JouleStick

for your portable
energy needs

sundaya

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 definetely 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...

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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.

And 2 steps will recharge it for the next use:

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
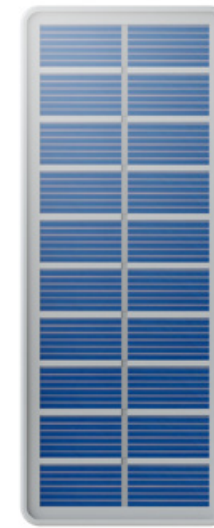energy content and
charging rate.

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

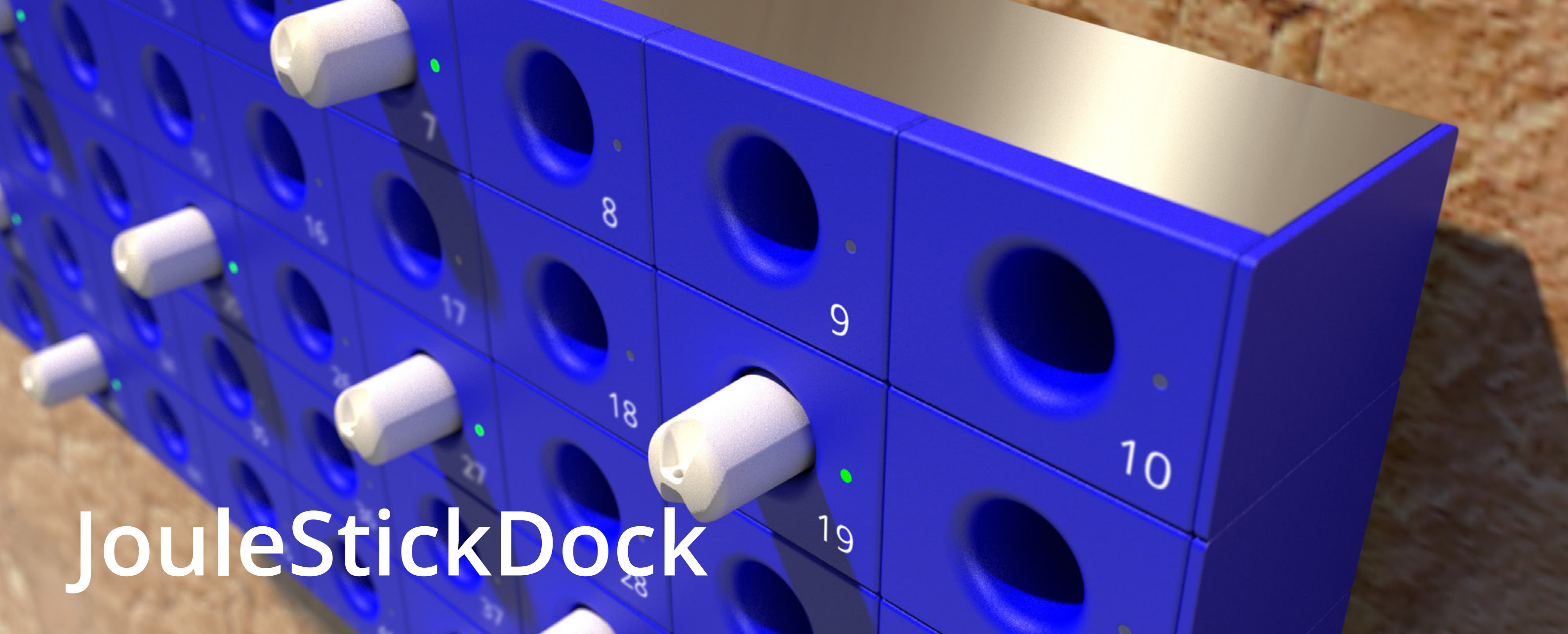## A modular docking system for charging multiple JouleSticks

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.
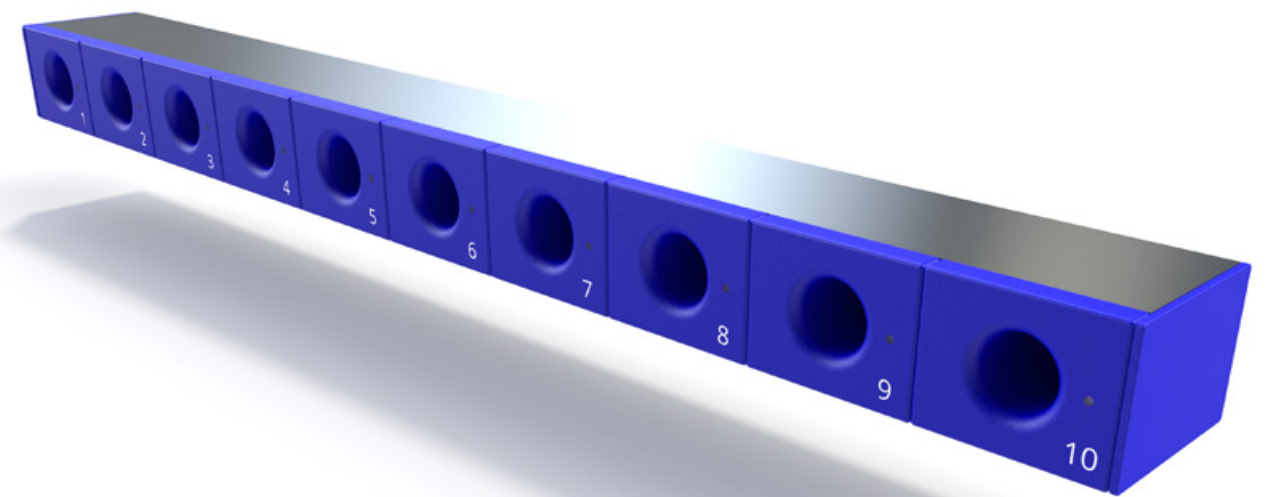
Small scale business opportunities with JouleStickCase

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