

EN ROTARY LASER Digi Roto HVR CONDROL

User manual

Congratulations on your purchase of rotary laser Digi Roto HVR CONDROL. Safety instructions can be found in the end of this user manual and should be carefully read before you use the device for the first time.

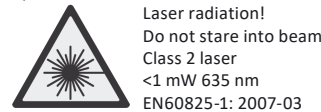
SAFETY INSTRUCTIONS

Attention! This user manual is an essential part of this instrument.

The user manual should be read carefully before you use the instrument for the first time. If the instrument is given to someone for temporary use, be sure to enclose user manual to it.

- Do not misuse the instrument.

- Do not remove warning signs and protect them from abrasion, because they contain information about safe operation of the instrument.



Laser radiation!
Do not stare into beam
Class 2 laser
<1 mW 635 nm
EN60825-1: 2007-03

-Do not look into the laser beam or its reflection, with unprotected eye or through an optical instrument. Do not point the laser beam at people or animals without the need. You can blind them.

-To protect your eyes close them or look aside.

- Always install the instrument in such a way, so that laser line is below or above eye level.

- Do not let unauthorized people enter the zone of instrument operation.

- Store the instrument beyond reach of children and unauthorized people.

- It is prohibited to disassemble or repair the instrument yourself. Entrust repair work to qualified personnel and use original spare parts only.

- Do not use the instrument in explosive environment, close to flammable materials.

- Laser intensive glasses are used for better recognition of the laser beam, do not use them for other purposes. Laser glasses do not protect from laser radiation as well as ultraviolet radiation and reduce color perception.

- Avoid heating the batteries to avoid the risk of explosion and electrolyte leakage. In case of liquid contact with skin, wash it immediately with soap and water. In case of contact with eyes, flush with clean water during 10 minutes and consult the doctor.

INTENDED USE

CONDROL Digi Roto HVR is self-leveling rotary laser, designed for construction workers, plasterers, and contractors intended to project vertical and horizontal planes as well as the dots (zenith, nadir). Scan function allows to project only a part of the laser plane defined by user, as well as project inclined planes tilted up to $\pm 10\%$ for the axes X and Y.

This rotary laser is suitable for use at both indoor and outdoor building areas.

TECHNICAL SPECIFICATIONS

Working range with receiver	600m (in diameter)
Accuracy	18" ($\pm 0,09$ mm/1 m)
Self-leveling range	$\pm 5^\circ$
Tilt angle for axes X и Y	$\pm 10\%$
Laser type	Class II 635 nm < 1 mW
Rotation speed	0, 60, 120, 300, 600 rpm
Scanning mode	Scanning sector 0°, 10°; 45°; 90°; 180°
Operating distance of remote control	100 m
Operating temperature	-20°C...+50°C
Storage temperature	-30 °C...+60 °C
Power supply of rotary laser	Rechargeable battery 4 x 4000 mAh SC Ni-MH 1.2 V and alkaline battery 4 x AM-2 (LR14) type C, 1.5 V
Power supply of remote control	2 x AAA LR03 1.5 V
Power supply of laser receiver	1 x 6F22 9V
Battery life	20 h
IP rate	IP67
Type of tripod thread	5/8"
Dimensions	206 X 206 X 211 mm
Weight	3 kg

DELIVERY PACKAGE

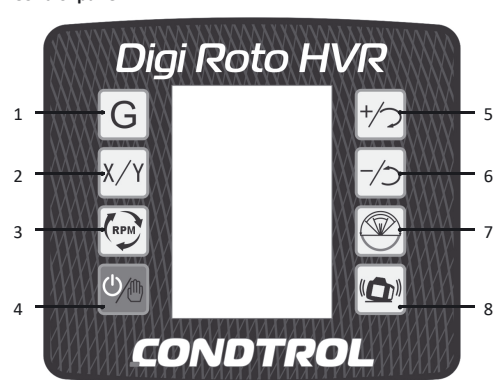
Rotary laser – 1 pc.
Battery (4000 mAh SC Ni-MH 1.2V) – 4 pcs.
Battery (AM-2 LR14 type C, 1.5V) – 4 pcs.
Charger – 1 pc.
Laser receiver – 1 pc.
Mount for laser receiver – 1 pc.
Remote control – 1 pc.
Laser intensive glasses – 1 pc.
Magnetic target board – 1 pc.
User manual – 1 pc.
Plastic case – 1 pc.

PRODUCT DESCRIPTION



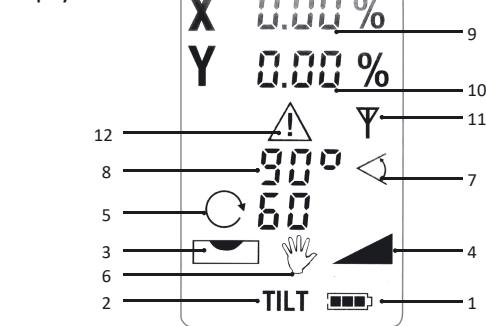
- 1 - Laser exit window
- 2 - Rotary head
- 3 - Laser dots exit windows (zenith and nadir)
- 4 - Control panel
- 5 - Charging jack
- 6 - Battery unit
- 7 - Tripod thread 5/8"
- 8 - Handles

Control panel



- 1 - Inclined planes mode
- 2 - Adjust tilt angle for axes X and Y
- 3 - Select rotation speed
- 4 - Switch on/off rotary laser/manual mode
- 5 - Move laser dot/scan sector clockwise/tilt angle adjustment
- 6 - Move laser dot/scan sector counterclockwise/tilt angle adjustment
- 7 - Scan mode/scan sector
- 8 - Stop self-leveling after misalignment of the rotary laser

Display



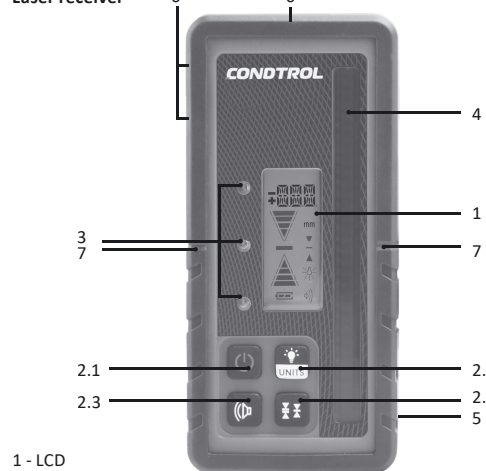
- 1 - Power indication
- 2 - Tilt mode indication
- 3 - Indication of self-leveling
- 4 - Indication of inclined planes mode
- 5 - Rotation speed indication
- 6 - Manual mode indication
- 7 - Scan sector indication
- 8 - Scan sector angle indication
- 9 - Tilt angle for axis X
- 10 - Tilt angle for axis Y
- 11 - Indication of remote control
- 12 - Indication of misalignment in tilt mode

Remote control



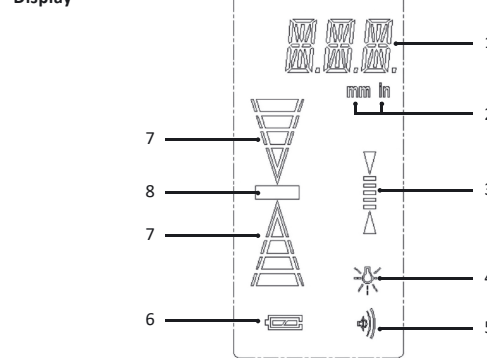
- 1 - Display
- 2 - Keyboard:
- 2.1 - Move laser dot/scan sector clockwise/tilt angle adjustment
- 2.2 - Move laser dot/scan sector counterclockwise/tilt angle adjustment
- 2.3 - Inclined planes mode
- 2.4 - Tilt angle adjustment
- 2.5 - Adjustment of tilt angle for axes X or Y
- 2.6 - Change rotation speed/stop rotation
- 2.7 - Scan mode/scan sector
- 2.8 - Switch on/off

Laser receiver



- 1 - LCD
- 2 - Keyboard:
- 2.1 - Switch on/off
- 2.2 - Select measuring unit/LCD backlight
- 2.3 - Switch on/off audio signal
- 2.4 - Select high/middle/rough accuracy
- 3 - LED indicators
- 4 - Receiver sensor
- 5 - Battery compartment
- 6 - Magnets
- 7 - Level marks

Display



- 1 - Distance to the laser line
- 2 - Measuring units (mm, inch)
- 3 - Indication of accuracy
- 4 - Indication of backlight
- 5 - Indication of audio signal
- 6 - Indication of battery charge level
- 7 - Indication of movement direction
- 8 - Indication of detected laser line

OPERATION

Battery charging

This rotary laser is powered by rechargeable NI-MH batteries included in the delivery package. If symbol starts flashing on the display while operation please charge NI-MH batteries. Alkaline batteries are also included in the set and allow to continue operation even if rechargeable batteries are low/charging. To charge NI-MH batteries use battery charger included in the set. Full charging takes approximately 7 hours. While charging red light indicator on the charger will be on. As soon as the indicator becomes green, batteries are fully charged, the charger can be disconnected. Take out the batteries if the rotary laser is not used for a long time. Do not leave discharged batteries in the instrument. Charge batteries every 3 months to keep them in workable condition.

Attention! Do not connect the charger to the rotary laser if there are alkaline batteries in the battery unit! It may cause damage of the rotary laser.

Replace batteries in the laser receiver

Laser receiver is powered by 9V battery included in the delivery package. Battery compartment is on the back side of laser receiver. Open the battery cover; install a battery, observing correct polarity. Close the battery cover. Replace the battery as soon as the symbol of battery charge level on the LCD becomes empty . Remove the battery from laser receiver if it is not used for a long time to avoid corrosion and battery discharging.

Replace batteries in the remote control

Remote control is powered by 1.5V AAA batteries included in the delivery package. Battery compartment is located on the back side of the remote control. Remove battery cover, take out discharged battery and install new one, observing correct polarity. Put the battery cover back. Use alkaline AAA 1.5V batteries only. Remove the batteries from remote control if it is not used for a long period of time to avoid corrosion and battery discharging. All batteries should be replaced simultaneously. All batteries should be of the same type and brand with the same charge level.

Switch on/off the rotary laser

Short press the button , to switch on/off the laser. When the laser is switched on, the power indicator will turn green and switch off when the laser is off.

Switch on/off the laser receiver

Short press the button to switch on/off the laser receiver.

Audio signal in laser receiver

Loud sound is set by default. Short press the button to select required volume. The sequence is the following: loud \rightarrow no sound \rightarrow normal.

Measuring units in laser receiver

Measuring unit "mm" is set by default. Short press the button to switch between mm and inch.

LCD backlight in laser receiver

It is switched off by default. Press and hold the button during 3 seconds to switch on/off the LCD backlight.

Detecting accuracy in laser receiver

High accuracy (± 1 mm/50m) is set by default.

Short press the button to select required accuracy.

The sequence is the following: high accuracy \rightarrow middle accuracy \rightarrow rough accuracy.

OPERATION MODES

Automatic mode (project horizontal/vertical plane)

Place the rotary laser on a flat surface or tripod 5/8" in horizontal or vertical position.

Switch on the rotary laser. Symbol on the display as well as laser beam flash while self-leveling. As soon as self-leveling is finished the symbol disappears, rotary head starts rotating clockwise at 600 rpm.

If the rotary laser is out of self-leveling range (5°), it will emit audio signal. Laser beam will flash as well, rotary head will not rotate. Switch off the rotary laser and switch it on again.

Press button to switch to tilt mode.

Symbol **TILT** appears on the display. If the rotary laser is unbalanced by some external influence, it will not self-level

again. You will hear audio signal, symbol will appear on the display. Switch off the rotary laser, then switch it on and repeat operation.

Projection of inclined planes

This mode allows to project inclined planes tilted up to $\pm 10\%$ for the axes X and Y.

Press button to enter inclined planes mode.

Symbol will appear on the display. Value of tilt angle for axis X is flashing in the upper line.

Press button and to set up required value of axis X.

To switch to value of tilt angle for axis Y press button , Y value will flash. Press button and to set up

required value of axis Y. Confirm the setting by pressing

button . Symbol on the display as well as laser beam will flash until rotary head assumes target position.

Rotary head starts rotating at 600 rpm.

Tilt mode is active in this mode. If the rotary laser is unbalanced by some external influence, it will not self-level again. Rotary

laser will emit audio signal, symbol will appear on the display. Press button to switch off tilt function.

Manual mode

This mode allows construction of laser planes at any angle inclination.

Place the rotary laser on a solid and flat surface. Switch on the rotary laser.

Laser beam as well symbol on the display are flashing. As soon as self-leveling is finished rotary head starts rotating

clockwise at 600 rpm. Press and hold button during 5 seconds. The rotary laser will enter manual mode, symbol

will appear on the display. Install the rotary laser at required angle and fix its position.

To exit manual mode press and hold button for 5 seconds. Manual mode indication will switch off.

Top and bottom plumb dots

The rotary laser has up and down laser dots (zenith, nadir). They are on in any operation mode of the rotary laser.

Rotation speed

Speed 600 rpm is default. Press button to switch between speeds of rotary head. Rotation speeds change in the following way: 600-0-60-120-300-600 rpm.

Attention! The slower rotation speed, the brighter laser beam.

Scan mode

Scan mode allows seeing laser line at long distance.

Press button to activate scan mode. By series press

on button choose required scan sector – 0°, 10°; 45°; 90°; 180°.

Appropriate symbol appears on the display - .

Press button to move scan sector counterclockwise, button - clockwise. To exit scan mode press . Rotary head will start rotating.

Work with laser receiver

Switch on the laser receiver. Fix the laser receiver on the leveling rod, metal surface etc.

Place the laser receiver in front of the laser beam. Move the detector up / down following the arrows on the LCD (front or back, whichever is more convenient) and LEC indicators. A down arrow on the display indicates that the receiver should be moved down, an up arrow indicates that the receiver

should be moved up. Indicator shows the exact

distance to the laser line. When the laser beam hits the center of the receiver sensor receiver and position of the laser beam coincides with levels marks, the receiver emits audio signal (if the audio signal is switched on) and symbol of detected laser line appears on the display.

Magnetic target board

A magnetic laser target will help to mark up ceiling systems or frame structures, such as drywall. The built-in magnet allows to fix the target on the ceiling rails or on the frame profile. The target has a linear marking on its surface, which helps to determine deviation from the nominal level and transfer control points when marking with a laser level.



Work with remote control

The buttons on the remote control duplicate the buttons on the control panel of the laser. In this way you can operate the laser without approaching it.

ACCURACY CHECK

Axis X

- 1) Place the product at 0.5 m distance from one wall and 10 m distance from another wall, so that axis X is aimed at the wall.
- 2) Turn on the product. As soon as self-leveling is finished, mark location of laser beam on both walls by points X1 and X2.
- 3) Turn off the product. Move it to the opposite wall, position of the product should remain unchanged.
- 4) Turn on the product. Align laser line with the previously made point X2. Mark point X3 on the opposite wall.
- 5) If distance between points X1 и X3 is more than 1,8 mm – turn off the product and contact service center.

Axis Y

- 1) Place the product at 0.5 m distance from one wall and 10 m distance from another wall, so that axis Y is aimed at the wall.
- 2) Turn on the product. As soon as self-leveling is finished, mark location of laser beam on both walls by points Y1 and Y2.
- 3) Turn off the product. Move it to the opposite wall, position of the product should remain unchanged.
- 4) Turn on the product. Align laser line with the previously made point Y2. Mark point Y3 on the opposite wall.
- 5) If distance between points Y1 и Y3 is more than 1,8 mm – turn off the product and contact service center.

CARE AND MAINTENANCE

Rotary laser is a high-precision instrument and requires careful handling. Before using as well as after physical impact (falling, hitting) carry out accuracy check.

Observation of the following recommendations will extend the life of the device:

- 1) Store the instrument, spare parts and its accessories beyond reach of children and unauthorized people.
- 2) The instrument should be transported in the off state inside the case only.
- 3) Do not store the instrument in dusty or dirty locations. The instrument is dust and dirt resistant, but long-time exposure to these elements may damage internal moving parts of the instrument.
- 4) Store the rotary laser in dry locations. The instrument is water resistant, but precipitate, humidity and liquids containing minerals may damage the electrical circuits of the instrument. Do not try to dry the instrument by fire or a hairdryer.
- 5) Do not store the instrument in locations where temperature is more than +50°C. High temperatures reduce the life of electronic devices, damage batteries, deform or melt some plastic parts.
- 6) Do not store the instrument in locations where temperature is less than -10°C.
- After storage in low temperature conditions and subsequent transfer to a warm room, the device is heated, causing moisture condense inside the instrument and damage the chip.
- 7) Protect the instrument from bumps, drops, strong vibrations. This can lead to loss of accuracy.
- 8) Carry out accuracy check regularly (see paragraph «Accuracy check»).
- 9) To clean the instrument use a soft wet cloth. Do not use harsh chemicals, cleaning solvents or detergents.
- 10) Clean laser aperture regularly with a soft lint-free cloth with isopropyl alcohol.
- 11) Remove batteries from the instrument if it not used for a long time.
- 12) Do not leave discharged batteries in the instrument.

UTILIZATION

Expired tools, accessories and package should be passed for waste recycle. Please send the product to the following address for proper recycle:

CONDROL GmbH
Wasserburger Strasse 9
84427 Sankt Wolfgang
Germany



Do not throw the product in municipal waste!

According to European directive 2002/96/EC expired measuring tools and their components must be collected separately and submitted to environmentally friendly recycle of wastes.

WARRANTY

All CONDROL GmbH products go through post-production control and are governed by the following warranty terms. The buyer's right to claim about defects and general provisions of the current legislation do not expire.

- 1) CONDROL GmbH agrees to eliminate all defects in the product, discovered during the warranty period, that represent the defect in material or workmanship in full volume and at its own expense.
- 2) The warranty period is 24 months and starts from the date of purchase by the end consumer (see the original supporting document).
- 3) The Warranty doesn't cover defects resulting from wear and tear or improper use, malfunction of the product caused by failure to observe the instructions of this user manual, untimely maintenance and service and insufficient care, the use of non-original accessories and spare parts. Modifications in design of the product relieve the seller from responsibility for warranty works. The warranty does not cover cosmetic damage, that doesn't hinder normal operation of the product.
- 4) CONDROL GmbH reserves the right to decide on replacement or repair of the device.
- 5) Other claims not mentioned above, are not covered by the warranty.
- 6) After holding warranty works by CONDROL GmbH warranty period is not renewed or extended.
- 7) CONDROL GmbH is not liable for loss of profit or inconvenience associated with a defect of the device, the rental cost of alternative equipment for the period of repair.

This warranty applies to German law except provision of the United Nations Convention on contracts for the international sale of goods (CISG).

In warranty case please return the product to retail seller or send it with defect description to the following address:

CONDROL GmbH
Wasserburger Strasse 9
84427 Sankt Wolfgang
Germany