

# JouleStick

for your portable  
energy needs





## True sustainability



Over 1 billion people around the world have still no access to electricity.

For those who only can afford a few dollars per month, “all in one” solar lights seem to be the solution, and millions of these products are currently sold each year. The relatively short life of the toxic batteries these products utilize however implies a huge environmental disaster ahead!

Creating sustainable products has been Sundaya’s first design principle, ever since the company was founded, and products that go to waste in their totality when the battery life comes to an end, are definitely not sustainable.

Sundaya LED lamps and PV panels have a life expectancy of over 20 years, while our fully recyclable Li-ion battery cells will last 5 years. With JouleStick, we created a system that is not only highly affordable, it also lets you easily replace the worn out battery for a new one! This way, when the battery dies, you can continue to enjoy our products for many more years.

And that is what we call true sustainability...

I want that too...





# JouleStick

Try it once, and you are addicted

It takes less than one second to twist out the JouleStick from a lamp and less than one second to replace it with a new one... This is because of the unique design of the JouleStick twist-lock... Try it once and you are addicted...

The JouleSticks are integrated with the charge management electronics and protections against overload and short circuit.

The JouleSticks are made in 2 sizes; 72mm and 138mm length with 22mm diameter and available in 20, 30, 40, 60 and 80 kJ storage capacity.



# It takes 3 simple steps to turn a JouleStick into a flashlight:

Step one:  
Insert the JouleStick in the TPE sleeve with carrying cord.



Step two:  
Twist the JouleStick into the F50 light head.



Step three:  
Your flashlight is ready to use. Simply twist again to switch on.



pictured here:  
A JouleStick30 with  
F50 light attachment

30kj storage capacity,  
50Lm light output,  
1,5kj/hrs energy consumption,  
20 hrs use at 50Lm





And 2 steps will recharge it for the next use:

pictured here:  
PicoLEC20 Light Energy Converter, with a  
JouleStick30 connected

20kj daily charging capacity



Step one:  
Insert the JouleStick  
into the PicoLEC

Step two:  
place the PicoLEC  
with its front side  
facing the sun





# Smart accessories to place light where it is needed



With the cord that comes standard with the basic JouleStick set, each light can be hung from a ceiling in upside down position. For more options, such as wall mounting or to create a table lamp from any old empty bottle, Sundaya has created two universal flexible mounts, that each allow for easy adjustment.

The lamp mounts can be ordered separately and are even compatible with PicoLEC. This way a PicoLEC can be placed on a bottle and adjusted to face the sun exactly and get a higher energy harvest.



pictured here:  
JouleStick30 with a  
W100 ambient light  
attached, placed in a  
flexible wall mount.

Light output 20, 100  
and 200Lm.  
Adjusted by touch  
switch.



pictured here:  
Two JouleStick30's  
with a W50 and a  
W100 ambient light  
attached.

Respective light  
output 50 and  
100Lm



pictured here:  
A JouleStick30 with  
an F100 focused  
light attached, and  
a JouleStick30  
inserted into a  
PicoLEC 20.

Both placed in a  
flexible bottle  
mount.





# PhoneStick

Universal USB phone chargers that can be paired with a JouleStick

As the importance of communication is ever growing, and with it the demand for "power banks", we developed two JouleStick based models. The standard version has a 5VDC USB output and a 5VDC mini USB input. It can charge a mobile device when coupled with a JouleStick. JouleStick can also be recharged via this PhoneStick when coupled to a standard USB charging port. PhoneStickPlus does all the above, but offers an additional LCD display that gives information about the energy content and charging rate of the connected JouleStick.



pictured here:  
A JouleStick30 with  
PhoneStick attachment

30kj storage capacity,  
5V USB output  
5V mini USB input



pictured here:  
A JouleStick30 with  
PhoneStickPlus attachment

30kj storage capacity,  
5V USB output,  
5V mini USB input,  
LCD display indicating  
energy content and  
charging rate.





# The JouleStick Family



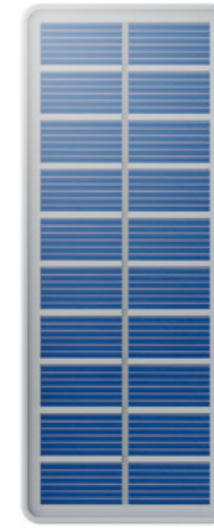
**JouleStick20, 30 and 40**  
Storage capacity: 20kj, 30kj and 40kj  
dimensions: Ø22 x 72mm



**JouleStick60 and 80**  
Storage capacity: 60kj and 80kj  
dimensions: Ø22 x 138mm



**JouleStick Sleeves**  
for small and large JouleSticks  
Available in blue, green and white



**PicoLEC20**  
Voltage: 6VDC  
Harvest capacity: 20k per day  
dimensions: 64 x 175mm



**PicoLEC40**  
Voltage: 6VDC  
Harvest capacity: 40kj per day  
dimensions: 118 x 175mm



**W50 ambient light**  
Light output: 50Lm  
Consumption: 1,5kj/h  
Running time: 20hrs\*  
dimensions: Ø55 x 53mm



**W100 ambient light**  
Light output: 100Lm  
Consumption: 3kj/h  
Running time: 10hrs\*  
dimensions: Ø65 x 65mm



**W200T ambient light**  
Light output: 20,100, 200Lm  
Consumption: 0,7 to 6kj/h  
Running time: 3 up to 40hrs\*  
dimensions: Ø80 x 79mm



**Wall Clamp & Bottle Stand**  
compatible with all lights and PicoLECs  
dimensions  
Wall Clamp: 55 x 116mm  
Bottle Stand: 27 x 116mm



**F50 focused light**  
Consumption: 1,5kj/h  
Running time: 20hrs\*  
dimensions: Ø40 x 55mm



**F100 focused light**  
Light output: 100Lm  
Consumption: 3kj/h  
Running time: 10hrs\*  
dimensions: Ø55 x 70mm



**F100T focused light**  
Light output: 200Lm  
Consumption: 0,7 to 6kj/h  
Running time: 3 up to 40hrs\*  
dimensions: Ø70 x 85mm



**PhoneStick**  
Features a standard 5V USB output and a 5V mini USB input.  
dimensions: Ø29 x 42mm



**PhoneStickPlus**  
Features a standard 5V USB output and a 5V mini USB input and offers accurate state of charge information.  
dimensions: Ø45.2 x 68mm

\*based on energy supply from a fully charged JouleStick30



# JouleStickDock

A modular docking system for charging multiple JouleSticks

While PicoLEC is the simplest way to charge an individual JouleStick at home, larger community projects require a different approach. JouleStickDocks connect to larger Solar panels and are capable of charging up to 200 JouleSticks simultaneously. This makes a JouleStickDock system ideal for, for example, school projects.

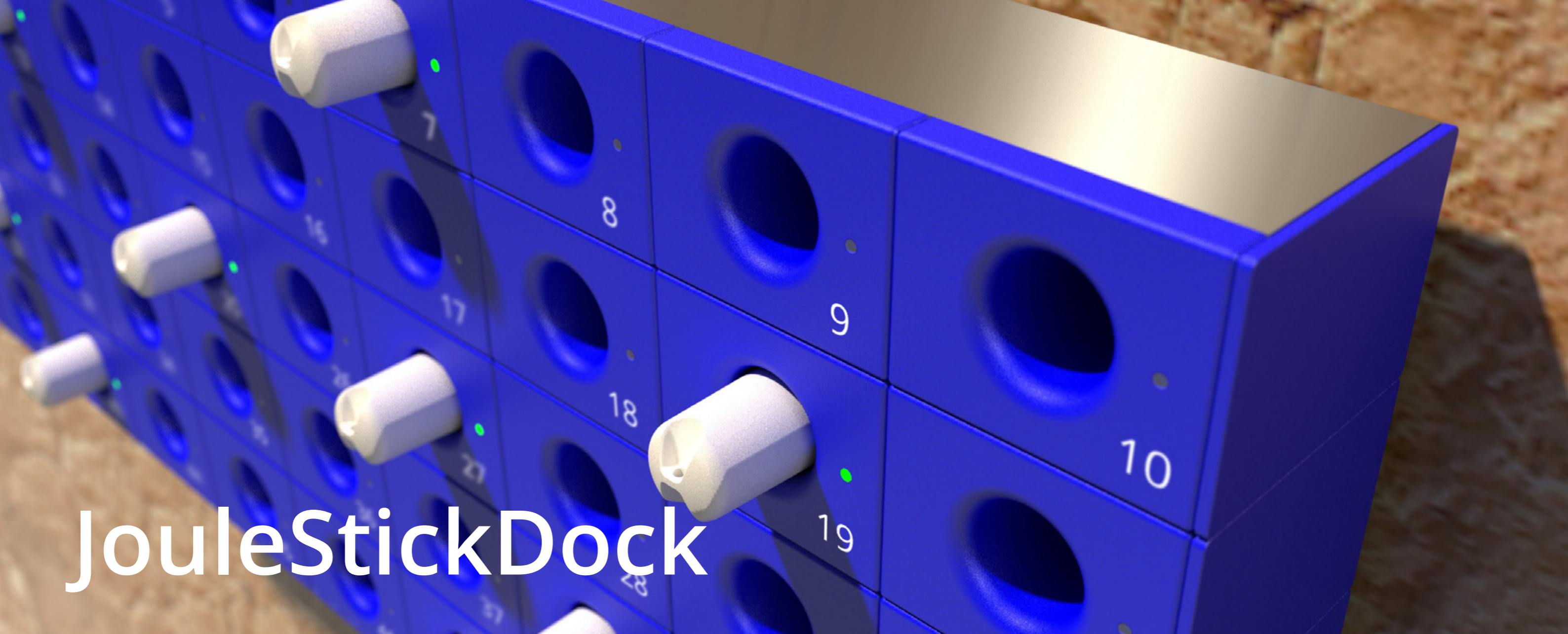
pictured here:  
A JouleStickDock100

This JouleStickDock100 connects to a Solar array on top of the building with energy harvest capacity of 3000kj/day.

(approximately 2sqm roof space required)







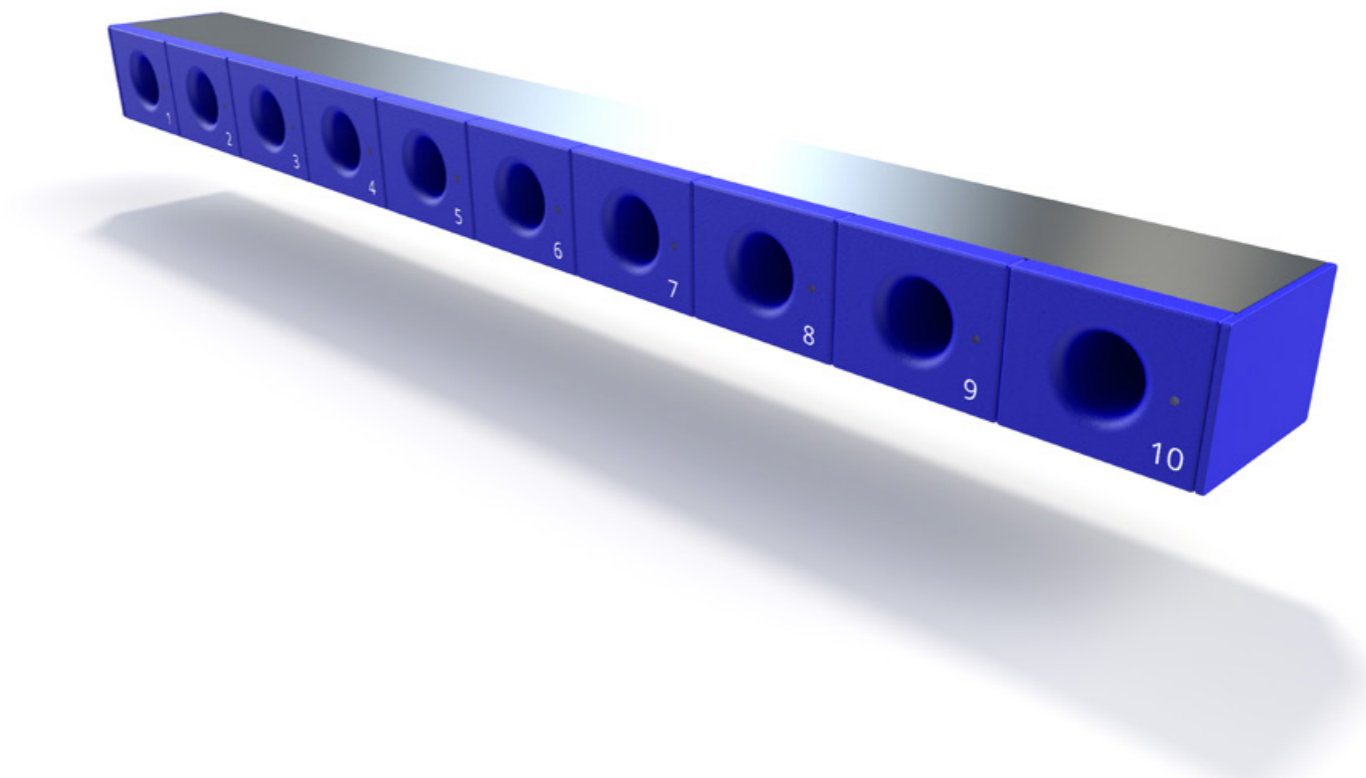
# JouleStickDock

## A modular docking system

JouleStickDocks can be built to specifications by stacking multiple horizontal bars on top of each other. Each bar typically features 10 numbered charging slots, each with its own state of charge indicator light.

An optional central LCD screen or a mobile phone with custom app with bluetooth interface to the JouleStickDocks offers more detailed information on the state of health of each individual JouleStick that is connected.

Depending on the size of the JouleDock it can be connected to one or multiple LECs with plug and play cables.





## Small scale business opportunities with JouleStickCase

The investment in a JouleStickDock system offers a unique opportunity to turn JouleStick rental into a small business, offering charging services.

There are 2 sizes of JouleStickCases, holding 50 up to 120 JouleSticks per case. The cases are foam lined, dust- and water proof and can be mounted on front or back of a bicycle or motorbike.



Turn **JouleStick**  
into a business of your own

