

IP44.DE











# IP44.de

IP44.de is a young and progressive company that is conservative at the same time. We are conservative when it comes to quality standards and production details. Our technologies on the other hand are decidedly progressive. And our history? Well, this has only just begun.

It all began with a question that was both clear and obvious: why shouldn't luminaires for use outside be at least as aesthetically pleasing as those we have come to love for inside our buildings? This question led to the design of our very first outside luminaire, more than 25 years ago now. Many building owners, planners and architects liked our answer so that countless other luminaires have followed, together with materials, technologies, trials and errors, as well as successes. A tentative experiment turned into a real company: IP44.de, founded and ever since managed by Bernd Schmalhorst. What has stayed unchanged is our focus on top quality design, and our basic conviction that every place deserves great light.



# solar powered by the sun

IP44.DE

## **Soaking up the sun. Simply everywhere.**

Here at IP44.DE, we are celebrating the solstice! Our family of powerful solar luminaires brings renewable energy into the green outdoors. Our sun-powered luminaires manage without any installation or power grid and can be used wherever atmospheric light is wanted. A balcony without a power socket? A solitary tree that could do with a light spot? A remote spot in the garden for cosy evenings? Our solar luminaires provide atmospheric light wherever it is needed and the sun's shining. Their strengths are therefore on display more during the sunny months of the year rather than during the dark seasons. Soaking up the sun. Simply everywhere.

By the way, it is not just a coincidence that we at IP44.DE are advocating climate-neutral energy right now. We have researched a long time to find solar panels that really convinced us from a technical point of view. Furthermore, recently there have also been clear further improvements in the charging capacity of batteries. The quality of electronic components has been similarly enhanced, so that even low wattages provide good light today.

In other words, the time is ripe for solar luminaires in IP44.DE quality. With an efficient PV panel, strong battery and also a strong light source, they generate pleasure in the long term, with every ray of sunshine, time and again every summer.



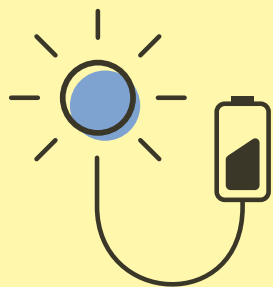
## Sun in the system.

What is brighter than a solar luminaire? That's obvious: several solar luminaires! This can be useful for example in sections of the grounds or corners of the garden where illumination is wanted for a larger area but without any intention of installing a power supply just for this purpose. Combining several IP44.DE luminaires is also ideal for temporary illumination of an outdoor seating area or a barbecue corner.

Our system IP44.DE solar join makes it easy to put luminaires into groups: lix spike solar, reed solar and piek mini solar can be linked with connectors and plugged into a solar panel. This makes it possible to connect up to four luminaires, also including different solar models.

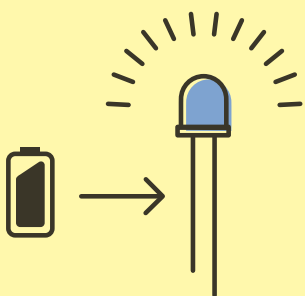


# solar facts



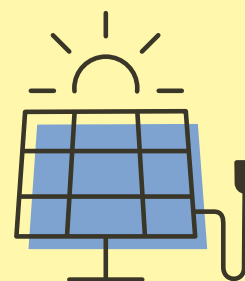
Two to three days with 10 hours of sunshine are sufficient to recharge the battery fully with climate-neutral energy via the solar panel.

A battery completely charged via the solar panel has enough power for numerous evenings of atmospheric lighting.



The luminaire switches on automatically when it starts to get dark – and switches off again of its own accord about five hours later. qua and fil can also be switched by hand.

reed solar, cherry bubbls solar, lix spike solar and piek mini solar are connected with a lead to the solar panel. Their solar field can therefore be positioned anywhere regardless of the luminaire and in ideal alignment to the sun.



It's logical: the longer and stronger the sunshine, the greater the burn time and optimum performance. By contrast, operating hours are reduced noticeably in the shade, with incorrect alignment or soiling, when it is cloudy or when the sun is low in the sky.

The battery can also easily bridge three days without sunshine before being recharged again.







## lix spike solar

The slender sister of our portable bestseller lix. And supplies glare-free light in just the same way.

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## reed solar

Unmistakably inspired by nature. Also at home even in places where there are no reeds or lakes nearby.

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## piek mini solar

Discreet spot that creates the setting for plants and places. Absolutely self-sufficient thanks to the separate solar panel.

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## qua

Small, but what a luminaire! qua is the power cube among the solar luminaires. Scores with its compact size and own power supply.

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## fil

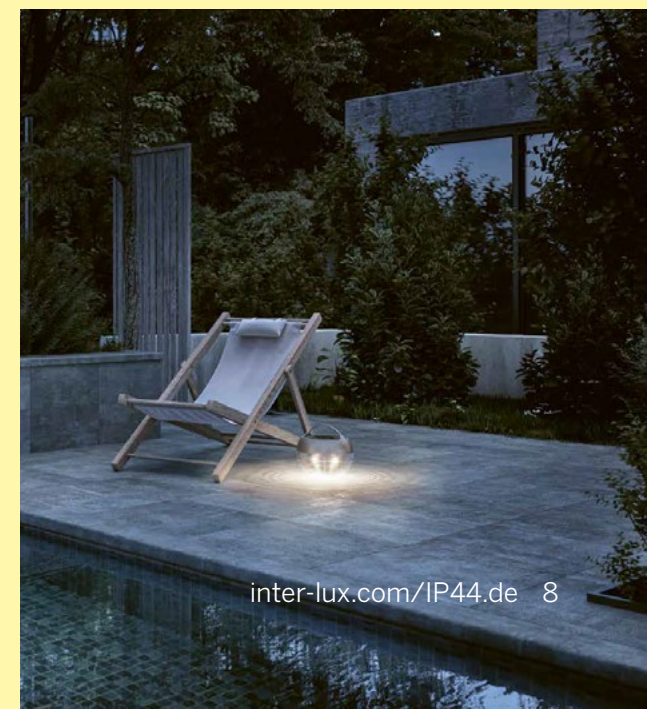
The luminaire inspired by Bauhaus is a homely accessory even when it is not in use. Can be dimmed in three steps and switched either manually or automatically.

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## aqu

Carries the day brilliantly: with its gently curved handle, aqu can be carried to wherever it is needed to create really bright spots.

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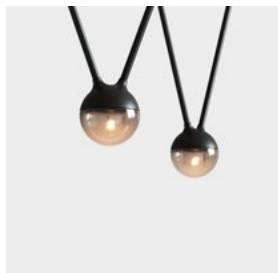
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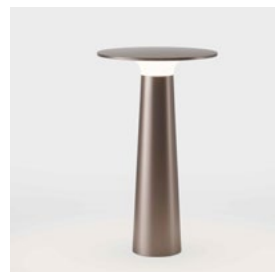
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## solar join

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solar

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aqu



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**aqu**



**Isn't it wonderful when a luminaire is not just aesthetic but also highly intelligent? Our hybrid luminaire aqu collects energy during the day and emits it in the form of amazingly bright light in the evening. Its integrated solar panel and efficient battery provide many hours of warm and welcoming brightness. If enough power is not available from the sun, the luminaire can be recharged using the USB port on the side.**

**Designed by  
Klaus Nolting**



**aqu**

**So beautiful that you'll want to take it indoors too (and you can!): with its gently curved handle, aqu allows you to take it wherever you need to create a real bright spot.**



# aqu

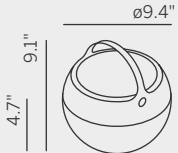




true gold, jet black, pearl white

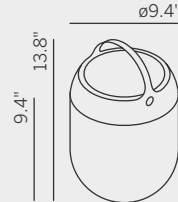








# aqu

Portable Solar Powered Outdoor Lamp  
Available in Small and Medium Sizes

aqu S	color	item no.	system performance
	 <b>true gold</b>	91910-TG	<b>1.5 W/75 lm</b>
	 <b>bright bronze</b>	91910-BB	<b>1.5 W/75 lm</b>
	 <b>pearl white</b>	91910-PW	<b>1.5 W/75 lm</b>
	 <b>jet black</b>	91910-JB	<b>1.5 W/75 lm</b>

aqu M	color	item no.	system performance
	 <b>true gold</b>	91911-TG	<b>1.5 W/75 lm</b>
	 <b>bright bronze</b>	91911-BB	<b>1.5 W/75 lm</b>
	 <b>pearl white</b>	91911-PW	<b>1.5 W/75 lm</b>
	 <b>jet black</b>	91911-JB	<b>1.5 W/75 lm</b>

## technical information:

LED  
NiMH battery  
3x 2400 mAh  
2700K  
solar panel

## battery operating time:

- approx. 10 hrs at level 3
- approx. 12 hrs at level 2
- approx. 24 hrs at level 1

## 3-step-dimming

**6.6ft USB-C-cable included**  
(US-ET-93000-USB-C-BL)

## material:

mouth-blown crystal glass  
aluminum die-casting  
powder-coated

## protection class:

**IP65**

## EEC:

**A+**

## light direction:





cherry bubbls solar

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## cherry bubbls solar



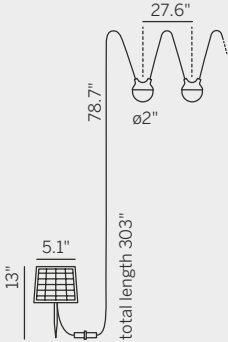

If glow worms are allegedly seen in lots more gardens in future, this could be due to cherry bubbls solar. The simple yet refined light chain can be hung anywhere from trees or fastened to balcony railings, wherever subtle light accents are pleasing to the eye. And with its solar panel as energy source, it lights up everywhere completely self-sufficiently.

Designed by  
**Klaus Nolting**

# cherry bubbls solar



Solar Powered Suspension Lights (includes 7 lights)

cherry bubbls	color	item no.	system performance
	 <b>black</b>	93850	<b>1.5 W/60 lm</b>

**technical information:**

LED  
lithium-ion battery  
2x 2500 mAh  
2700K  
7 luminaire bodies  
solar panel S

**connection:**

6.6 ft supply cable light chain  
(H05RN-F 2x0.03"²)

**battery operating time:**

- approx. 10 hrs at level 3
- approx. 12 hrs at level 2
- approx. 24 hrs at level 1

**3-step-dimming**

**6.6ft USB-C-cable included**  
(US-ET-93000-USB-C-BL)

**material:**

silicone  
smoke-colored glass

**protection class:**  
**IP65**



**light direction:**





fil



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fil

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**fil**

**It's a well-known fact that a cube has six sides. In fil, the sides consist of a solar panel that is embedded flush in translucent fabric. A second inner cube of translucent polycarbonate creates a uniform light effect.**



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**Designed by  
Klaus Nolting**

**fil**

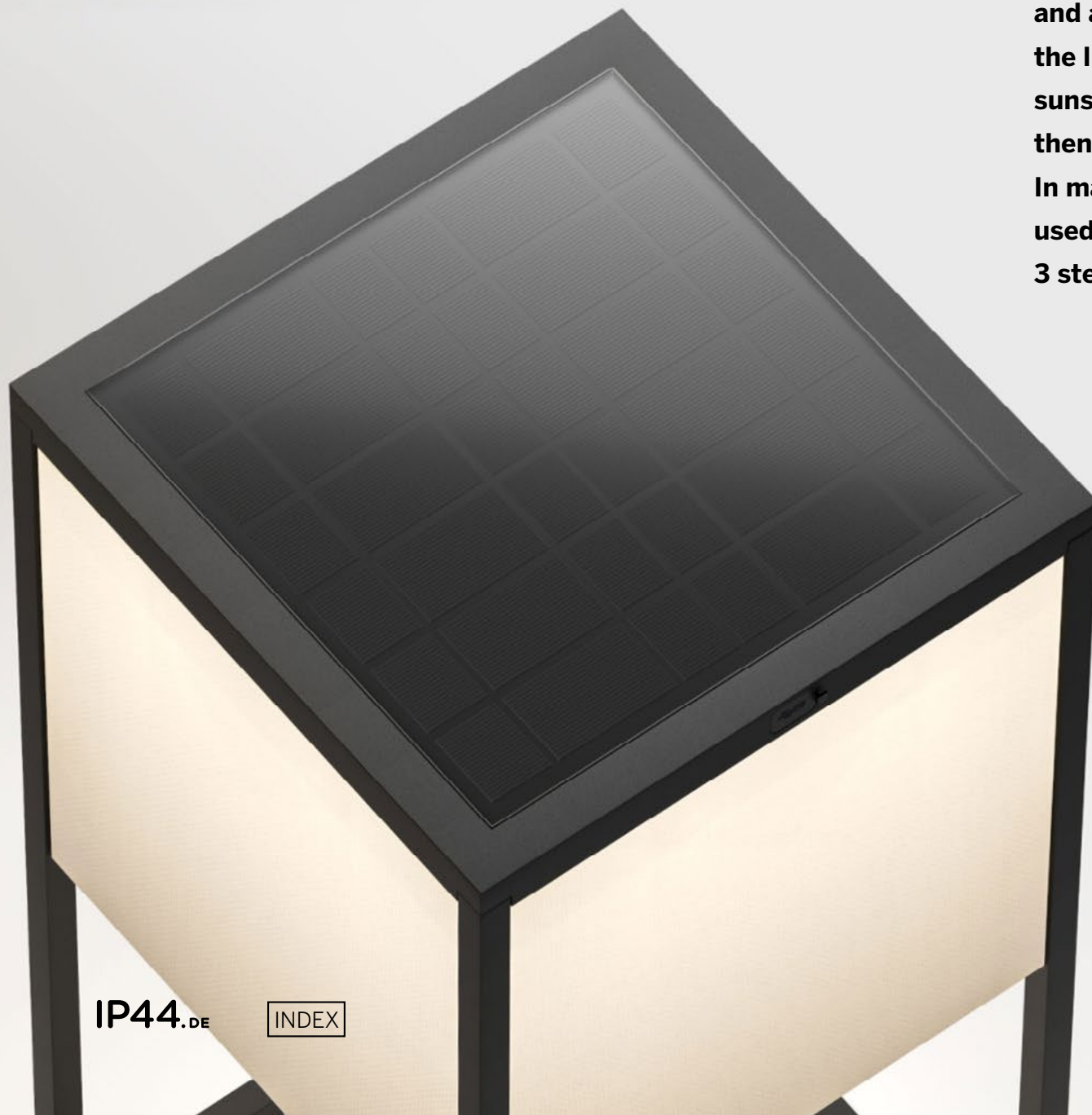
**This is the fabric that fabulous light is made of: fil is covered with weatherproof, UV-resistant outdoor fabric that emanates brightness in a very pleasant way. Our Bauhaus-inspired luminaire is available in a height of 19 and 28 inches.**





**fil**

**New: the integrated function button allows you to choose between manual and automatic mode. In automatic mode, the luminaire turns ON automatically at sunset to the light level you preset, and then automatically turns OFF after 5 hours. In manual mode, the function button is used for switching on and off, including 3 steps of dimming.**



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**fil**



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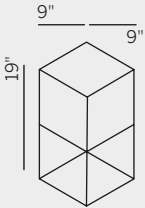

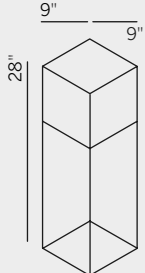

Fil is so aesthetically appealing that you want to literally touch this outside luminaire. But its actual qualities are unfolded when its extraordinary warm light shines through the fabric shade. In fact, fil not only sheds light but lives from it at the same time: a solar panel on the top collects solar light and converts it into energy for many hours of light.

This is the fabric that fabulous light is made of: fil is covered with weatherproof, UV-resistant outdoor fabric that emanates brightness in a very pleasant way. Our Bauhaus-inspired luminaire is available in a height of 19 and 28 inches.





Solar Powered Outdoor Lamp  
Auto/Manual Selectable Modes  
Available in Small and Medium Sizes

fil S		color	item no.	system performance
		 <b>deep black</b> RAL 9005	93810-BL	<b>5 W/230 lm</b>
fil M		color	item no.	system performance
		 <b>deep black</b> RAL 9005	93811-BL	<b>5 W/230 lm</b>

**technical information:**

LED  
lithium-ion battery  
4x 2600mAh  
2700K  
solar panel

**battery operating time**

**manual mode:**

- approx. 6 hrs at 100% (level 3)
- approx. 12 hrs at 50% (level 2)
- approx. 24 hrs at 25% (level 1)

**3-step-dimming**

**material:**

aluminum powder-coated  
cover: white outdoor fabric translucent

**protection class:**

**IP65**

**light direction:**



**6.6ft USB-C-cable included**

(US-ET-93000-USB-C-BL)

lix spike solar

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## lix spike solar

The slender sister of our portable bestseller lix. And in just the same way, lix spike solar provides glare-free wide-area all-round light, creating atmospheric light islands. This luminaire is supplied with power by its own solar and storage module, so that it is absolutely self-sufficient.

Designed by  
**Klaus Nolting**

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# lix spike solar




**lix spike solar requires neither a power outlet nor a solid surface. The luminaire switches on when it starts to get dark thanks to the automatic twilight function.**





# lix spike solar

Solar Powered Outdoor Bollard  
Automatic Operation

lix spike solar	color	item no.	system performance
	 <b>anthracite</b> RAL 7016	93093-AN	<b>1.1 W/65 lm</b>
	 <b>cool brown</b>	93093-CB	<b>1.1 W/65 lm</b>
	 <b>deep black</b> RAL 9005	93093-BL	<b>1.1 W/65 lm</b>

## technical information:

LED  
lithium-ion battery  
1x 2600 mAh  
2700K  
solar panel S

## operating time:

automatic switch-on at dusk  
for a duration of approx. 5 hrs.

## connection:

2.6 ft supply cable luminaire  
(H05RN8-F 2x0.03"²)  
+ 3.3 ft supply cable solar panel  
(H05RN8-F 2x0.03"²)

**movable**

## material:

luminaire: aluminum die-casting  
powder-coated  
+ polycarbonate matte  
solar panel  
head: aluminium-diecasting  
powder-coated  
pole: stainless steel powdercoated;  
clear glass

## protection class: IP65



## light direction:



## mounting:

spike mount into soil or sod



**piek mini solar**



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# piek mini solar

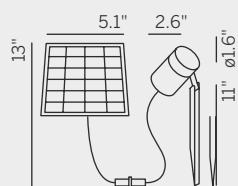
Designed by  
**Sebastian David Büscher**

piek mini solar is a stand-alone solution in the best sense of the word. The flexible up- or downlight has its own solar and storage module so it can be used in places where light is needed but where there is no power socket in the vicinity. It is also self-sufficient in terms of functionality: the twilight function activates piek mini solar automatically for 5 hours as soon as it starts to get dark.



# piek mini solar

Solar Powered Outdoor Accent Light  
Automatic Operation



color	item no.	system performance
 <b>anthracite</b> RAL 7016	93076-AN	<b>0.65 W/40 lm</b>
 <b>cool brown</b>	93076-CB	<b>0.65 W/40 lm</b>
 <b>deep black</b> RAL 9005	93076-BL	<b>0.65 W/40 lm</b>

## technical information:

LED  
lithium-ion battery  
1x 2600 mAh  
2700K  
solar panel

## reflector: flood

## operating time:

automatic switch-on at dusk  
for a duration of approx. 5 hrs.

## location:

with permanent direct sunlight  
(possibly limited function,  
due to regionally conditioned  
longer shading, e.g. in winter  
months)

## connection:

3.28 ft supply cable luminaire +  
3.28 ft supply cable solar panel  
(H05RN-F 2x0.03"²)

## movable

## material:

head: aluminum die-casting  
powder-coated  
pole: stainless steel  
powder-coated  
clear glass

## protection class: IP65

## light direction:



## mounting:

spike mount into soil or sod



qua



# qua



**Small, but what a luminaire! qua is the power cube among the solar luminaires. Scores with its compact size and own power supply. The optional changeover from manual to automatic mode makes qua practically self-sufficient.**

**Designed by  
Klaus Nolting**



qua



**The integrated function button can be used to change over between manual and automatic mode. In automatic mode, the luminaire lights up automatically when it starts to get dark and stays on for 5 hours. In manual mode, the function button is used for switching on and off. In both modes, the luminaire can be dimmed in 3 steps.**

# qua

Solar Powered Portable Outdoor Lamp  
Auto/Manual Selectable Modes



qua	color	item no.	system performance
	<b>bright bronze</b>	93825-BB	<b>2.1 W/75 lm</b>
	<b>pearl white</b>	93825-PW	<b>2.1 W/75 lm</b>
	<b>jet black</b>	93825-JB	<b>2.1 W/75 lm</b>

#### technical information:

LED  
lithium-ion battery  
2 x 2000 mAh  
2700K  
solar panel

optional change between  
manual + automatic mode

#### battery operating time

**automatic mode:**  
automatic switch-on at dusk  
for a duration of approx. 5 hrs

#### battery operating time

#### material:

aluminum die-casting  
lacquered  
polycarbonate matte

#### protection class:

**IP65**



#### light direction:





reed solar

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**reed solar**

**Unmistakably inspired by nature. Also at home even in places where there are no reeds or lakes nearby. reed solar with its refined smoke- colored glass body, simple aluminum pole and two different heights, creates the right setting for those parts of the garden that are blessed with sunshine but have no power connection.**

**Designed by  
Sebastian David Büscher**

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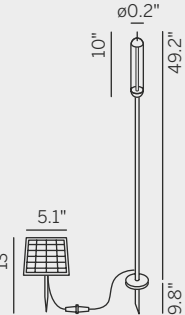
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# reed solar

## Solar Powered Bollard Automatic Operation

reed M solar	color	item no.	system performance
	 <b>deep black RAL 9005</b>	93821-BL	<b>1.1 W/22 lm</b>

reed L solar	color	item no.	system performance
	 <b>deep black RAL 9005</b>	93822-BL	<b>1.1 W/22 lm</b>



**technical information:**

LED  
lithium-ion battery  
1x 2600 mAh  
2700K  
solar panel S

**operating time:**

automatic switch-on at dusk  
for a duration of approx. 5 hrs

**connection:**

4.6 ft (reed M)/3.9 ft (reed L)  
supply cable luminaire  
(H05RN8-F 2x0.03"²)  
+ 3.3 ft supply cable solar panel  
(H05RN8-F 2x0.03"²)

**movable**

**material:**

luminaire: aluminum die-casting  
powder-coated  
+ smoke-colored glass  
solar panel: head: aluminium-diecasting  
powder-coated; pole:  
stainless steel powder-coated;  
clear glass

**protection class:**  
**IP65**



**light direction:**



portable





cherry bubbis

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## cherry bubbls



If glow worms are allegedly seen in lots more gardens in future, this could be due to cherry bubbls. The simple yet refined light chain can be hung anywhere from trees or fastened to balcony railings, wherever subtle light accents are pleasing to the eye. And the powerbank as energy source makes it almost as flexible as a glow worm, shining all over the place.

Designed by  
**Klaus Nolting**



**cherry bubbls**



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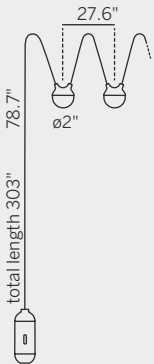




**cherry bubbls with powerbank  
including 3-step dimming.**



# cherry bubbls

Suspension Lights (includes 7 lights)

cherry bubbls	color	item no.	system performance
	 <b>black</b>	93850	<b>1.5 W/60 lm</b>

accessory	article	item no.
	<b>Powerbank (included)</b>	US53400

## technical information:

LED  
NiMH battery  
3x 2400 mAh  
2700K  
power pack

## battery operating time:

- approx. 10 hrs at 100% (level 3)
- approx. 20 hrs at 50% (level 2)
- approx. 40 hrs at 25% (level 1)

## 3-step-dimming

**6.6ft USB-C-cable included**  
(US-ET-93000-USB-C-BL)

## material:

mouth-blown crystal glass  
aluminum die-casting  
powder-coated

## protection class:

**IP65**

## EEC:

**A+**

## light direction:





glim

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**glim**

Pure elegance in a reduced design language for cosy outdoor life: glim! The battery- powered table luminaire can be positioned everywhere. The magnetic luminaire pole – unmistakably inspired by traditional candlelight - also works when separated from the base: it can be placed quite simply on metallic surfaces.

**Designed by  
Klaus Nolting**

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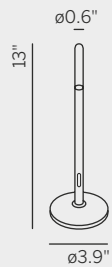






**glim**



**Brilliant light and atmospheric light distribution is produced by a small reflector incorporated in the acrylic head.**

## Portable Outdoor Lamp



color	item no.	system performance
 <b>true gold</b>	93910-TG	<b>0.5 W/15 lm</b>
 <b>bright bronze</b>	93910-BB	<b>0.5 W/15 lm</b>
 <b>pearl white</b>	93910-PW	<b>0.5 W/15 lm</b>
 <b>jet black</b>	93910-JB	<b>0.5 W/15 lm</b>

### technical information:

LED  
NiMH battery  
3x 1000 mAh  
2700K

### battery operating time:

- approx. 7 hrs at 100% (level 3)
- approx. 14 hrs at 50% (level 2)
- approx. 28 hrs at 25% (level 1)

### 3-step-dimming

**6.6ft USB-C-cable included**  
(US-ET-93000-USB-C-BL)

### material:

aluminum die-casting lacquered  
acrylic glass

### protection class: IP44

### light direction:



### mounting:

base or screw mount



lix



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**lix**



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**It's hard to say what we love most about lix: Its simple yet stunning form? Its long-lasting battery that treats us to many hours of brightness? Or is it its pleasant glare-free light, which can be easily controlled using the touch dimmer? One thing's for sure: lix is precisely the shining example of what's been missing in our outdoor setting.**

**Designed by  
Klaus Nolting**



**lix**



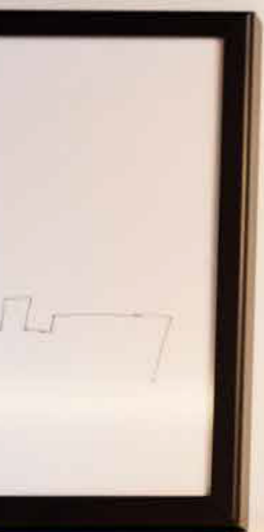
**For even more atmosphere:  
now with warm dim.**

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**lix**



The lampshade and reflector ensure that lix always sheds its light in a pleasantly glare-free downward direction. It even looks attractive when not in use. All it takes is a gentle tap with a finger to switch lix on. The radiance is adjusted with another gentle tap. The lix touch dimmer adjusts the luminous intensity in four levels.



**lix**

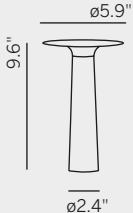












**sage, ruby, midnight, sun, aubergine**



**jet black, pearl white, frozen silver, true gold, bright bronze**

Portable Outdoor Table Lamp  
Dim To Amber

lix	color	item no.	system performance
	 <b>true gold</b>	93930-TG	<b>4.2 W/200 lm</b>
	 <b>bright bronze</b>	93930-BB	<b>4.2 W/200 lm</b>
	 <b>pearl white</b>	93930-PW	<b>4.2 W/200 lm</b>
	 <b>jet black</b>	93930-JB	<b>4.2 W/200 lm</b>
	 <b>frozen silver</b>	93930-FS	<b>4.2 W/200 lm</b>
	 <b>aubergine</b>	93930-AU	<b>4.2 W/200 lm</b>
	 <b>midnight</b>	93930-MN	<b>4.2 W/200 lm</b>
	 <b>ruby</b>	93930-RU	<b>4.2 W/200 lm</b>
	 <b>sage</b>	93930-SE	<b>4.2 W/200 lm</b>
	 <b>sun</b>	93930-SU	<b>4.2 W/200 lm</b>

**technical information:**

LED  
lithium-ion battery  
2x 2600mAh  
Dim to amber 2700-1800K

**battery operating time:**

- approx. 5 hrs at 100% (level 4)
- approx. 10 hrs at 50% (level 3)
- approx. 20 hrs at 25% (level 2)
- approx. 45 hrs at 10% (level 1)

**3.9ft White USB-C-cable included**  
(US-ET-93930-USB-C-WH)

**material:**

aluminum die-casting lacquered  
polycarbonate matte

**protection class:**

**IP44**



**light direction:**





qu



IP44.DE

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**qu**



**IP44.DE**

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**The modern lantern with great light can go wherever we want to be! In combination with the hook, qu shines a light on every wall, or hangs from the rope in trees, under veranda or balcony roofs.**

**Designed by  
Sebastian David Büscher**



qu



**With the 3-step touch dimmer, it creates atmospheric moments indoors and outdoors, while the color jet black with the amber colored glass body harmonize beautifully with every setting.**

qu



IP44.DE

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**With the hinged handle the qu can be hung on the qu hook and thus becomes an independent wall luminaire.**



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**qu**

**Out of sight but definitely noticeable: qu's powerful battery is concealed in the base, while the bright LEDs are fitted in the top. This ensures that as a mobile downlight, qu illuminates its footprint, rather than the night sky. That is what you then see.**



**IP44**.DE

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**Without any shadow of a doubt, qu has been inspired by Chinese lanterns and traditional lanterns. While qu takes its shape from historic role models, we have fitted it with pioneering technical features including LEDs and a lithium-ion battery that supplies the energy to keep it going self-sufficiently for many hours.**

# qu

## Portable Outdoor Lamp

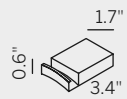

qu		color	item no.	system performance
		 <b>jet black</b>	93950-JB	<b>2 W/76 lm</b>
		 <b>bright bronze</b>	93950-BB	<b>2 W/76 lm</b>

### accessories

#### qu rope - for hanging

	color	item no.	material
	 <b>black</b>	93951	<b>silicon-rubber + polycarbonate lacquered</b>

#### qu hook - for wall mounting

	color	item no.	material
	 <b>jet black</b>	93952-JB	<b>aluminum die-casting lacquered</b>

### technical information:

LED  
lithium-ion battery  
2x 2000mAh  
2700K

### battery operating time:

- approx. 5 hrs. at 100% (level 3)
- approx. 10 hrs. at 50% (level 2)
- approx. 20 hrs. at 25% (level 1)

### 3-step-touch dimmer

**3.9ft Black USB-C-cable included**  
(US-ET-93950-USB-C-BL)

### material:

aluminum die-casting lacquered  
amber-colored glass

### protection class:

**IP44**

### EEC:



### light direction:





A modern garden at night. A gravel path leads through lush greenery. Three solar-powered lights are installed along the path, and a solar panel is visible on the right. The scene is illuminated by the warm glow of the lights and the ambient light from a building in the background.

solar  
join

IP44.DE

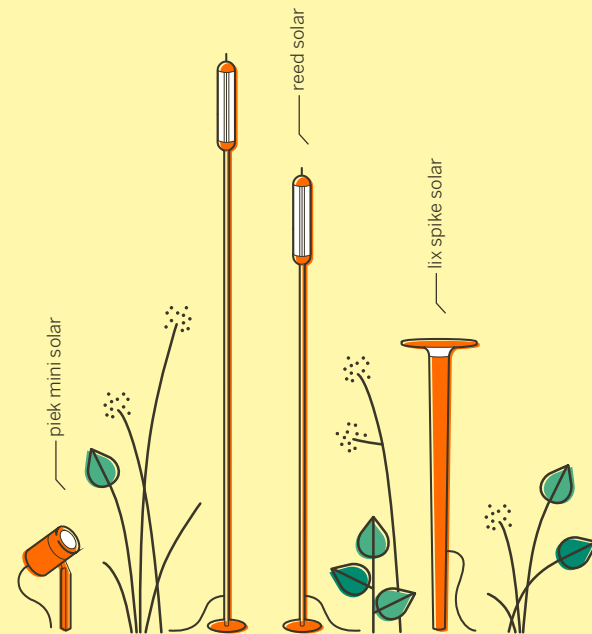
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## solar join



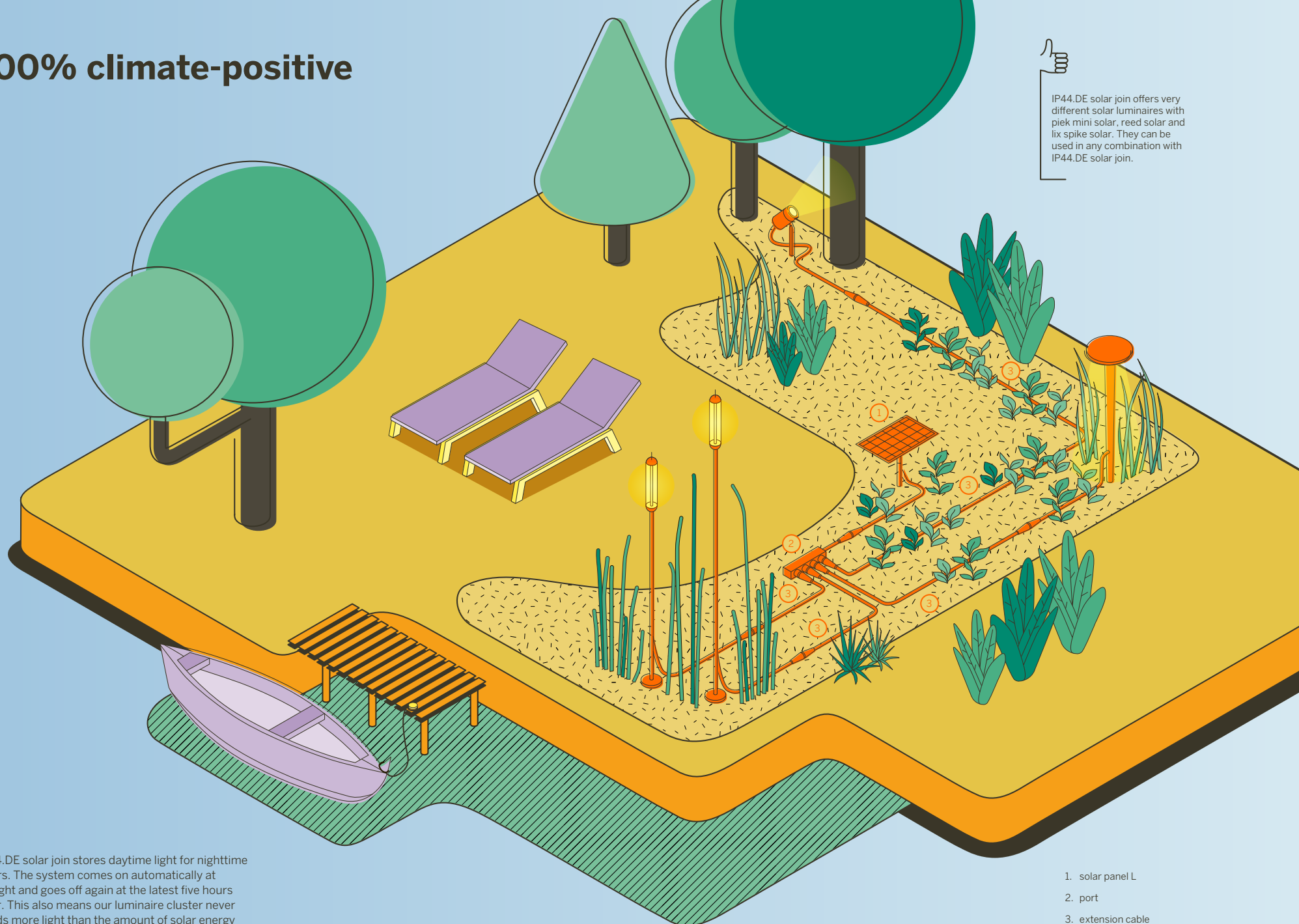
IP44.DE solar join can be used to create absolutely self-sufficient light islands, without any external power connection or conventional energy consumption. Combinations are possible with all IP44.DE solar join luminaire models for completely different light moods.



# 100% climate-positive



IP44.DE solar join offers very different solar luminaires with pick mini solar, reed solar and lix spike solar. They can be used in any combination with IP44.DE solar join.



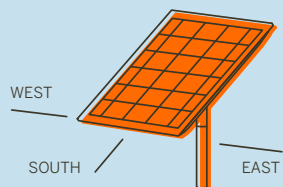
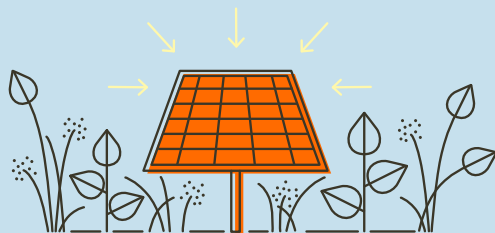
IP44.DE solar join stores daytime light for nighttime hours. The system comes on automatically at twilight and goes off again at the latest five hours later. This also means our luminaire cluster never sheds more light than the amount of solar energy previously collected and stored. During the darker seasons, when the sun is low and after bad weather, the burn time is naturally less. But it is restored to full strength when the sun is higher in the sky and when there are more hours of sunshine.

1. solar panel L
2. port
3. extension cable

# Tips for maximum solar harvest

## ideal placement

To ensure solar panel L can capture every ray of sunshine, it should be put in a place where it is not overshadowed by leaves, twigs or trees.



## perfect positioning

The sun provides the most energy at its highest point in the sky. That is why the solar panel should be aligned directly to the south, as far as possible.

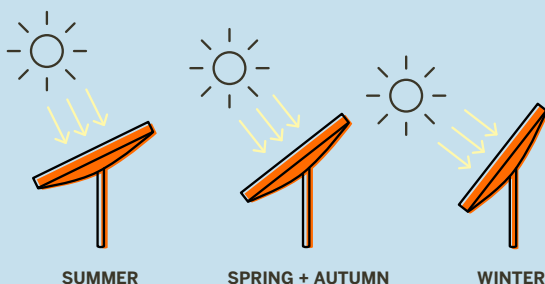


## regular cleaning

Remove leaves, debris or dirt with a cloth and water.

## seasonal alignment

The panel collects the most energy when sun beams hit it at an angle of 90°. The place where the solar panel is put should therefore be adjusted to the level of the sun in the sky, which changes according to the season.



# Useful information about IP44.DE solar join



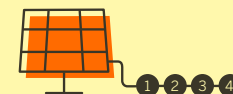
## full power

Two sunny days with ten hours aligned in a southerly direction are sufficient to fully charge the solar panel L. A completely charged battery has enough power for 15 hours of light, in other words, approx. three evenings of atmospheric lighting.



## luminaires and nature

The lower the level of the sun in the sky and the shorter the hours of sunshine, the smaller the amount of PV energy collected by the solar panel L. IP44.DE solar join therefore has a far greater output during the brighter months of the year than in the dark seasons.



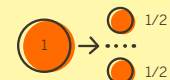
## connect four

The port can be used to connect up to four solar luminaires to one solar panel L. On the other hand, it is not possible to connect a second solar panel.



## automatic mode

When the battery is fully charged, the IP44.DE solar join system goes on automatically when it starts to get dark - and goes off again automatically after about five hours. The battery can also easily bridge three days without sunshine before being recharged again.



## shared output

The output of the solar panel L is shared equally among the luminaires connected to the IP44.DE solar join network. And even when four luminaires are connected, the system is so strong that the output is still approx. the same as with one solitary luminaire in combination with the solar panel S.

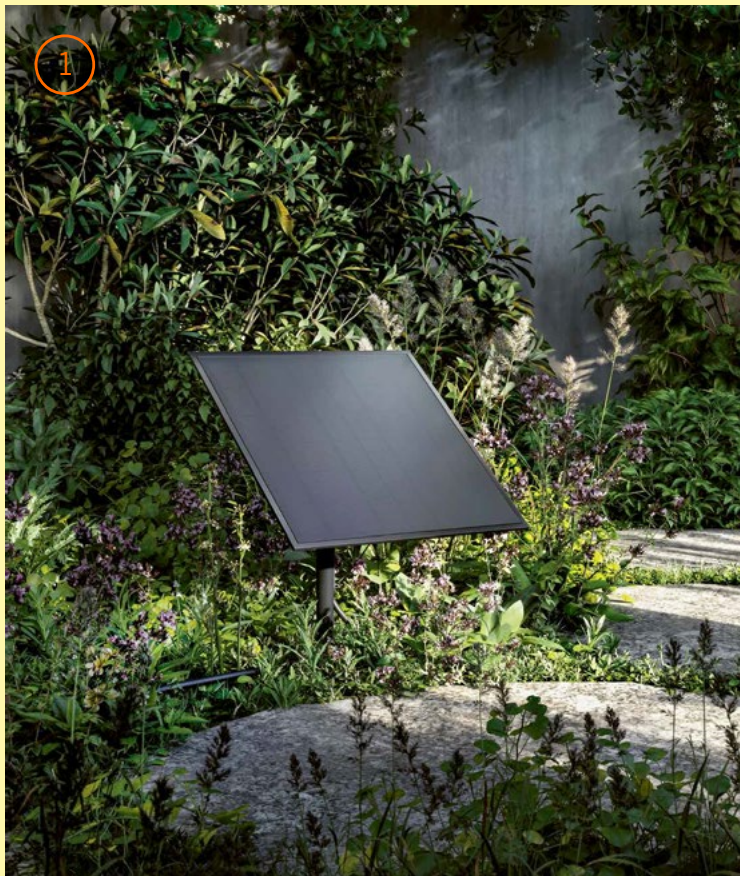


## maximum distance

Both our solar luminaires and also the solar panel L are each equipped with a cable about 1 metre long. An 8 metres extension cable can be used to extend the distance between luminaire and solar panel to 10 metres. The distance should not be any larger than this.

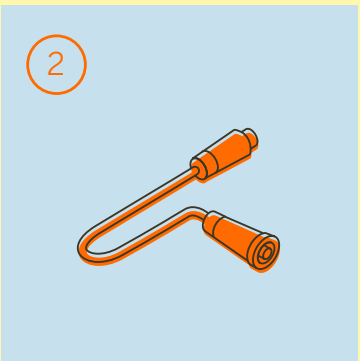


# Components and configuration



## 1. solar panel L

The heart of every IP44.DE solar join system is the solar panel L. With its generous size of 8.9" x 8.9", it captures lots of sunlight which is stored in a powerful battery. The articulated joint means it can be aligned to the current level of the sun.



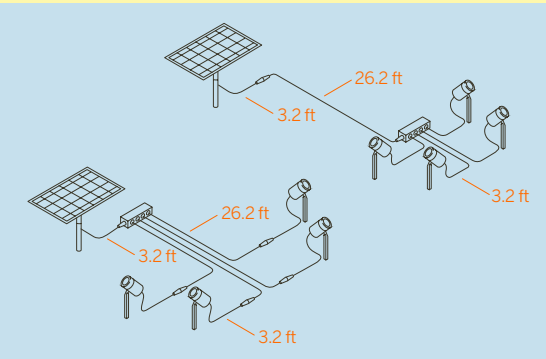
## 2. extension cable

The extension cable makes it possible to extend the connection between port and solar panel L or port and solar luminaire. Available in lengths of 6.6, 13 or 26 feet.



## 3. port

Connects the solar panel L and luminaires; available as port 2, port 3 and port 4 (each with 1 plug + 2/3/4 sockets).



## extension variants

The distance between solar panel L and luminaire should not exceed 32.8 feet to avoid power losses.

# solar join

IP44.DE solar join offers very different solar luminaires with piek mini solar, reed solar and lix spike solar. They can be used in any combination with IP44.DE solar join.

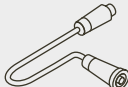
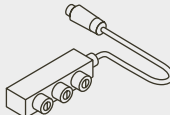


IP44.DE solar join stores daytime light for nighttime hours. The system comes on automatically at twilight and goes off again at the latest five hours later. This also means our luminaire cluster never sheds more light than the amount of solar energy previously collected and stored. During the darker seasons, when the sun is low and after bad weather, the burn time is naturally less. But it is restored to full strength when the sun is higher in the sky and when there are more hours of sunshine.

## required accessory

solar panel L	solar panel	color	item no.
	<b>solar panel</b> lithium-ion battery 4x 2600 mAh 3.3 ft supply cable (H05RN8-F 2x0.03"²) including solar join plug) protection class: IP65  <b>powers up to any 4 solar join fixtures</b>	 <b>anthracite</b> RAL 7016	53110-AN
		 <b>cool brown</b>	53110-CB
		 <b>deep black</b> RAL 9005	53110-BL

## optional accessory

	<b>extension cable</b>  <b>solar join plug on solar join socket</b> <b>cable: H05RN8-F 2x0.03"²</b> <b>protection class: IP68</b>		
	6.6 ft		53102
	13.1 ft		53104
	26.2 ft		53108
	<b>junction</b>  <b>1x solar join plug; 2x/3x/4x solar join socket</b> <b>cable: H05RN8-F 2x0.03"²</b> <b>protection class: IP68</b>		
	port 2		53122
	port 3		53123
	port 4		53124



# lix spike solar join

requires solar join system see page 66



Solar Powered Outdoor Bollard  
Automatic Operation

lix spike solar join	color	item no.	system performance	
	<b>anthracite</b> RAL 7016	93093-AN-JO	<b>4.4 W/260 lm</b> 1x lix spike solar join	<b>1.1 W/65 lm</b> 4x lix spike solar join
	<b>cool brown</b>	93093-CB-JO	<b>4.4 W/260 lm</b> 1x lix spike solar join	<b>1.1 W/65 lm</b> 4x lix spike solar join
	<b>deep black</b> RAL 9005	93093-BL-JO	<b>4.4 W/260 lm</b> 1x lix spike solar join	<b>1.1 W/65 lm</b> 4x lix spike solar join

## technical information:

LED  
lithium-ion solar rechargeable battery  
1x 2600 mAh  
2700K

## operating time:

automatic switch-on at dusk  
for a duration of approx. 5 hrs

## solar join connection:

5.9 ft supply cable (H05RN8-F 2x0.03"²)  
including solar join plug

movable

## material:

luminaire: aluminum die-casting  
powder-coated  
+ polycarbonate matte  
solar panel: head: aluminium-diecasting  
powder-coated;  
pole: stainless steel powdercoated;  
clear glass

## protection class:

IP65



## light direction:



# piek mini solar join

requires solar join system see page 66



Solar Powered Outdoor Accent Light  
Automatic Operation

piek mini solar join	color	item no.	system performance	
	 <b>anthracite</b> <b>RAL 7016</b>	93076-AN-JO	<b>4 W/240 lm</b> 1x piek mini solar join	<b>1 W/60 lm</b> 4x piek mini solar join
	 <b>cool brown</b>	93076-CB-JO	<b>4 W/240 lm</b> 1x piek mini solar join	<b>1 W/60 lm</b> 4x piek mini solar join
	 <b>deep black</b> <b>RAL 9005</b>	93076-BL-JO	<b>4 W/240 lm</b> 1x piek mini solar join	<b>1 W/60 lm</b> 4x piek mini solar join

## technical information:

LED  
lithium-ion solar rechargeable battery  
1x 2600 mAh  
2700K  
solar panel

## reflector: flood

## operating time:

automatic switch-on at dusk  
for a duration of approx. 5 hrs

## location:

with permanent direct sunlight  
(possibly limited function,  
due to regionally conditioned  
longer shading, e.g. in winter  
months)

## solar join connection:

3.3 ft supply cable (H05RN8-F 2x0.03"²)  
including solar join plug

## movable

## material:

head: aluminum die-casting  
powder-coated  
pole: stainless steel  
powder-coated  
clear glass

## protection class: IP65

## light direction:



## mounting:



spike mount into soil or sod





# reed solar join

requires solar join system see page 66

Solar Powered Bollard  
Automatic Operation

reed M solar join	color	item no.	system performance	
	 <b>deep black</b> RAL 9005	93821-BL-JO	<b>4 W/64 lm</b> 1x reed solar join	<b>1 W/16 lm</b> 4x reed solar join

reed L solar join	color	item no.	system performance	
	 <b>deep black</b> RAL 9005	93822-BL-JO	<b>4 W/64 lm</b> 1x reed solar join	<b>1 W/16 lm</b> 4x reed solar join

## technical information:

LED  
lithium-ion solar rechargeable battery  
1x 2600 mAh  
2700K  
solar panel

## operating time:

automatic switch-on at dusk  
for a duration of approx. 5 hrs

## solar join connection:

4.6 ft (reed M)/39. ft (reed L)  
supply cable (H05RN8-F 2x0.03"²)  
including solar join plug

movable

## material:

luminaire: aluminum die-casting  
powder-coated  
+ smoke-colored glass  
solar panel: head: aluminium-diecasting  
powder-coated; pole:  
stainless steel powder-coated;  
clear glass

## protection class: IP65



## light direction:



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