ADA INSTRUMENTS A00579 ROTARY 500 Rotating Laser Instruction Manual

INSTRUMENTS
Manua
ROTARY 500
HV & HVG
VERSIE 1.0
Instruction Manual

1


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6
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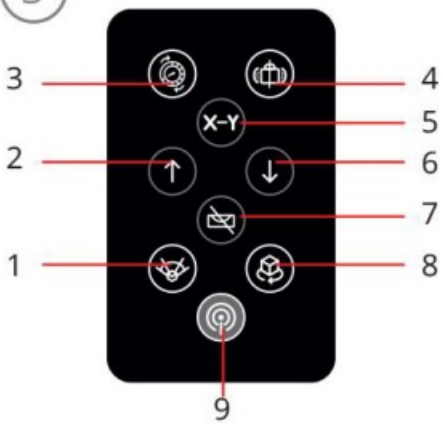
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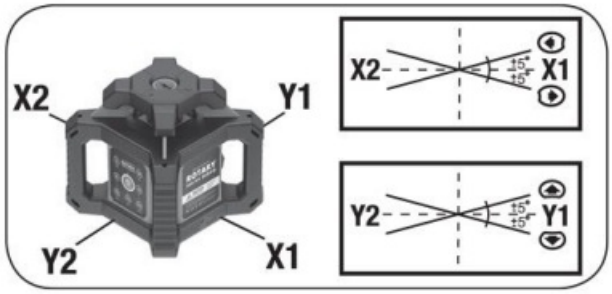
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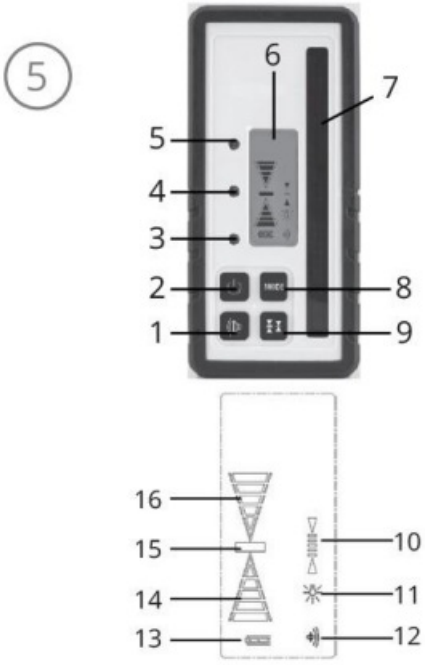
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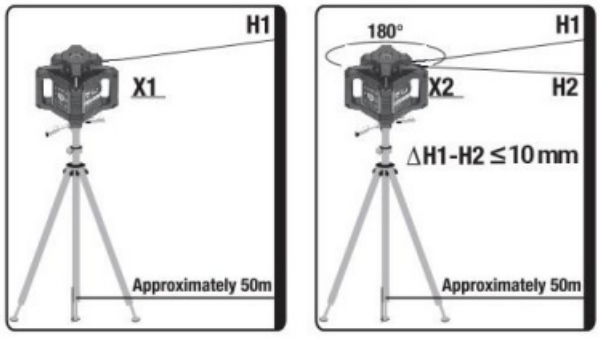

H1
X1
Approximately 50m
180°
H1
X2
H2
ΔH1-H2 ≤ 10 mm
Approximately 50m

Contents

SPECIFICATIONS

Horizontal/Vertical/plumb up accuracy.. ± 0.1 mm/m
Plumb down accuracy…… ± 1.5 mm/m
Self-leveling range …….. ±5°
Tilt Angle Range along X/Y axis …… ±5°
Dust/water protection …… IP65
Recommended working range ø…….. 500 m diameter with laser detector
Laser source…… 635 нм (500 HV SERVO) 520 nm (500 HV-G SERVO)
Laser class…… II
Tripod mount …… 2x5/8″
Rotaonal Speed (rpm) …… 0 (staonary point), 120, 300, 600
Scanning function…….. 0° (stationary point), 10°,45°, 90°,180°
Remote control distance …… 100 m
Remote control power supply…… 2 x AAA 1,5V batteries
Laser power supply……. 4xAA NI-MH batteries /4xAA alkaline batteries /power supply DC 5.6V 700mA
Laser battery life …….. Approx. 18-20 hours of connu ous use
Laser detector power supply…….. 1x9V alkaline battery
Laser detector battery life …….. 50 hours of continuous use
Weight …….. 2.4 kg with batteries
Dimensions (L x W x H), mm …….. 200 x 200 x 200

① LASER LEVEL

1. Keypad
2. Laser output window
3. Handle
4. Battery charger jack
5. Laser plumb window / 5/8” tripod thread
6. Barry cover

② KEYPAD

1. TILT button along the X axis	12. Shock warning Indicator
2. TILT button along the X axis	13. Power Indicator
3. Counterclockwise Rotation button	14. On/Off button
4. Counterclockwise Rotation Indicator	15. Clockwise Rotation Indica
5. Scan mode	16. Clockwise Rotation buttor
6. Scan mode Indicator	17. TILT button along the Y a
7. On/Off button for remote operation	18. TILT button along the Y a
8. Remote operaon Indicator	19. TILT indicator along the Y
9. Speed button	20. Manual Indicator
10. Speed indicator	21. Auto/Manual button
11. Shock warning button	22. TILT indicator along the X

③ REMOTE CONTROL

1. Scan Mode
2. TILT button
3. Speed button
4. Shock warning button
5. X/Y axis button
6. TILT button
7. Auto/Manual button
8. Clockwise Rotation button
9. On/Off button

FEATURES

- The self-leveling electronic mechanism on slopes of ± 5°
- 360° rotation generates a horizontal or vertical level plane
- Generates an inclined plane of any angle in both the X and Y planes (manual mode)
- Four variable speeds (0 /120/300/600 rpm)
- Adjustable scan modes create visible laser lines
- Plumb Down/Plumb Up lines
- Standard tripod thread (5/8”) for vertical or horizontal use, and for attachment to angle bracket
- Work-site tough rubber bumpers and ergonomic handle
- Remote Control and Laser Detector included
- Remote control and laser detector
- Seng the inclined plane up to ± 5° along X and Y axis (manual mode)

USING THE REMOTE CONTROL
The laser can be operated with the help of remote control. The effecve range of the remote control is 328 (100m). Press the On/Off button both on the device (№7 pic.2) and remote (№9 pic.3) to start the operaon from the remote control.

POWER SUPPLY FOR ROTATING LASER:
The rotating laser is supplied with rechargeable batteries and a charger (AC/DC converter).
NOTE: Do not use alkaline batteries and chargers at the same time, as they may damage the laser.

1. Charge the rechargeable batteries if the power indicator blinks (№13 pic.2).

2. Connect the charger to an electrical outlet.
3. Insert the connector into the pin socket (№5 pic.1).
4. The indicator on the charger lights orange when charging. If the rechargeable battery is fully charged, the indicator lights green.
5. It's possible to remove batteries from the tool. Unscrew screws in the battery compartment cover (№3 pic. 1).

IMPORTANT: You can operate the tool while it is charging.

Detector

1. Press the fixator on the battery compartment and remove the battery compartment cover.
2. Remove battery 9V. 3. Insert new battery 9V. Observe the polarity. Close the battery compartment cover.

The remote control
The battery compartment is located on the back side of the remote control.

1. Remove the battery compartment cover.
2. Remove batteries.
3. Insert batteries type "AAA". Observe the polarity. Close the battery compartment cover.

INSTALLING THE LASER LEVEL
Place the tool on the stable support in a horizontal or vertical position. The tool can compensate for a tilt automatically up to ± 5°. **NOTE:** to project the vertical plane in automatic mode, place the tool with the keypad up.

Use 5/8″ (at the bottom or on the side of the tool) thread to set a tool on the tripod. For precise positioning above the target location, use the plumb-down point. Due to its high accuracy, the device reacts very sensitively to vibrations and changes in position.

HORIZONTAL/VERTICAL PLANE (AUTOMATIC MODE)

1. Press the button ON (№14 pic.2). Power indicator (№13 pic.2) and the Remote operation Indicator (№8 pic.2), will light up. The shock warning Indicator (№12, pic 2) will blink. If the tool is out of range (±5°), the Manual indicator (№20, pic. 2) and laser diode will blink, and rotation will not begin.
   Turn off the tool and remove the inclination more than ±5°.
2. Verify that the instrument is in automatic mode. The Manual indicator (№9, pic. 2) will blink while self-leveling.
3. The tool is ready for work. When the Power indicator (№1 pic.2) is lit, the Manual indicator (№9 pic.2) has stopped blinking, and the laser beams are projected. The tool is now leveled and the laser head rotates clockwise at 600 rpm. The shock Warning indicator (№12 pic.2) will stop blinking in 60-sec after switching on.

SHOCK WARNING MODE
The tool is equipped with a warning function about displacement. Such a function prevents automatic self-leveling on the revised height. As a result, it avoids errors during laser marks.

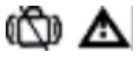
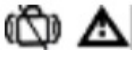
OPERATION FROM THE TOOL KEYPAD

1. SHOCK WARNING mode is activated automatically in 60 sec after switching on and self-leveling. Indicator

(N212 pic.2) starts blinking. In 60 sec when the self-leveling is completed, the mode is activated and the indicator (N212 pic.2) lits constantly.

2. If the tool shifts from its initial position after the activation of SHOCK-WARNING mode, laser head rotation stops, and the laser emitter will blink frequently. SHOCK WARNING indicator (N212 pic.2) and manual mode indicator (N29 pic.2) will blink frequently on the keypad of the tool.
3. Check the position of the tool. If necessary return it to its initial position.
4. Press the button (N211 pic.2) to switch off a SHOCK WARNING mode. The tool starts to self-level automatically. The manual mode indicator (N29 pic.2) will blink while the tool is self-leveling.
5. To switch on SHOCK WARNING mode again, press the button (N211 pic.2). Indicator (N212 pic.2) starts blinking. In 60 seconds after the self-leveling process, the mode is activated and the LED indicator (N212 pic.2) lits constantly. If the SHOCK WARNING mode isn't switched on, the tool will self-level after every displacement.

OPERATION FROM THE REMOTE CONTROL

1. The symbol  appears on the display of the remote of SHOCK WARNING mode is on.
2. If a displacement occurs, icons  will blink on the display.
3. Press the button (№4 pic 3) on the remote to switch off a SHOCK WARNING mode. The tool will automatically self-level. The icon  will be off.
4. To switch SHOCK WARNING mode again, press the button (№4 pic.3). SHOCK WARNING icon  will appear on the display of the remote.

④ INCLINED PLANE (SEMI-AUTO MODE)

A ROTARY 500 HV Servo / ROTARY 500 HVG Servo can project an inclined plane of (±5%) along the X-axis or Y-axis.
Take this function into account when installing the device before it is used.
Use this function when creating a manual slope.

OPERATION FROM THE KEYPAD OF THE TOOL

1. Press the button (№1 or №2 pic.2) – slope along the X axis. Semi-auto mode is switched on. Indicators (№20 and №22 pic.2) will blink. Indicator (№12 pic.2) of the SHOCK WARNING mode is off.
2. Press buttons (№1 or №2 pic.2) to make the necessary slope. Leveling along the Y axis will be realized automatically.
3. Press the manual mode button (№21 pic.2) to exit semi-auto mode. Indicators (№20 and №22 pic.2) will be off. Automatic self-leveling is switched on.

OPERATION FROM REMOTE

1. Press the button (№2 or №6 pic.3) – slope along the X axis. Semi-auto mode is switched on. Icon X  will be displayed on the remote control. SHOCK WARNING mode will be switched off. The indicator  will blink off.

2. Press buttons (№2 or №6 pic.3) to make the necessary slope. Leveling along the Y axis will be realized automatically.

   Indicator Y  will appear on the remote display. Press manual mode button (№7 pic.2) to exit semi-auto mode. Indicators X and Y will blink off. Automatic self-leveling is switched on.

INCLINED PLANE (MANUAL MODE)

A rotary laser level can make an inclined plane along one or two X and Y axis simultaneously. The slope value is ±5º. The lt angle is created regarding the axes indicated on the protective cover of the rotating laser head (pic.4).

OPERATION FROM THE TOOL KEYPAD

1. Press the button (№21 pic.2) to switch the manual mode on. Indicator (№20 pic.2) of the manual mode is on.
2. Press the button (№1 or №2 pic.2) to set the inclination along the X axis.
   Indicator (№22 pic.2) will light up when pressing buttons (№1 or №2 pic.2).
3. Press the button (№17 or №18 pic.2) to set the inclination along the Y axis. Indicator (№19 pic.2) will light up when pressing buttons (№17 or №18 pic.2).
4. Press the button (№21 pic.2) to exit the manual mode. Indicator (№20 pic.2) will blink off, automatic self-leveling will switch on.

OPERATION FROM THE REMOTE CONTROL

1. Press the button (№7 pic.3) to switch on the manual mode. Indicators X  or Y  will blink on the display of the remote control.
2. Press the button (№5 pic.3) to choose the inclination axis. Blinking indicator X  will appear on the display of the remote control if the X  axis is selected. Indicator Y  will blink if the Y axis is selected.
3. Press buttons (№2 or №6 pic.3) to make a necessary inclination along the selected axis.
4. To exit the manual mode press button (№7 pic.3). Indicators X  and Y  will blink off. Automac self-leveling will be switched on.

SCAN FUNCTION

The scanning function is used to improve the visibility of the laser beam and eliminate interference when several rotary lasers are operating simultaneously in the same area. The area where the laser beam is visible is limited. The smaller the scanned object, the more beer it is seen. There are 5 variants of scanning: 0°- 10°- 45°-90°- 180°.

OPERATION FROM THE TOOL KEYPAD

1. Press the Scan button (№5 pic.2) to switch it on. Indicator (№6 pic.2) will light up. The first variant of the scanning 0° – laser dot.
2. Press button (№5 pic.2) to choose the next variant of the scanning: 10°- 45°-90°-180°.
3. The scan mark can be moved around the perimeter. To move in a clockwise direction, press and hold the button (№16 pic.2). Indicator (№15 pic.2) will light up. To move counterclockwise direction, press and hold the button (№3 pic.2). Indicator (№4 pic.2) will light up.

4. If you select the 180 ° scanning variant, then further pressing the button (No. 5 Fig. 2) will turn off the scanning mode. Indicator (№6 pic.2) will blink off.

Also if you press the speed button (№9 pic.2), the scanning mode will be switched off. If you press button (№5 pic.2), scanning mode will be switched on in the previously selected variant.

OPERATION FROM THE REMOTE CONTROL

1. Press the button (№1 pic.3) to switch on the scanning mode. Indicator  and 0º will light up. The first variant of the scanning 0° will be switched on – a laser dot.
2. Press the button (№1 pic.3) to select the following scanning variant: 10°-45°- 90°-180°. The scanning angle will be displayed with numbers on the display of the remote.
3. The scan mark can be moved around the perimeter. Movement is possible only clockwise (one direction) when operating from the remote control. To move clockwise press and hold the button (№8 pic.3).
   The indicator  will light up on the display of the remote control.
4. If to choose scan variant 180º, then further pressing the button will switch off the scan mode. Scan mode indicator  will light off. Scan mode will be switched on if speed button (№3 pic.3) will be pressed.

ROTATION SPEED CHANGE
The laser beam is more visible when the rotating speed is slow. The default speed is 600 rpm.

OPERATION FROM THE TOOL KEYPAD

1. Press the button (N29 pic.2) to choose the rotation speed. Indicator (N210 pic.2) will light up. The first variant of the speed will be switched on: 0 rpm – laser dot. 2. Press the button (N29 pic.2) to choose the next variant of the rotation speed: 120-300-600 rpm. 3. Indicator (N210 pic.2) will light off when choosing 600 rpm.

OPERATION FROM THE REMOTE CONTROL

1. Press the button (N23 pic.3) to choose the rotation speed. The first variant of the speed will be switched on: 0 rpm – laser dot. “0” will be shown on the display of the remote control.
2. Press the button (N23 pic.3) to select the next variant of the rotation speed: 120-300-600 rpm. Digits on the display of the remote control will correspond to the specific rotation speed.

LASER BEAM DETECTOR
The laser detector increases the measurement range of the tool. Use the detector when the laser beam is poorly visible, e.g. outdoors or in bright light. When operating with the rod, set the detector on the rod with the help of a mount.

1. Sound On/Off 2. ON/OFF power 3. Line over the Zero Level Indicator 4. LED indicator – Zero level 5. Line below the Zero Level Indicator 6. LCD display 7. Detector sensor 8. Backlight On/Off	9. Accuracy selection button 10. Accuracy icon 11. On/Off backlight symbol 12. On/Off sound symbol 13. Power indicator 14. Up direction indicator 15. 0 mark indicator 16. Down direction indicator

USING THE LASER DETECTOR

Press the On/Off button (№2 pic. 5) to turn on the detector.
Select the measurement mode (№2 pic. 5). The symbol of the selected mode (№10 pic5) will be shown on the display: ±1 mm, ±2.5 mm, ±5 mm.
Select the mute or sound mode (№1 pic.5). The sound symbol (№12 pic.5) will be shown on the display.
Turn the detection window (№7 pic.5) towards the laser beam and move the detector up and down following the direction of the arrow (№14, 16 pic. 5) on the LCD.
Lower the laser detector (№16 pic.5) if the arrow points down. You will hear a sound alarm.
Raise the laser detector if the arrow points up (№14 pic5.). You will hear a sound alarm.
The level marks on the sides of the laser detector are leveled with the laser beam when the mid mark is displayed on the display (№15 pic.5).
You will hear a continuous sound alarm.

CARE AND CLEANING

- Store in a clean dry place, between 5°F – 131°F (-15°C – 55°C)
- Before moving or transporting the unit, ensure that it is turned off.
- If the instrument is wet, dry off with a dry cloth. Do not seal the laser in the carrying case until completely dry.
- Do not attempt to dry the instrument with fire or with an electric dryer.
- Do not drop the instrument, avoid rough treatment, and avoid constant vibration.
- Periodically check the calibration of the instrument.
- Clean with a soft cloth, slightly dampened with soap and water solution. Do not use harsh chemicals, cleaning solvents, or strong detergents.
- Keep the laser aperture clean by wiping it gently with a soft line cloth.
- Keep the detection window of the Laser Detector clean by wiping it with a soft cloth moistened with glass cleaner.
- Remove batteries from the instrument during long periods of non-use, and store in a carrying case.
- Ensure that the tool is turned off before removing batteries

HORIZONTAL PLANE CALIBRATION TEST

1. Set up the instrument approximately 150ft (50m) from a wall or a measuring staff.
2. Level the instrument as accurately as possible.
3. Position it so that the X-axis is pointing in the direction of the measuring staff or wall.
4. Turn on the tool.
5. Mark the height of the laser beam on the measuring staff or make a mark on the wall.
6. Rotate the instrument by 180°.
7. Mark the height of the laser beam on the measuring staff or make a new mark on the wall. The difference between the heights or marks should not exceed 10 mm.

8. Repeat this procedure for the Y axis.

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 the manufacturer's option), without charge for either part of the labor. n 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 liming the foregoing, leakage of the battery, bending, or dropping of 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 the operating 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 for the results of 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 usage 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 operating 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 THE FOLLOWING GASES:

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 the normal sphere of product application, mentioned in the service instruction, without the 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, and 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 the warranty period because of damages during the operation of the product, it's a transportation and storing, the warranty doesn't resume.

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Documents / Resources

ADA INSTRUMENTS A00579 ROTARY 500 Rotating Laser [pdf] Instruction Manual
A00579, ROTARY 500 Rotating Laser, A00579 ROTARY 500 Rotating Laser, Rotating Laser, Laser