FUTECH

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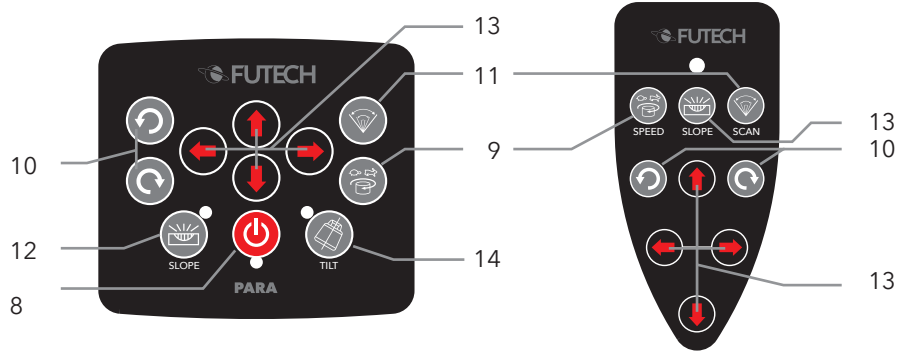
PARA

MANUAL

Congratulations!
On choosing this FUTECH instrument. FUTECH provides measuring instruments of precision and quality. Contributions from professional end users enable us to offer innovative, easy-to-use equipment.

PARA
Professional Rotation laser with ultra visible laser beams. Automatic levelling using electronic stabilizers . This system enables greater stability and faster levelling.

IMPORTANT!
Read the instructions for use carefully before using the instrument. Keep them in a safe place for consultation when necessary.
Whether on or off, keep the instrument out of reach of children.
This equipment is a high quality precision instrument which must be handled with care. Avoid shocks and vibration. After use, always replace the instrument in its carrying bag. Make sure that the bag and instrument are dry; otherwise condensation may occur in the device. Make sure that the windows are free of dirt, and clean them using a soft cloth and a glass cleaning product only. Always use the locking device during transportation. Regularly inspect the accuracy of the instrument, especially when starting any major square-setting work. You have sole responsibility for the accuracy of your work. Do not use any optical equipment such as a magnifying glass to view the laser beam, and take care to remove all reflecting objects to avoid damage to the eye. Locate the laser in such a way that it is not possible for any person to look at the laser beam (intentionally or otherwise). Under no circumstances take the instrument apart, since this may expose you to powerful laser radiation. The laser is only to be used for the projection of laser lines. Do not use the instrument in rain or near flammable materials. Technical modification or alterations to the instrument may be carried out without prior notice. The manufacturer's responsibility shall in no case exceed the value of the costs of repair or replacement of the instrument. Respect the environment and do NOT discard the instrument or batteries in household waste. Take them to a recycling centre.



Parts of the housing

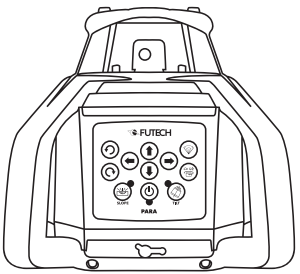
1. X and Y axis marking
2. Laser exit
3. Receiving points for remote control
4. Control panel
5. Power connection
6. 5/8" threaded tripod adaptor fitting
7. Plumb point

Buttons control Panel and laser remote control

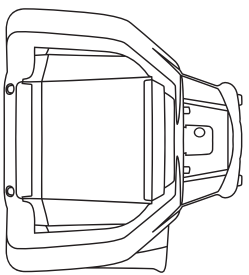
8. On/off button
9. Rotation speed
10. Laser direction
11. Scan function
12. Slope function
13. Arrow button
14. TILT function

First time usage
Remove all protection foile
Fully charge the device, only with the supplied charger.
Turn the device on (8), pay attention that the device isn't too tilted (maximum 5°). If the device is tilted more then 5°, the laser beam will keep blinking and the lamp of the manual mode will go on and off.

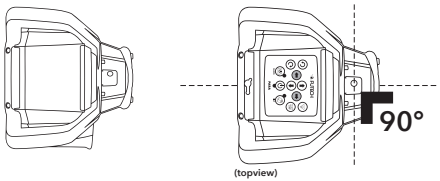
Horizontal alignment
As soon as the laser beam is leveled, the device will start spinning in the receive modus, this is the highest spinning speed. You can change the spinning speed by pressing the rotation speed key (9). Pay attention that the highest rotation mode is necessary for a good detection with the laser receiver.
The visibility of the laser beam depends of the concentration of the beam, this means that the slowest rotation speed is the most visible, and the highest rotation speed is the least visible.
It's recommended to put the horizontal line at your work height.

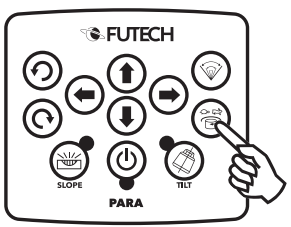


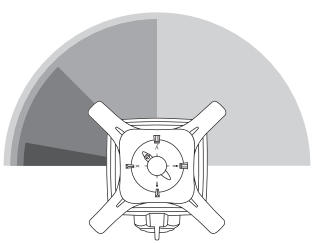
Vertical alignment
Put the device on the legs in the vertical position, if the device is too tilted (more then 5°) the laser beam will keep blinking and the lamp of the slope funtction (13) will go on and off. As soon as the device is leveled, the laser will start rotating (see horizontale alignment above).
The positioning of the vertical line is possible with the keys (13) to relocate the laser to the left or right.



IMPORTANT:
- *The choice of the tripod defines in a large way the user friendliness of the device*
- *If the place of work has a light intensity that's too high, (for example when working outside) it may be needed to use the laser receiver.*







Lead point
Thanks to the lead point **(7)** on the top and at the bottom, this device can also be used to bring a plumb lead point of the floor to the ceiling, or the other way round.
Mark the starting point, place the laser beam exactly on this and sign the opposite lead point accordingly.

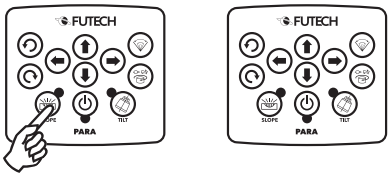
Corners of 90°
IIn the vertical position it's possible to beam corners of 90°. To be able to do this you need to place the device as precise as possible above the starting point. (the place where the corner of 90° is made)
Bring the laser beam with the help of the keys **(13)** X-axis to your mark. The lead point **(7)** indicates the corner of 90°.

Rotation speed
The rotational speed of the device can be set with button **(9)**. There are 5 different speeds. (0, 60, 120, 300 and 600 rpm).
Speed 0 projects a stationary laser point. This can be moved with the positioning keys **(10)**.

IMPORTANT
- *A faster rotation speed is designated by the use of a laser receiver.*
- *The slower the rotational speed, the better it will be visible with your eyes.*

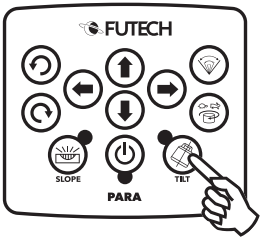
Scanfunctie
The scan function allows to limit the laser beam to an angle (instead of a complete circle) so you can find the beam more easily. This is certainly recommended in places with high light intensity and or for long distances.
The scan function is turned on with key **(11)** ,to widen the scan field you need to press **(11)** again. There are 4 different widths available on the instrument.
For the positioning of the scan function to the left or right you need to use keys **(10)**.

Hellingen
The instruments shows a 100% horizontal laser beam by default. When needed, it is also capable to project a beam with a slope.



To set up the slopes you need to do a few steps in the right order.
1. Make sure that the laser is placed in the right axis-direction, this has to be parallel with the slope line you want to make. For example for the draining of a sewer pipe, you place the device in parallel with the direction of the pipe. Use the axis-direction on the top of the device for this **(1)** X or Y – axis
2. Turn the device on **(8)** and let the device level. Turn the manual mode on **(13)** (1x for X-axis, 2x for Y-axis) and choose a distance in the direction of the slope that needs to be set up. For example 10m.
3. Place the receiver by means of the measuring rod holder on a measuring rod and slide the receiver until the laser beam is exactly in the middle of the receiver.
4. Next, you position the receiver on the desired slope. For example. You want a slope of 2 cm per meter (2%), and you are located 10 meters from the device, you'll need to move the receiver until you get a 20 cm height difference with the initial position of the marking line.
5. Now change the height of the laser beam by pressing the keys **(13)**, until the laser beam is in the middle of the receiver.

Tilt functie
The hold function avoids measuring errors in case the instrument moved unintentionally after it was fully set up (e.g. a gurt of wind, unstable floor, an external manipulation…). In those cases, the hold function will automatically stop spinning after the instrument moved. It is recommended to always turn the lift-function on when you are working with the device for larger distance.



You can turn the hold function on or off with key **(14)**.
As soon as the leveling of the device is interrupted (by an external manipulation), the device head will stop spinning, and the led will blink above key **(15)**.

When this happens, it is possible established work height isn't right anymore. By that you need to replace the device back on the right height.
Press on key **(14)** again to turn the hold function off

ATTENTION:

- *When you want to turn the hold function on again, you need to redo all these steps from the start.*

GENERAL

Description

The following directions should enable the person responsible for the product, and the person who actually uses the equipment, to anticipate and avoid operational hazards. The person responsible for the product must ensure that all users understand these directions and adhere to them.

Adverse Use

- Use of the product without instruction.
- Use outside of the intended limits.
- Disabling safety systems.
- Removal of hazard notices.
- Opening the product using tools, for example screw- driver, unless this is specifically permitted for certain functions.
- Modification or conversion of the product.
- Use after misappropriation.
- Use of products with obviously recognizable damages or defects.
- Use with accessories from other manufacturers without the prior explicit approval of FUTECH.
- Inadequate safeguards at the work site, for example when using on or near roads.
- Deliberate dazzling of third parties.
- Controlling of machines, moving objects or similar monitoring application without additional control and safety installations.

WARNING

Adverse use can lead to injury, malfunction and damage. It is the task of the person responsible for the equipment to inform the user about hazards and how to counteract them. The product is not to be operated until the user has been instructed on how to work with it.

LIMITS OF USE

Environment

Suitable for use in an atmosphere appropriate for permanent human habitation: not suitable for use in aggressive or explosive environments.

DANGER

Local safety authorities and safety experts must be contacted before working in hazardous areas, or in close proximity to electrical installations or similar situations by the person in charge of the product.

RESPONSIBILITIES

Manufacturer of the product

Laseto N.V., Belgium, BE0808.043.652, hereinafter referred to as FUTECH, is responsible for supplying the product, including the user manual and original accessories, in a completely safe condition.

Manufacturers of non FUTECH accessories

The manufacturers of non FUTECH accessories for the product are responsible for developing, implementing and communicating safety concepts for their products, and are also responsible for the effective- ness of those safety concepts in combination with the FUTECH product.

Person in charge of the product

The person in charge of the product has the following duties:

- To understand the safety instructions on the product and the instructions in the user manual.
- To be familiar with local regulations relating to safety and accident prevention.
- To inform FUTECH immediately if the product and the application becomes unsafe.

HAZARDS OF USE

WARNINGS

- The person responsible for the product must ensure that it is used in accordance with the instructions. This person is also accountable for the training and the deployment of personnel who use the product and for the safety of the equipment in use.
- The absence of instruction, or the inadequate imparting of instruction, can lead to incorrect or adverse use, and can give rise to accidents with far-reaching human, material, financial and environmental conse- quences.
- All users must follow the safety directions given by the manufacturer and the directions of the person responsible for the product.
- Watch out for erroneous measurement results if the product has been dropped or has been misused, modified, stored for long periods or transported.
- Periodically carry out test measurements and perform the field adjustments indicated in the user manual, particularly after the product has been subjected to abnormal use and before and after important measurements.
- If the product is used with accessories, for example masts, staffs, poles, you may increase the risk of being struck by lightning.
- Do not use the product in a thunderstorm.
- Inadequate securing of the working site can lead to dangerous situations, for example in traffic, on building sites, and at industrial installations.
- Always ensure that the working site is adequately secured. Adhere to the regulations governing safety and accident prevention and road traffic.
- If the accessories used with the product are not properly secured and the product is subjected to mechanical shock, for example blows or falling, the product may be damaged or people may sustain injury.
- When setting-up the product, make sure that the accessories are correctly adapted, fitted, secured, and locked in position. Avoid subjecting the product to mechanical stress.
- During the transport, shipping or disposal of batteries it is possible for inappropriate mechanical influences to constitute a fire hazard.
- Before shipping the product or disposing of it, discharge the batteries by running the product until they are flat. When transporting or shipping batteries, the person in charge of the product must ensure that the applicable national and international rules and regulations are observed. Before transportation or shipping contact your local passenger or freight transport company.
- High mechanical stress, high ambient temperatures or immersion into fluids can cause leackage, fire or explosions of the batteries.
- Protect the batteries from mechanical influences and high ambient temperatures. Do not drop or immerse batteries into fluids.
- Short circuited battery terminals can overheat and cause injury or fire, for example by storing or transporting in pockets if battery terminals come in contact with jewellery, keys, metallized paper or other metals.
- Make sure that the battery terminals do not come into contact with metallic objects.
- During the operation of the product there is a hazard of squeezing extremities by moving parts.
- Keep extremities in a safe distance from the moving parts. If the product is improperly disposed of, the following can happen: If polymer parts are burnt, poisonous gases are produced which may impair health. If batteries are damaged or are heated strongly, they can explode and cause poisoning, burning, corrosion

or environmental contamination. By disposing of the product irresponsibly you may enable unauthorized persons to use it in contravention of the regulations, exposing themselves and third parties to the risk of severe injury and rendering the environment liable to contamination.
· The product must not be disposed with household waste. Dispose of the product appropriately in accordance with the national regulations in force in your country.

LASER CLASSIFICATION

General

The following directions (in accordance with the state of the art - international standard IEC 60825-1(2007-03) and IEC TR 60825-14 (2004-02)) provide instruction and training information to the person responsible for the product and the person who actually uses the equipment, to anticipate and avoid operational hazards. The person responsible for the product must ensure that all users understand these directions and adhere to them.
Products classified as laser class 1, class 2 and class 3R do not require:
· laser safety officer involvement,
· protective clothes and eyewear,
· special warning signs in the laser working area

if used and operated as defined in this user manual due to the low eye hazard level. Products classified as laser class 2 or class 3R may cause dazzle, flash blindness and afterimages, particularly under low ambient light conditions.

ACCURACY CONTROL

Monitor horizontal levelling

· Choose a room ±10 m long
· Place the instrument next to wall no. 1.
· Switch on the instrument and let it self-level.
· Mark the horizontal line on wall no 1.
· Mark the horizontal line on wall no 2.
· Move the instrument as close as possible to wall no. 2.
· Adjust the height of the laser so that the middle of the laser cross is on the wall no. 2 marker.
· Then turn the instrument through 180° and note the difference between the middle of the laser cross and the marker on wall no. 1.
· This difference should not exceed the tolerances (See technical specs)

IMPORTANT:

· The tolerance depends on the distance of the walls between which the inspection has been carried out. This distance should be multiplied by 2. Hence, if the instrument has an accuracy of 1 mm / 10 m, then in our example the calculation is: 10 m distance x 1 = 10 m. Tolerance is 2 mm / 20 m.
· *After checking the X-axis repeat the same steps for the Y-axis.*

If your instrument does not reach the required tolerance, it should be returned to your service centre or to your reseller for service. Repairs carried out by unauthorised personnel will automatically invalidate the guarantee.

TECHNICAL SPECIFICATIONS

ACCURACY	± 1MM / 10M
LEVELLING RANGE	± 5°
LEVELLING	MOTOR
SLOPE FUCNTION	± 5° (X- AND Y-AXIS)
ROTATION SPEED (RPM)	0, 60, 120, 300, 600
SCAN FUCNTION	0°, 10°, 45°, 90°, 180°
LASER WAVELENGHT	635NM
LASER CLASSIFICATION	CLASS II
WORKING TIME	± 30 HOURS
POWER SUPPLY	DC 4.8 - 6V 4 SECTION NI-MH RECHARCHABLE BATTERY OR 4X ALKALINE C
PROTECTION	IP66
DIMENSIONS (L X W X H)	206 X 206 X 211 MM
WEIGHT	2,5 KG
OPERATION TEMPERATURE	-20°C ~ +50°C (-4°F ~ -122°F)

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