

FL 69 HP

BEDIENUNGSANLEITUNG
USER MANUAL
MODE D'EMPLOI



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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A SUPPLIED WITH

Art.-no. 581500:

- Ultra-Liner FL 69 HP
- Integrated floor tripod
- Li-Ion battery and charger
- Magnetic target
- Laser glasses
- Adapter for tripod connection
- Battery case for optional use of alkaline batteries
- Hard carrying case
- User manual

Art.-no. 581510:

- Ultra-Liner FL 69 HP
- **Receiver FR 55 with clamp**
- Integrated floor tripod
- Li-Ion battery and charger
- Magnetic target
- Laser glasses
- Adapter for tripod connection
- Battery case for optional use of alkaline batteries
- Hard carrying case
- User manual

FEATURES

- 5 laser crosses
- 4 vertical lines at 90° to each other
- 360° horizontal line
- Laser cross to the ceiling
- Plumb down beam
- 8 laser dots
- Self-levelling function can be switched off for manual use
- Use with receiver FR 55 to extend the working range

Technical Data

Self-levelling range	±3°
Accuracy	±2 mm / 10 m
Working range	
• without receiver	20 m*
• with receiver (optional)	60 m
Power supply	Li-Ion
Operating time	6-14 h**
Dust / water protection	IP 54
Laser diode / laser class	635 nm / 2
Temperature range	-10°C to +45°C
Weight (instrument with batteries)	1,2 kg

*depending on room illumination

** depending upon the number of lines in use

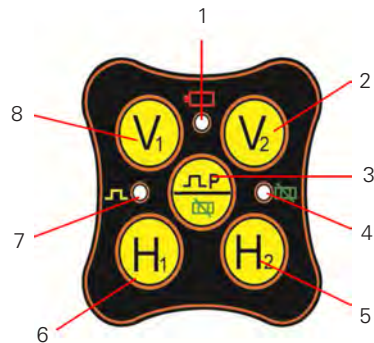
B FEATURES

1. Keypad
2. Laser emitting window
3. Laser emitting window
4. ON/OFF knob
5. Circular bubble
6. Fine adjustment screw
7. Battery case
8. Battery case lock
9. Adjustable tripod leg
10. 5/8" adapter



C KEYPAD LAYOUT

1. Power ON/OFF LED
2. Vertical line V2 with laser dot on/off
3. Pulse mode / Manual mode (MAN) on/off
4. Manual mode (MAN) LED
5. Horizontal line H2 with laser dot on/off
6. Horizontal line H1 with laser dot on/off
7. Pulse mode LED
8. Vertical line V1 with laser dot on/off



BATTERY AND CHARGER

D

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

Li-Ion battery pack

FL 69 HP comes with Li-Ion rechargeable battery pack. Connect the charger with the battery pack and the the socket.

Permanent red light (at the charger) indicates that the batteries are being charged.

Permanent green light (at the charger) indicates that the batteries are fully charged.

The working time with fully charged battery pack is approx. 6 -14 h (depending upon the number of lines in use).

4 x AA alkaline batteries

FL 69 HP can be used with alkaline batteries alternatively. Please use the separate battery case (supplied with).

Unscrew the lock screw of the battery door and remove the Li-Ion compartment.

Insert 4 x AA alkaline batteries according to the description (ensure correct polarity!)

Whilst use of alkaline batteries the recharging function is disabled.

NB

Do not charge the instrument during a longer period (i. e. a weekend) without control!

ATTENTION

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



Li-Ion battery box



Case for alkaline batteries



E OPERATION

SET UP OPTIONS

- on any flat surface
- on the integrated floor tripod supplied with the kit
- on a builder's tripod using the 5/8" retaining bolt

Set up the instrument as upright as possible to allow the self-levelling system to function within the range.



If necessary centre the circular bubble (5) by means of the height adjustable tripod legs.



Circular bubble

ROTATABLE CIRCLE AND TANGENT SCREW

The FL 69 HP is equipped with a 360° rotatable circle. The laser can be rotated by hand or carefully by use of the tangent screw (6).



POWER ON

Turn the ON / OFF knob to position „ON“ and the instrument is ready for use. The laser lines can now be switched on and off independently of each other or altogether (see the drawing).

A visible (blinking lines) and audible alarm indicates if the instrument is set up outside of the self-levelling range. If so, re-position the instrument on a more level surface.

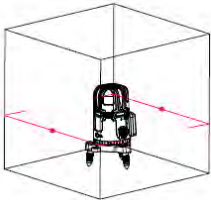
To power off turn the ON / OFF knob to „OFF“

The instrument is now switched off and the compensator is locked to avoid damages during transportation.

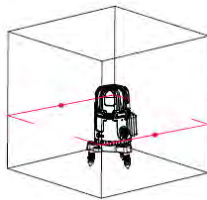
NB:

During transportation ensure that the ON / OFF knob is set to position „OFF“
Disregard may lead to damage of the self-levelling mechanism.

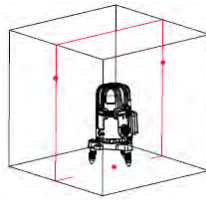
The laser lines can be switched on and off independently of each other or altogether:



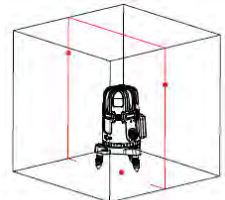
Line H1



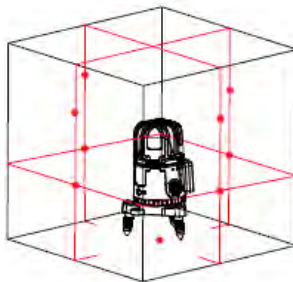
Line H2



Line V1



Line V2



All lines

MANUAL FUNCTION (TILT)

The MANUAL function is only available with the power ON / OFF knob set to position „OFF“ (otherwise the visible and audible alarm would be activated). Press the MANUAL button (3) and choose the desired laser lines. The FL 69 HP can now be used in slope mode.

USE WITH RECEIVER FR 55

To extend the working range or for use in unfavourable light conditions the FL 69 HP can be used with receiver FR 55.

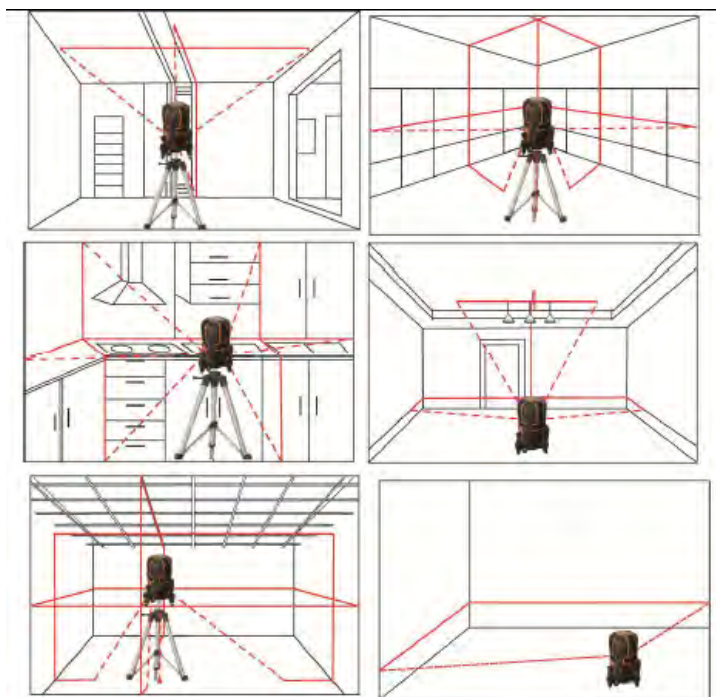
The receiver is included with art.-no. 581510 and is optional with art.-no. 581500.

Press button (3) (pulse mode LED (7) will illuminate) to change from normal to receiver mode. The receiver can now detect the FL 69 HP laser lines (the visibility of the laser lines are weaker in this mode).

The working range can be extended up to 60 meters by using a receiver.
You will find more detailed information in the receiver user manual.



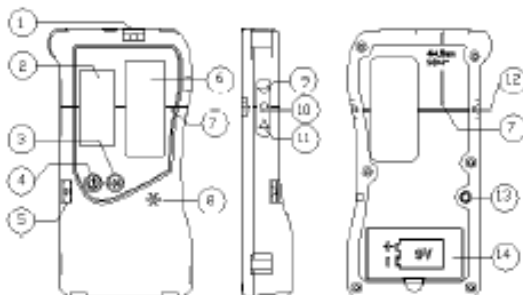
APPLICATION DIAGRAMS



IMPORTANT – move the receiver FR 55 up and down carefully to detect the laser beam. FL 69 HP and FR 55 are working with another technology than rotating laser levels. Because of this the receiver FR 55 must be moved much more slowly.

FEATURES

1. Vial
2. Receiving window
3. Sound on/off
4. ON / OFF switch
5. Vial
6. Display
7. Zero indication line
8. Loudspeaker
9. LED / arrow
10. LED / point
11. LED / arrow
12. Zero indication line
13. 1/4"-mounting hole for clamp
14. Battery compartment



SUPPLIED WITH

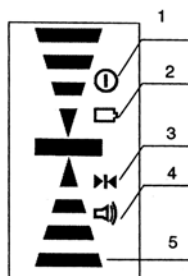
Receiver FR 55, battery, clamp, user manual

Technical data

Display	Front display / side LEDs
Accuracy	± 1 mm
Tones	3
Operating time	100h
Power supply	1 x 9V

SYMBOLS

1. Power indicator
2. Low battery indicator
3. Detection indicator
4. Sound indicator
5. Detected position indicator



INSTALLATION OF BATTERIES

- Open the battery compartment cover (14).
- Insert 1 x 9 V AA battery according to the installation symbol (ensure correct polarity!) and close the cover.
- In order to save battery power the receiver will automatically turn off if it has not received a laser scanning signal for 10 minutes.

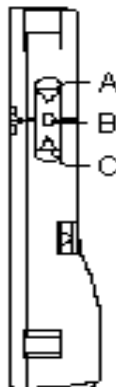
USE OF THE RECEIVER

Press button (3) to switch the receiver on (red light). Activate the pulse function at the line laser.

Move the receiver FR 55 up and down **carefully** to detect the laser beam.

Detection of the laser signal:

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



F SAFETY NOTES

INTENDED USE OF INSTRUMENT

The instrument emits a visible laser beam in order to carry out the following measuring tasks (depending on instrument): Setting up heights, horizontal and vertical planes, right angles and plumbing points.

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.

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.

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

This instrument has the CE mark according to EN 61010-1:2010.

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 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.

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 60825-1:2008-05.

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.



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



Precision by tradition.

