Z-FIX®

MADE IN SWEDEN

Z-FIX MANUAL

ENGLISH

LEVEL UP YOUR PRECISION

THANK YOU FOR CHOOSING THE Z-FIX LEVELING ROD!

With the unique Z-FIX, you will experience a product that radically simplifies your stakeout work.

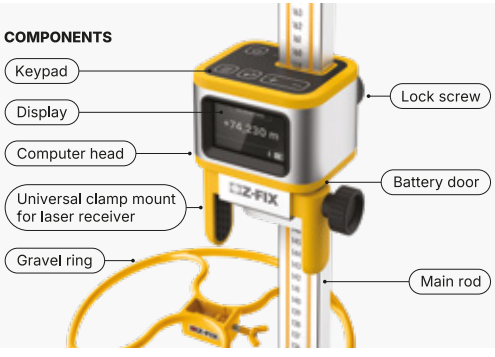
Traditional work with lasers means that you always have to calculate your heights manually and that you always start from the instrument height. When you have calculated a height, you then must attach the laser receiver to the correct line on the rod. This can be both difficult and of course with the risk of calculating incorrectly.

With Z-FIX, you just key in a known elevation/benchmark only once. Then you move the computer head up/down on the rod to your desired height for stakeout. When the laser receiver receives a signal from the laser, **the display in Z-FIX will always show what height you have at the bottom of the rod. No more manual calculations!**

Read the manual before using Z-FIX to gain an understanding of the product and its features.

Specifications and other changes in this manual are subject to change without prior notice.

COMPONENTS



BUTTONS AND FUNCTIONS

Power button

Press once to turn on Z-FIX. To turn off, hold the button for 3 seconds.

Menu button

Navigates to the menu.

Confirm button

Returns the selected function

Used when moving between digits when establishing a known elevation.

Switches between "Elevation mode" and "Offset mode".

Minus (-) / Plus (+) button

In menu mode, the keys are used to navigate between the menus.

When establishing a new elevation, the buttons are used to change the values.

Z-FIX – TWO MEASUREMENT MODES

Elevations mode

The main software that will always show you the "actual height" at the bottom of the rod once you have established Z-FIX to a known elevation.

Offset mode

The software works in parallel with Elevation mode, giving you the ability to offset any height. After zeroing, the display shows + or – values in relation to the zeroed starting height.

GET STARTED

Start by positioning your laser in a location with a good view of the work area.

Make sure you have access to a known elevation / benchmark.

In the examples that follow, the benchmark +74.230m will be used.

- Attach the Z-FIX computer head to the main rod.
- Attach your laser receiver to the clamp mount.
- Position the rod over your benchmark.
- Start the laser receiver.
- Move the Z-FIX computer head with the laser receiver until the laser receiver is level with the laser and gives a signal.
- Now you can start Z-FIX.

⚠ Make sure that Z-FIX is securely attached to the measuring rod. Improper attachment may cause the device to fall to the ground and cause injury.

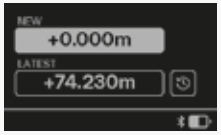
⚠ The product is not intended for use in areas where children are present.

BENCHMARK Z-FIX

1. Press the **"Power button"** to start Z-FIX. At start up Z-FIX goes directly to the "Elevation mode" where you enter a known elevation.

2. Press the **"Confirm button"** to select an elevation. Press the **"Confirm button"** again to select a "New" elevation or move the cursor to the "Latest" used elevation and confirm with the **"Confirm button"**. You can also navigate to and select from a history (clock) of the three last used elevations.

   Note: The three last used elevations can also be reached through the menu.



3. In this example a new elevation will be set. Press the **"Confirm button"** and select "New" elevation.

4. Press the **"Confirm button"** to move the cursor to the digit sign for tens of meters. Enter the number 7 by pressing the **"Plus button"** 7 times (or 3 times on the **"Minus button"**).

5. Press the **"Confirm button"** to move the cursor to the digit sign for units of meters. Enter the number 4 by pressing the **"Plus button"** 4 times (or 6 times on the **"Minus button"**).

6. Press the **"Confirm button"** to move the cursor to the digit sign for decimeters. Enter the number 2 by pressing the **"Plus button"** 2 times (or 8 times on the **"Minus button"**).

7. Press the **"Confirm button"** to move the cursor to the digit for centimeters. Enter the digit 3 by pressing the **"Minus button"** 7 times (or the **"Plus button"** 3 times).

8. Press the **"Confirm button"** to move the cursor to the digit for millimeters. Press the **"Confirm button"** to enter 0 as the value.

9. When the last digit has been entered, you will be asked to verify the elevation. Accept if the elevation is correct or cancel to enter a new value.

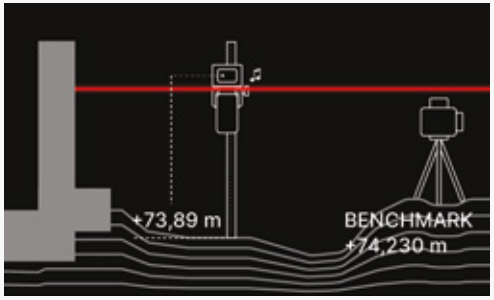
Z-FIX is now programmed and ready for use. This means that the height shown in the display (+74.230m) is the height at the bottom of the rod.

Note: The programmed elevation can´t be changed once it is established. To establish a new elevation the device must be restarted.

ELEVATION MODE – EXEMPLE

Once the Z-FIX has been established, you simply move the computer head up or down on the rod to the height you wish to stake out.

Assume that your drawing states that a surface should be excavated to **+73.890m**.



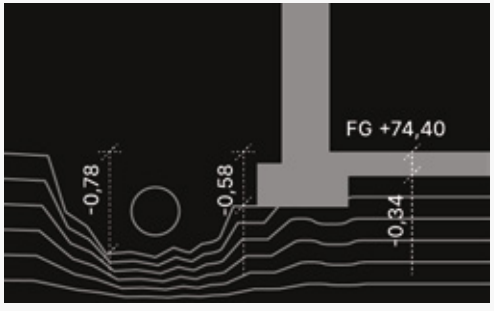
Move the computer head up on the rod until you read +73.890m on the display. When you receive a signal from the laser receiver, you know that you have the correct height +73.890m at the bottom of the rod.

OFFSET MODE – EXEMPLE

Some drawings only show one elevation, e.g. "Finished ground". The different "layers/superstructures" are shown on other detail drawings, that only show the thickness of the different layers. In this example it is beneficial to use the "Offset mode" on Z-FIX.

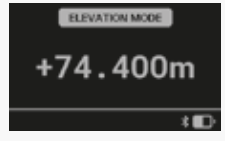
Assume you are to excavate for a building. The "finished ground" according to the drawing is +74.40m.

The detail drawing shows: Slab -0.34m, Sole -0.58m, Drainage -0,78m



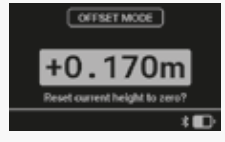
We still assume that Z-Fix has been established and that the display shows +74.23m.

Start by adjusting the height to **+74,40m** for "Finished ground" in the "Elevation mode" by moving the computer head downwards on the rod.



Switch to "Offset mode" by pressing the **"Confirm button"**.

The display now shows +0.170m. (This corresponds to the difference between the earlier entered bench-mark and the finished ground, since you have moved the computer head).



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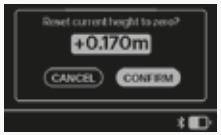
Press the **"Minus/Plus button"**. You will now be asked "Reset current height to zero?" Accept with the **"Confirm button"** in two steps.



The "Offset mode" +0,000m now corresponds to "Finished floor" +74.40m.

Move the computer head until the display shows -0.780m. When the laser receiver receives a signal from the laser, you have the correct height for the drainage at the bottom of the rod.

Repeat the same procedure by moving the computer head to -0.58m for the sole, and -0.34m for the slab.

Press the **"Confirm button"** to switch between "Offset mode" and "Elevation mode".

STANDBY-MODE

Z-FIX enters standby mode after 5 minutes of inactivity (the device is not moved, and no buttons are pressed). The device shuts down after 8 hours of inactivity.

When Z-FIX enters standby mode, the lighting is turned off, the screen becomes dark, and the measuring function stops.

Z-FIX exits standby mode as soon as the device is moved (a light shake might be required), or a button on the keypad is pressed.

BATTERIES

Z-FIX is delivered with 4 (alkaline) dry cell batteries (AA) as standard but can also be used with rechargeable NiMH batteries.

Installation of batteries:

1. Slide of the clamp mount for the laser receiver (in the direction of the knob).
2. Unscrew the battery cover (2x Torx15 screws). Pull out the battery cover and battery holder.
3. Install 4x AA batteries in the battery holder according to the markings on the battery holder. *1) 2) 3)
4. Insert the battery holder with the battery cover into the housing. Tighten the screws on the battery cover with moderate force.
5. Slide on the clamp mount.

*1) Replace all 4 batteries with new ones at the same time. Do not mix used and unused batteries, and do not mix different battery types with each other.

*2) The battery life depends on the capacity of the installed batteries as well as the temperature the device is used in.

*3) For correct indication of battery charge status, the correct setting must be selected in the energy settings.

The symbol indicates that local regulations require that the product and its batteries are disposed of separately from household waste. At the end of its service life, the product must be recycled at a recycling facility designated by the local authorities.

MENU

BENCHMARKS

Possibility to choose between the three most recently stored benchmark elevations. Z-FIX automatically stores the three most recently entered values. This means that you do not have to enter a new known elevation at each startup. If you use the same benchmark every day, you will find it in the list.

ENERGY

Brightness
Selection of desired brightness. Automatic (A) or manual (M).

Battery
Setting of battery type used, rechargeable batteries (flash) or alkaline dry cell batteries (+).

Theme
Selection of dark or light background (Z-FIX restarts after a new setting).

BLUETOOTH®

På/Av
Turn Bluetooth on and off.

Address
Bluetooth address for the device.

Uppdate
Possibility to update the device. Information about software updates can be found at nivator.com

LOCALIZATION

Language
Selection of de preferred language for the device (Z-FIX restarts after a new setting).

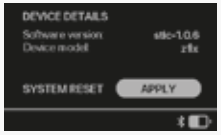
Unit
Select the unit of measurement to be used.

DEVICE INFO

Device details
Information about installed software version, and model name.

System reset
Possibility to factory reset the device.

ATTENTION! Factory reset of the device will erase all saved settings such as language, units, and stored benchmarks.



DAILY MAINTENANCE

- Switch off Z-FIX after the work shift.
- Brush away dirt from the unit. Remove any dirt that may have entered the unit through the opening for the measuring rod.
- Wipe the device with a cloth. Usa a mild detergent if needed.
- Lubricate the lock screws for the measuring rod and clamp mount if needed.
- Check for any damage or cracks on the unit.
- Check the sealing ring in the battery cover for dirt and wear and tear every time new batteries are installed.

Contact your nearest Z-FIX service point if the unit requires further service or repair.

Store Z-FIX in a dry and weatherproof location. Use a dedicated storage bag during transport or if the device is not to be used for an extended period.

FUNCTIONAL CHECK

Do the following to check the performance and accuracy of Z-FIX:

1. Align the top edge of the computer head with the 20-centimeter mark on the main rod.
2. Go to "Offset mode" and set the elevation to zero (+00,000m).
3. Move the computer head upwards so the top edge is on the 220-centimeter mark.

The display should now read: -02,000m (+/- 1,5 mm).

Accuracy deviation +/- 1,5 mm based on:

- Electronics that display whole mm (+/- 0,5 mm)
- Mechanical play in gear (+/- 0,2 mm)
- Dimensional tolerance of aluminum profile chain (+/- 0,3 mm / 2 m)
- Dimensional tolerance of printed scales (+/- 0,5 mm / 2 m)

When measuring heights with Z-FIX without using scales, the measurement accuracy is +- 1 mm / 2 meters.

MAIN ROD

Z-FIX main rod is available in different lengths, but the function is the same. The description below refers to the fixed main rod with built-in telescopic rod.

Front side = Yellow
The graduation starts at the bottom of the main rod and runs upwards from 0.0 - 2.21 m. The yellow basic scale is equivalent to the measurement scales on traditional leveling rods.

How to use:
Can be used as a traditional leveling rod, if for example the batteries have run out of Z-FIX. Detach the laser receiver from the Z-FIX, attach the receiver to a standard receiver clamp mount and use the front of the bar in the same way as a traditional leveling bar.
As a yardstick for lengths between 0.0 - 2.21 m.

Back side = Black
The graduation starts at 2.08 m and runs up to 4.21 m.

How to use:
As a yardstick for lengths between 2.08–4.21 m. Pull out the telescopic rod to its maximum. This gives you a yardstick that measures up to 4.21 m. Read the scale on the back side of the main rod, not on the telescopic rod.

BUILT-IN TELESCOPIC ROD

Front side = Yellow
Maximum retractable length is 2.0 m. The graduation starts above the black plastic foot at the bottom of the telescopic rod and runs upwards from 0.0 - 2.0 m. The scale should always be read at the top of the telescopic rod, i.e. at the bottom of the main rod. The number you read on the scale indicates how much you have extended the telescopic rod. I.e, if it shows 27 on the scale, you have extended the rod 27 cm. If you extend the telescopic rod to the maximum, the scale says 200 cm.

How to use:
For offset stake out when you have a height below a specified height. In mass calculation before filling.

Back side = Red
Maximum retractable length is 2.0 m. The graduation starts above the black plastic foot at the bottom of the telescopic rod and runs upwards from 2.0 - 0.0 m. The scale should always be read from the top of the telescopic rod, i.e. at the bottom of the main rod. The number you read indicates how far you have pushed the telescopic rod in. As you pull the rod out, the scale decreases. If, for example, it says 27 on the scale, 27 cm is needed for the rod to be extended to the maximum. If you pull the telescopic rod fully out, the scale reads 0 (zero).

How to use:
Sectioning / Planning.
Establish laser instrument at large level height differences.

ERROR CODES

MOVEMENT DURING ESTABLISHMENT OF Z-FIX

This warning can appear during the establishment of Z-FIX. This indicates that the computer head has moved while setting a new benchmark elevation. Tighten the locking screw against the rod and then press the "Confirm button" to resume establishment.

SPECIFICATIONS

Bluetooth frequency band	2400-2483,5MHz
Bluetooth max output	+8 dBm
Power supply	4st 1,5V (typ LR6/AA)
Operating time at 20°C (68 °F)	100 h (with alkaline dry cell batteries)
Outer casing	PC-ABS and Aluminium 6060-T66
Weight (with dry cell batteries)	0,65kg (1,43 lbs.)
Dimensions (max)	139 × 145 × 112 mm
Operating temperature	- 20 °C till 50 °C (-4 °F till 122 °F)
Storage temperature	- 20 °C till 50 °C (-4 °F till 122 °F)
Measurement accuracy	+/- 1 mm
Clamp mount range	60 - 90 mm
Clamp mount max capacity	0,49 kg (1,08 lbs.)

Z-FIX is designed for outdoor use in varying weather conditions. The instructions for daily maintenance provided in this manual must be followed for proper operation of the device.

WARRANTY

Z-FIX is supplied with a 36-month warranty. The warranty is only valid if Z-FIX has been handled in accordance with the safety and maintenance instructions provided in this manual. The warranty only applies if the complaint has been made in accordance with Nivator's general terms and conditions of purchase, which can be found at nivator.com/warranty

The warranty is in all circumstances limited to direct damages to the product. The warranty is further limited to a total maximum amount corresponding to the price of the product.

EU AND NO COMPLIANCE

This product complies with the requirements for sale and use in the EU and NO markets in accordance with applicable EU directives and safety standard EN 62368-1:2020.

A copy of the declaration of conformity can be found at nivator.com/compliance

TRADEMARKS

Z-FIX®

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