

GeoDist® 80

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® 80
- NiMH rechargeable batteries
- USB charging cable
- Holster
- Hand strip
- User manual

Technical data

Measuring range	0,2 - 80 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

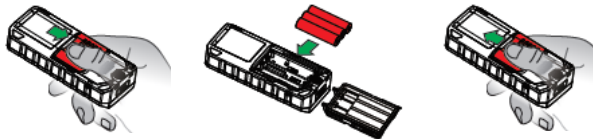
FEATURES

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- Continuous measurement
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POWER SUPPLY

B

INSERT 3 X AAA NIMH BATTERIES



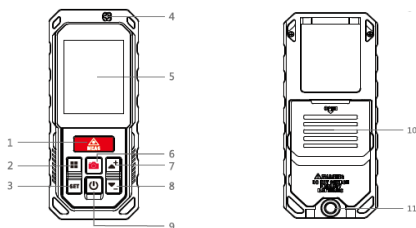
Ensure correct polarity when inserting the batteries.

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.

C OPERATIONAL ELEMENTS





1. Measuring key (press briefly: single measurement / press long: continuous measurement)



2. Measuring mode: all modes consecutively
-> commanded with the keys  



3. SET key: selection of Bluetooth® / measuring unit / measuring reference / 3D function / display rotation / history / time-delayed measurement
-> commanded with the keys  

4. Laser warning symbol

5. Display



6. Camera: activation / zoom in and out



7. Add / Previous



8. Subtract / Next



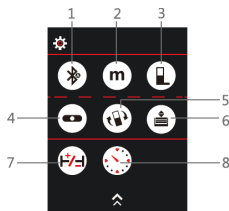
9. ON / OFF key:
press briefly - back to single measurement mode
press long: ON / OFF

10. Battery case

11. Tripod thread

OPERATION

DISPLAY INDICATION

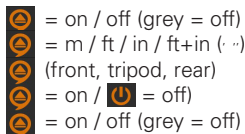


Power on the unit with and press -> the left display indication will appear.

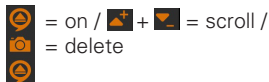
Select the requested parameter with / . The parameter selected is highlighted in green.

Determine the parameter with as below:

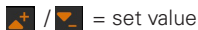
1. Bluetooth® function
2. Measuring unit
3. Measuring reference
4. Digital vial
5. Rotate the display
-> available in measuring mode



6. View memory



7. Define off-set
 = move the cursor;

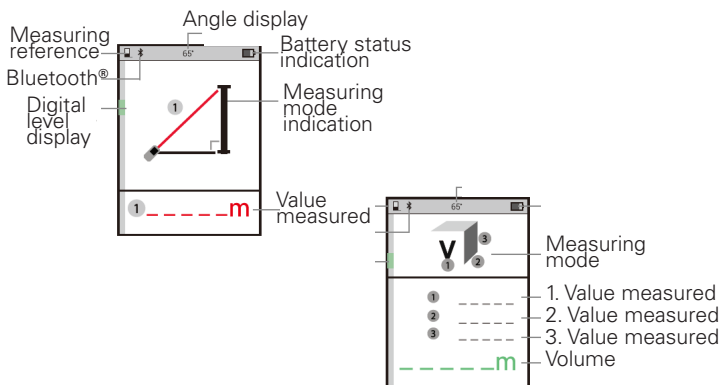


8. Time-delayed measurement



Quit the menu





HORIZONTAL LEVELLING - DISPLAY INDICATION

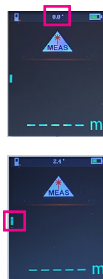
In order to increase the measuring accuracy in horizontal direction the instrument offers a levelling support in the display:

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

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  and select  with  or .

Confirm the required measuring reference with .



FRONT



TRIPOD



REAR

ADDITION / SUBTRACTION



= add



= subtract



etc.

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 after having pressed



or



= up



= down



= repeat the mode





= leave the mode

AREA CALCULATION

S


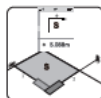
 Press 

 Select  and confirm with 

 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

 Press 


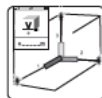
 Select  and confirm with 

 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)



Press

Select and confirm with

Press for the inclined distance

Press for the horizontal distance

Display indication line 3: height



PYTHAGORAS (3-POINT)



Press

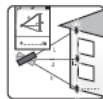
Select and confirm with

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)



Press 
 Select  and confirm with 



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



Press 
 Select  and confirm with 



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



Press

Select and confirm with

Press for the inclined distance top (top point)

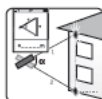
Press for the inclined distance bottom (bottom point)

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



Press

Select and confirm with



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



Press 
Select  and confirm with 




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



Press 
Select  and confirm with 

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



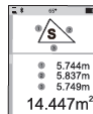
TRIANGLE AREA CALCULATION



Press 
Select  and confirm with 




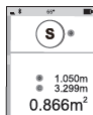
Press  for the first distance
Press  for the second distance
Press  for the third distance

Display indication line 4: triangle area




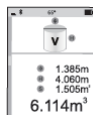
CIRCLE AREA CALCULATION

S

Press Select  and confirm with Press  for the diameter*Display indication line 1: diameter**Display indication line 2: circumference**Display indication line 3: circle area*

CYLINDRICAL VOLUME

V

Press Select  and confirm with Press  for the diameterPress  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*

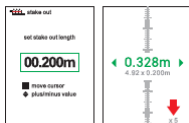
STAKE OUT FUNCTION



Press

Select and confirm with

- = move the cursor
- = set the required distance
- = start the stake out function



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



Press

Select and confirm with

- = move the cursor
- = set the required offset and 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




Press 

Select  and confirm with 

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® 80 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

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, 61326-2-2:2013, 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