

Geo5X-L360 HP

BEDIENUNGSANLEITUNG
USER MANUAL
MODE D'EMPLOI



Dear customer,

Thank you for your confidence in us having purchased a **geo-FENNEL** instrument.
This manual will help you to operate the instrument appropriately.

Please read the manual carefully - particularly the safety instructions. A proper use only guarantees a longtime and reliable operation.

geo-FENNEL
Precision by tradition.

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CHARACTERISTICS

- 360° vertical laser line
- 200° vertical laser line at 90°
- 360° horizontal laser line
- => form 5 laser crosses
- Laser lines switchable separately
- Plumbing function
- Multi-functional mount with:
 - strong magnets on the base and back
 - strap attachment
 - height adjustable
 - 5/8" connection for builders' tripod
- Use with receiver (optional)
- Self-levelling function can be locked for manual use
- 5/8" and 1/4" connection at the instrument bottom

Technical Data

Self-levelling range	$\pm 4^\circ$
Accuracy	$\pm 2 \text{ mm} / 10 \text{ m}$
Working range	
· without receiver	20 m (radius)
· with receiver	60 m (radius)
Power supply	Li-Ion
Operating time laser (all lines illuminated)	10 hours
Dust / water protection	IP 54
Laser diode	635 nm
Laser class	2
Temperature range	-10° C to $+45^\circ \text{ C}$

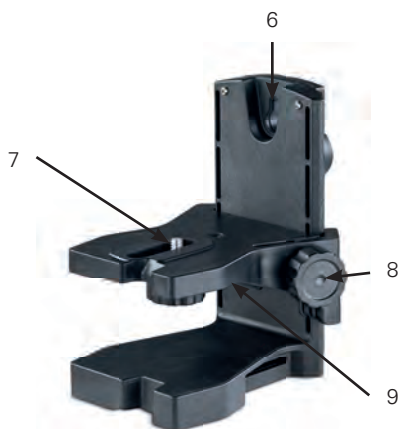
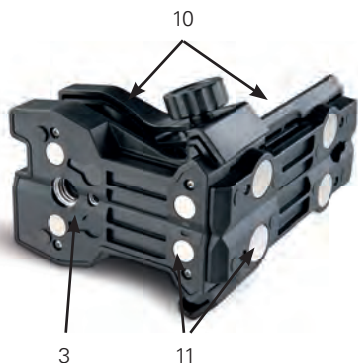
SUPPLIED WITH

A

- Geo5X-L360 HP
- multi-functional mount
- Li-Ion battery and charger
- battery case for alkaline batteries
- magnetic target
- soft bag
- user manual

B OPERATING ELEMENTS

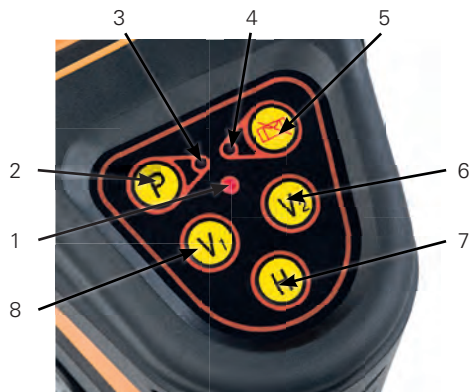
1. Keypad
2. Laser emitting windows
3. 5/8" - / 1/4" thread for tripod
4. ON-/OFF knob
5. Battery case
6. Hanging hole
7. 1/4" adapter
8. Handwheel for height adjustment of elevator table
9. Elevator table
10. Belt slot
11. Magnets



KEYPAD

C

1. ON/OFF LED
2. ON/OFF receiving mode
3. LED receiving mode
4. LED MANUAL mode
5. ON/OFF MANUAL mode
6. Vertical laser line V2
7. Horizontal laser line H
8. Vertical laser line V1



POWER SUPPLY

D

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

Li-Ion battery pack

Geo5X-L360 HP comes with Li-Ion rechargeable battery pack. Open battery door and remove Li-Ion battery pack. Connect the AC/DC converter with Li-Ion battery pack. After instrument is fully charged put Li-Ion battery pack back into the battery slot.

Battery status

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

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

The working time with fully charged battery pack is approx. 10 hrs.

If power LED starts flashing the batteries must be charged.

Alkaline batteries

Geo5X-L360 HP can be used with alkaline batteries alternatively. Please use separate battery case (supplied with.) Unscrew lock of battery door and remove Li-Ion battery pack. Put in 3 x AA alkaline batteries into the alkaline battery case (take care of correct polarity!) Whilst use of alkaline batteries the recharging function is disabled.

E MULTI-FUNCTIONAL MOUNT

Fix the instrument on the multi-functional mount by using the 1/4" adapter.

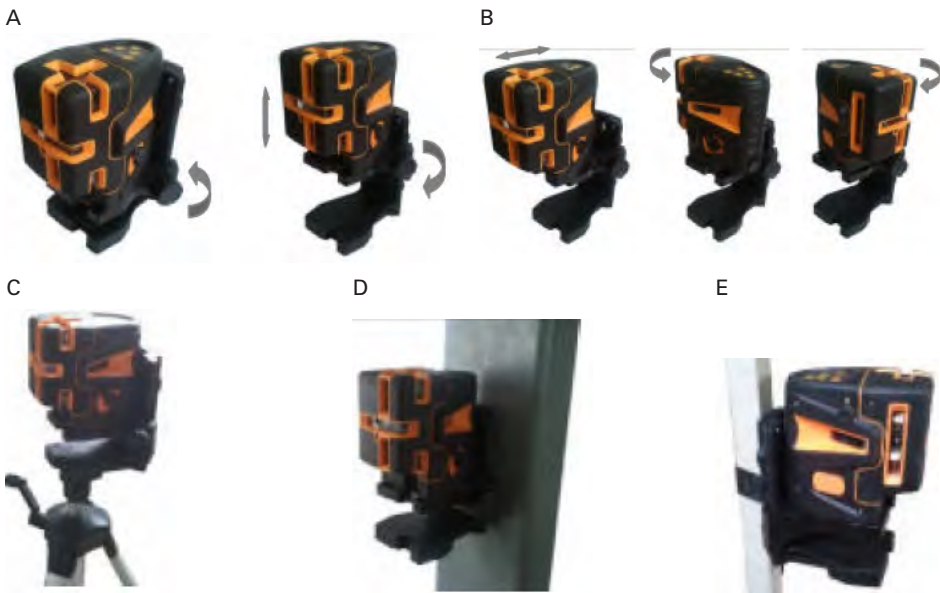
To move the instrument up or down on the mount declamp hand screw. For locking the desired position of the instrument tighten the hand screw again. (A)

The instrument can be rotated or moved backwards/frontwards on the mount by releasing the fixing bolt. (B)

Use of the laser on a tripod. (C)

Use of the laser with magnets. (D)

Use of the laser with strap attachment. (E)



F OPERATION

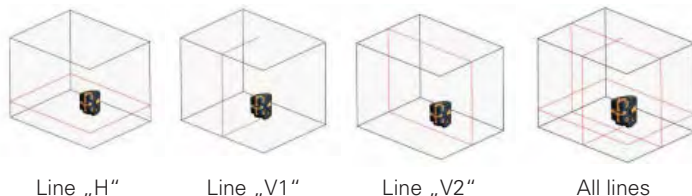
Switch instrument on/off

Turn the ON/OFF knob clockwise to switch the laser on. The ON/OFF LED will be illuminated. Turn ON/OFF switch counter-clockwise to switch the instrument off. The ON/OFF LED will be off.

NOTE:

During transport ON/OFF knob (compensator lock) must be set to OFF. Disregard may lead to damage to the compensator.

The following laser lines can be switched on together or separately by pressing the below buttons:



Receiving mode

Press button „P“ on the instrument to change to receiving mode (LED will be illuminated). Receiver FR 55 / FR 55-M can now detect the signal of the laser (the visibility of the laser lines is weaker in this mode). The working range can be extended to 60 m by use of the receiver.

MANUAL FUNCTION

G

MANUAL function is only available in OFF mode (as otherwise compensator alarm would start). Press MANUAL key and choose desired laser lines. Now Geo5X-L360 HP can be used in slope position.



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 $\pm 1,5$ mm.

H SAFETY NOTES

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.

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.

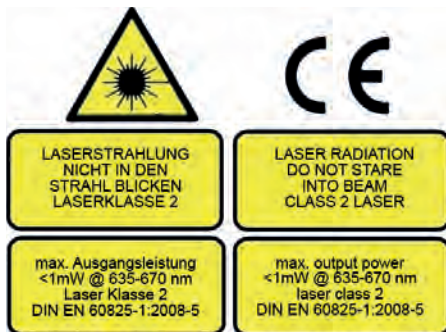
SAFETY INSTRUCTIONS

- 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.**

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



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