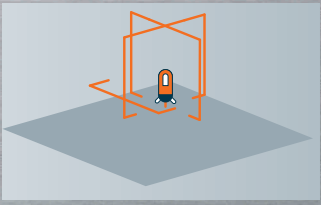
DE | EN | FR

Selection PRO

FL 80 Tracking Liner SP

BEDIENUNGSANLEITUNG
USER MANUAL
MODE D'EMPLOI



www.geo-fennel.com

Dear customer,

Thank you for your confidence having purchased a *geo-FENNEL* instrument of „*Selection Pro*" series. This high-quality product was produced and tested with due prudence.
Among others „*Selection Pro*" is defined by even clearer visible lines which you are originally used to from our standard range of instruments.

This manual will help you to operate the instrument appropriately. Please read carefully - particularly the safety instructions. A proper use guarantees a longtime and reliable operation.

geo-FENNEL
Precision by tradition.

Inhaltsverzeichnis

Technical Specifications

self-levelling range	± 3°
levelling accuracy	± 2 mm / 10 m
working range	
• with receiver	30 m
• without receiver	80 m
• Tracking	30 m
Centering accuracy Tracking	±1 mm / 10 m
Power supply	Li-Ion, Alkaline batteries
Operating time Laser	8 hours Li-Ion
Operating time Tribrach	15 hours Alkaline
Dust / water protection	IP 54
Laser diode	635 nm
Laser class	2
Temperature range	-10° C to +45° C

SUPPLIED WITH A

- FL 80 Tracking Liner SP
- receiver FR 57-M with Alkaline batteries
- floor tripod
- magnetic Target
- rechargeable Li-Ion battery
- Charger
- Case for Alkaline batteries
- hard case
- 5/8“ tripod adapter
- user manual

B OPERATIONAL ELEMENTS

1. Circular bubble
2. Keypad of instrument
3. Keypad of base
4. ON/OFF knob / transport lock
5. Laser emitting windows
6. Fine adjustment screw
7. Battery compartment
8. 5/8“ thread for tripod
9. Adjustable support leg

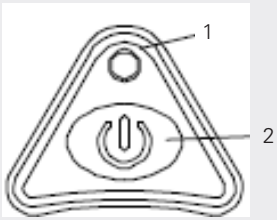
KEYPAD C

1. ON/OFF vertical laser line V1
2. ON/OFF LED instrument
3. ON/OFF vertical laser line V2
4. ON/OFF horizontal laser line H
5. MANUAL LED
6. ON/OFF receiver mode / MANUAL function
7. LED receiver mode

KEYPAD BASE

1. ON/OFF LED
2. ON/OFF button tribrach

Note:
If the ON/OFF LED flashes the batteries must be replaced.

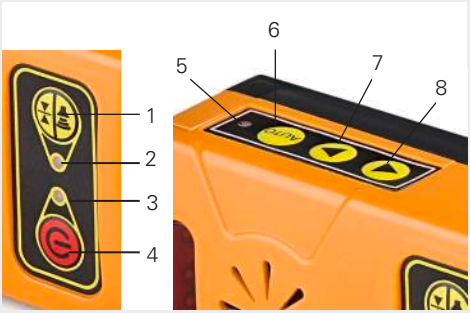


D RECEIVER FR-57M

1. Circular bubble
2. Receiving window
3. Tube vial
4. Keypad
5. Receiving status indication
6. Side keypad
7. Battery case (back)
8. 1/4“-thread (back)

KEYPAD

1. ON/OFF sound / SHORT/LONG distance
2. LED SHORT/LONG distance
3. LED ON/OFF
4. ON/OFF receiver
5. LED Automatic function
6. Automatic function
7. RIGHT
8. LEFT



INSERT BATTERIES

Put in 3 x AA Alkaline batteries into the battery case (take care to polarity) on the back; close battery case.

OPERATION

First adjust the channel switch of the laser and the receiver to the same channel (you will find them in the battery case of the receiver and of the base). Three channels (1, 2 and 3) are available. By using different channels several instruments can be operated on one construction site without any disturbances.

POWER SUPPLY

E

Both the standard Li-Ion battery or 4 x AA Alkaline batteries can be used.

Li-Ion battery pack
FL 80 SP comes with Li-Ion rechargeable battery pack. Mount the rechargeable battery box and close the battery compartment with the battery box screw.

4 X AA AKALINE BATTERIES

FL 80 SP can be used with Alkaline batteries alternatively.

Put in Alkaline batteries into Alkaline battery case (take care to polarity), put case into the laser and lock the battery compartment.

BATTERIES OF THE BASE

Put in 4 x AA Alkaline batteries into the two Alkaline battery cases on the bottom of the base (take care to polarity) and lock both battery compartments.

CHARGE LI-ION BATTERY PACK

Connect the charger with the socket.
Red light at the charger indicates that batteries are being charged.
Green light at the charger indicates that batteries are fully charged.

The Li-Ion battery pack can be charged outside of the laser.

Note:
If the ON/OFF LED of the instrument flashes the battery must be charged.

F SET UP THE INSTRUMENT

1. On a tripod: Connect the laser the to 5/8“ retaining bolt of builder‘s tripod.
2. On the floor: Set up the laser on the floor tripod.

Set up the instrument as upright as possible by means of the circular vial of the keypad to allow the self-levelling system to function within the range.

Fine adjustment with adjustable tripod legs.

FINE ADJUSTMENT SCREW

The laser can be rotated by hand or carefully by use of the tangent screw.

HEIGHT ADJUSTABLE SUPPORT LEGS

If necessary centre the circular bubble of the keypad by means of height adjustable support legs in order to reach maximum accuracy.

G POWER ON THE INSTRUMENT

Set ON/OFF knob to position „ON". The instrument is now ready for use (ON/OFF LED is illuminated). An audible and optical (blinking lines) alarm indicates when the instrument was set up outside of the compensator range. Set up the instrument on a more even surface.
To switch off the instrument bring ON/OFF knob in position „OFF". The instrument is now switched off and the compensator is blocked to avoid damages during transport.

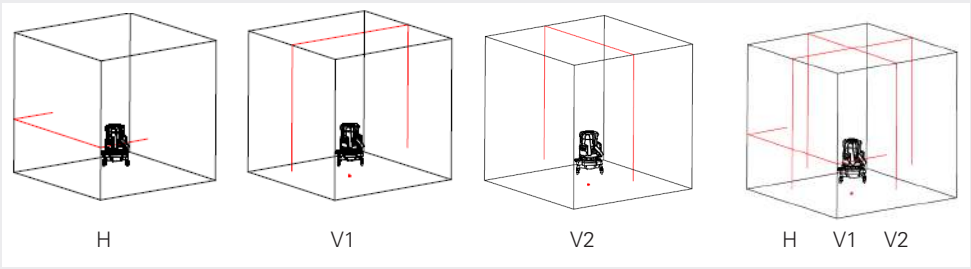
NOTE: During transport ON/OFF knob (compensator clamp) must be set to „OFF". Disregard may lead to damages of the compensator.

RECEIVER / MANUAL FUNCTION

The instrument is switched off (OFF position).
Press button RECEIVER MODE / MANUAL FUNCTION once to enter into the MANUAL function. The MANUAL LED is illuminated. Now the required laser lines can be switched and the instrument can be used in slope position.

Press this button again to switch on the receiver function. The receiving LED is illuminated. Now the receiver FR 57-M can detect the laser lines projected from the instrument.
Press the button once more in order to switch off the instrument.

FOLLOWING LASER LINES CAN BE PROJECTED:



AUTOMATIC TRACKING FUNCTION H

(Available for vertical laser lines only)

The automatic tracking function is ony effective together with receiver FR 57-M.

For the axis-alignment:
Position the laser over the ground point
Postion on-grade-mark of receiver FR 57-M at the target point
Activate receiver FR 57-M
The closest vertical laser line moves to the on-grade-position of the receiver automatically

The receiver FR 57-M can also be used as:

Normal receiver detecting the horizontal/vertical laser lines
Remote control to operate the horizontal movement manually

The FR 57-M receives the laser line signal from the instrument and sends out an infrared remote command to the instrument base. The base rotates until the laser line is exactly centered to the on-grade position of the receiver. (Range: 30 m).

Switch on the receiver by pressing button 2. A long beep will sound and the LEDs on the left side of the receiving window will flash one after the other (top = red, middle = green, bottom = yellow). Now the receiver is in receiving mode and the sound is in low volume. Press button 2 again to switch off the receiver. Three short beeps will sound.

Press button 1 **long** to switch on or off the signal tone.

Press 1 x long for sound ON
Confirmation: one beep)

Press 2 x long for sound OFF
(Confirmation: two beeps)

Press button 1 **short** to select SHORT distance or LONG distance receiving mode

Press 1 x short for LONG
(Confirmation: green LED indication)

Press 2 x short for SHORT
(Confirmation: LED off)

DISTANCE SHORT/LONG

With the function DISTANCE SHORT/LONG the radius of the tracking function will be determined;
i. e. by selecting the tracking radius of the instrument interactions of several instruments on the same contruction sites will be avoided.

Tracking distance SHORT = 8 - 10 m
Tracking distance LONG = 30 m

In case the tracking distance LONG was selected the tracking procedure will run in a fine mode; in case of selecting tracking distance SHORT the tracking mode will be coarse.

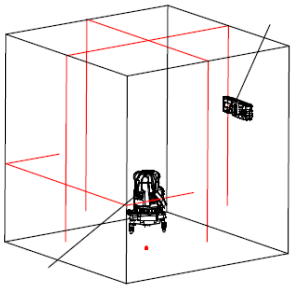
LED AND SOUND INDICATION

Position laser line	LED indication	Sound
Sensor front	red	single short
Central position	green	long
Sensor	yellow	twice short

Switch on the base by pressing the power button (LED will light red) and the instrument by turning the ON/OFF knob (transport lock) to ON (ON/OFF LED will light red). Now select the required vertical lines (V1, V2) and switch on the receiving mode at the laser. Switch on receiver FR 57-M (see previous page); now the instrument is in receiving mode. Position on-grade-mark of the receiver at the target point and press the AUTO button for automatic tracking; the instrument will now prepare the tracking.

Automatic tracking function

Receiver
FR 57-M

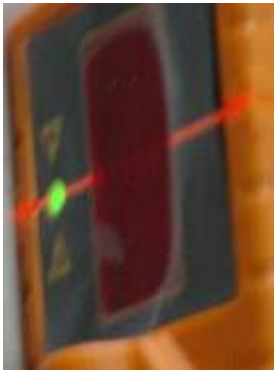


Select the tracking direction (RIGHT or LEFT) with the arrow buttons. Now the tracking procedure will start. When the laser line is in on-grade position a permanent beep will sound and the centre LED will light green. In case the laser line does detect the on-grade mark the procedure has failed and the receiver beeps three times. Re-start the procedure by pressing AUTO again. When the laser line is in on-grade position the tracking function automatically stops, i. e. for a new on-grade position the procedure has to be started again by pressing AUTO. During the tracking procedure a discontinued beep will sound; when the laser line is in on-grade position a permanent beep will sound.

In case one of the arrow buttons (left or right) is used during the tracking procedure same will re-start from the beginning.

Note:
When the laser line is already in the receiving window of the receiver and an arrow button is used the tracking direction of the base will change.
In order to save battery power the base can be switched off when the tracking procedure is finished.

Note:
If the instrument is not operated for more than 10 minutes the base will automatically switch off (in order to save battery power).



MANUAL OPERATION

The rotation can also be controlled manually. The receiver is then used as remote control.
Press the AUTO button to switch off the automatic tracking function. Now the base can be rotated with the right or left arrow button. If the buttons are pressed longer the rotation speed of the base will increase.

USE OF RECEIVER WITHOUT TRACKING FUNCTION J

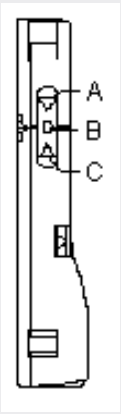
In horizontal direction the receiver FR 57-M can be used manually, i. e. there is only a height indication (green LED and permanent beep). In horizontal direction the automatic tracking function is not available.

Height indication by 3 LEDs which are on the front, side and back
Shut-off tone
2-step distance / accuracy mode
Automatic shut-off
3 x AA Alkaline batteries

OPERATION

Switch the receiver on (see OPERATION with tracking function). Activate receiver funtction of the laser

Move the receiver up and down **carefully** to detect the laser beam.



Detection of laser signal:

A Move the receiver down
Acoustic signal: ultra-short frequent beep
B Move the receiver up
Acoustic signal: short frequent beep
C On level
Acoustic signal: continuous beep

K USE RECEIVER WITHOUT TRACKING

ACCURACY CHECK

Set up instrument in the middle of two walls which are about 5 m apart. Mark visible laser cross on one wall. Turn unit to opposite wall and mark laser cross.

Repeat measurements with distance of about 0,6 m to one wall and about 4,4 m to second wall. Deviation between two measurements taken from the centre and two measurements taken at 0,6 m and 4,4 m must not exceed 3 mm.

Testing accuracy of horizontal line (end to end)

Set up instrument about 5 m from a wall. Mark laser cross on wall. Turn instrument until the laser cross has moved about 2,5 m to the left side and check if horizontal line is within ± 2 mm of laser cross marked on wall. Repeat measurement by turning instrument to the right side

Testing accuracy of vertical line (end to end)

Set up instrument about 5 m from a wall. Fix a plumb line of 2,5 m length to the wall, using a plumb bob. Bring laser line into coincidence with the plumb line. Deviation between laser line and plummet cord from top to bottom must not exceed ± 1,5 mm.

SPECIFIC REASONS FOR ERRONEOUS MEASURING RESULTS

Measurements through glass or plastic windows; dirty laser emitting windows; after instrument has been dropped or hit. Please check accuracy.
Large fluctuation of temperature: If 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 cloth with some water. If 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

Instrument has CE-mark according to EN 61010-1:2001 + corr. 1+2, IEC 60825-1:2008:05.

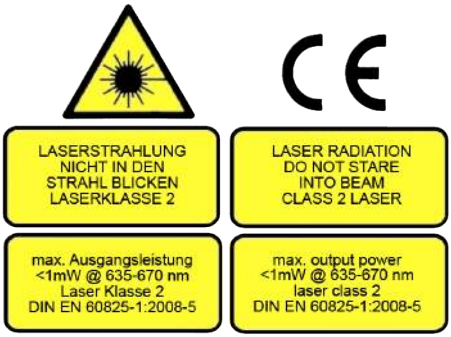
SAFETY INSTRUCTIONS

- Follow up instructions given in user manual.
- Do not stare into beam. 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 laser beam at persons or animals.
- The laser plane should be set up above eye level of persons.
- Use instrument for measuring jobs only.
- Do not open 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 instrument away from children.
- Do not use 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 60825-1:2008-05. It is allowed to use unit without further safety precautions. 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.

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.

EXCEPTIONS FROM RESPONSIBILITY

1. The user of this product is expected to follow the instructions given in operators' 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 users' manual.
6. The manufacturer, or its representatives, assumes no responsibility for damage caused by wrong movement or action due to connecting with other products.

NOTES

ZUBEHÖR / ACCESSORIES / ACCESSOIRES

FS 10

ARTIKEL-NR. / REFENCE NO. / RÉFÉRENCE 302000

Kurbelstativ / elevating tripod / trépied à colonne

drehbarer Stativkopf / rotating head / Tête de trépied rotative

53 - 163 cm; 2,3 kg

Dosenlibelle, Tragetasche / Circular bubble, with carrying bag / Nivelle sphérique intégrée, Saccoche de transport

FS 30-L

ARTIKEL-NR. / REFENCE NO. / RÉFÉRENCE 156

Kurbelstativ / elevating tripod / trépied à colonne

drehbarer Stativkopf / rotating head / Tête de trépied rotative

90 - 285 cm; 2,3 kg

WH 2

ARTIKEL-NR. / REFENCE NO. / RÉFÉRENCE 290610

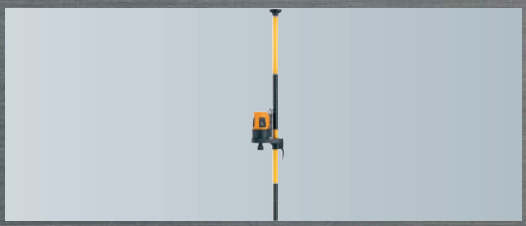
Wand- & Deckenhalter / wall and ceiling mount / support mural et de plafond

robust / solid / particulièrement solide

Große Plattform / large platform size / grande platforme: 150 x 95 mm

Einteilung / graduation / graduation: cm/inch

für alle geo-FENNEL Laser / for all geo-FENNEL laser / pour tous les lasers geo-FENNEL



KS 3

ARTIKEL-NR. / REFENCE NO. / RÉFÉRENCE 520100

Klemmsäule / floor-to-ceiling-pillar / canne support laser

Robuste Ausführung / solid construction / modèle robust

wird zwischen Boden und Decke festgeklemmt / to be fixed between floor and ceiling / bloquée entre sol et le plafond

Adapter / adapter / filetage: 5/8" & 1/4"

Max. Länge / maximal length / longueur max.: 3,40 m

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

CE
03/2013

Precision by tradition.

geo FENNEL