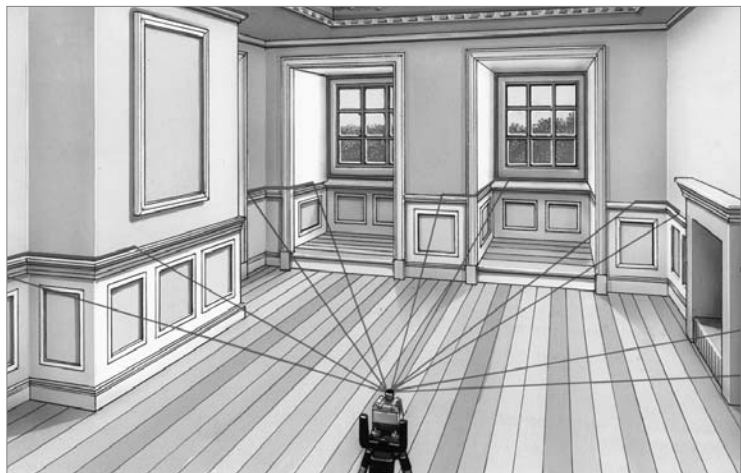


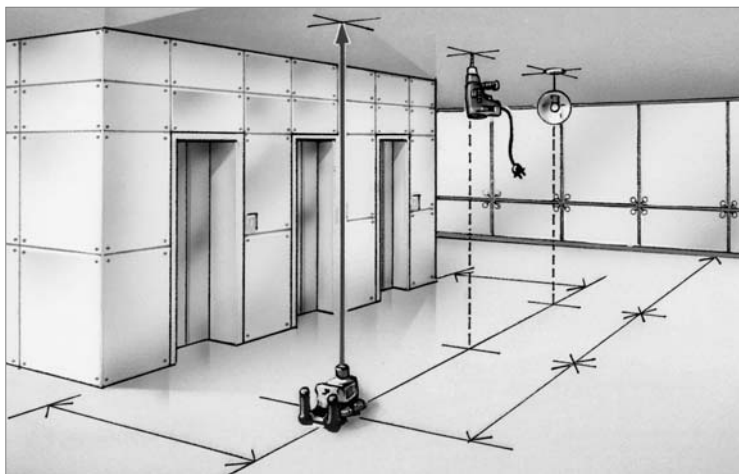
BeamControl-Master BCM

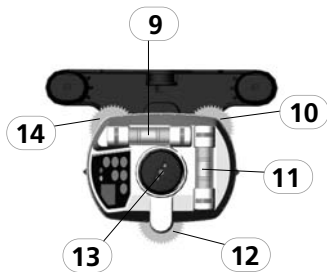
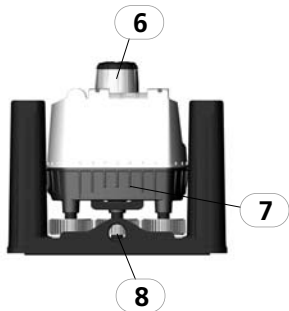
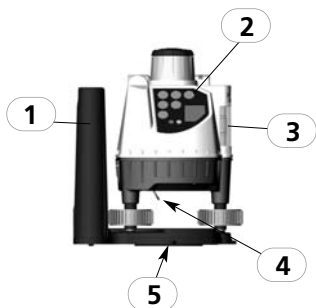


BCM 2.0 Rev 11.05

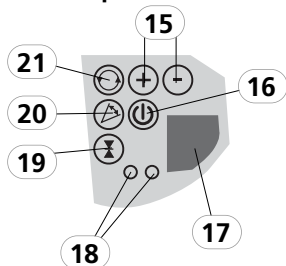
D	Bedienungsanleitung	4-13
GB	Operating instructions	14-23
NL	Gebruiksaanwijzing	24-33
DK	Betjeningsvejledning	34-43
F	Mode d'emploi	44-53
E	Instrucciones para su uso	54-63







control panel



1. integral handles

2. control panel

3. vertical Z vial

4. lever for battery compartment

5. 5/8 in socket

6. rotary head

7. battery compartment

8. threaded connection

9. horizontal X vial

10. levelling screw B

11. horizontal Y vial

12. levelling screw C

13. laser perpendicular beam

14. levelling screw A

15. speed / angular range

16. On/Off

17. IR (infra-red) reception field

18. LEDs

19. hand receiver mode

20. scan mode

21. rotation mode

Warranty

The manufacturer grants a warranty for this instrument for a period of 24 months after date of purchase. Within this period we will, at our own discretion, repair all defects based on faulty material or workmanship, or we will replace these parts. Excluded from this warranty are: damages caused by improper use (operation with unsuitable electrical power sources); connection to unsuitable power sources; or storage, normal wear and also defects which do not or do only hardly minimize the value or the suitability of the instrument. This warranty becomes null and

void in cases unauthorized persons attempt to repair this instrument.

The warranty only becomes valid when the date of purchase has been verified by stamp and signature of the dealer, and the serial number of the device is to be stated, too. The warranty is valid in all countries where this instrument is being sold by UMAREX-Laserliner or by authorized dealers. In case of a claim under this warranty please return this instrument, together with all accompanying information and the invoice, to an authorized dealer or to the manufacturer.

1. Installing

1.1 Setting-up

Set the BCM up on a firm base or mount it onto a stand with a 5/8" thread.



Horizontal

Vertikal

1.2 Adjust horizontal

Start adjusting the vial (X) by turning the levelling screws (A) and (B).

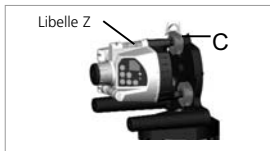
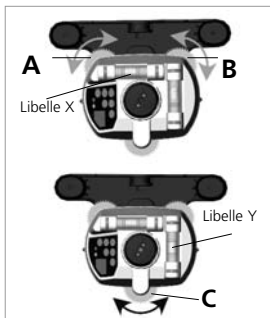
Note

Please look always vertically at the vial in order to avoid reading errors.

Now turn the levelling screw (C) to adjust the vial (Y).

Note

Repeat the whole action, if necessary.



Installing

Setting-up

Adjust horizontal




Adjust vertical

Operation

switch on

2. Operation


2.1 Switch on BCM:

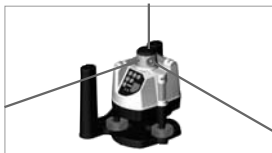
Hold the key  "On/Off" pressed for 1 second, the head of BCM starts rotating, the rotation mode is activated.



Spot mode:

2.2 Spot mode:

The rotation laser sends out a laser beam exactly to the point over a great distance. In order to get into the spot mode reduce the speed by means of  to zero.



Spot mode
Operation

2.2.1 Change position



on rotation laser

  with SensoCommander

Scan mode

2.3 Scan mode:

A light-intensive segment of different breadth and position can be adjusted.



Scan mode
Operation

2.3.1 activate mode





on rotation laser

  with SensoCommander

2.3.2 Change position



on rotation laser

  with SensoCommander

2.3.3 change scan angle

  on rotation laser

  with SensoCommander

Rotation mode

2.4 Rotation mode:

A laser beam rotating around 360° with a speed of up to 200 rpm



Rotation mode
Operation

2.4.1 activate mode



on rotation laser

  with SensoCommander

2.3.2 change speed

⊕ ⊖ on rotation laser

⊕ ⊖ with SensoCommander

Note referring to all modes

The red LED lights up when the limit of a range has been reached (e.g. maximum speed, biggest scan angle).

2.5 Hand receiver mode:

Optimum reception quality by constantly high speed of (maximum speed = 500 rpm).

2.5.1 activate mode

ⓧ on rotation laser

ⓧ with SensoCommander

3. Batteries / external power supply

3.1 Change of batteries

When the red LED is permanently flashing, the battery must be changed. For this purpose pull the lever under the unit slightly downwards. Now the battery compartment can be drawn forwards and the batteries can be changed.



3.2 Connection of an external power supply unit to the rotation laser

When connecting an external power supply unit the batteries will be bridged. It is not possible to charge storage batteries with the power supply unit in the rotation unit.

Note

Batteries should not be exposed to excessive heat, such as sunshine, fire or the like. Moreover, dry batteries must not be charged. Do not throw spent batteries into your household garbage. You can take them to a collecting point for spent batteries or special waste. Please, inform yourself about this at your community. You can deliver batteries with the recycling symbol to the selling shops, sales agencies or technical service stations.

Rotation mode
Operation



Hand receiver
mode
Operation

Power supply

Change of
batteries

external power
supply



Calibration



Calibration X/Y-axis Preparation



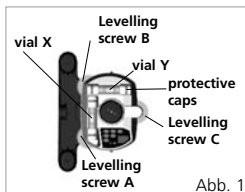
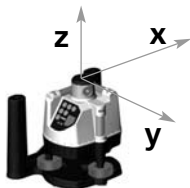
4. Calibration

Note

The BCM is a high-quality rotation laser and is fully adjusted within the tolerance specified at the maker. For reasons of product liability we want to draw your attention to the following: Check regularly the calibration before use after transports and longer storage. Furthermore, we have to point out that an absolute calibration is possible only at a specialized workshop. A calibration performed by you shall be regarded only as an approximation and the accuracy of calibration depends on your care.

4.1 X/Y-axis

4.1.1 Preparation - Align the stand or level

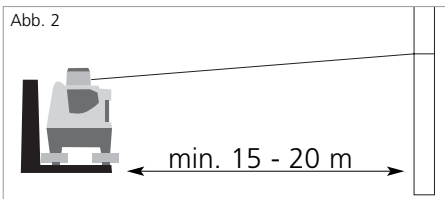


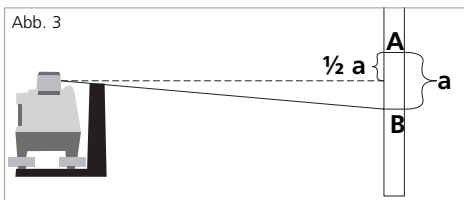
Note

For the purpose of calibration or checking the unit should be placed at a distance of approx. 15-20 m from a target (e.g. wall).

1. Remove the protective caps at the sides of the levels.
2. Turn the levelling screws down until stop.
3. Turn the levelling screws out again by 3 turns. As a help for this mark a point (e.g. with a pencil) on the levelling screws.
4. Set the unit up or screw it onto a stand.
5. Align the surface or the stand in such a way that the levels of the BMC are coarsely adjusted (The air bubble of the level should freely move).

Abb. 2





4.1.2 Checking of calibration - Y axis

1. Take the fine adjustment of vials with the levelling screws.
2. Mark the point A on the target (see Fig. 2).
3. Turn the unit by 180° without readjusting the height.
4. Adjust the levels with the levelling screws.

Note

Mark either levelling screw A or B as a reference screw. Align the unit only with the other levelling screws.

5. Mark point B on the target (see Fig. 3).
When point B is at the same height as point A, then the Y level is accurately calibrated.
Where this is not the case, the unit must be recalibrated.

4.1.3 Calibration - Y axis

1. Put the laser exactly onto the centre between points A and B (distance $\frac{1}{2} a$) with the levelling screws (do not use the reference screw).
2. Calibrate the vial with the calibrating screws (use a SW 2.5 Allen wrench).



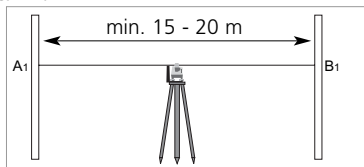
4.1.3 Checking and calibration - X axis

Proceed in the same way as for checking and calibration of the Y axis, but align the laser beam over the X vial.

4.2 Z axis

4.2.1 Calibrate vertical vial

1. Set the unit up horizontally between two targets. (Remove the protective cap at the side of the vial before calibrating)



Checking of
calibration
Y-axis



Calibration
Y-axis

X-axis

Calibration
Z-axis

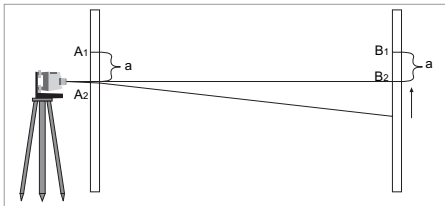


Calibration Z-axis

Note

Make sure in any case beforehand, that the horizontal vials (X and Y vials) have been correctly calibrated.

2. Mark points A1 and B1 on the targets.
3. Set the unit up vertically in the vicinity of target A (e.g. set up a graduated bar).



4. The laser strikes the first target and marks point A2 at the same time.
5. Measure the distance between A1 and A2 (a).
6. Transfer the distance measured (a) to target B.
7. Put the laser with the levelling screw to the height of B2.
8. Calibrate the vial with the calibrating screw (use a SW 2.5 Allen wrench).



TECHNICAL DATA

Subject to
technical
alterations

5. Technical data

Laser

Output power
Wavelength

class 2 (EN 60825-1)
≤ 1 mW horizontal < 0,33 mW vertical
635 nm

Accuracy

Sensor
Beam splitter

± 0,02 % (± 2 mm/10 m)
ground glass level
20°

Functions

Operating mode

spot mode, rotation mode,
hand receiver mode, scan mode

Settings

change of position, speed, sound volume,
angular range, position

Reference beam

vertical

Laser mode

Horizontal plano
Speed of rotation

inclination can be adjusted manually
0, 50, 100, 200 rpm,
500 rpm for receiver

Power supply

Battery service life
Continuous operation

ca. 40 h (4 x 1.5 V of type AA, alkaline)
connection socket for external supply

Other technical data

Working / Storage temperature

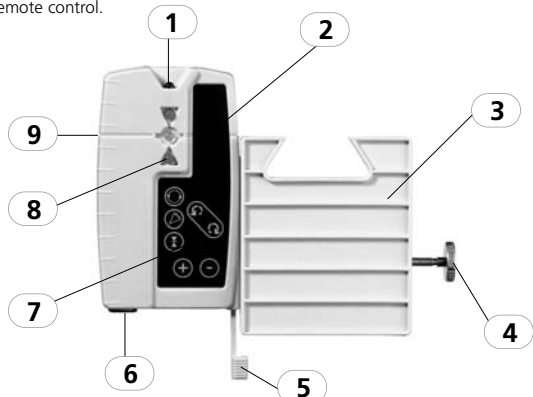
0° C to 50° C / -10° C to 70° C

6. Optional Accessories

Information on our extensive range of accessories can be obtained from your specialist dealer or at www.laserliner.com.

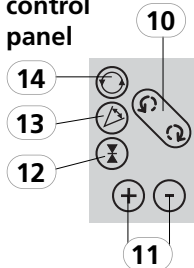
6.1 SensoCommander:

The SensoCommander combines the functions of a laser receiver and a remote control.



1. IR signal output
2. laser beam reception field
3. universal holding device
4. fastening screw
5. locking lever
6. battery cover
7. control panel
8. LEDs
9. marking groove
10. position
11. speed, sound volume, angular range
12. hand receiver mode
13. scan mode
14. rotation mode

control panel



Accessories

Senso-
Commander

Operation
Senso-
Commander







6.1.1 Using the SensorCommander as a laser receiver

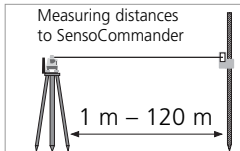
Activation of the laser receiver mode:

① Switch on the laser receiver mode. In order to ensure that the mode is also activated on the BCM, direct the IR transmitting diode of the SensoCommander at the BCM. Activation is indicated by lighting of LED red/green and a signal sound on the SensoCommander.


Sound volume

⊕ + ⊖ Sound volume control

-  3 LED's - max
-  2 LED's - med
-  1 LED - min
-  only middle LED - sound off



Working with the SensoCommander

 Hold the laser receiver with the reception field at the height of the rotating laser beam. By means of LEDs and sound signals you will now find the exact height of the laser level:

Top LED lights

Move SensoCommander downwards

Bottom LED lights

Move SensoCommander upwards

Middle LED yellow

Move SensoCommander slowly upwards or downwards, respectively, until the middle LED gives off green light

Middle LED green

SensoCommander exactly at laser level

Note:

When the middle LED gives off orange light, you are already within a 5 mm range round the laser level (free-hand measuring). You will achieve a more accurate result (fine measuring), when the SensoCommander is fixed (e.g. onto a levelling staff). Then the green LED shows the exact centre.

Change of batteries:

Turn the turning knob on the bottom side and loosen it. Change batteries.



Typ AAA



Change of
batteries:

Special features of SensoCommander

By means of the universal holding device the SensoCommander can be fixed onto a levelling staff (e.g. flexible levelling staff).



Through the integrated magnet the SensoCommander can also be used as an electronic target plate, e.g. in acoustic ceiling construction and when setting up and adapting metal and storage shelves.



Special features of Senso-Commander

6.2 Laser enhancement glasses

Increases visibility of the laser beam when working over long distances in unfavourable light conditions.

Laser enhancement glasses

6.3 Flexi Levelling Staff 2.4 m

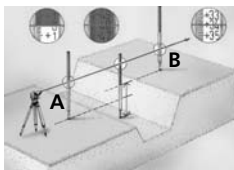
With the flexi levelling staff, you can easily measure height differences.



1. Adjust zero at point A on the flexi levelling staff to the height of the laser.



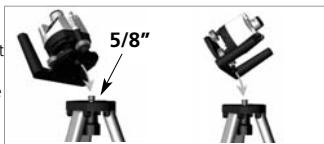
2. You can now read off the height difference between Point A and B directly on the flexi levelling staff.



Flexi Levelling Staff

6.4 Tripod

When setting up the tripod, make sure that the feet are set firmly and at equal distance on the ground (on soft ground, push the feet in slightly). The height can be adjusted by releasing the catches and extending the legs.



Horizontal

Vertical

Tripod



LASERSTRAHLUNG
NICHT IN DEN
STRAHL BLICKEN!
LASER KLASSE 2
EN 60825-1:2001



D

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