

Operating manual
Line laser
6D SERVOLINER



Applications

Line laser ADA 6D Servoliner is designed to check the horizontal and vertical position of the surfaces of the elements of building structures and also to transfer the angle of inclination of the structural part to similar parts during construction and installation works.

Specifications

Laser beam	4V4H1D
Light sources	635nm/floor point 650nm
Laser safety class	2
Accuracy	$\pm 1\text{mm}/10\text{m}$
Self-leveling range	$\pm 3.5^\circ$
Working range (with detector)	radius 40~50m
Sensitivity of circular level	60"/2mm
Rotation/Fine adjustment	360°
Power supply	4 X AA batteries
Service time	approx 5~10 h with all lines ON
Mounting thread	5/8" x 11
Operating temperature	-10°C ~ +40°C
Weight	1.35 kg
Size	Ø 150X200 mm

Functional description

The horizontal and vertical are separate button, it could make switches has more longer life span.

Can be used for indoor or outdoor, when using for outdoor, the receiver during the work can be used over 50m of radius.

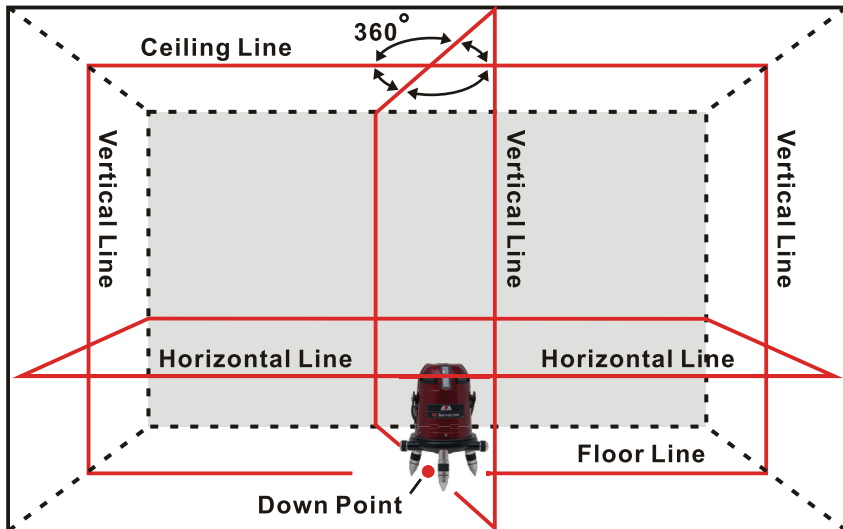
Electronic compensator ensures more quick self-leveling.

When the line laser inclines over incline alarm range, the laser line automatically gleams.

360° rotating fine adjustment mechanism makes it easier to find objects correctly.

When turning off the power, built-in locking system can automatically lock the compensator to avoid vibration in the transportation.

Laser lines



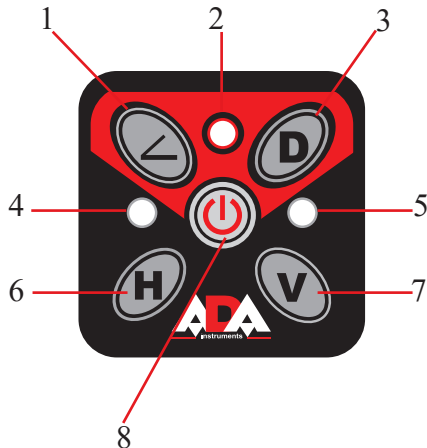
Features

1. Switchboard
2. Vertical laser windows
3. Horizontal laser windows
4. Carrying belt
5. Fine adjustment switch
6. Battery cover
7. Leveling screw
8. Down point laser & mounting thread for tripod
9. Limb 360°
10. Connector for power unit



Keypad

1. Leveling function switch
2. Power LED
3. Detector switch
4. Leveling indication LED
5. Detector LED
6. Horizontal switch (H)
7. Vertical switch (V)
8. Power switch



Operation

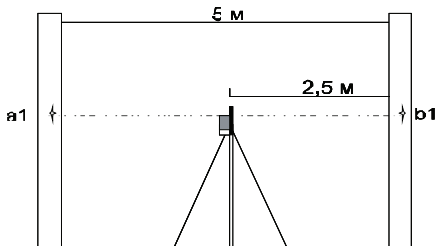
1. Take out the battery lid. According the sign “+,-”, insert four alkaline batteries or rechargeable batteries to the battery socket, then cover the battery lid.
2. Setting up the line laser on the floor or the tripod. When using tripod, support the centering nut of the line laser with one hand and screw the centering screw into the centering nut female thread. Tighten the centering screw.
3. When the buzzer sounds while turn on the line laser (at the same time the LED will blink), that means the line laser is over alarm range based on the ground, please adjust the three leveling screw or tripod.
4. Make the floor point of the line laser aim at object on the floor, line to aim at object. And then move fine adjustment mechanism and move upper part of the line laser to roughly adjust vertical to find objects correctly.
5. When the line laser inclines over alarm range, because of certain reason during the operation, the laser and the LED will blink and buzzer sounds at the same time, the laser line gleams. This time, please adjust the three leveling screws to make the buzzer sound stop.

Slant/slope fine adjustment mode

1. After power on, pressing (1) for a little bit time enter (or quit) “slant / slope fine adjustment mode”
2. Setting “slant fine adjustment [X axis]” for start point.
3. During the time of “slant fine adjustment [X axis]”, pressing H can be switched to “angle of slope in horizontal plane” (left).
4. During the time of “slope fine adjustment [Y axis]”, pressing V can be switched to “slope of horizontal plane”
5. Bi-Bi sound mentions that you’ve reached the limit of slope position.

To check the accuracy of line laser

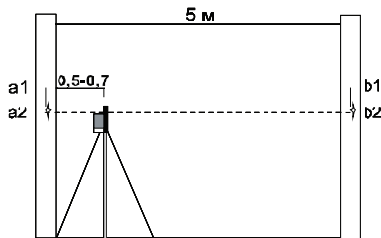
Set up the line laser between two walls, the distance is 5 m. Turn on the line laser and mark the point of cross laser line on the wall.



Set up the line laser 0,5-0,7m away from the wall and make, as described above, the same marks. If the difference $\{a1-b2\}$ and $\{b1-b2\}$ is less than the value of “accuracy” (see specifications), there is no need in calibration.

Example: when you check the accuracy of line laser the difference is $\{a1-a2\}=5$ mm and $\{b1-b2\}=7$ mm. The instrument's error: $\{b1-b2\}-\{a1-a2\}=7-5=2$ mm. Now you can compare this error with standard error.

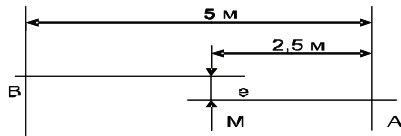
If the accuracy of line laser isn't corresponding with claimed accuracy, contact the authorized service center.



To check the accuracy of horizontal beam

Choose a wall and set laser 5M away from the wall. Turn on the laser and cross laser line is marked A on the wall. Find another point M on the horizontal line, the distance is around 2.5m. Swivel the laser, and another cross point of cross laser line is marked B. Please note the distance of B to A should be 5m.

Measure the distance between M to cross laser line, if the difference is over 3mm, the laser is out of calibration, please contact with seller to calibrate the laser.



To check plumb

Choose a wall and set laser 5m away from the wall. Mark point A on the wall, please note the distance from point A to ground should be 3m. Hang a plumb line from A point to ground and find a plumb point B on ground. turn on the laser and make the vertical laser line meet the point B, along the vertical laser line on the wall and measure the distance 3m from point B to another point C. Point C must be on the vertical laser line, it means the height of C point is 3m.

Measure the distance from point A to point C, if the distance is over 2 mm, please, contact with seller to calibrate the laser.

Product life

Product life of the tool is 7 years. The battery and the tool should never be placed in municipal waste. Date of production, manufacturer's contact information, country of origin are indicated on the product sticker.

Care and cleaning

Please handle measuring instrument with care. Clean with soft cloth only after any use. If necessary damp cloth with some water. If instrument is wet clean and dry it carefully. Pack it up only if it is perfectly dry. Transport in original container/case only.

Specific reasons for erroneous measuring results

- Measurements through glass or plastic windows;
- Dirty laser emitting window;
- After instrument has been dropped or hit. Please check the accuracy.
- Large fluctuation of temperature: if instrument will be used in cold areas after it has been stored in warm areas (or the other way round) please wait some minutes before carrying out measurements.

Electromagnetic acceptability (EMC)

- It cannot be completely excluded that this instrument will disturb other instruments (e.g. navigation systems);
- will be disturbed by other instruments (e.g. intensive electromagnetic radiation nearby industrial facilities or radio transmitters).

Laser class 2 warning labels on the laser instrument.



Laser classification

The tool is a laser class 2 laser product according to DIN IEC 60825-1:20014. It is allowed to use unit without further safety precautions.

Safety instructions

- Please follow up instructions given in operators' manual.
- Do not stare into beam. Laser beam can lead to eye injury (even from greater distances).
- Do not aim laser beam at persons or animals.
- The laser plane should be set up above eye level of persons.
- Use the line laser for measuring jobs only.
- Do not open line laser housing. Repairs should be carried out by authorized workshops only. Please contact your local dealer.
- Do not remove warning labels or safety instructions.
- Keep line laser away from children.
- Do not use line laser in explosive environment.

Warranty

This product is warranted by the manufacturer to the original purchaser to be free from defects in material and workmanship under normal use for a period of two (2) years from the date of purchase.

During the warranty period, and upon proof of purchase, the product will be repaired or replaced (with the same or similar model at manufacturer's option), without charge for either parts or labour.

In case of a defect please contact the dealer where you originally purchased this product. The warranty will not apply

to this product if it has been misused, abused or altered. Without limiting the foregoing, leakage of the battery, bending or dropping the unit are presumed to be defects resulting from misuse or abuse.

Exceptions from responsibility

The user of this product is expected to follow the instructions given in operators' manual.

Although all instruments left our warehouse in perfect condition and adjustment the user is expected to carry out periodic checks of the product's accuracy and general performance.

The manufacturer, or its representatives, assumes no responsibility of results of a faulty or intentional usage or misuse including any direct, indirect, consequential damage, and loss of profits.

The manufacturer, or its representatives, assumes no responsibility for consequential damage, and loss of profits by any disaster (earthquake, storm, flood ...), fire, accident, or an act of a third party and/or a usage in other than usual conditions.

The manufacturer, or its representatives, assumes no responsibility for any damage, and loss of profits due to a change of data, loss of data and interruption of business etc., caused by using the product or an unusable product.

The manufacturer, or its representatives, assumes no responsibility for any damage, and loss of profits caused by usage other than explained in the users' manual.

The manufacturer, or its representatives, assumes no responsibility for damage caused by wrong movement or action due to connecting with other products.

WARRANTY DOESN'T EXTEND TO FOLLOWING CASES:

1. If the standard or serial product number will be changed, erased, removed or will be unreadable.
2. Periodic maintenance, repair or changing parts as a result of their normal runout.
3. All adaptations and modifications with the purpose of improvement and expansion of normal sphere of product application, mentioned in the service instruction, without tentative written agreement of the expert provider.
4. Service by anyone other than an authorized service center.
5. Damage to products or parts caused by misuse, including, without limitation, misapplication or negligence of the terms of service instruction.
6. Power supply units, chargers, accessories, wearing parts.
7. Products, damaged from mishandling, faulty adjustment, maintenance with low-quality and non-standard materials, presence of any liquids and foreign objects inside the product.
8. Acts of God and/or actions of third persons.
9. In case of unwarranted repair till the end of warranty period because of damages during the operation of the product, its transportation and storing, warranty doesn't resume.

WARRANTY CARD

Name and model of the product _____

Serial number _____ date of sale _____

Name of commercial organization _____ stamp of commercial organization

Warranty period for the instrument exploitation is 24 months after the date of original retail purchase.
During this warranty period the owner of the product has the right for free repair of his instrument in case of manufacturing defects.

Warranty is valid only with original warranty card, fully and clear filled (stamp or mark of the seller is obligatory).

Technical examination of instruments for fault identification which is under the warranty, is made only in the authorized service center.

In no event shall manufacturer be liable before the client for direct or consequential damages, loss of profit or any other damage which occur in the result of the instrument outage.

The product is received in the state of operability, without any visible damages, in full completeness. It is tested in my presence. I have no complaints to the product quality. I am familiar with the conditions of warranty service and I agree.

purchaser signature _____

Before operating you should read service instruction!

If you have any questions about the warranty service and technical support contact seller of this product
