

Operating Instructions



LINER 5.2

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1.1 For your safety

Documentation



Please familiarise yourself with these operating instructions and the safety information provided before you start to work with the **X-Liner 5.2**.

The safety information is based on the current standards EN 60825-1:2007 and IEC/TR 60825-14:2004. Observing these instructions and information ensures safe working.

Laser radiation

The **X-Liner 5.2** conforms to EN 60825-1:2007 (VDE 087 Part 1).



2M



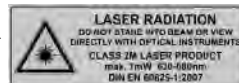
LASER RADIATION
NEVER LOOK INTO THE BEAM
OR VIEW IT DIRECTLY WITH
OPTICAL EQUIPMENT
LASER CLASS 2M

EN 60825-1:2007
P ≤ 1mW
λ: 630-680 nm

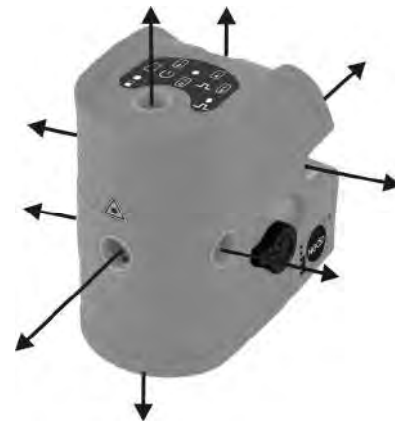


Warning signs

Never remove the warning signs on the unit.



Laser exit openings



1.2 Proper use

Use

The **X-Liner 5.2** is suitable for marking heights, for aligning, plumbing, levelling and for carrying out similar work. The unit is designed for indoor use.

Repair

Repairs may only be carried out by NEDO or an authorised customer service agent. Never open the unit, doing so cancels the warranty.

Careful handling

The **X-Liner 5.2** is a sensitive, high-precision instrument and should therefore be handled with appropriate care.

1.3 Environment

Disposal



Dispose of the unit in accordance with the applicable materials recycling regulations.

Batteries/rechargeable batteries

Batteries/rechargeable batteries are hazardous waste and may not be put into domestic waste. They must be properly disposed of according to the respective national guidelines.

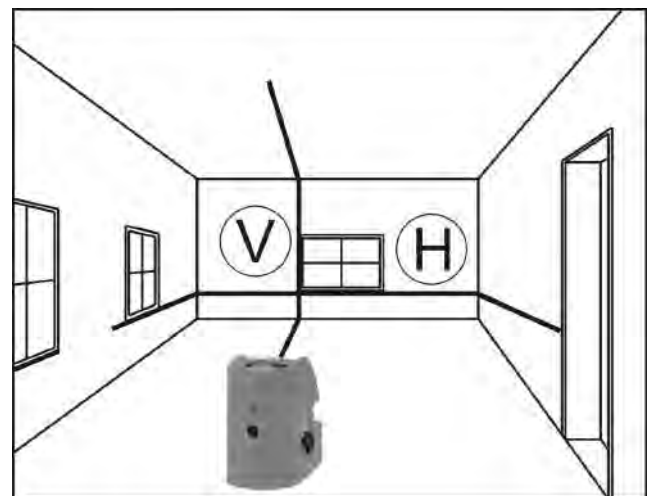


1. Transport bag
2. X-Liner 5.2
3. Laser target board
4. Batteries
5. Multifunctional mounting
6. Operating Instructions

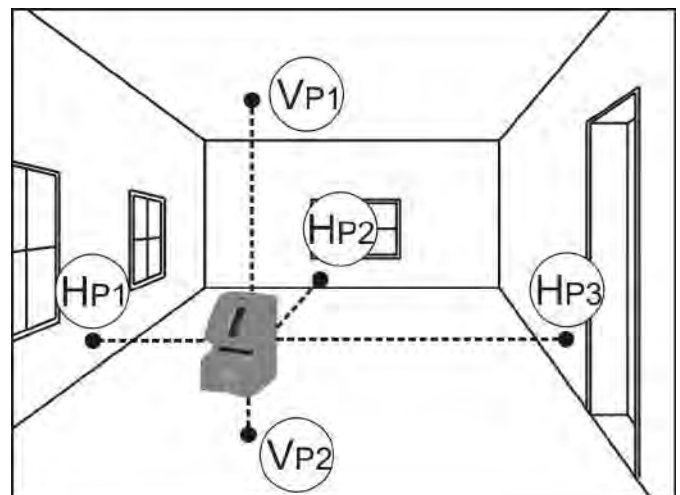
3 Technical Features

3.1 How it works

On the one side the **X-Liner 5.2** projects a horizontal (H) and a vertical (V) laser line, which cross in front of the unit.

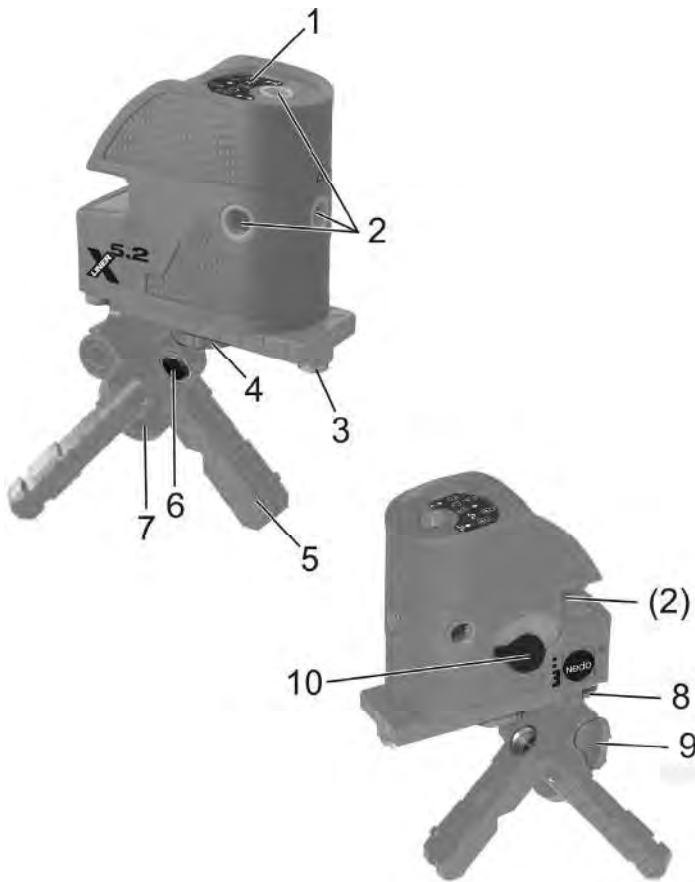


On the other side the **X-Liner 5.2** projects 3 laser dots horizontally (HP₁ – HP₃), offset at 90° to each other and 2 laser dots vertically (VP₁ and VP₂).








The **X-Liner 5.2** is equipped with a pendulum for self-levelling and levels out tilted positioning of the unit by up to 4° in each direction.

4.1 Overview

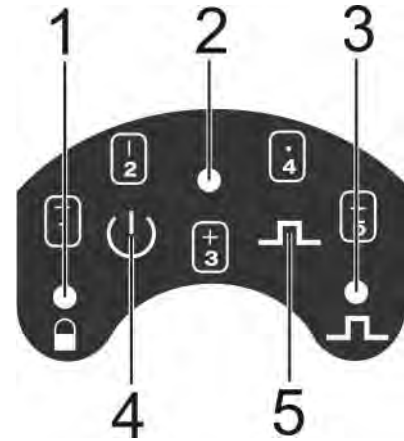


1. Control panel
2. Laser exit window
3. BSW 5/8" adapter for multifunctional mounting
4. Clamping screw with BSW 1/4" thread
5. Swing-out feet
6. BSW 5/8" – thread
7. Magnet, for fixing to steel elements
8. Clamping screw for vertical tilt setting
9. Clamping screw for horizontal tilt setting
10. Pendulum locking device

Pendulum locking device	
1	 <p>Position 1</p> <p>The pendulum locking device is locked. The self-levelling is disabled, the LED (1) on the keypad lights up if the laser beam is switched on.</p> 
1	 <p>Position 2</p> <p>The pendulum locking device is unlocked. The self-levelling is enabled, the LED (1) on the keypad does not light up.</p> 



Keypad	
1	Pendulum locking device LED display Lights up if the pendulum locking device is locked.
2	Laser beam LED display Lights up green if a laser beam is switched on; flashes if the battery charge is weak.
3	Pulse mode LED display Lights up if Pulse mode is activated.
4	ON/OFF button Switches the laser beam on and on/off in the relevant order: Press 1x: Switch on unit, Horizontal laser beam (H) Press 2x: Vertical laser beam (V) Press 3x: Horizontal (H) and vertical (V) laser beam Press 4x: Laser dots Press 5x: Horizontal laser beam (H), Vertical laser beam (V) and laser dots To switch the unit back off again, press the ON/OFF button for longer than 3 secs.
5	PULS button Switches the laser to PULS mode for use of a laser receiver.



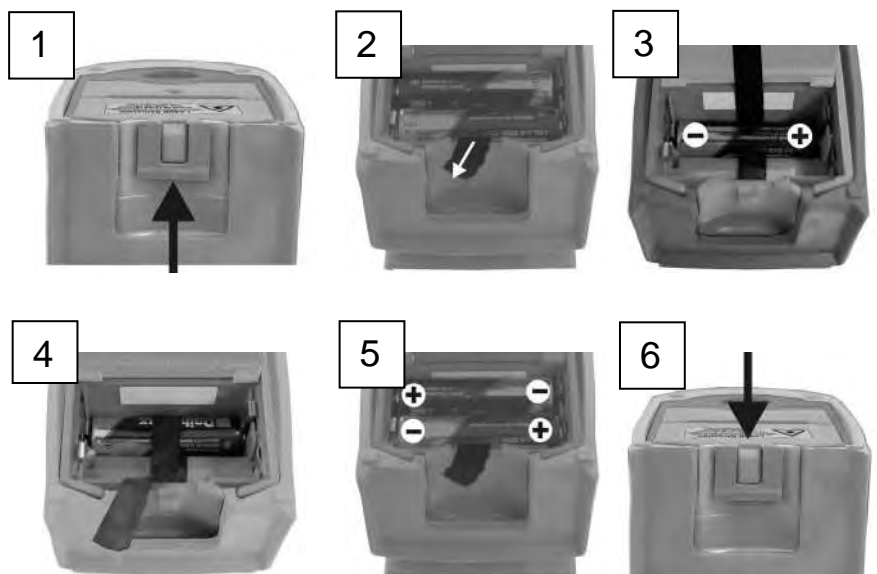
5 Power Supply

When starting up the *X-Liner 5.2* for the first time, install the batteries (3) supplied, as shown in the battery compartment.

Insert /replace batteries



The *X-Liner 5.2* requires 3 batteries, 1.5 V (AA).

- Lever the clip of the battery compartment flap to the outside, unlock and open the battery compartment.
- Release and remove the batteries by pulling on the battery tape.
- Insert the batteries, ensuring that the battery tape is once again positioned under the batteries. Note the polarity.
- To close the cover, push it down.



If the battery charge is weak, the LED display (2, Fig. top) begins to flash.
If the batteries are too weak the laser switches off.

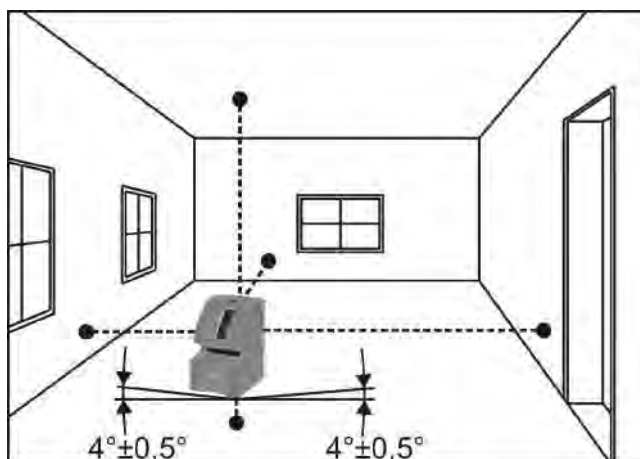
6.1 Starting up the unit

- Set up or fix the unit according to the intended use. Ensure the levelling range of $\pm 4^\circ$ is not exceeded.
- Lock the pendulum locking device for use **without self-levelling**. To do this, push the **unit switch into position 1**  and use the **ON/OFF** button to switch on the unit.
- Release the pendulum locking device for use **with self-levelling**. To do this, push the **unit switch into position 2**  and switch on the unit with the **ON/OFF** button. If the laser lines flash, the **X-Liner 5.2** is outside the self-levelling range.
- If you have finished working with the unit, lock the pendulum locking device and use the **ON/OFF** button (press for 3 secs.) to switch off the unit.

6.2 Self-levelling

The **X-Liner 5.2** has a self-levelling feature. If the unit is placed in a slanted position of up to 4° in any direction, the laser beams are plumb and horizontal.

If the 4° range is exceeded or the pendulum locking device is locked, the projected laser line flashes.



7 Technical Specifications

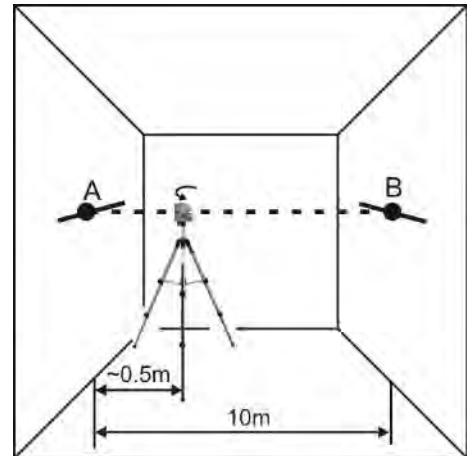
Type	X-Liner 5.2
Ref.-No.	460 872
Laser configuration	2 lines: 1 horizontal, 1 vertical, together 1 cross (H/V) 5 dots: right, left, front, top, bottom
Accuracy	Laser lines: ± 0.3 mm/m Laser dots: ± 0.4 mm/m
Damping	Magnetic
Thread	BSW 1/4" and BSW 5/8" on the multi-functional base
Working range	\varnothing 60 m
Wavelength	630 - 680 nm
Laser class	2M
Output	< 1 mW
Self-levelling range	$\pm 4^\circ$
IP protection class	IP54
Power supply	Batteries: 3 x 1.5 V (AA)
Battery life	approx 15 h
Operating temperature	-5 °C to +40 °C
Storage temperature	-20 °C to +70 °C
Dimensions	L 120 mm / W 69 mm / H 116 mm
Weight	0.510 kg

We reserve the right to make technical changes.

The accuracy of the laser beam should be checked regularly. This requires a free measuring length of 10 m. The check is carried out in two steps.

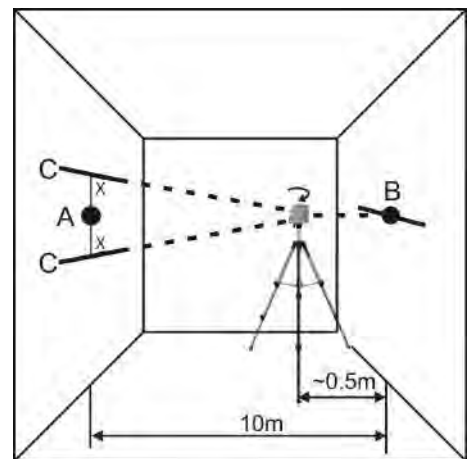
Step 1

- Position the **X-Liner 5.2** as shown in the figure to the right.
- Switch on the horizontal beam at the **X-Liner 5.2**.
- Mark point **A** on the laser line.
- Rotate the **X-Liner 5.2** through 180° and mark point **B** on the laser line.



Step 2

- Position the **X-Liner 5.2** opposite as shown in the figure to the right.
- Align the **X-Liner 5.2** with marking **B**.
- Rotate the **X-Liner 5.2** through 180°.
- Measure the plumb distance **H** between marking **A** and laser line **C***.
- If the measured distance **H** between marking **A** and laser line **C*** < 6 mm, the **X-Liner 5.2** is within the tolerance range.



* The laser line **C** can be both above or under marking **A**.

Note: If the plumb distance **H** measured between marking **A** and laser line **C** is outside the tolerance range, the **X-Liner 5.2** must be checked by an authorised customer service or by NEDO.

9 Troubleshooting

Note:

If the errors cannot be rectified using one of the listed remedies, the **X-Liner 5.2** must be examined by an authorised customer service agent or by NEDO.

Error	Cause	Remedy
No horizontal laser line is projected after pressing the unit switch.	No power supply	Insert batteries
	Inadequate power supply	Replace batteries
The laser line flashes after pressing the unit switch in position 1.	Unit outside the self-levelling range.	Realign the X-Liner 5.2 within the self-levelling range of $\pm 4^\circ$.