storage
    - 1) Keep the laser into the softbag.
    - 2) Please switch the locking system button to off when you put the laser into bag, otherwise the laser will be broken easily when it fall off from the high place or vibrate.

## 2. Introduction



- |                       |                        |                          |
|-----------------------|------------------------|--------------------------|
| 1. operation keypad   | 2. vertical fan window | 3. horizontal fan window |
| 4. left dot's window  | 5. right dot's window  | 6. up dot's window       |
| 7. front dot's window | 8. down dot's window   | 5/8" connecting nut      |
| 9. locking button     | 10. battery box        | 11. 1/4" connecting nut  |
| 12. adjusting bolt    | 13. alnico             | 14. hanging hole         |
| 15. binding groove    |                        |                          |

### 3. Package

Standard package: main unit, soft bag, multi-function hook & magnetic wall mount, target plate, instruction manual, 3pcs AA batteries.

Optional accessory: LVH100 detector with clamp



standard package

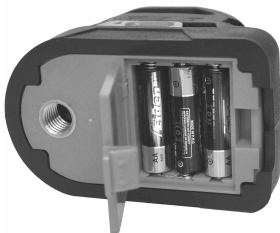


LVH100 detector with clamp

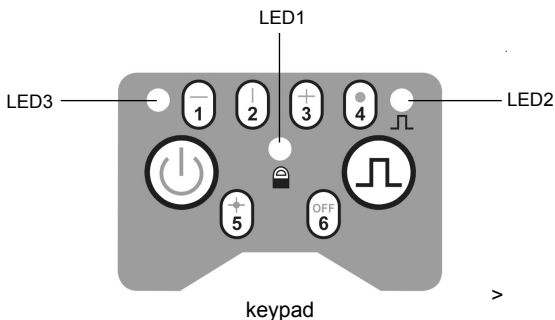
### 4. Battery installing

Installing/replace the battery with 3xAA batteries as following:

- 4.1 Open the battery cover
- 4.2 Take out the batteries and replace them.
- 4.3 Return the battery cover to its original position.



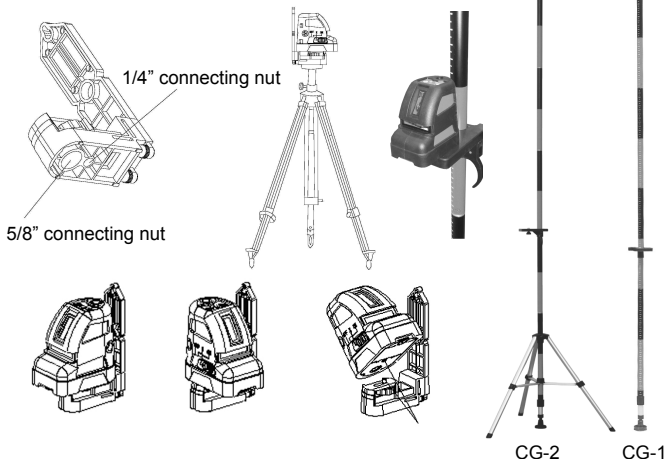
## 5. Instrument operation



- 5.1 Switch the locking button to ON.
- 5.2 Press the power key (⏻) LED3 shows green and laser beam turn as following: H → V → H+V → 5 dots → H+V+5 dots.
- 5.3 Press the pulse key (⏏) to 10KHZ status, blue LED2 turns on.
- 5.4 Switch the locking button into manual mode, locking LED1 shows red.
- 5.5 the laser beam will blink on 2 times/second frequency when the laser tilts over the compensative range  $3^{\circ}$ .
- 5.6 the green LED3 will turn to red when the power voltage drops to 3.3V.
- 5.7 Switch Specification:
  - 5.7.1 If the switch is “OFF”, That means shut off the power, the compensator is also locked off; If the switch is “X”, That means the power is opened, the compensator is still locked off, but we can still get the lines and dots if you press the keypad, also it will not warn if the line is not in level position.
  - 5.7.2 If the switch is “ON”, That means the power is opened, the compensator is also opened and the unit will work automatically (compensator also works). The laser beam will blink and it will warn if the laser is out of the compensation range.

## 6. Accessories

1. The 5/8" or 1/4" connecting nut of the unit bottom can be fixed on the tripod, CG-1 or CG-2 support pole, etc.
2. Connect the unit with Mutil-function magnetic wall mount, and can fix the unit on every metal place or wall.



## 7. Application

the unit can be used in interior decorating, instrument installation, floor & wall bricks, drop ceiling, wall frame, level wall device, wainscot, level the cabinets and shelves, etc.



## 8. Calibration

### 8.1 Check the conicity of the horizontal beam and the front, left, right dots.

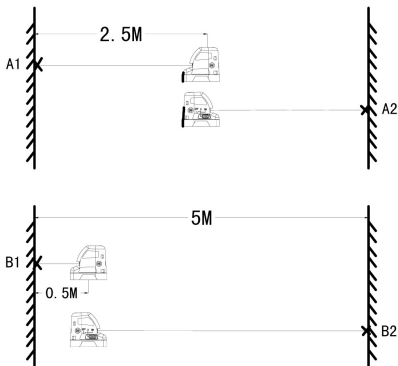
8.1.1 Set the unit between two walls about 5m.

8.1.2 Turn on the unit, sign the cross dot of horizontal and vertical beams on one of the wall as A1.

8.1.3 Rotate the unit 180° to face the another wall and sign A2.

8.1.4 Move the unit far away from one wall about 0.5m, Turn on the unit face to the wall with A1, then sign B1. Rotate the unit 180° then sign B2 on another wall.

8.1.5 According to the  $|(A1-B1) - (A2-B2)| \leq 2\text{mm}$ . If the value is greater than 2mm, the unit must be returned to the authorized service center. Measure the front, left and right dots with the same steps.

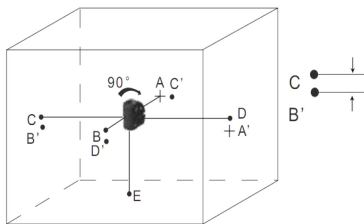


### 8.2 Check the 90° including angle of cross dot and the front, left, right dots.

8.2.1 Installing the unit on the multi-function mount, and put it in the center of 6m x 6m room, then turn on all the laser beam and dots. Face the cross dot and front, left, right dots to the walls, the down dot aims the floor, sign A, B, C, D, E respectively.



8.2.2 Rotate the unit 90° around the down dot, sign A', B', C', D' on the the walls, measure respectively the distances of A to C', B to D', C to B' and D to A'. If the value is greater than 2mm, the unit must be returned to the authorized service center.

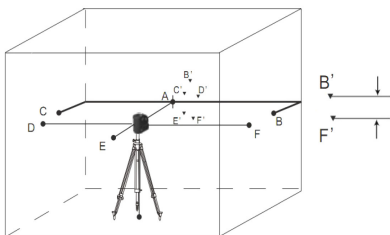


### 8.3 Check the horizontal accuracy of horizontal beam and the front, left, right dots.

8.3.1 Fix the unit with multi-function mount on the tripod, and then turn on all the lasers beams, Make the cross dot face to one wall, sign the center dot A.

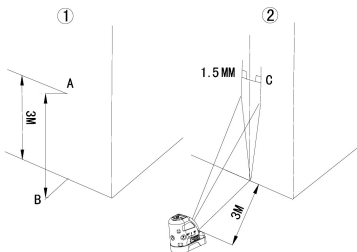
8.3.2 Rotate the unit, and make the left & right ends of horizontal beam, front, left, right dots shoot respectively near sign A, then sign B', C', D', E', F'.

8.3.3 Measure the vertical distance from the highest dot to the lowest dot among these A, B', C', D', E', F' dots. If the value is greater than 3mm, the unit must be returned to the authorized service center.



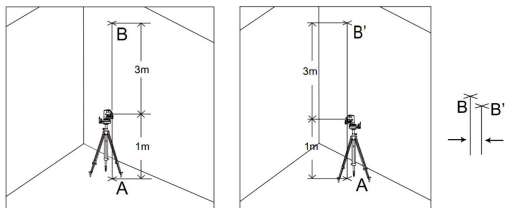
## 8.4 Check the vertical accuracy

- 8.4.1 Find an old building without wind, sign point A at 3m high, along point A set a plumb, and then sign point B on the floor.
- 8.4.2 Put the unit far away from the point B about 3m, Turn on the unit, and make the vertical beam aim at the point B. Under this status, sign the point C near the point A on the wall, it is OK if the value between A and C is less than 1.5mm.



## 8.5 Check the accuracy of up & down dots

- 8.5.1 Set the unit on a plate where is far away from the floor about 1m in a 4m high room, and then turn on the unit.
- 8.5.2 Sign the point A when the down dots shoots on the floor; when the up dot shoots on the ceiling, sign the point B. Rotate the unit 180° and make the down dot aims at the point A, and then sign point B on the ceiling.
- 8.5.3 Measure the distance between point B and point B', if the value is greater than 3mm, the unit must be returned to the authorized service center.



## 9. Specification

Lasers:	5 dots,1V,1H,
Horizontal line accuracy:	$\leq \pm 3\text{mm} /10\text{m}$
Vertical line accuracy:	$\leq \pm 3\text{mm} /10\text{m}$
Up beam accuracy:	$\leq \pm 5\text{mm} /10\text{m}$
Down beam accuracy:	$\leq \pm 1.5\text{mm} /2\text{m}$
Left right and front dots leveling accuracy:	$\leq \pm 4\text{mm} /10\text{m}$
Accuracy of 90° including angle:	$\leq \pm 4.5\text{mm} /10\text{m}$
Overlap ratio of beams & dots:	$\leq \pm 4\text{ mm} /10\text{m}$
Self-leveling range:	$3^\circ \pm 0.5^\circ$
Working range :	Dot : $\leq 30\text{m}$ Line : $\leq 10\text{m}$ ; $>25\text{m}$ with Laser detector
Diode power:	635nm $\pm$ 5nm, Class 2M, EN60825-1
Laser power:	Class 2M (EN 60825-1)
Power voltage:	DC 4.5V
Working time:	$\geq 7\text{hs}$
Dimensions:	(LxWxH) 125x77x115mm
Standard outfit:	main unit, soft bag, multi-function hook & magnetic wall mount, target plate, instruction manual, 3pcs AA batteries.
Optional accessory:	LVH100 detector with clamp. LET-A elevator tripod CG-1 or CG-2 support pole