Building Biology Products
and services

Shielded lamps and connection cables

A step to healthy living and working

Why shielding against electric and magnetic fields?

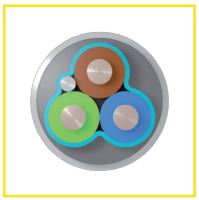
Electric and magnetic fields occur everywhere. Their origin can be both natural and artificial. Artificially generated fields in particular are becoming more and more important.

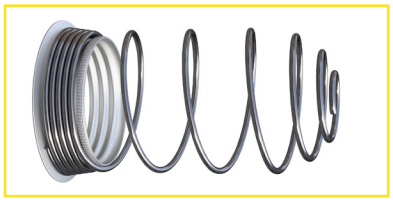
The use of electrical and electronic devices in the living and working environment is constantly increasing.

The influence of artificially generated fields on the human organism has not yet been conclusively researched, but there is increasing knowledge that people react sensitive 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.





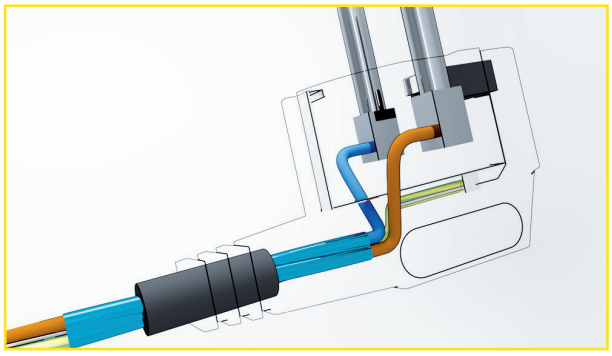
Practical construction of shielded lamps

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 to standard 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 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 to reduce electromagnetic radiation?

- 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.

All product information on shielded cables, connecting cables, socket strips and lamp systems can be found under

www.biologadanell.com.

Further information at www.biologadanell.com

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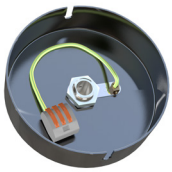
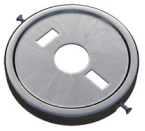
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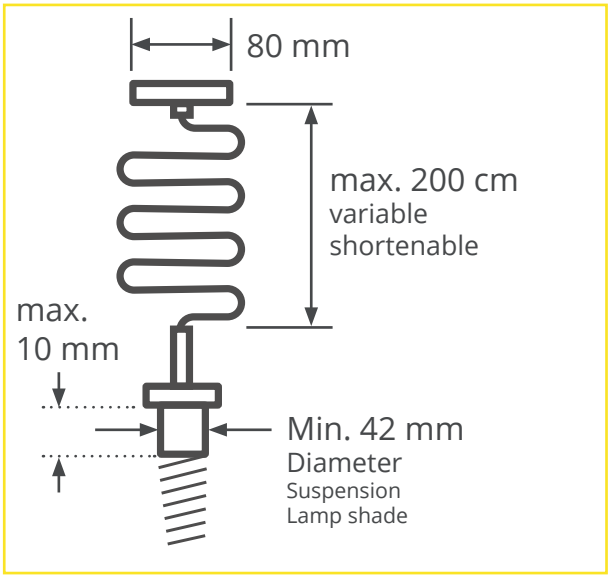
Building Biology Products
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Pendulum set - Operating instructions

LA-ES-PEN - 41-7600- 730232

Parts list

A  1 x Pendulum incl. cable	B   1 x Ceiling cover + 1 x Luminaire terminal		D  2 x Luminaire connectors	E  2 x Dowel Ø 6 mm	F  2 x Screw Ø 4,5 mm x 40 mm
G  1 x Shielding basket E27	H  1 x Retaining ring shade	K  1 x Ceiling panel base plate	L  1 x E27 Adapter	M  1 x LED Light source LM-LED-G9 5,5 Watt	Onlineversion



Assembly

1. Check accessories
2. Mount base plate on ceiling (K)
3. Cut cables to length (A)
4. electrical connection (B, D)
5. Mounting the ceiling cover (B)
6. Fitting the lampshade (H)
7. Insert light source LED-G9 (L, M)
8. Mounting the shielding basket (G)
9. Function test by switching the lamp on and off

PLEASE NOTE:
FOR LED LIGHTS ONLY
SUITABLE FOR UP TO 10 W!


PLEASE READ THE INSTRUCTIONS

MAX. 10 W
LED
LIGHT SOURCE


IP 20
NOT WATER PROTECTED


CAUTION!
ELECTRICAL VOLTAGE


USE IN DRY ROOMS


PROTECTION
CLASS 1

Safety instructions

All electrical work (work on electrical devices and systems) must be carried out and checked by a qualified electrician or under their direction and supervision!

1. Disconnect
2. Secure against being switched on again
3. Check that no voltage is present
4. Grounding and short-circuiting
5. Cover or isolate adjacent live parts.

Use your lamp only in normally tempered, dry indoor rooms. Do not use outdoors!

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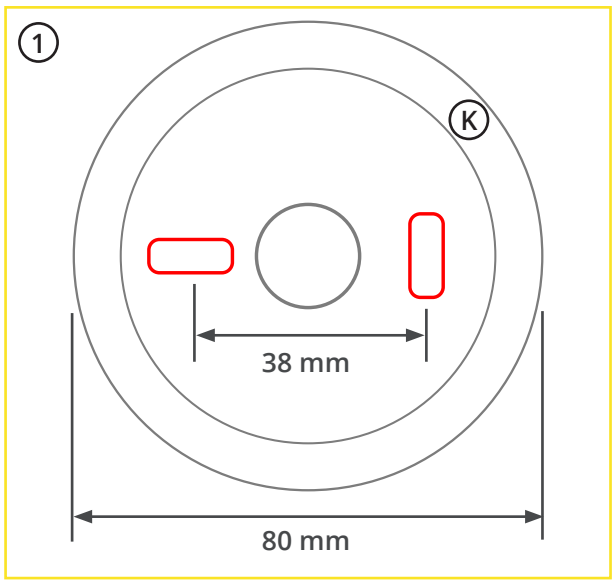
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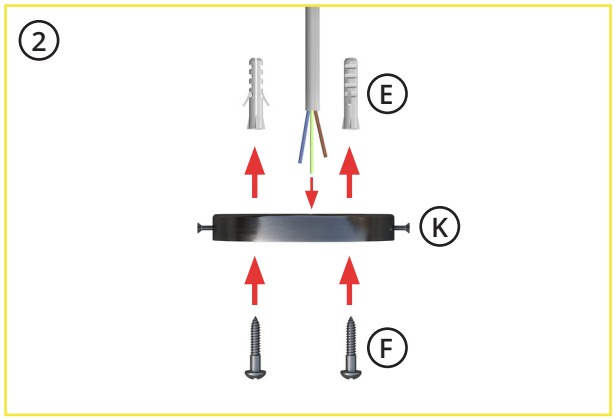
Further information at www.biologadanell.com

Pendulum set - Operating instructions

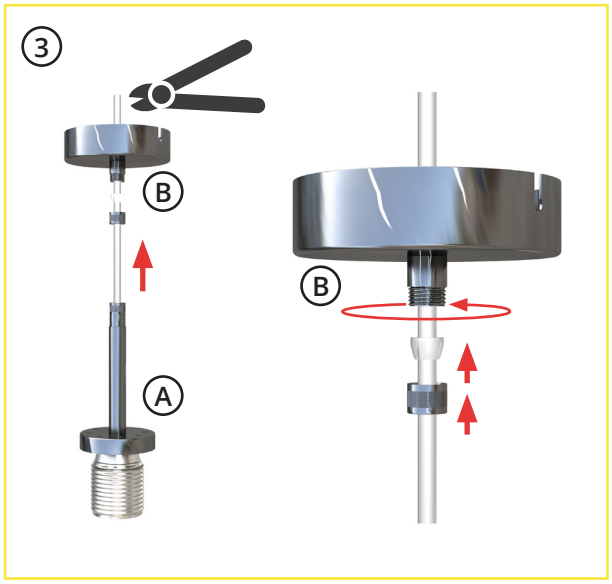
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Installation

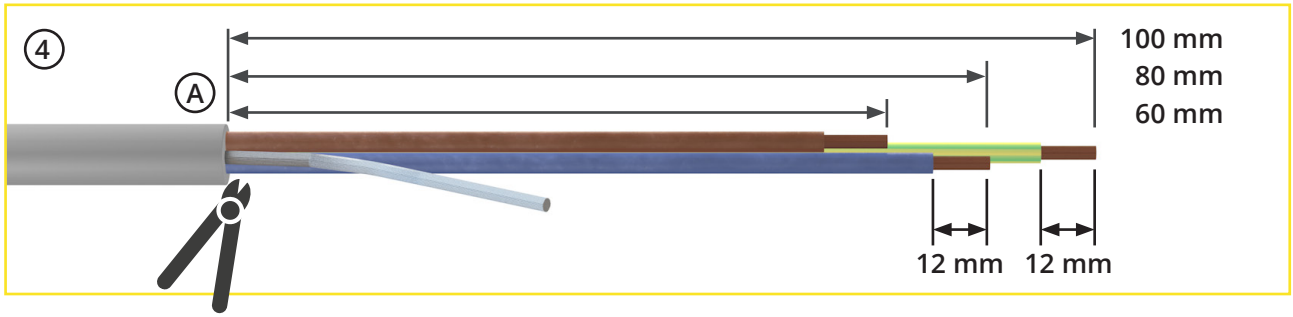




1. Mark the two slotted holes on the ceiling using the ceiling base plate **(See fig. 1 + 2)**
2. Drill the holes with a 6 mm drill bit
3. Insert the dowels supplied into the drilled holes **(See fig. 2)**
4. Pull the ceiling's lamp connection cable through the central round opening provided for this purpose **(See fig. 2)**
5. Mount the ceiling base plate in place using the screws provided **(See fig. 2)**



6. Pull the cable through the ceiling cover and the tension load **(See fig. 3)**
7. Measure the height of the suspension and cut the cable plus approx. 15 cm. **(See fig. 3)**
8. First strip approx. 100 mm of insulation from the cable sheath. Cut the individual wires to size and then strip the insulation from the individual wires by approx. 12 mm.
Note: The shield of the cable is connected in the pendant set. To prevent loops, the shield wire is <u>not</u> connected to the luminaire terminal.
This can be isolated or cut off. **(See fig. 4)**

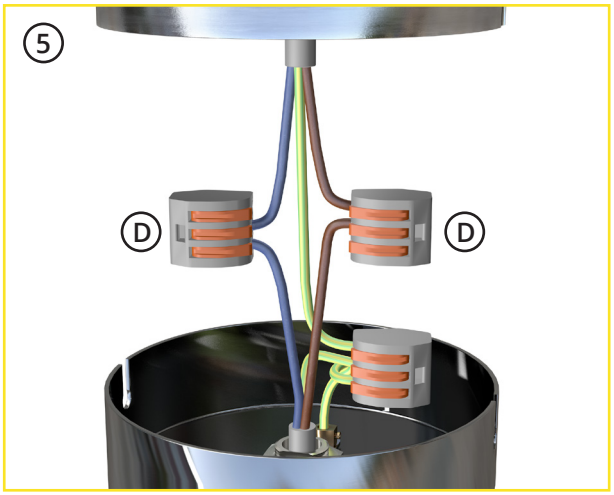


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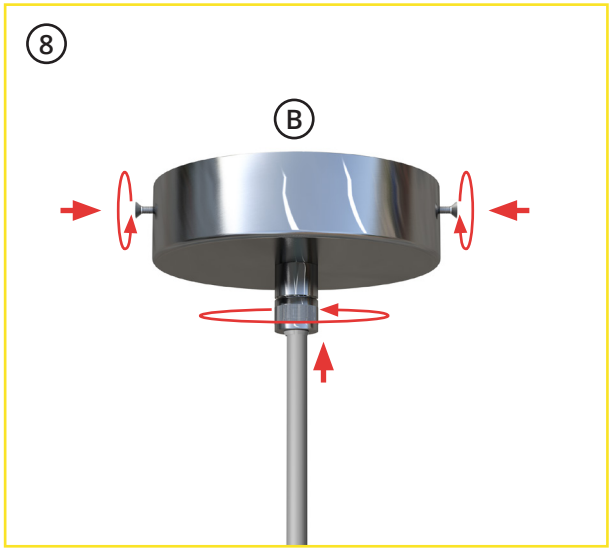


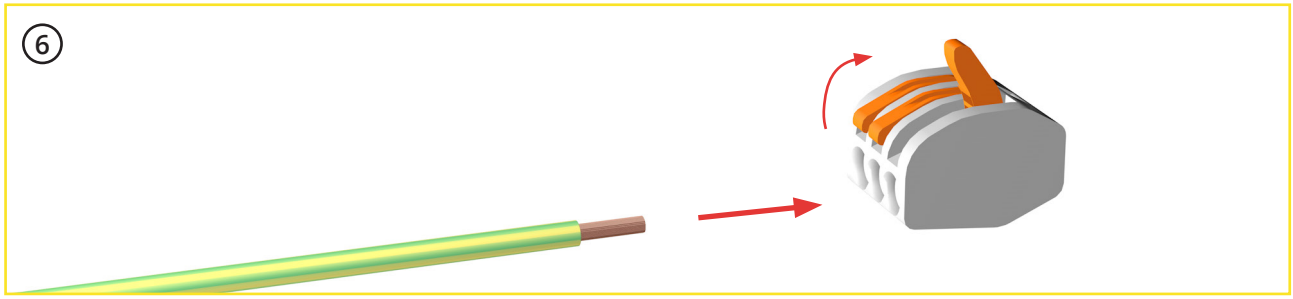
Safety instructions

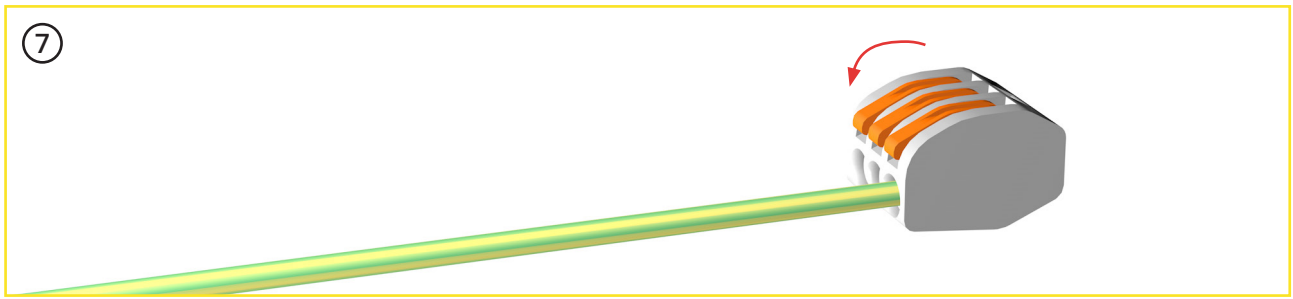
All electrical work (work on electrical equipment and installations) must be carried out and inspected by a qualified electrician or under their direction and supervision!

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

9. Electrical connection. The grounding conductor (PE), the neutral conductor (N) and the lamp wire (L1) are individually connected to the supplied lamp terminals. **(See fig. 5 + 6 + 7)**
10. Then mount the ceiling cover to the ceiling base plate. **(See fig. 8)**







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Installation

Inserting and changing the light source

Attention, important note:

1. Before working on the lamp, always switch off the fuse and secure it against being switched on again!
2. Insert the light source and turn up the shielding basket.
3. Unscrew the shielding basket, remove the defective light source and insert the new one. Screw the shielding basket back on.

11. Putting on and fixing the lampshade. Shades weighing up to 2 kg can be used. **(See fig. 9)**
    If the shade hangs at an angle, loosen the retaining ring and move the shade to compensate for the angle until it hangs straight.
12. Insert the adapter and the light source. Screw on the shielding basket. **(See fig. 10)**

13. Function test

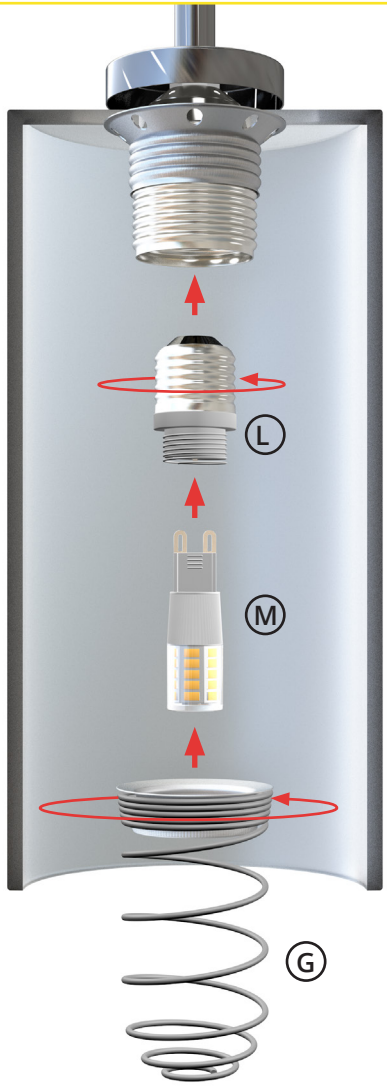
Switch the lamp on and off again to check its function.

This lampshade is shown as an example to illustrate how all lampshades are fitted.

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