

GeoDist®100

USER MANUAL



Dear Customer,

Thank you for your confidence in us, having purchased a geo-Fennel instrument.

For the optimum performance of the instrument, please read this manual carefully and keep it in a convenient place for future reference. This manual contains important safety information that should be read and understood before use.

Technical specification and design are subject to change without notification.

geo-FENNEL
Precision by tradition.

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SUPPLIED WITH

A

- Laser distance meter GeoDist® 100
- NiMH rechargeable batteries
- USB charging cable
- Holster
- Hand strip
- User manual

Technical data

Measuring range	0,2 - 100 m*
Measuring accuracy	±2 mm **
Tilt measurement accuracy	± 0,3°
Laser class	2 / red
Power supply	NiMH
Temperature range	-10°C - +40°C
Measuring units	m / ft / in / ft+in
Dust / water protection	IP 65
Dimensions	115 x 50 x 26 mm
Weight (with batteries)	148 g

*May be shorter under unfavourable conditions

**Typical accuracy, may increase under unfavourable conditions

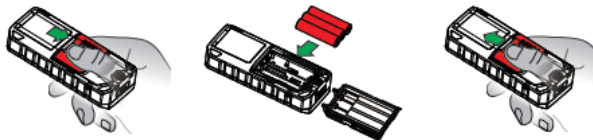
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POWER SUPPLY

B

INSERT 3 X AAA NIMH BATTERIES



Ensure correct polarity when inserting the batteries.

CHARGE THE BATTERIES

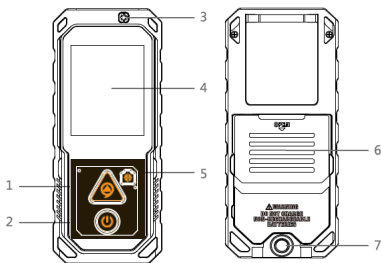
Open the cover of the USB plug (**bottom of the instrument**) and charge the batteries via the USB connection. For this use a standard USB charger, i. e. from a smart phone. When the charging process is completed close the USB plug.

Alternatively the instrument can be operated with standard AAA Alkaline batteries.

FEATURES

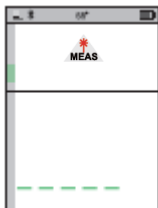
C


1. Measuring key (press briefly: single measurement / press long: continuous measurement)
2. ON / OFF key
press briefly = back
press long = ON / OFF
3. Laser warning symbol
4. Touch screen
5. Camera function
activation / zoom in and out
6. Battery case
7. Tripod thread



D OPERATION

DISPLAY INDICATION



Power on the unit with 
 -> the left display indication (start screen)
 will appear

TOUCH SCREEN

The instrument is equipped with a touch screen.
 Coming from the start screen:

- slide right
= selection of the measuring modes (pict. 1)
- slide left
= add / subtract (pict. 2)
- slide down
= menu (pict. 3+4)

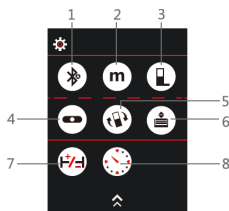



Abb. 1+2

Abb. 3+4

The menu keys are operated with a finger tip.

MENU

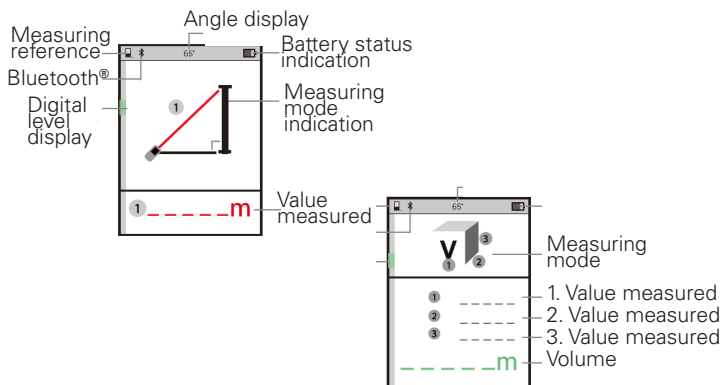


1. Bluetooth® function grey = off
A = automatic transfer
M = manual transfer
2. Measuring unit = m / ft / in / ft+in (· ·)
3. Measuring reference front, tripod, rear
4. Digital vial grey = off
5. Rotate the display
 -> available in
 measuring mode
6. View memory slide = scroll
  = delete
7. Define off-set arrow buttons = select digit
 + / - = set value
8. Time-delayed measurement = measurement starts after 5 seconds

Quit the menu



DISPLAY INDICATION IN MEASURING MODE

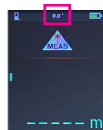


HORIZONTAL LEVELLING - DISPLAY INDICATION

In order to increase the measuring accuracy in horizontal direction the instrument offers a levelling support in the display:

Numerical slope indication:
Preferably keep the instrument at 0°.

Optical support:
Green bar - move the bar exactly between the marks.




GENERAL NOTES

- After 3 minutes without operation the instruments powers off automatically.
- The instrument automatically saves the last 1.000 measured values.
- The integrated tilt sensor 360° is always active.
- In all measuring modes (except single and continuous measurement) the red line shows which parameter will be measured next. The green L shows the parameter to be determined.


CAMERA FUNCTION

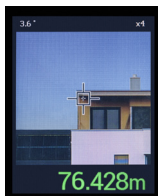


camera
function

Press  to activate the camera function in all measuring modes, in case the target is not visible with the eye - especially in case of outdoor measurements.

 = zoom in/out

Start the measurement with .



MEASURING REFERENCE

Press to select the requested measuring reference.



FRONT



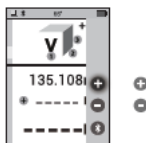
TRIPOD



REAR


ADDITION / SUBTRACTION

In the modes distance measurement, area and volume calculation slide left and select **+** or **-** to execute the requested task.



SINGLE MEASUREMENT

Power on the unit - measuring mode: single measurement

For taking measurements press 

CONTINUOUS MEASUREMENT

Keep  pressed.

Sweep slowly the unit back and forth over the selected target point.

Press  to stop the continuous measurement.


Display indication: maximum, minimum and the last measured value.



Navigation within the following measuring modes

Select the required menu item and confirm by a short press.

 = repeat the mode


 = leave the mode

AREA CALCULATION


S

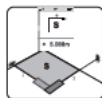
Select and press **S**

Press  for the first distance

Press  for the second distance

Display indication line 3: area

Press  for a new area calculation, press the OFF button to quit this mode.



VOLUME CALCULATION

V


Select and press **V**

Press  for the first distance

Press  for the second distance

Press  for the third distance

Display indication line 4: volume

Press  for a new volume calculation, press the OFF button to quit this mode.



PYTHAGORAS MEASUREMENTS


IMPORTANT - it is essential to observe the following

- When measuring the horizontal distance (2nd dimension), the measurement must be taken at a 90° angle to the measuring surface. To do this, use the inclination indicator (0°).
- All measurements must be vertically in line (without lateral deviation).
- Use a tripod to increase the measuring accuracy.

PYTHAGORAS (2-POINT)



Select and press 

Press  for the inclined distance


Press  for the horizontal distance

Display indication line 3: height




PYTHAGORAS (3-POINT)



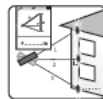
Select and press 

Press  for the inclined distance top

Press  for the horizontal distance


Press  for the inclined distance bottom

Display indication line 4: height



PYTHAGORAS (3-POINT / PARTIAL HEIGHT)



Select and press 

Press  for the inclined distance top

Press  for the inclined distance bottom

Press  for the horizontal distance

Display indication line 4: partial height



INDIRECT MEASUREMENTS VIA INCLINATION WITH HIGH ACCURACY

Where direct measurements to the target are not possible, e.g. on glass facades without measurement reflection or when the measurement object is obscured:

Measure partial distances, missing distances are calculated by the device.

Here a general note:

- All measurements must be vertically in line (without lateral deviation).
- Use a tripod to increase the accuracy of the measurement.

INDIRECT MEASUREMENT 1

Select and press



Press



Display indication line 1: angle

Display indication line 2: inclined distance top

Display indication line 3: height

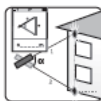
Display indication line 4: horizontal distance

INDIRECT MEASUREMENT 2

Select and press

Press for the inclined distance top (top point)

Press for the inclined distance bottom (bottom point)



Display indication line 1: angle

Display indication line 2: inclined distance top

Display indication line 3: inclined distance bottom

Display indication line 4: height

MEASUREMENT POINT-TO-POINT



Select and press



Hold the unit steady and imperatively wait until the self-calibration is completed

Press  for the first distance

Press  for the second distance

Display indication line 1: angle

Display indication line 2: distance to the first measuring point

Display indication line 3: distance to the second measuring point

Display indication line 4: distance between both measuring points

In order to increase the measuring accuracy - especially for long distances - use a tripod!

TRAPEZOID MEASUREMENT 1




Select and press



Press  for the first distance

Press  for the second distance


Press  for the third distance

Display indication line 4: length of the slope, i.e. slope of the roof



TRAPEZOID MEASUREMENT 2



Select and press 



Press  for the first distance

Press  for the second distance

Display indication line 1: angle diagonal-horizontal

Display indication line 2: altitude

Display indication line 3: length of the hypotenuse

Display indication line 4: length of the slope, i.e. slope of the roof

TRIANGLE AREA CALCULATION



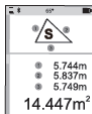
Select and press 

Press  for the first distance

Press  for the second distance


Press  for the third distance


Display indication line 4: triangle area



CIRCLE AREA CALCULATION



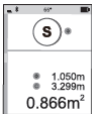
Select and press 

Press  for the diameter

Display indication line 1: diameter

Display indication line 2: circumference

Display indication line 3: circle area



CYLINDRICAL VOLUME



Select and press



Press  for the diameter

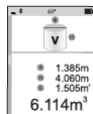
Press  for the height

Display indication line 1: diameter

Display indication line 2: height

Display indication line 3: cylinder area

Display indication line 4: cylinder volume




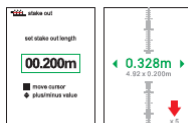
STAKE OUT FUNCTION



Select and press



- switch the digits with the arrow buttons
- define the requested offset with + / -
- start with 





The red arrow shows in which direction the unit must be moved to reach the distance required. When approaching the target an acoustic signal will sound.

OFFSET FUNCTION



Select and press 

- switch the digits with the arrow buttons
- define the requested offset with + / -
- confirm with 

The activation of the offset function will be displayed permanently by this symbol .

ATTENTION: The offset function is permanently active, even after powering off/on of the unit. This function must be de-activated after finishing the measuring task.


TIME-DELAYED MEASUREMENT



Select and press 

The measurement starts after 5 seconds.

MEMORY

The instrument automatically saves the last 1.000 measured values.
Data recall 

DATA EXPORT VIA USB

Connect the GeoDist® 100 to a PC / laptop by means of the USB cable.

Search for the device within the explorer and click.

The excel file shown lists all measured values recorded.

GeoDist®Connect App (iOS and Android)

Free GeoDist®CONNECT APP for Android and iOS for digital processing of the measurements:

- photograph and dimension measurement situations
- dimension imported photos
- create and dimension sketches
- create measurement data lists

Data export e.g. by e-mail for further processing.

You will find the GeoDist®CONNECT APP for smartphones / tablets

iOS units from iOS 7.0 in the App Store

Android units from Android 4.3 in Google Play

Compatible with Bluetooth® 4.0 or higher.

You will find the user manual for the App on our homepage
www.geo-fennel.de; category: laser distance meters.

TROUBLE SHOOTING

Code	Cause	Corrective action
204	Calculation error	Repeat the measurement
208	Excessive current	Contact your dealer
220	Battery weak	Charge the battery
255	Signal too weak or measuring time too long	Change the target surface
256	Signal too strong	Change the target surface
261	Out of measuring range	Select the measuring distance within the range
500	Hardware error	Power on/off the device several times. If the error code still appears contact your dealer.

SAFETY NOTES

E

INTENDED USE OF INSTRUMENT

The instrument emits a visible laser beam in order to carry out the following measuring tasks (depending on the instrument): distance measurements.

SPECIFIC REASONS FOR ERRONEOUS MEASURING RESULTS

Measurements through glass or plastic windows; dirty laser emitting windows; after the instrument has been dropped or hit. Please check the accuracy.

Large fluctuation of temperature: If the 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.

CARE AND CLEANING

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

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).

CE-Conformity

The instrument has the CE mark according to EN 61326-1:2013, 61326-2:2013, 300 328 v2.1.1:2016, 62479:2010, 61010-1:2010.

EXCEPTIONS FROM RESPONSIBILITY

1. The user of this product is expected to follow the instructions given in the user 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.
2. 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.
3. The manufacturer, or its representatives, assumes no responsibility for consequential damage, and loss of profits by any disaster (earthquake, storm, flood etc.), fire, accident, or an act of a third party and/or a usage in other than usual conditions.
4. 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.
5. The manufacturer, or its representatives, assumes no responsibility for any damage, and loss of profits caused by usage other than explained in the user manual.
6. The manufacturer, or its representatives, assumes no responsibility for damage caused by wrong movement or action due to connecting with other products.

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 manufacturers 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.

SAFETY INSTRUCTIONS

- Follow up the instructions given in the user manual.
- Do not stare into the beam. The laser beam can lead to eye injury. A direct look into the beam (even from greater distance) can cause damage to your eyes.
- Do not aim the laser beam at persons or animals.
- The laser plane should be set up above the eye level of persons.
- Use the instrument for measuring jobs only.
- Do not open the instrument housing. Repairs should be carried out by authorized workshops only. Please contact your local dealer.
- Do not remove warning labels or safety instructions.
- Keep the instrument away from children.
- Do not use the instrument in explosive environment.
- The user manual must always be kept with the instrument.

LASER CLASSIFICATION

The instrument is a laser class 2 laser product according to DIN IEC 60825-1:2014. It is allowed to use the unit without further safety precautions. The eye protection is normally secured by aversion responses and the blink reflex. The laser instrument is marked with class 2 warning labels.



Please note:

If you return instruments for repair / for adjustment to us please disconnect batteries or rechargeable batteries from the instrument - this is for safety reasons!

Thank you.

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**Technische Änderungen vorbehalten.
All instruments subject to technical changes.
Sous réserve de modifications techniques.**



Precision by tradition.

geo
F E N N E L