

### Consists of:

- Laser spirit level, mod. 81110
- Nivelling base
- Tripod
- 90° deflector
- Line projector
- 2 batteries „Micro“ 1,5 V (AAA)

The attached glasses are useful for better visibility of the laser-beam at unfavourable lighting conditions and for long-distance jobs.  
 (No safety-goggles!)

### Working principle

The base is adjusted by means of three screws and a built-in spirit-level, so that it is horizontal. When the Laser Spirit Level is attached and rotated through 360°, the laser point always remains horizontal.  
 The tripod supplied allows the laser-point to be easily set to the required height. The angle markings on the base allow the level to be set at the required angle.

### Safety Warning

Never look into the laser-beam or opening. We recommend you always wear special laser protection goggles when working with the device.

### Switching on

Turn on the laser-beam by turning the knob above the laser outlet. Turn the other way to switch off.

### Changing the batteries

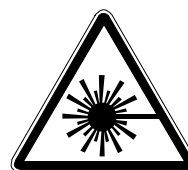
To change the batteries, unscrew the cover above the laser outlet behind the knob and insert two size AAA batteries as shown on the housing of the laser unit.

### Assembly and adjustment

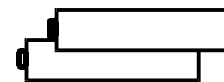
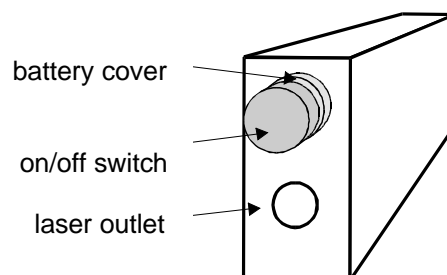
Open up the tripod and position it on firm ground that is as near level as possible. The tripod legs are individually adjustable to compensate for irregularities. Please observe the spirit level mounted in the nivelling base for setting-up.

### Specifications

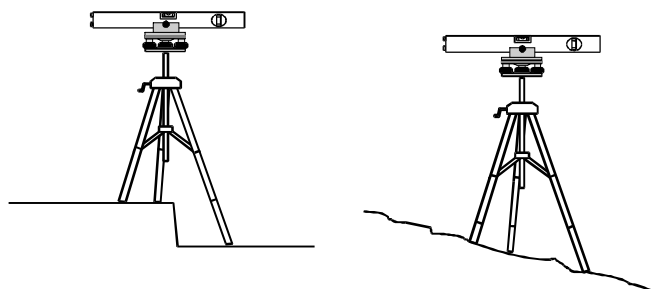
Laser category 2	
Length of the spirit level	40 cm
Accuracy	± 0,5 mm/m
Range	~ 30 m
Tripod height	43 – 118 cm
Output	≤ 1 mW
Wavelength	650 nm
Power supply	2 x 1,5V AAA



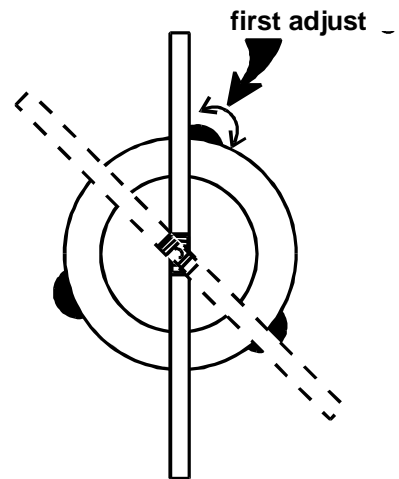
**Laser beam**  
**Do not look into the beam!**  
**Laser category 2**



2x Micro 1,5V (AAA)



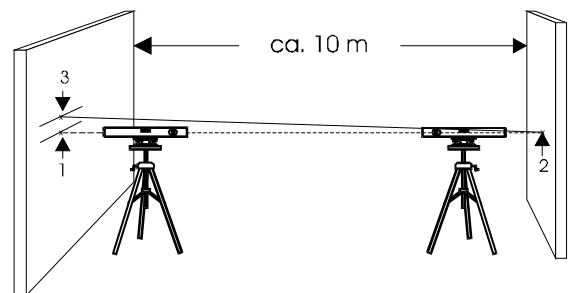
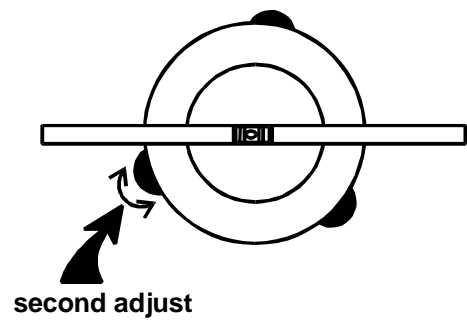
Attach the base to the tripod and screw it tight. Place the spirit-level on the base and clamp it tight. Adjust one of the levelling screws until the spirit-level is horizontal in this position, i.e. the bubble is exactly centered in the marking on top. Loosen the locking-screw of the base, so that the level can be rotated. Rotate the level through 90° on the base and use one of the other adjusting-screws to level it again. When the level is returned to its starting-position, it may be necessary to make a fine-adjustment.



2. turn through 90°

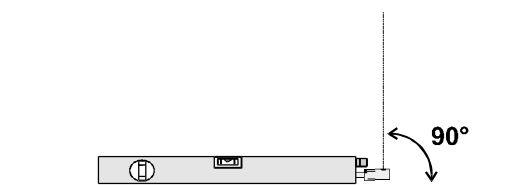
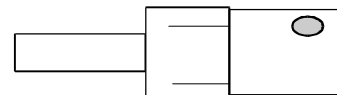
### Checking accuracy

Position the spirit level close to a wall and adjust, as described above. Point the laser-beam at the near wall and mark the position of the spot (1). Rotate the level through 180° and mark the position of the spot on the opposite wall (2). Now position the spirit-level close to the second wall and set the tripod-height so that the laser-spot exactly coincides with the mark (2) on that wall. Rotate the spirit level again through 180°. The new spot (3) should now cover the mark (1) on the first wall or should not deviate by more than 5 mm, assuming the two walls are 10 m apart.



### 90° deflector

Insert the deflector in the laser beam outlet (with the unit turned „off“) to deflect the beam through 90°. This provides an exact perpendicular to the normal beam. Ensure the spirit level is not moved when you turn the deflector.



## Line projector

Instead of projecting a single spot onto the opposite wall, you may project a line by attaching the line projector in the laser beam outlet. This is useful if you want to mark a series of drill-holes for cupboards or align pictures, for example. (Note that the line projector has a lower light-intensity than the spot)

## 2 years warranty

The warranty-period begins at the date of purchase. Please include your original receipt when sending the unit for repair. During the warranty period, the following points are covered:

- no charge for remedy of defects
- no charge for replacement of faulty parts
- including free qualified engineer service (i.e. repair by qualified technicians)

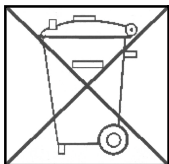
This is subject to the proviso that the damage has not been caused by improper use of the unit.

If you have any queries, please contact the manufacturer:

Brüder Mannesmann Werkzeuge GmbH & Co.  
 Repairs department  
 Lempstr. 24

42859 Remscheid

telephone: 0049- (0)2191- 37 14 71  
 telefax: 0049- (0)2191- 38 64 77



**NOTE: Spent batteries must not be disposed of in household garbage but are to be disposed of in accordance with local regulations through dedicated collection sites.**

