

IMPORTANT SAFETY INSTRUCTIONS

PLEASE READ THIS INSTRUCTION CAREFULLY
AND KEEP IT IN SAFE CUSTODY



ELECTRICAL INSTALLATIONS MUST BE CARRIED OUT BY A
QUALIFIED ELECTRICIAN!

Moonlight
USA Inc.
First class lighting

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Important safety instructions:

Please observe the following instructions

Fundamental precautionary measures have to be taken when handling outdoor lights in order to prevent injury by electric shock, fire or other damages.

- Read all of the instructions and keep them in a safe place.
- Electric installation must be carried out by a qualified electrician.
- Disconnect the power supply prior to installation or service work (unscrew fuse or switch off automatic circuit breaker).
- Pull mains plug in case of flexible lights.
- Our outdoor lights of plastic material do not require any earthing.
- Energy-saving lights are sensitive to any impact.
- Do not open the cable gland of floating lights since water may enter the housing in case of improper assembly.
- Always pull on the plug and never on the cable when removing the power supply plug or the mains cable.
- Do not place any heavy items on the mains cable and do not bend it in a tight radius.
- Only use original Moonlight spare parts.
- All kinds of repair may only be carried out by the manufacturer or authorized personnel otherwise the right to claim under guarantee is invalidated.

This portable lamp has a polarized plug (one blade is wider than the other) as a feature to reduce the risk of electric shock. This plug will fit in a polarized outlet only one way. If the plug does not fit fully in the outlet, reverse the plug. If it still does not fit contact a qualified electrician. Never use with an extension cord unless plug can be fully inserted.

Do not alter the plug.

Use only three-wire outdoor extension cords that have three-prong grounding receptacles that accept the appliance's plug.

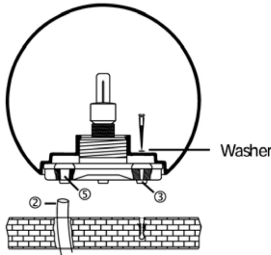
Ground Fault Circuit Interrupter (GFCI) protection should be provided on the circuit(s) or outlet(s) to be used for the wet location portable lamp. Receptacles are available having built-in GFCI protection and are able to be used for this measure of safety.

Use only with an extension cord for outdoor use, such as an extension cord of cord type: SW, SW-A, SOW, SOW-A, STW, STW-A, STOW, STOW-A, SJW, SJW-A, SJOW, SJOW-A, SJTW, SJTW-A or SJOWT, SJOWT-A

MAG / MBG and MFL

MAG

Base for screw fastening

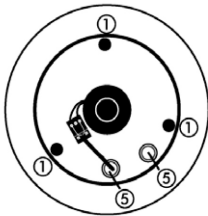


1. Opening of globe

Remove globe from base by turning it anticlockwise.

2. Assembly/installation screw-fastened base MAG

Drill screw holes (1) using an 8 mm bit.
Seal the holes with silicone prior to inserting the screws.



1. Insert cable (2) through the provided cable gland (5) into the base.

1.1 Strip 10 mm of cable jacket and insert cable through the cable gland.

1.2 Cable jacket must be flush with the upper edge of the cable gland at 250 mm and 350 mm. (See cable gland assembly instruction.)

1.3 Tighten cable gland nut.

1.4 SOIL INSTALLATION: See installation instruction “Membrane cable entries”

(The Ground pegs are optional available)

2.1 Assembly/installation underground base MBG

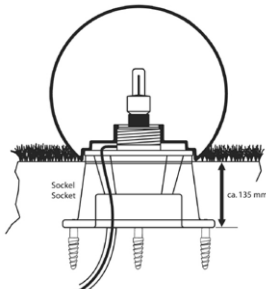
Connect cable (2) to the underground cable.

2. Closing of globe

Close the globe tightly by turning it clockwise.

MBG

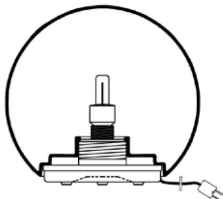
Base for soil installation



Ground pegs

MFL

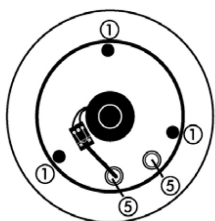
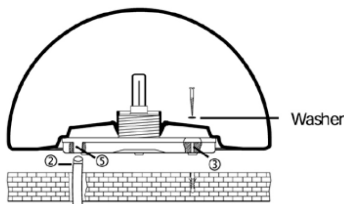
Flexible base



HMAG / HMBG und HMFL

HMAG

Base for screw fastening



1. Opening of half globe

Remove half globe from base by turning it anticlockwise.

2. Assembly/installation screw-fastened base HMAG

Drill screw holes (1) using an 8 mm bit.
Seal the holes with silicone prior to inserting the screws.

1. Insert cable (2) through the provided cable gland (5) into the base.

1.1 Strip 10 mm of cable jacket and insert cable through the cable gland.

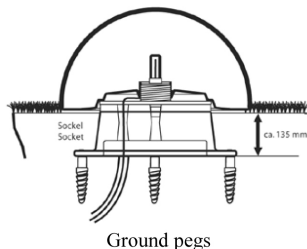
1.2 Cable jacket must be flush with the upper edge of the cable gland at 250 mm and 350 mm. (See cable gland assembly instruction.)

1.3 Tighten cable gland nut.

1.4 SOIL INSTALLATION: See installation instruction "Membrane cable entries"

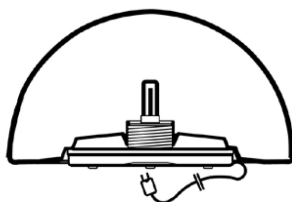
HMBG

Base for soil installation



HMFL

Flexible base



2.1 Assembly/installation underground base HMBG Connect cable (2) to the underground cable.

(The Ground pegs are optional available)

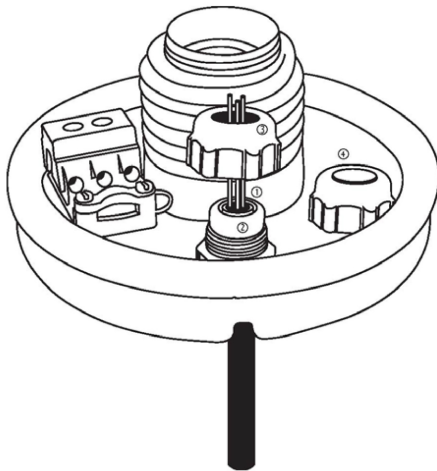
3. Closing of half globe

Close the half globe tightly by turning it clockwise.

Assembly instructions

Cable gland

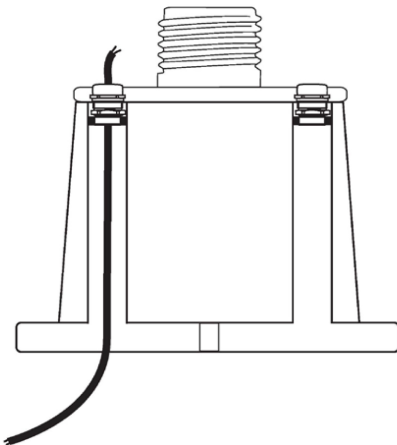
MAG Assembly



1.
Strip 10 mm of cable sheath and
put power supply cord through the
cable gland.

2.
Cable sheath must be flush with the
upper edge of the cable gland.

3.
Tighten the nut of the cable gland.



4.
The second cable gland has a
dummy plug.
Remove dummy plug for
connection.

Ground pegs

Excavate a hole in the ground (1) corresponding to the base diameter. The required depth is marked on the base (below the seal).

Mark the position of the four ground pegs (corresponding to the notches of the base 1a)

Prepare peg holes using a drill or dibble.

Ground pegs

Short: Hole 15-20 mm; drilling depth approx ca. 150 mm; length 150 mm

Long: Hole 20-25 mm; drilling depth approx ca. 300 mm; length 150 mm

Soft ground

Long pegs of total length of 350 mm should be used in soft ground.

Insert the bar (2) in the respective opening of the key (3)
Mount handles on the bar.

Fit the key (3) onto the ground peg (4).

The next step is to hold the bar (2)/(3) at the handles, place the ground peg (4) in the peg hole and turn it flush into the ground.

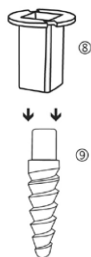
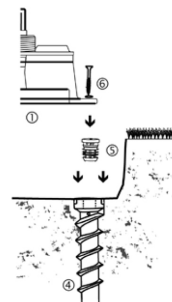
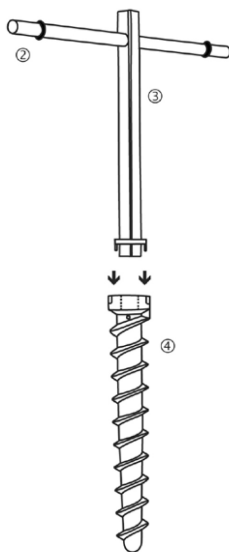
Knock the split bushing (5) flush into the hole in the ground peg using a rubber hammer.

Fasten the base on the ground peg through the notches 1a using M8 screw (6) and washers.

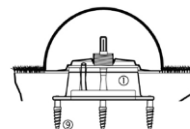
Firm ground

Short pegs (9) of a total length of 150 mm should be used in firm or hard ground.

Place adapter (8) on the key to turn the short pegs.
(The assembly is the same as for the long pegs).



Top view



(1a) notches for screws

NiMH batteries / Li-ion batteries

- **Never store batteries uncharged.**

NiMH quality batteries are subjected to constant quality control and have approx. double the capacity of comparable NiCD batteries.

- **Memory effect refers to a loss of capacity in time.**

Batteries can then not be charged to their full capacity.

This effect occurs when partly discharged batteries are recharged again and again.

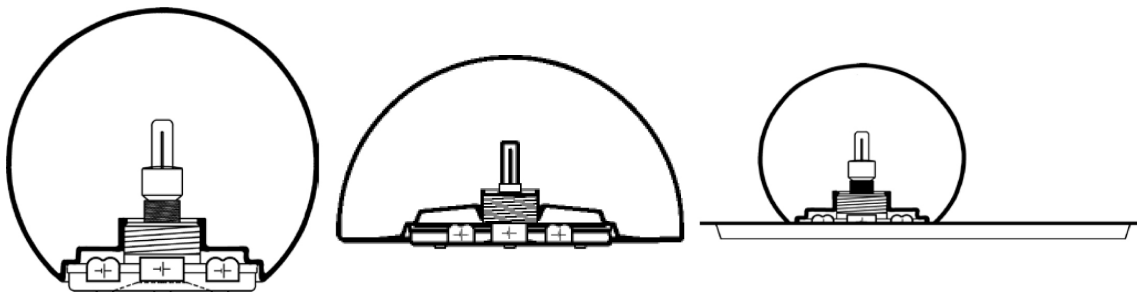
NiMH batteries have a markedly weaker memory effect than e.g. NiCD batteries.

- **Cells straight from production get their highest capacity only after 1 – 3 charging / discharging cycles. Do not overload NiMH batteries.**

Microprocessor-controlled chargers are suited best. Conventional constant power devices without any monitoring of the end of charging and disconnection are battery killers.

Discharge NiMH batteries completely after approx. 10 charging cycles.

- **Load batteries only in an environment protected against water splashes.**



Battery lights

Opening of the socket

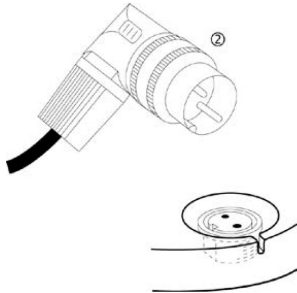
To charge the battery, unscrew the threaded part (1) in the socket using a coin or similar item.



Charging of the battery

Attention please: Charge only in an environment which is protected against water splashes. Insert charger plug into the socket (check the correct position).

You may tighten the sleeve nut (2) if you find it necessary.

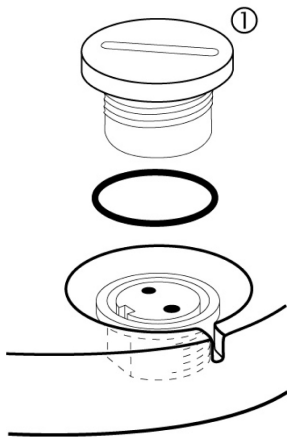


Closing of the socket

Check whether the O-ring is flush with the threaded part.

Tighten the threaded part again using a coin or similar item.

Tighten the threaded part only until the O-ring seals the housing in relation to the socket.



General instructions

- Charge batteries in an ambient temperature of 0 to 45 degrees, optimum conditions are + 10 to + 30 degrees. The batteries do not take in any power at an ambient temperature below zero.
- During operation or discharging, the ambient temperature should be between 0 and + 45 degrees. Lower temperatures might reduce the capacity and even damage the batteries in temperatures below zero. Temperatures from – 10 to + 65 degrees are possible.
- For storage, the temperature should be between -20 and + 45 degrees
- Recharge batteries every 3-6 months, on principle.

Battery charging procedure

Battery charging

Important: The battery charger may only be used in closed rooms.

Open sealing screw

Check whether the number of poles of the charging socket agrees with the number of poles of the battery charger. If they do not agree, charging is not possible.

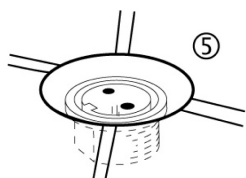
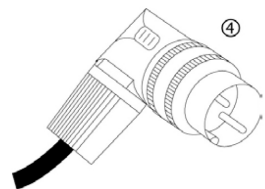
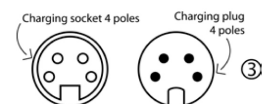
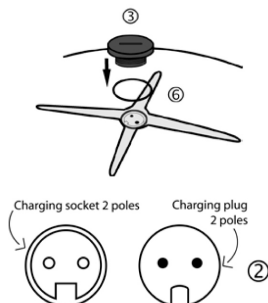
Charging sockets and charging plugs with 2 poles are NiMH batteries.

Charging sockets and charging plugs with 4 poles are Li-Ion batteries.

Align the lug and the groove and insert the charging plug into the socket without forcing it. The plug may be pushed in 3 – 5 mm by hand.

In addition, the plug-in connection may be secured by the bolted lock if there is any tension on the charging plug.

The charging operation starts as the battery charger is plugged into the mains.



In NiMH batteries, the red indicator flashes for approx. 5 sec. and then turns to a permanent light during charging (permanent red light).

After the completion of the charging operation the green indicator is activated (permanent green light).

In Li-Ion-batteries, the green indicator emits light (permanent green light)

After approx. 2 to 5 sec. the yellow indicator is activated (permanent yellow light). 350mm floating version only

After the completion of the charging operation the yellow indicator is deactivated (permanent green light appears).

To ensure that the battery has been properly charged proceed as follows:

Pull out the plug of the battery charger, wait until the indicator stops emitting light and then reconnect the battery charger to the mains. Usually the battery is charged for another 1 to 2 hours depending on the size of the battery.

Important:

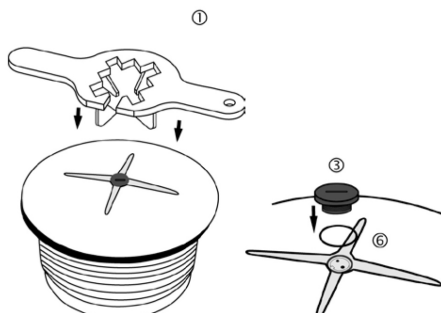
If the sealing screw and its seal are not properly assembled, the battery is destroyed.

Check the seal (O-ring) of the sealing screw for impurities, clean it with a cloth, if required, and grease the seal with the provided lubricant.

Place the seal properly between the charging socket and the base and close the latter firmly.

Problem:	Cause and rectification of failures:
No action	<p>Has the battery been charged? Charge battery and check after 15 minutes whether the lamp is emitting light, continue charging the battery.</p> <p>Lamp missing? Install lamp.</p> <p>Is the lamp damaged? Exchange lamp.</p> <p>Has the correct lamp of 12V DC been installed? Check whether a 12V or a 230V lamp has been installed.</p> <p>Has the battery of the handheld sender been checked? Red indicator emits a faint light.</p> <p>Has the setting of the DIP switches on the handheld sender been changed? Check DIP switch setting and readjust the same, if required.</p>
No action after charging	<p>Has the battery been serviced or recharged every 2 months? Battery may be damaged.</p> <p>Was the sealing screw properly tightened? Open sealing screw and check for water residue and verdigris. If the sealing screw contains water or verdigris is visible at the charging socket, the battery may be damaged.</p> <p>Is room temperature close to zero degrees? Close to zero degrees, the battery does not take in any power.</p> <p>Has the battery charger been damaged? Check the indicators during the charging operation; replace the battery charger by another one, if required.</p>

Assembly Instructions Floating battery light



Opening and Closing the globe

Turn the floating battery globe counter-clockwise using the optionally available wrench (1) (see drawing or order from) to loosen it from the base and remove it.

Attention: The seal has to be inserted centrally. We recommend a visual check for verification (the seal must not be visible when the floating battery globe is closed).

Charging the battery

To charge the battery open the sealing screw (3) on the bottom of the base using a coin.

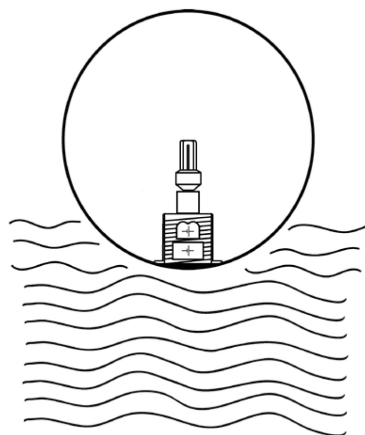
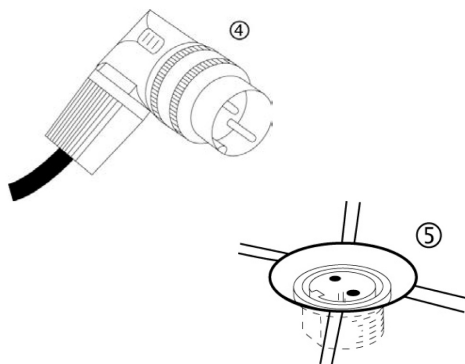
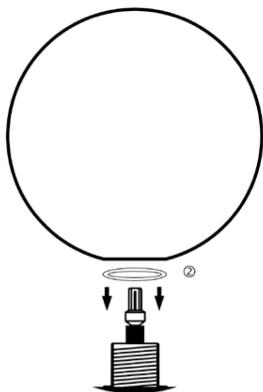
Then insert the angle plug (4) of the charging device in the charging socket (5).

Remove the angle plug of the charging device after charging.

Attention: The o-ring (6) must be positioned properly between the charging socket and the base. If this is not the case, water can enter the base of the battery and destroy the same. Firmly tighten the sealing screw (3) again.

Attention: The 350 mm light uses lithium ion batteries.

These require a special charging device with a 4-pin plug.



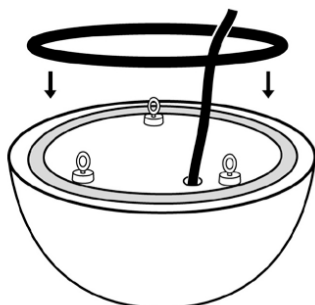


FLOATING LIGHT

IMPORTANT SAFETY INSTRUCTIONS:

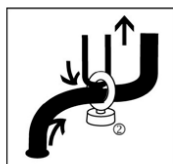
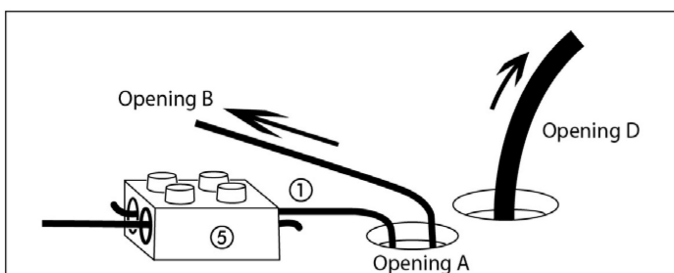
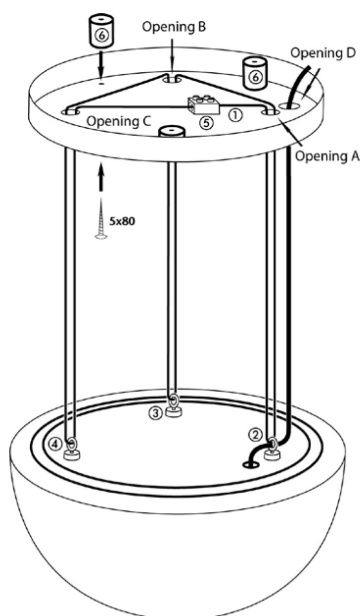
- The Lights may only be connected or operated together with a power supply unit having a input voltage of 130/230 Volt and an output voltage of 12 Volt DC .
- Observe the respectively applicable national provision for the connection to 230V supply voltage when used in swimming pools.
- In order to nullify any hazard, repairing of defective cabling must be carried out only by the manufacturer or authorized personnel.
- Protect the plug power unit (power supply with Euro-plug) against splashing water.
Do not put or submerge the Device in water.
- For reasons of safety, the use of floating lights is not permitted as soon as a person is in the pool
(the person might get caught in the cable).
- When removing the plug power unit, pull only the plug and never the cable.
- Do not place heavy items on the power cable and do not bend it with too tight a radius
- Energy saving lights are sensitive to shock.
- In flowing water, fasten the floating sphere using the supplied rope.
- The rope must be fasten in a way, that the current carrying cable is not under tension.
- Use only original Moonlight spar parts.

Pendant light



1. Assembling the seal:

Open the hemisphere and press in the rubber seal with your fingers (do not use any sharp instruments) until it is flush with the top edge of the hemisphere



List of enclosed parts:

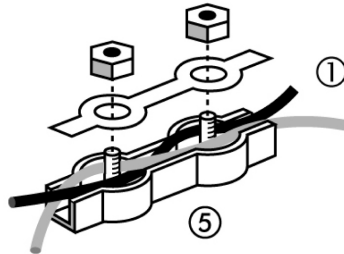
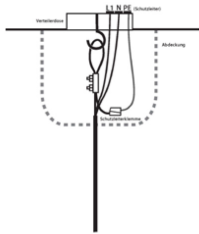
- Hemisphere incl. fluorescent tubes and sealing ring
- Ceiling flange with clamp
- Rope
- 3 spacers incl. screws (5x80) and plugs.

2. Put one end of the rope (1) through the clamp (5) and tighten both clamp screws.
3. Put the other end of the rope through opening A (Caution: Do not use Opening D through which the cable is inserted).
4. Lead the rope through eye bolt (2) (next to cable exit) and back through Opening A
5. Lead the rope through Opening B, then through eye bolt (3) and back through Opening B.
6. Lead the rope through Opening C, then through eye bolt (4) and back through Opening C.
7. Put one end of the rope through the clamp (5) and tighten both clamp screws.
8. Lead the power cable through eye bolt (2) and through Opening D.
9. Assemble the three spacers (6).

Please not:

10. Electrical installations must be performed by a qualified electrician.

Assembly instruction Hanging - Light



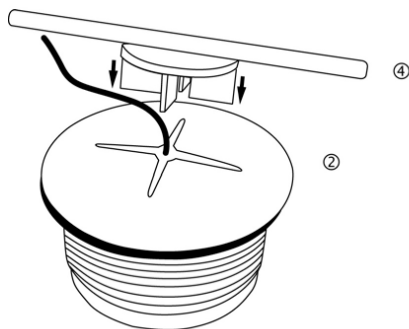
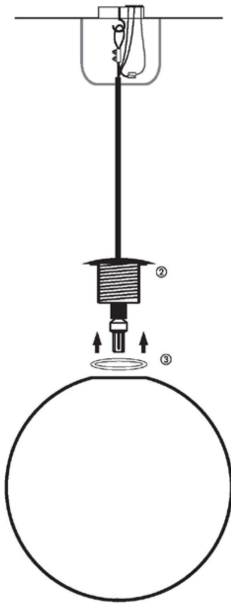
A wire rope (1) especially adjusted to the suspended light has been integrated into the power cable as a traction relief, thus corresponding with your Hanging light.

This excludes any damage to the power cable if fastening and handling is done properly.

Do not place the power cable and the wire rope on sharp edges!

Suspend the light only on the wire rope using the clamp provided with the light and not on the power cable!

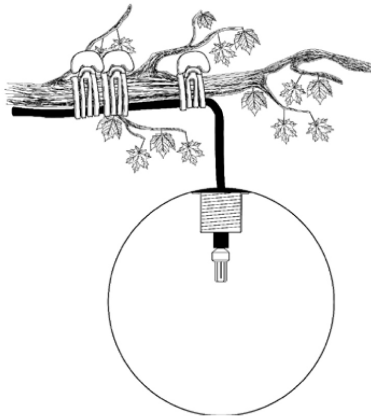
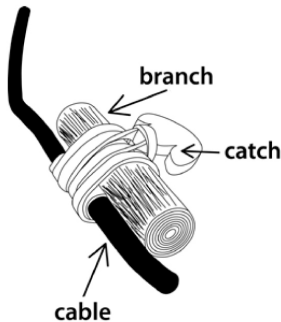
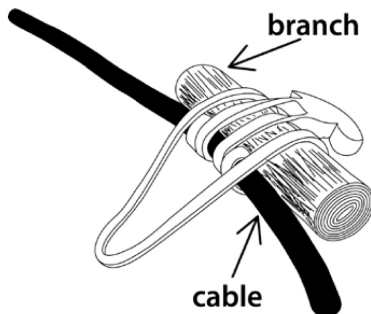
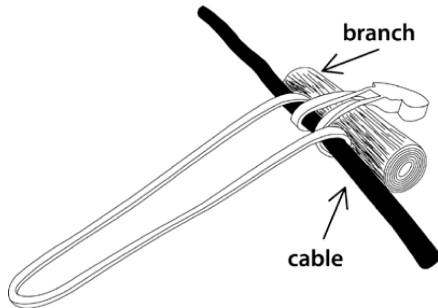
Tighten the nuts of the rope clamp (5) evenly and one turn after another up to a torque of max. 5Nm.



1. Install illuminant and seal (3) prior to base (2) assembly.

2. Fasten the base by clockwise rotation using the wrench (4) (see drawing) until base and sphere are flush.

Mounting Instructions



Important

Use retaining fastener of 40, 60 and 70mm only to fix the power cable to the branches in order to avoid the cable hanging down from the branches.

Use securing fastener of 110, 230mm and 230mm/15mm to fasten the corresponding size of the Light. !See use of securing fastener!

At first wrap securing fastener around the cable to be secured. ! In order to avoid possible shifting of cable!

Wrap securing fastener around the branch.

When the securing fastener is tight after wrapping it around, two, three or several times, the tightened securing fastener is pulled through the end of the loop with the catch.

Important:

Position and engage the securing fastener correctly in the catch.

Use of securing fastener to secure the Light.

Use 3 securing fasteners 110mm in length / 6mm in width, for 350mm Pendular Light.

Use 3 securing fasteners, 230mm in length / 9-10mm in width, for 550mm Pendular Light.

Use securing fasteners, 300mm in length / 12-15mm in width, for 750mm Pendular Light.

Important:

These retaining fasteners are not designed to secure the light but solely to fix the power cable.

Retaining fastener 40mm in length

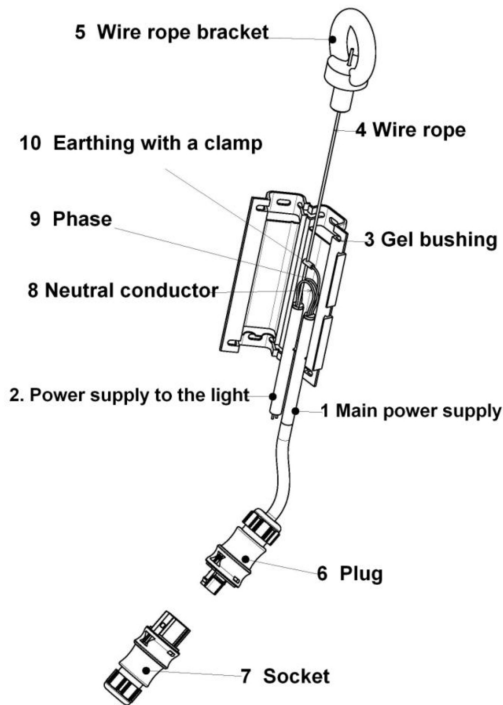
Retaining fastener 60mm in length

Retaining fastener 70mm in length

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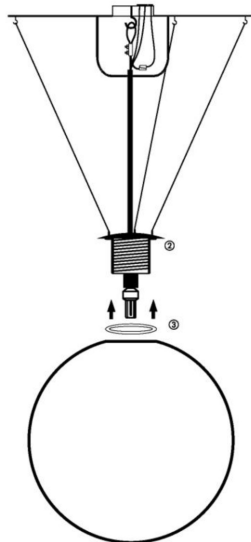
Gel Muffle IP66/67



Wire rope suspension with protected supply line for free installation.

For a secure application it is necessary to have a sufficient system of fixing (like chains, hooks etc; the responsibility takes the user) for breaking load of 350 kg.

Important:
Please keep the assembly instruction for later appliances.

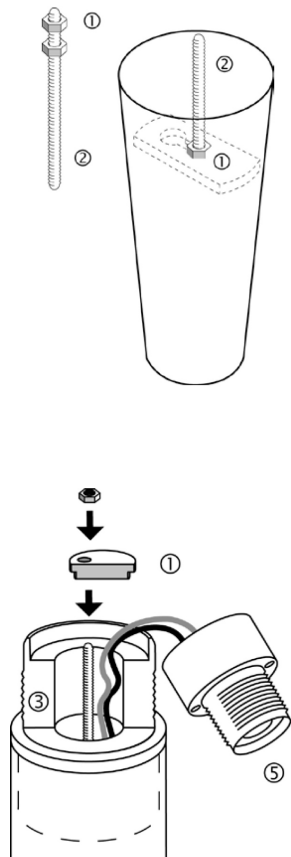


Three-point wire rope Suspension

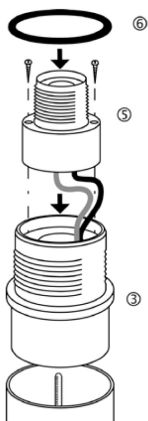
A three-point wire rope suspension is optional available for our pendant lightings to prevent oscillating motions. It is fixed at the socket of the lamp with a 1,2 mm rope à 10 m of rustproof stainless steel and tensioned to the ceiling.

The oscillatin motions can be determined by the way how strong the rope is tensioned. The strain relief of the socket plug could Be minimum 1000 N to maximum 1500 N.

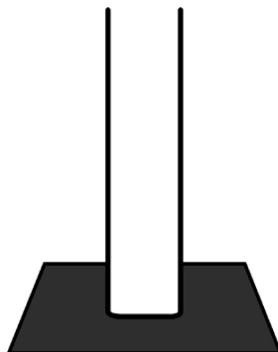
Column light 350



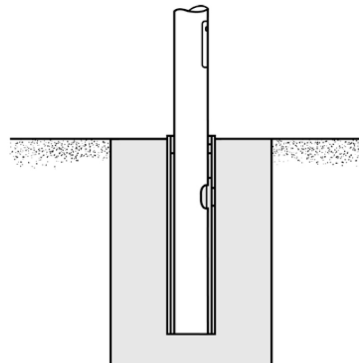
1. Screw one of the attached nuts (1) approx. 2 cm and the second nut almost flush onto the threaded rod (2). Insert the threaded rod, which has been prepared in this way, through the hole in the metal plate of the column and slide it into the groove. Fix the rod with the upper nut.
2. Connect the cable coming from the power supply box to the terminal of the base.
3. Insert the base (3) and the base plate including the socket (5) into the column.
4. Place the fixation disk (4) over the threaded rod and fasten it with the attached nut.
5. Fasten the base plate with the socket (5) with two screws firmly using the predrilled holes of the base. Place the seal (6) onto the base.
6. Before closing the globe, screw in the lamp and close the globe tightly by turning it clockwise.



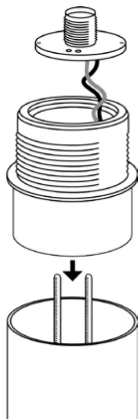
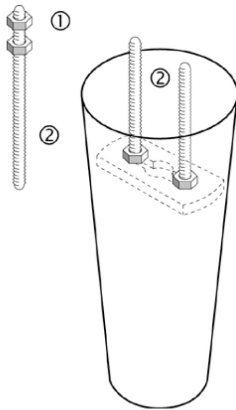
Base plate for screw-fastening



The foundation



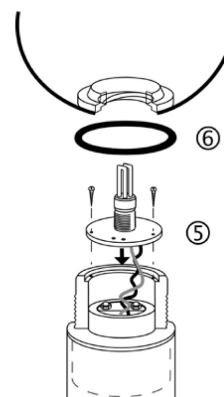
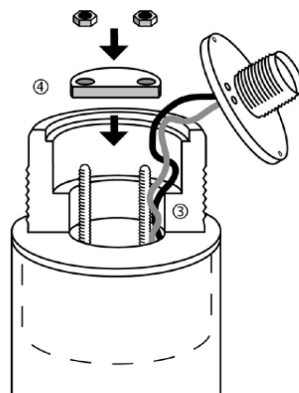
Column lights 550 and 750



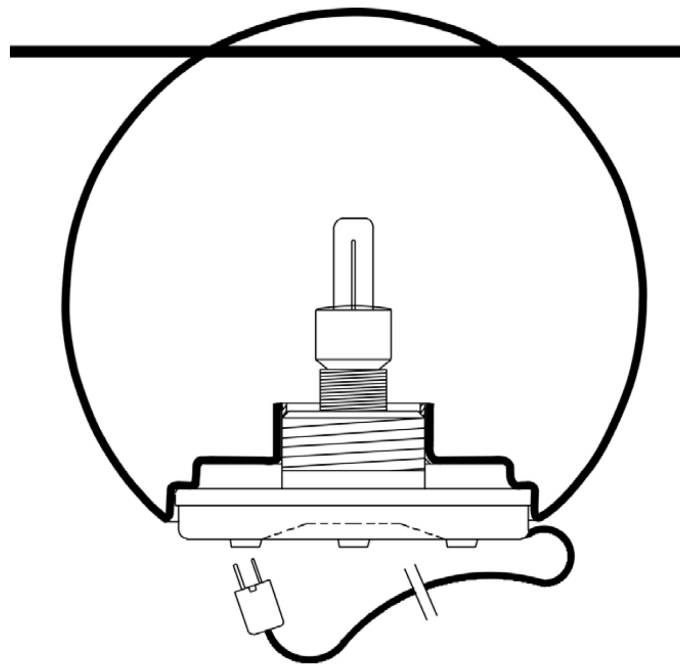
1. Screw one of the attached nuts (1) approx. 2 cm and the second nut almost flush onto the threaded rods. Insert the threaded rods, which have been prepared in this way, through the hole in the metal plate of the column and slide them into the grooves. Fix the rods with the upper nuts.
2. Connect the cable coming from the power supply box to the terminal of the base.
3. Insert the base (3) and the base plate including the socket (5) into the column.
4. Place the fixation disk (4) over the threaded rods and fasten them with the attached nuts.
5. Fasten the base plate with the socket (5) with two screws firmly using the predrilled holes of the base. Place the seal (6) onto the base.
6. Before closing the globe, screw in the lamp and close the globe tightly by turning it clockwise.

The foundation:

Depending on its size the light column must project 600 mm to 1000 mm into the ground.

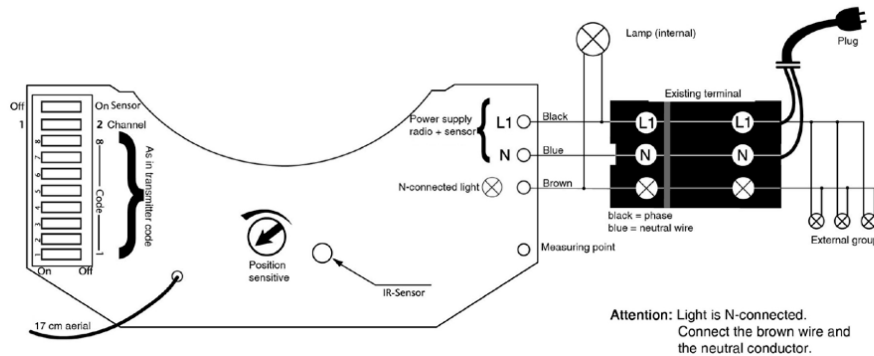


Acrylic table top



1. Prior to positioning the table top, clean the globe as well as the anti-slip seal of the table top with spiritus so that it is free of fat.
2. Position the table top and align it using the attached level.
3. Press the table top down with your hands to cause suction.

Radio receiver with integrated electronic twilight switch



Installing the Moonlight radio receiver with twilight sensor subsequently you quickly and easily convert any existing exterior light to an automatic light. You have a convenient light control to switch the existing exterior light.

Important: Do not use ordinary bulbs, only Energy Savings Lamp.

Function of radio receiver with integrated electronic twilight switch

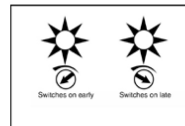
This component offers the following options:

- Switching the light on or off via radio transmitter
- Switching the light on or off via the electronic twilight switch (illuminant is switched on in a dark environment and illuminant is switched off in a bright environment).

The light is automatically switched on in the evening and off in the morning. A potentiometer adjusts the triggering sensitivity of the sensor.

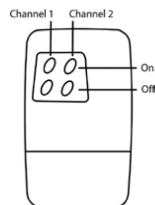
Warning:

!Attention! Installation and assembly of electric equipment may only be performed by a trained electrician!



Operating instruction for electric twilight switch:

- The light sensor measures the environment light intensity. If it falls below the value set At the potentiometer the electronic twilight switch is automatically activated.
- After the illuminant has been activated the switching function of the sensor Is disabled for approx. 15 minutes.
- If the light intensity of the environment exceeds a certain value, the illuminant is Automatically switched off.
- The electronic twilight switch can be switched off at DIP switch No. 10 of the radio receiver.
- Position ON: electronic twilight switch is switched off.
- Position OFF: electronic twilight switch is switched on.



Should you switch two channels with one transmitter, the keys are assigned as follows: (see sketch)

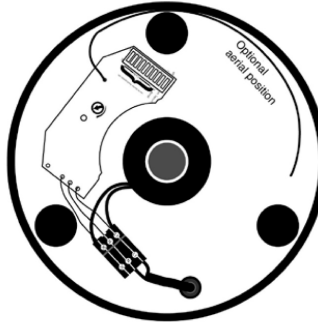
DIP switch No. 9 should be set to channel 1 or Channel 2 as desired for the respective light.



Technical data:

Breaking capacity: Max. 70 Watts can be connected in series with radio Receiver/twilight sensor component

Mains voltage: 240 V
Disabled after switching: Approx 15 min.
Temperature range: -25° to +60° C
Frequency: 433,92 MHz



Operation of radio receiver

Coding:

Code of radio receiver and radio transmitter are preset on position 2 ON and 4 ON. Setting to a personal code is possible via DIP switches channel 1 to 8

Attention: The code set at the radio receiver and the transmitter must be identical.

Aerial:

For maximum transmission performance, position the aerial freely extended and as far away from the radio receiver as possible. Do not shorten the aerial.

Installation:

Blue wire: N neutral conductor
Black wire: LAC 240 V
Brown wire: Make contact

- Switching the radio transmitter on and off disables the twilight sensor, i.e. if you switch the light off via radio control, the light stays off during the night until the next dusk.
- If the light is not switches on via remote control the twilight sensor can be used. The light is switched on via the sensor at the respective stage of darkness and is Switched off again at daybreak and the respective light intensity.

Radio transmission:

Radio transmission does not use an exclusively available transmission channel, thus interference cannot be excluded.

Radio range:

The range of the radio receiver is max. 40 to 50 metres in free field; the range depends buildings in the area.

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Filter system

Every Moonlight luminaire is supplied with a diffusion filter (1) to enhance the beauty and even distribution of the light.

It is imperative that this filter be used for all luminaires.



The worldwide patented filter system is extremely easy to handle:

2. Screw the adapter ring onto the socket
3. Screw in the lamp.
4. Place the filter on the adapter ring and turn it clockwise until it engages.



The filters are colour-resistant and consist of shatterproof Makrolon. They are available for all sizes and can be changed as desired. The size of the filter depends on the capacity of the lamp.



FIRST CLASS LIGHTING

Thank you!

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