

Quadrum / Quadrum Green

DE 02

GB 14

NL 26

FR 38

FI 50



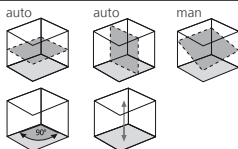
SENSOR
AUTOMATIC

 Laser
530-670 nm

ADS
Tilt

IP 66


 lock



Laserliner[®]
Innovation in Tools

Fully automatic rotary laser with red or green laser technology.

- With additional red plumb laser
- Laser modes: spot, scan, rotary and hand receiver mode
- All functions can be controlled remotely.
- optional SensoLite 310: Laser receiver range up to 300 m radius
- optional SensoMaster 400 (Quadrum red only): Laser receiver range in excess of 300 m radius. With longer laser receiver unit and millimetre exact distance reading for laser level.
- 5° self-levelling range, precision 1 mm / 10 m

General safety instructions



Laser radiation!
Avoid direct exposure
to the eyes.
Laser class 3R
< 5 mW · 530 - 670 nm
EN60825-1:2007-10

Caution: Prior to using the laser, you must read the safety instructions for laser class 3R thoroughly. Warning signs must not be removed from the laser measuring device! Do not look directly into the beam. Lasers must be kept out of reach of children. Never intentionally aim the device at people. This is a quality laser measuring device and is 100% factory adjusted within the stated tolerance. For reasons of product liability, we must also draw your attention to the following: Regularly check the calibration before use, after transport and after extended periods of storage. We also wish to point out that absolute calibration is only possible in a specialist workshop. Calibration by yourself is only approximate and the accuracy of the calibration will depend on the care with which you proceed.

! This is a precision instrument which must be handled with care. Avoid impacts and jarring. Store and transport the instrument in its case!
Turn off the unit when it is not in use! Clean with a soft cloth and glass cleaner.

Special product features and functions



The rotary laser aligns itself automatically. It is set to the required initial position (to within an operating angle of $\pm 5^\circ$) and the automatic system then performs the necessary fine adjustment, with three electronic measurement sensors detecting the X, Y and Z axes.



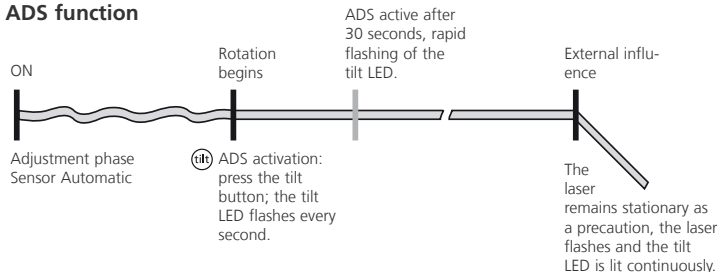
The anti-drift system (ADS) prevents erroneous or inaccurate measurements. How it works: continuous monitoring of the alignment of the laser is activated 30 seconds after the ADS is switched on. If the device moves due to the influence of external factors or the laser loses its height reference, the laser will come to a standstill. Additionally, the laser flashes and the tilt LED is lit continuously. To continue working, press the tilt button again or switch the device off then on again. Erroneous and inaccurate measurements are thus prevented simply and reliably.

The ADS is not active following switch-on. Once the device has been set up, press the tilt button to activate the ADS, enabling you to protect the laser from changes in position caused by the device being disturbed by external factors. The tilt LED flashes to indicate that the ADS function is active; see the diagram below.



The ADS does not activate the monitoring function until 30 seconds after the laser levelling procedure has been completed (set-up phase). The tilt LED flashes every second during the set-up phase, rapid flashing, when ADS is active.

ADS function





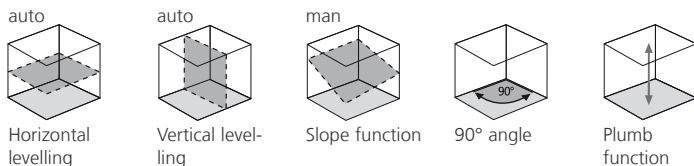
Transport LOCK: The device is protected by a special motor brake during transport.



The device characterised by specific protection against dust and rain.

Space grids: These show the laser planes and functions.

auto: Automatic alignment / man: Manual alignment



Quadrum Green: green laser technology

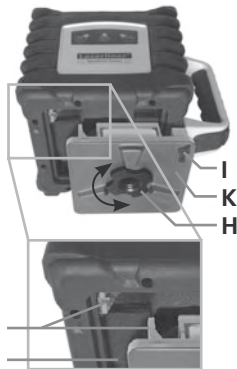
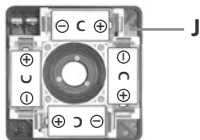
The distance at which a laser is visible to the naked eye depends on its colour i.e. wavelength. This is because of the human eye's physiology – green appears brighter to us than red. Depending on ambient light, green lasers are therefore many times more visible than red lasers; in indoor areas this is as much as 12 times brighter. This permits applications on dark surfaces, over longer distances and work in very bright ambient light. A red laser with a 635 nm wavelength is used as a reference value for brightness differentiation.

In contrast to red lasers, green laser light can only be produced indirectly. This is a source of potential characteristic fluctuations:

- The optimal operating temperature is 20°C. Outside its operating temperature range of 0 – 40°C Quadrum Green is darker. **IMPORTANT:** Allow the unit enough time to adapt to the ambient temperature before switching the unit on.
- Laser brightness may vary somewhat from one unit to another. This is a natural phenomena and excluded from warranty claims.
- Green Laser will only work with certain Receivers. The maximum range of the Receiver is shorter, please refer to technical details.

Battery charging

- Charge the device's battery completely prior to use.
- Connect the charger to mains power supply and the charging socket (I) of the battery compartment (K). Please only use the charger supplied; using a different charger will invalidate the warranty. The rechargeable battery can also be charged when it is not inserted in the device.
- When the rechargeable battery is being charged, the LED on the charger (M) lights up red. When the LED changes to green, charging is complete. When the unit is not connected to the charger the power charger's LED lamp will blink.
- Alkaline batteries (4 x type C) can be used as an alternative. Insert them in the battery compartment (J) as per the installation symbols.
- Insert battery (K) / battery compartment (J) into slot (F) and secure it in place with fastening screw (H). The electrical contacts (G) must be connected.
- With the rechargeable battery inserted, the device is ready to run even during charging.
- When all 3 LEDs (2, 4, 5) light up briefly and the device switches off, the batteries must be replaced or the rechargeable battery charged.

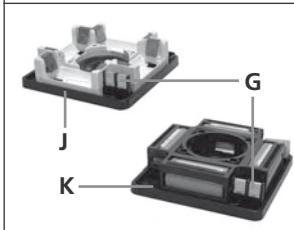
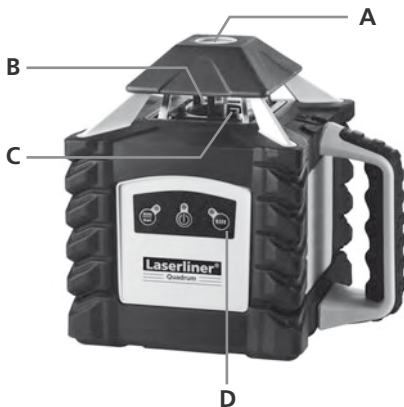


Insert batteries into the remote control

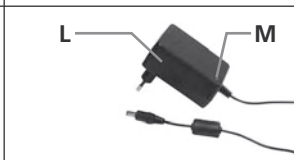
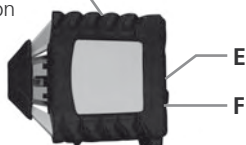
- Observing the correct polarity.



! Do not expose batteries to excessive heat such as sunshine, fire, etc. Only rechargeable batteries must be charged. Used batteries must not be disposed of as household waste. Please take them to a collection point for used batteries or for special waste. Ask your local authority for further details. Batteries with the recycling symbol can also be returned to our dealerships or to our Technical Service.



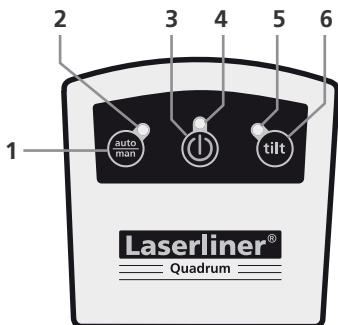
Vertical operation



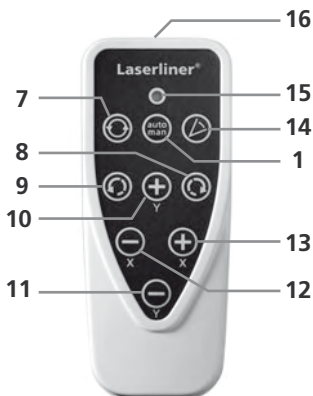
- A** Reference / plumb laser outlet
- B** Prism head / laser beam outlet
- C** Receiver diodes for remote control (4 x)
- D** Control panel
- E** 5/8" thread / Reference, plumb laser outlet
- F** Slot for rechargeable battery / battery compartment
- G** Electrical contacts

- H** Battery compartment / battery fastening nut
- I** Charging socket
- J** Battery compartment
- K** Rechargeable battery compartment
- L** Mains unit / charger
- M** Operation indicator
red: battery is charging
green: charging process complete

Control panel Quadrum



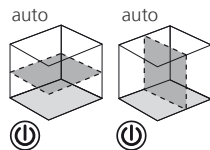
Remote control



- | | |
|--|---|
| 1 auto/man function | 9 Positioning button (rotate to the left) |
| 2 auto/man function LED
LED off: automatic alignment
LED on: manual alignment | 10 auto/man. function: Y axis proceed as above |
| 3 ON/OFF button | 11 auto/man. function: Y axis proceed as below |
| 4 Operation indicator | 12 auto/man. function: X axis proceed as above |
| 5 Tilt function LED | 13 auto/man. function: X axis proceed as below |
| 6 Tilt function | 14 Scan mode |
| 7 Rotary speed for selection, 600 / 300 / 120 / 60 / 0 rpm | 15 Operation indicator |
| 8 Positioning button (rotate to the right) | 16 Infrared signal emitter |

Horizontal levelling and vertical levelling

- Horizontal: Position the device on a level surface or on a tripod.
- Vertical: Set the unit on its side feet. The operator panel should be at the top. With the optional wall bracket (product ref. 080.70), the device can be mounted on a tripod for vertical usage.
- Press the "ON/OFF" switch



auto/man function LED OFF: Automatic alignment

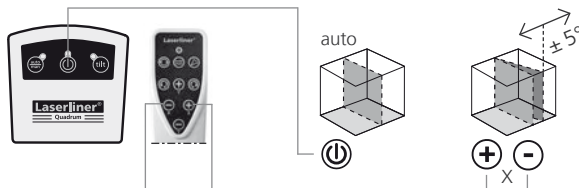
- The device levels itself automatically to within a range of $\pm 5^\circ$. During the set-up phase, the laser flashes and the prism head remains stationary. When levelling is complete, the laser lights up continuously and rotates at maximum speed. Refer also to the sections about "Sensor Automatic" and "ADS Tilt".



If the device has been placed on a surface with too much of a slope (more than 5°), there is a warning sound, the prism head remains stationary and the laser starts to flash. The device must then be placed on a more even surface.

Positioning the vertical laser level

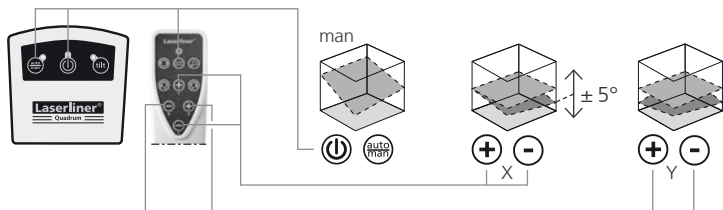
In vertical mode the laser level can be positioned exactly. "Sensor Automatic" remains active and levels to the vertical laser level. Refer to the illustration below.



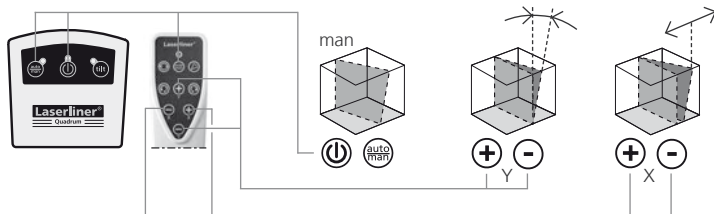
If the auto/man. LED flashes, the maximum adjustment range of 5° has been reached. Set up the device horizontally, turn it off and then on again.

Slope function up to 5° – horizontal

This function deactivates the automatic sensor. To use the function, press the auto/man button. The plus/minus buttons are used to re-adjust the slope by means of a motor. In the process the X and Y-axis can be adjusted separately. Refer to the illustrations below.



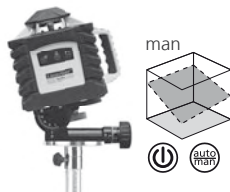
Slope function up to 5° – vertical



! When the 5° maximum slope range has been reached, the laser will stay fixed and blink. In this case, reduce the slope angle.

Slope function > 5°

Steeper slopes can be set using the angle plate, which is available as an optional extra (product ref. 080.75). TIP: Allow the device to align itself automatically and set the angle plate to the zero position. Then press the auto/man button to switch the automatic sensor off. Finally, incline the device to the angle you require.



! auto/man function LED ON: Manual alignment

Laser modes

Rotary mode

The following speeds can be set using the rotary button: 0, 60, 120, 300, 600 rpm



Spot mode

You access spot mode by pressing the rotary button repeatedly until the laser stops rotating. The laser can then be positioned exactly at the measuring point by means of the direction buttons.



Scan mode

The scan button can be used to activate and set a lightintensive segment in 4 different widths. You position the segment via the direction buttons.



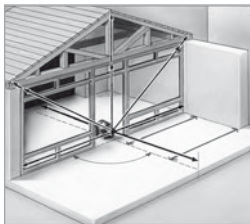
Hand receiver mode

Working with the laser receiver (available as an optional extra): Set the rotary laser to maximum speed and switch on the laser receiver. Refer to the operating instructions for the respective laser receiver about this.



Working with the reference/plumb laser

The unit has two reference lasers. In horizontal operation these lasers can be used to drop a perpendicular. In vertical operation these reference lasers are used to align the unit. This is done by adjusting the reference lasers parallel to the wall. This aligns the vertical laser plane at a right angle to the wall, see illustration.

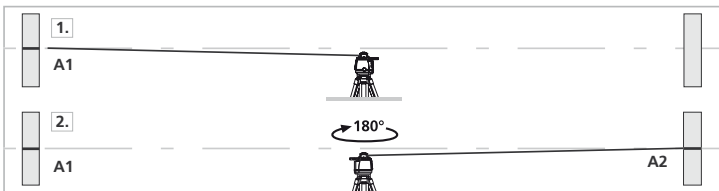


Technical data (Subject to technical alterations)	
Self-levelling range	± 5°
Accuracy	± 1 mm / 10 m
Horizontal / vertical levelling	Automatic with electronic sensors and servo motors
Self-levelling alignment time	Approx. 30 seconds over the entire operating angle
Vertical reference beams	90° to rotation plane
Rotation speed	0, 60, 120, 300, 600 RPM
Remote control	Infrared IR
Laser wavelengths green / red	650 nm / 532 nm
Laser class red / green	3R (EN60825-1:2007-10)
Laser output rating red / green	< 5 mW
Power supply	High-performance rechargeable battery / batteries (4 x type C)
Rechargeable battery life red / green	approx. 35 h / approx. 14 h
Non-rechargeable battery life red / green	approx. 50 h / approx. 8 h
Battery recharging time	ca. 6 h
Operating temperature red / green	-10°C ... + 50°C / 0°C ... + 40°C
Storage temperature	-10°C ... + 70°C
Protection class	IP 66
Dimensions (W x H x D) / Weight (incl. batteries)	215 x 205 x 165 mm / 2,6 kg
Remote control	
Power supply	2 x type AAA
Remote control range	max. 30 m (IR-Control)
Weight (incl. battery)	0,07 kg

Preparing the calibration check

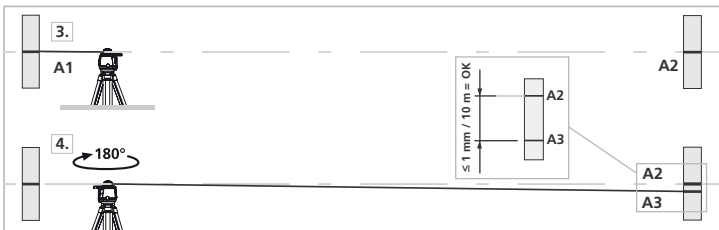
It is possible for you to check the calibration of the laser. To do this, position the device midway between 2 walls, which must be at least 5 metres apart. Switch the device on. The best calibration results are achieved if the device is mounted on a tripod. **IMPORTANT:** The automatic sensor must be active (auto/man. LED is off).

1. Mark point A1 on the wall.
2. Turn the device through 180° and mark point A2. You now have a horizontal reference between points A1 and A2.



Performing the calibration check

3. Position the device as near as possible to the wall at the height of point A1. Now adjust the device in the X axis.
4. Turn the device through 180° and mark point A3. The difference between points A2 and A3 is the tolerance for the X axis.
5. To check the Y and Z axis, repeat steps 3 and 4.



! If points A2 and A3 are more than 1 mm / 10 m apart on either the X or Y axis, the device is in need of adjustment. Contact your authorised dealer or else the UMAREX-LASERLINER Service Department.

Adjustment mode

Take the alignment of the rotary laser into account when performing adjustment work. Always adjust all the axes.

X axis adjustment

Activate adjustment mode: Switch on the Quadrum. Press the Y axis plus/minus buttons simultaneously until the auto/man. LED flashes.



Adjustment: Use the X axis plus/minus buttons to move the laser from its current position to the height of reference point A2.



Cancel adjustment: Switch the device off.



Save: Press the Y axis plus/minus buttons simultaneously until the auto/man. LED goes off.



Adjust the Y and Z axes

Activate adjustment mode: Switch on the Quadrum. Press the X axis plus/minus buttons simultaneously until the tilt LED flashes.



Adjustment: Use the Y axis plus/minus buttons to move the laser from its current position to the height of reference point A2.



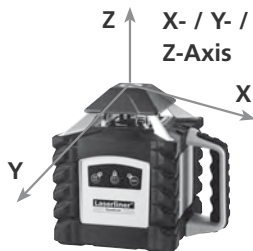
Cancel adjustment: Switch the device off.



Save: Press the X axis plus/minus buttons simultaneously until the tilt LED goes off.

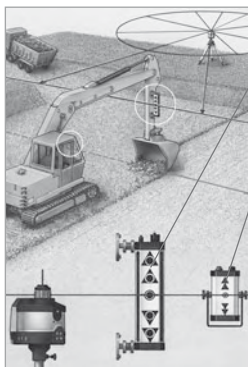


To adjust the Z axis, set up the device vertically and proceed in the same manner as for the Y axis adjustment.



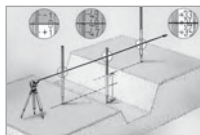
Regularly check the adjustment before use, after transport and after extended periods of storage. Always make sure to control all axes.

- DE** Zubehör (optional)
- GB** Accessories (optional)
- NL** Accessoires (optioneel)
- FR** Accessoires (en option)
- FI** Lisämahdollisuuksia valinnaisvarusteilla



Art.-Nr: 035.00A
 → Quadrum Red
 (~~Quadrum Green~~)

Art.-Nr: 035.01
 → Quadrum Red
 (~~Quadrum Green~~)



Art.-Nr: 080.50
 → Quadrum Red

Art.-Nr: 080.51
 → Quadrum Green

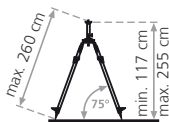
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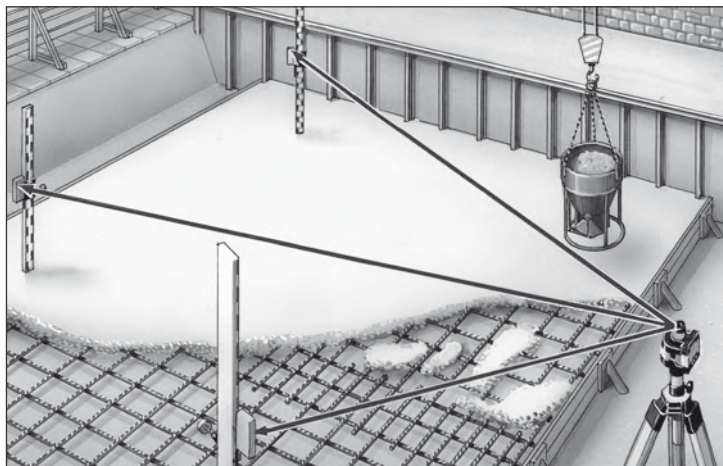


Art.-Nr: 028.71
 → Quadrum Red
 + Quadrum Green



Art.-Nr: 028.80
 → Quadrum Red
 (~~Quadrum Green~~)





SERVICE



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8.053.96.01.1 / Rev.0210

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