

Shielded lamps and connection cables

A step to health living and working

■ Why shielding against electric and magnetic fields?

Electric and magnetic fields occur everywhere. Their causes are both natural and artificial. Artificially generated fields in particular are becoming increasingly important.

The use of electrical and electronic devices in the living and working environment is constantly increasing.

The influence of artificially generated fields on the human organism has not yet been conclusively researched, but there is increasing note that people react sensitively to exposure to electric and/or magnetic fields.

Electric fields are basically caused by every electric line, even if a connected device is not switched on. This field can be almost completely eliminated without having to sacrifice comfort by using shielded components.

Magnetic fields only occur when a device / lamp is also switched on and thus a current flows. Magnetic fields can also be significantly reduced by the appropriate design of a lamp.



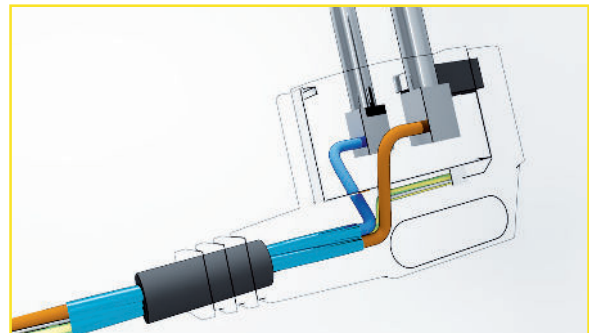
■ Practical construction of shielded lamps

Our shielded lamps basically consist of a three-pole connecting cable (except ceiling lamps), a metal lamp housing of protection class I and a shielding basket for the light source.

While conventional mains cables are usually designed with two poles and a Euro plug, our cables have three poles (with a protective conductor, thus increasing safety) and are equipped with a metallic sheathing of the cores as a shield.

Our lamps have a metallic housing (or inner housing in the case of lamps made of wood) which, unlike other materials such as plastic or wood, also shields against the alternating electric field.

Lamp socket and light source (according to building biology recommendations) were integrated into the shielded system by means of a shielding basket, as considerable alternating electric fields can be measured here as well without shielding.



Shielding effect in comparison

An unshielded lamp (protection class 2) with an unshielded connecting cable produces an alternating electric field of 100.0 to 160.0 V/m (building biology recommended guide value 10.0 V/m). The shielded lamp (protection class 1) with appropriate construction produces only an alternating electric field of a minimum of 0.4 to 0.6 V/m.

The shielding is checked according to the specifications, frequency bands and measuring distances of the recognised screen standards (for low-radiation screens / monitors):

TCO'99, Band I (MPR II) and DIN EN 50279 (measuring distance 30 cm).

What else can you do?

- Only use shielded connection cables and socket strips for your other devices!
- Never leave appliances switched on or in stand-by mode for longer than necessary. Always disconnect the appropriate mains plug or switch off two-pole.
- Avoid electrical appliances in your bedrooms and living rooms or place them as far away from you as possible.

Allgemein nützliche Hinweise rund um das Thema „Elektrosmog“ finden Sie im Internet unter:

www.verband-baubiologie.de
www.baubiologie.net
www.baubiologie.de

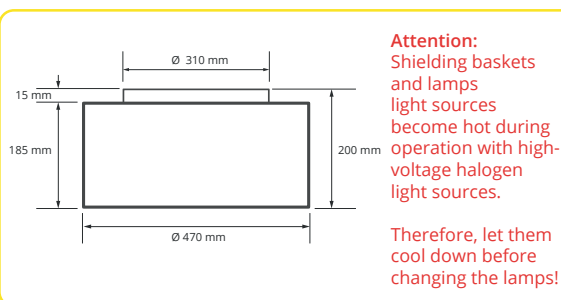
Alle Produktinformationen zu geschirmten Kabeln, Anschlussleitungen, Steckdosenleisten und Lampensystemen finden Sie unter www.biologadanell.com.

Ceiling lamp - Operating instructions

LA-DL47 - 41-9084- 400310

Parts list

A  1 x Fitting	B  1 x Cover	C  1 x Lampshade	D  1 x Lamp base	E  3 x Dowel Ø 6 mm	F  3 x Screw Ø 4,5 mm x 40 mm
G  1 x Washer M10 x Ø 40 mm	H  2 x Washer M10 x Ø 20 mm	K  2 x Toothed lock washer M10	L  2 x Nut M10 x 4 mm	M  6 x LED light source LM-LED-G9 5,5 Watt	



Commissioning

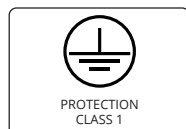
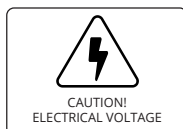
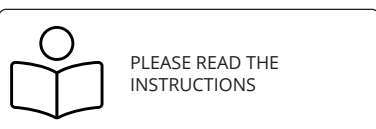
1. remove the transport lock. Separate the fitting (A) from the canopy (B). The nut is still needed! (see below fig. 1)
2. check accessories
3. mount light fitting (A) on ceiling
4. electrical connection
 - ON/OFF switch (all light sources)
 - SERIES switch (group switching)
5. insert light source LED-G9 (M)
6. fitting the light shade (B) and the lampshade (C)
7. Function test by switching the lamp on and off
8. Insert lamp base (D)

Slight leaning of the lampshade can be remedied by carefully bending the wire frame.

Safety instructions

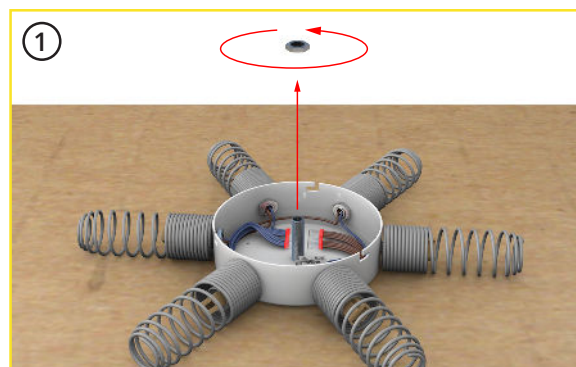
All electrical work (work on electrical equipment and installations) must be carried out and inspected by a qualified electrician or under their direction and supervision!

Use your lamp only in normally tempered, dry indoor rooms. No outdoor use!



Removing the transport lock

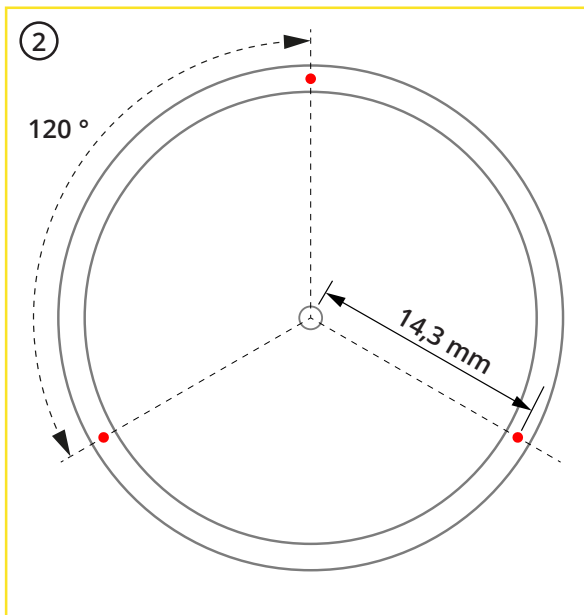
1. Add the nut to the accessories. This is still needed!



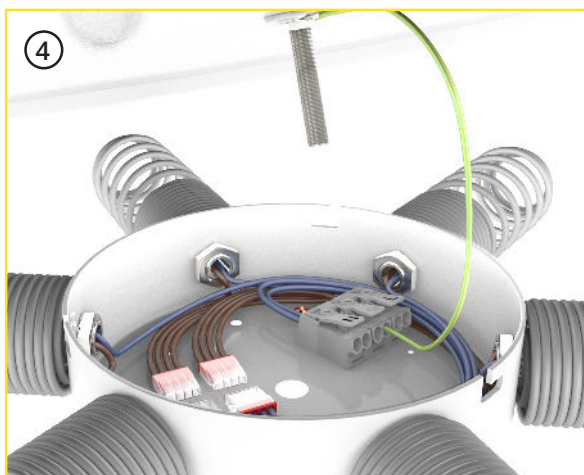
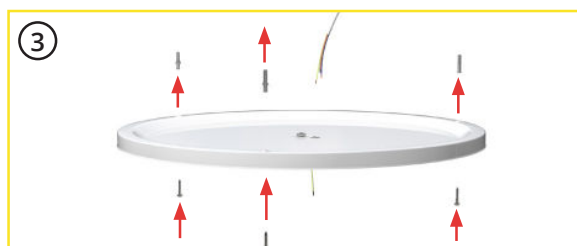
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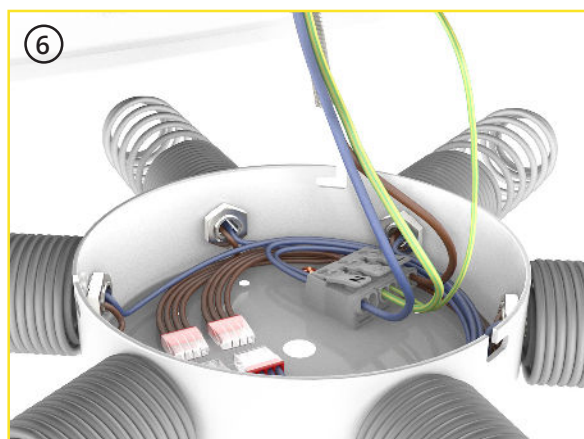
■ Installation



1. mark the three holes on the ceiling or wall using the ceiling fitting. (see fig. 2 + 3)
2. Drill the holes with a 6 mm drill bit
3. Insert the dowels supplied into the drilled holes.
4. Pull the connection cable through the pre-mounted rubber grommet provided for this purpose.
5. Screw the ceiling canopy in place using the screws provided. (see fig. 3)



6. Insert the end of the grounding conductor from the ceiling fitting into the grounding clamp of the cover. (see fig. 4 + 5)



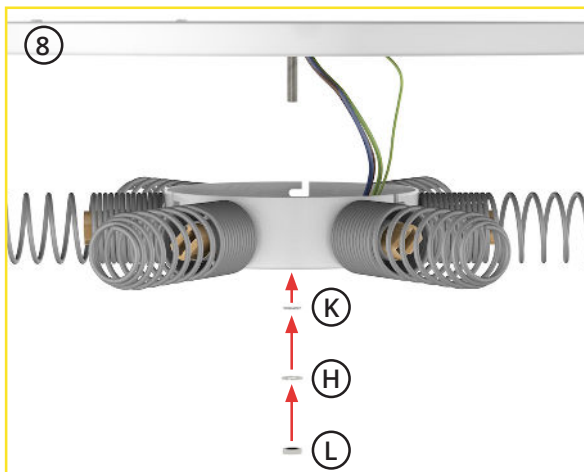
7. Connect the electrical supply cable to the cover terminal. (see fig. 6 + 7)



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■ Installation



8. Now attach the light shade to the fitting.
(see fig. 8 + 9)

9. Using the toothed lock washer (K), the washer (H) and the nut (L) supplied, screw the ceiling canopy until it lies flat on the fitting. (see fig. 9)



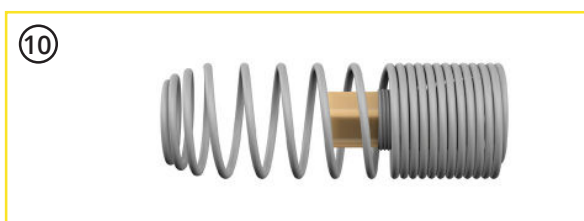
Inserting and changing the light sources (cf. fig. 10 - 14)

Attention, important note:

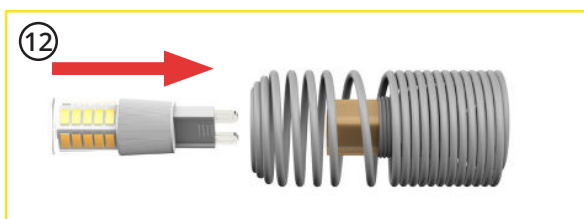
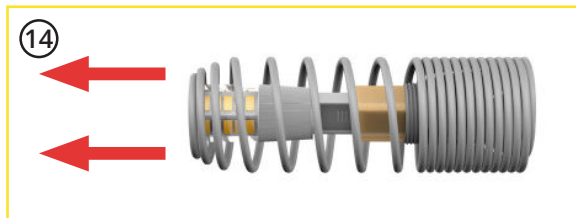
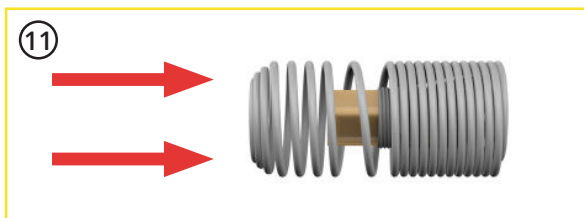
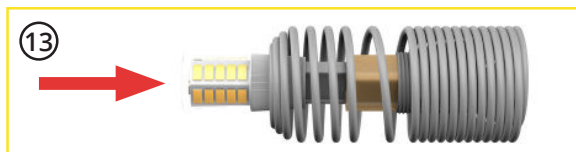
Before working on the lamp, always switch off the fuse and secure it against being switched on again! In case of changing the G9 high-voltage halogen light source, also allow the light source to cool down!

1. press shielding basket down from above
2. remove the defective light source and insert the new one. Let the shielding basket slowly escape upwards under its own power.

When using a high-voltage or LED light source of type G9, maximum power 20 W!



10. now insert the light sources. (see fig. 10 - 14)



Changing the light sources

When changing the light source, proceed in a different order to remove the defective light source. Fig. 11, Fig. 12 (pull out the light source), Fig. 13, Fig. 14.

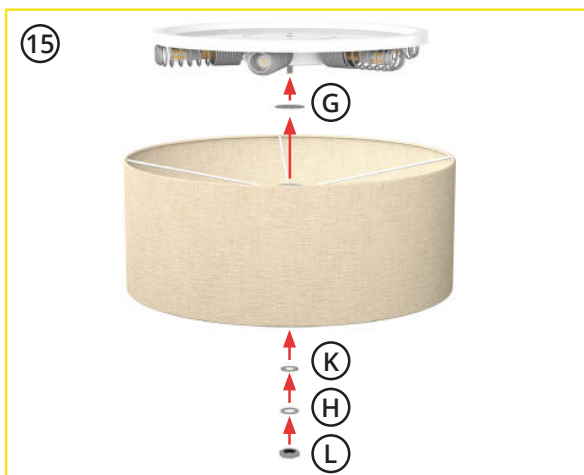
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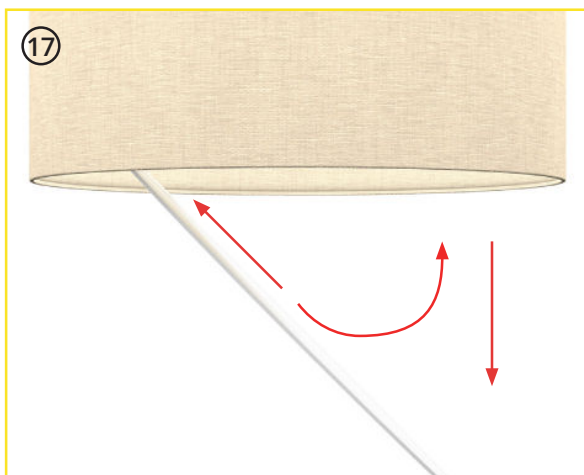
■ Installation

Function test

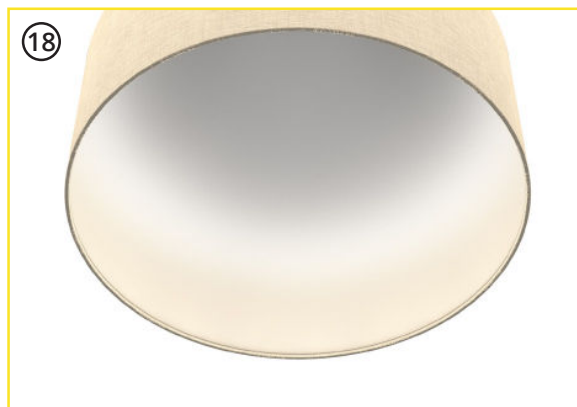
Switch the lamp on and off again to check its function.



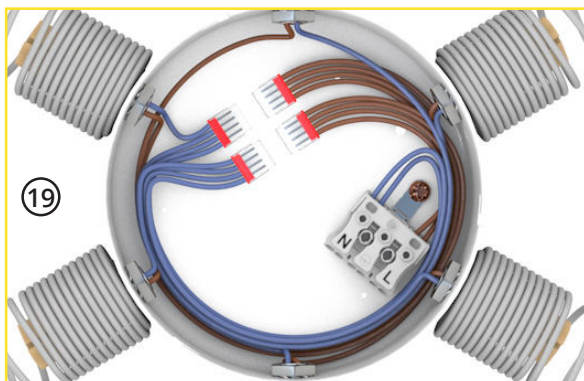
11. take the lampshade and screw it to the ceiling fitting with the large washer (G), the toothed washer (K), the washer (H) and the nut (L). (see fig. 15 + 16)



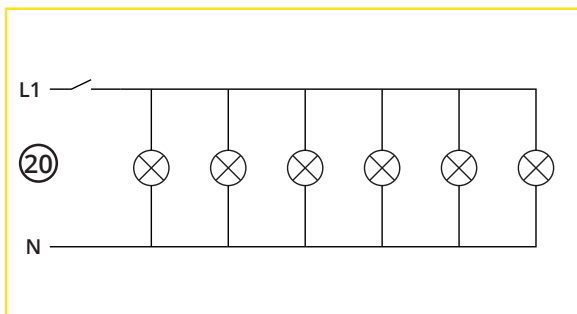
12. place the base of the lamp in the lampshade. (see fig. 17 + 18)



■ Wiring diagram ON/OFF circuit



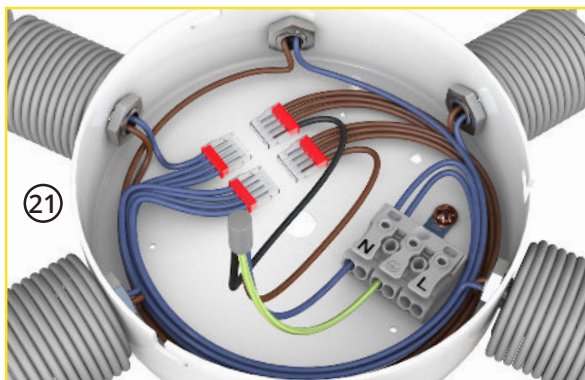
13. ON-OFF switch - all light sources. (see fig. 19 + 20)



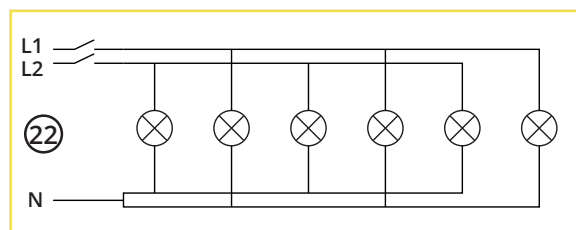
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■ Wiring diagram series connection



14. Light sources in two groups. Remove the two brown wires from the back of the terminal and connect the two lamp wires of the series circuit directly to the small connection clamp terminals. (see fig. 21 + 22)



■ Further lamps matching the shielded Biologa Danell ceiling lamp LA-DL47



Table lamp beech wood - LA-TN - 41-6485

- Table lamp made from sustainable raw material: beech wood
- waxed dirt-repellent surface, can be cleaned with a damp cloth
- shielded from light source to mains plug
- visually, ecologically and naturally designed beech wood lamp with natural coloured shade.

The inner reflector of the lampshade of this lamp is made of paper cardboard. The surface of the shade consists of natural cotton (nettle fabric). We manufacture the lamps in Germany.

This makes it possible to replace individual parts, such as the mains cable or the lampshade, even after many years.

Shielding effect in comparison (applies to all Biologa Danell lamps):

An unshielded lamp (protection class 2) with an unshielded connecting cable produces an alternating electric field of **100.0 to 160.0 V/m** (building biology recommended guide value 10.0 V/m).

The shielded lamp (protection class 1) with a corresponding construction only produces an alternating electric field of a minimum of **0.4 to 0.6 V/m**.

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