



# PRODUCT CATALOGUE | 2023

fosera  
IGNITE



SCAN TO DOWNLOAD  
THE DIGITAL VERSION

# WHAT WE STAND FOR.

Our main focus is to manufacture and provide solar home systems for rural electrification in the global south. Our SHSs are engineered in Germany and produced in our factory in Thailand. We operate a local assembly in Bahir Dar in Ethiopia.



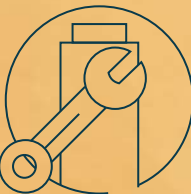
## COMMITTED TO PARTNERSHIPS

We build longterm partnerships with our distributors on the ground through strong service support, reliable products fitted to the needs, enabling growth together.



## GERMAN ENGINEERING

We were founded in 2011 in the southen Germany and develop high quality Solar Home Systems for the off-grid sector. Innovation and reliability are fundamental to our design process.



## RELIABLE MANUFACTURING

Our systems are manufactured in our own factory in Pathumthani, Thailand, which is certified according to ISO:9001 (quality), ISO:14001 (environment) and ISO:45001 (health and safety).



IMPROVING  
LIVES THROUGH  
THE POWER  
OF THE  
SUN.





# SOLAR HOME SYSTEMS.





# OUR PRODUCT FAMILIES.

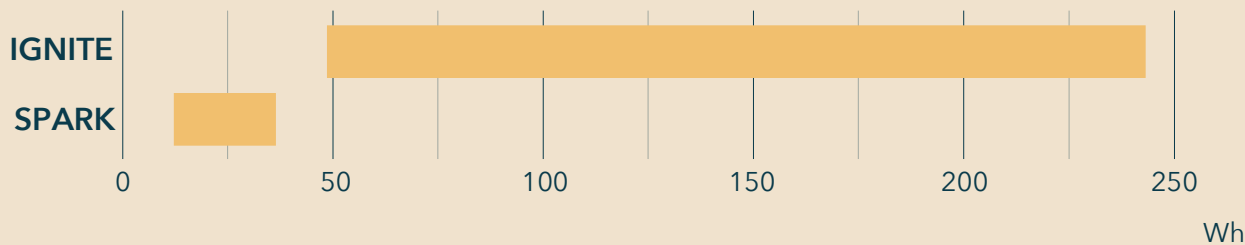
## POWER LINE. 12V SYSTEMS



## BLUE LINE. 3.2V SYSTEMS

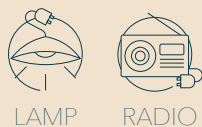


### CAPACITY RANGES FOR FOSERA SYSTEMS



### AVAILABLE APPLIANCES FOR FOSERA SYSTEMS

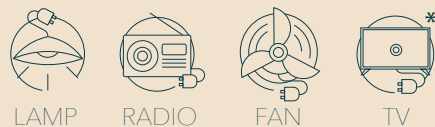
#### SPARK



LAMP

RADIO

#### IGNITE



LAMP

RADIO

FAN

TV

\* Appliance recommended just for some models

# PAY-AS-YOU-GO

PAYG is a technology which removes the upfront price barrier of Solar Home Systems, by allowing end users to pay in affordable amounts over time. This is accomplished by additional electronics, which enable or disable the SHS on request, achieving a top-up payment structure similar to mobile phones.



## **Security**

Consumers pay with a token, purchased through mobile money or through a designated local vendor to make payments on a regular periodic basis. Once the customer stops paying, the system will shut off automatically.



## **Affordability**

Flexible repayment conditions allow customers to pay from their savings or current income. Customers can transfer their spending on kerosene, candles or batteries to an entry-level solar home system. Further, users only pay when the system is working.



## **New customer segments**

Rural customers once unreachable by the grid can get immediate access to basic electricity.



## **After Sales Service**

Since the customer will only pay if the system works, PAYGO ensure a good after-sales-service and long-term success of rural electrification projects.

## Open PAYGO Token

Now a common communication interface between hardware and software is available on an open source basis. The unlocking tokens are created based on cryptographic principles which are linked to unique security keys corresponding to each system, ensuring a high level of security and preventing fraud.

Thanks to the Open PAYGO Token, distributors can now easily change supplier and develop their own backend system if required.

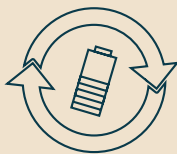
All our battery boxes are Open PAYGO-enabled.

# LiFePO<sub>4</sub> BATTERIES

At fosera we always use LiFePO<sub>4</sub> because:



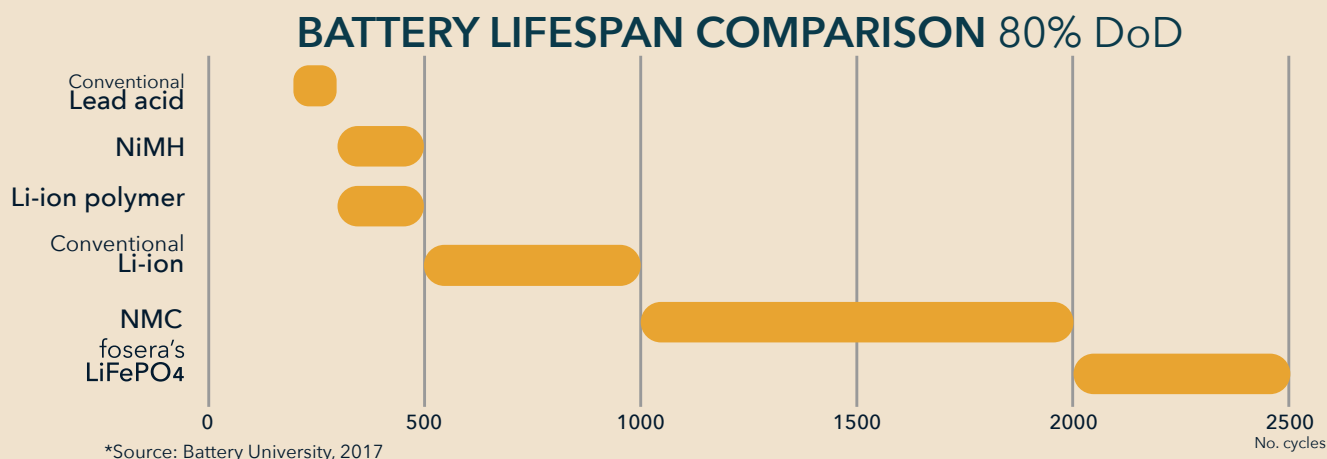
They have a longer lifespan compared to common alternatives on the market



They use phosphates and avoid cobalt's cost and environmental concerns



They are safer when used under high temperatures



## VeraSol CERTIFICATION

VeraSol is the leading independent quality assurance program for distributed solar solutions, appliances and equipment. An evolution of Lighting Global Quality Assurance, VeraSol is managed by CLASP and the Schatz Energy Research Center with foundational support from Lighting Global, UKaid, IKEA Foundation, and others. For more, visit <https://verasol.org>.

To see a list of Fosera's VeraSol-certified products, please visit <https://data.verasol.org>. These products meet the internationally recognized quality standards for product quality, durability, and truth-in-advertising.



# VeraSol



# fosera® SPARK

2 OR 3 LIGHTS & USB FOR PHONE CHARGING

OPEN PAYGO ENABLED WITH INTEGRATED KEYPAD

SIMPLE AND POWERFUL



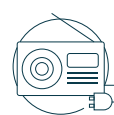
lights



phone  
charging



Open  
PAYGO



radio  
*\*optional*

The **fosera**® SPARK is the perfect entry level solar home system, designed to be cost effective and ultra-efficient while maintaining the same high quality standards that **fosera**. is known for.



## MAIN FEATURES



x2

### SUPERIOR BATTERY RUNTIME

Charge more phones and have longer hours of light.



### QUALITY

Outstanding quality allowing us to offer the longest warranty in the market: 3 years.



### HIGHLY EFFICIENT BATTERY

**fosera**. uses LiFePO4-batteries, highly efficient and resistant to capacity losses.



### SUPERIOR BATTERY PROTECTION

Short-circuit, over-current and ESD protection, providing a maintenance-free lifespan of up to 10 years.



### OPEN PAYGO ENABLED

Prevention from unlocking PAYG, anti-theft screws, warranty seal.



fosera® SPARK	20	30	units
Nominal System Voltage	3.2		V
System capacity	7.6	11.4	Ah
Energy capacity	24.32	36.48	Wh
Battery type	LiFePO4		
Protection features	Overcharge, overcurrent, deep discharge, short circuit		
Appliance outlets	2x Regular outlets max. 3A		
USB outputs	1x 1A USB output		
Input	1x Solar input max. 2.75A		
Weight	302	338	g
Dimensions	130 x 95 x 51		mm
PAYG (optional)	PAYG enabled		

### SOLAR PANEL

Module peak power	6	10	Wp
Module current (Impp)	1.33	1.90	A
Module technology	Polycrystalline silicon		
Cable length panel to box	6		m
Module dimensions	270x192x17	340x230x17	mm
Module weight	850	1250	g

### LAMP MINI

150

Brightness	150	lm
Power	1.14	W
Cable length	6	m

### OPERATION TIME

Solar runtime* With 2x Lamp mini 150 at 100%	7:30 hrs	10:50 hrs	
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\*additional phone charging will reduce the runtime



# fosera® SPARK

## SPARK 20 KIT



SPARK 20



6Wp SOLAR PANEL



2x LAMP mini 150



7:30 hrs\*  
Solar runtime



## SPARK 30 KIT



SPARK 30



10Wp SOLAR PANEL



3x LAMP mini 150



7:10 hrs\*  
Solar runtime

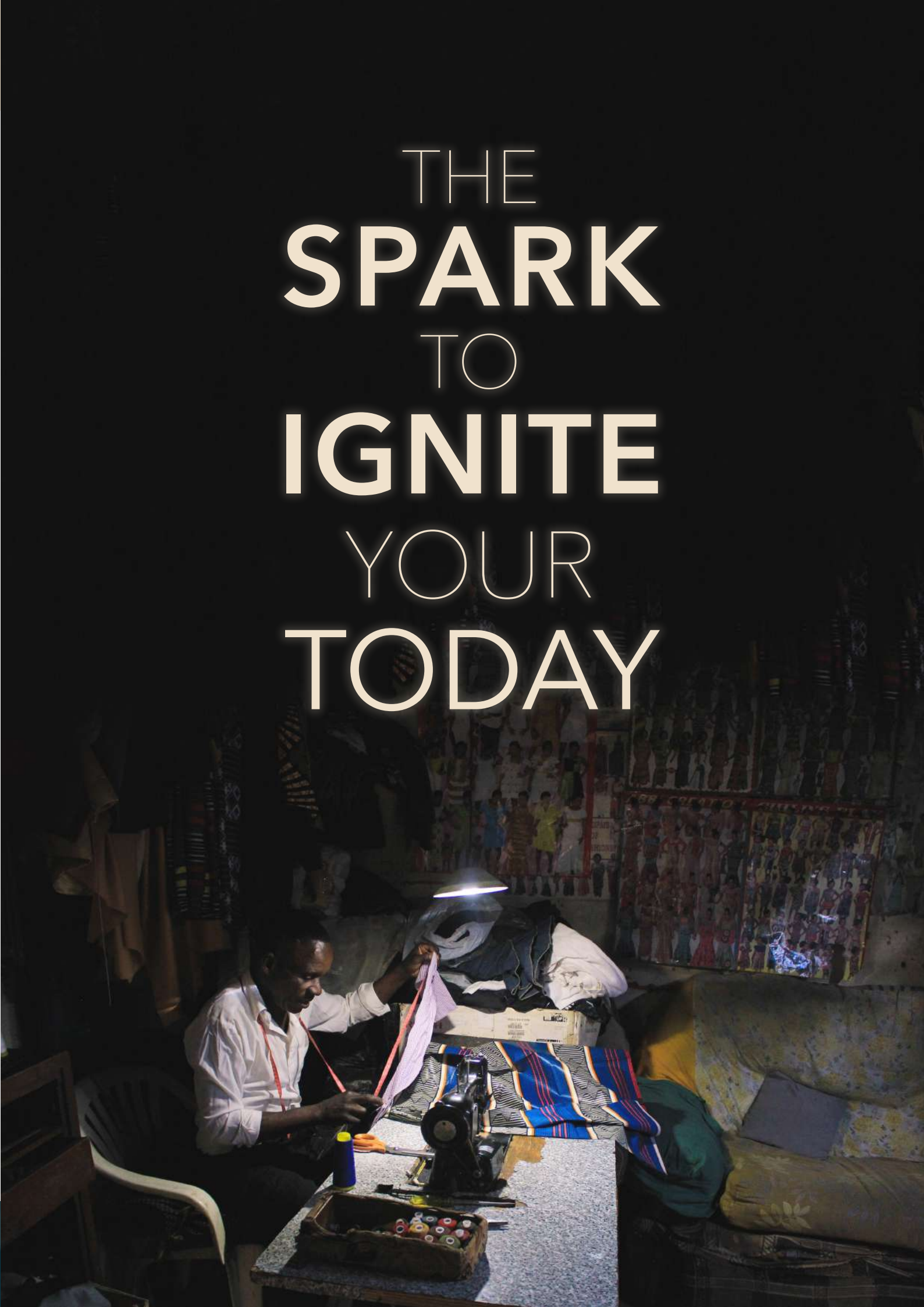


## SPARK + RADIO 100

Combine the SPARK with our Radio 100 to listen to your favourite local stations, as well as enjoy your own music via USB without compromising the battery runtime of the SPARK due to the low power consumption of this battery powered radio.



THE  
**SPARK**  
TO  
**IGNITE**  
YOUR  
**TODAY**





## fosera® IGNITE



**POWERFUL, HIGH QUALITY SOLAR HOME SYSTEM**



**MULTIPLE APPLIANCES AVAILABLE, LIKE TV, COOLER OR FAN**



**UP TO 243 Wh STORAGE AND 150 Wp OF SOLAR POWER**



The fosera. IGNITE can meet all needs of an Off-Grid household, ranging from light to TV, fan to food cooling.



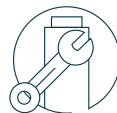
### **PAYG WITH ENHANCED FLEXIBILITY**

Flexibility to change PAYG provider - even during field operations, without any hardware swap.



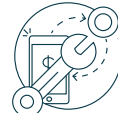
### **RELIABLE LITHIUM-IRON-PHOSPHATE BATTERY**

Significantly longer battery lifetime compared to Lithium NMC and safer to use.



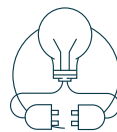
### **SUPERIOR SYSTEM QUALITY AND PROTECTION**

short-circuit, over-current and ESD protection, allowing maintenance-free operation and a 3-year warranty.



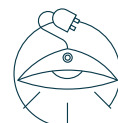
### **OPEN PAYGO ENABLED**

Prevention from unlocking PAYG, security screws, warranty seal.



### **SMART ENERGY MANAGEMENT**

Programmable outlets and load communication to optimize the daily runtime.



### **ENHANCED LAMPS**

With touch switch, 3 dimming levels and up to 400 lumens with an efficiency of 145 lm/W.



# fosera® IGNITE



outputs



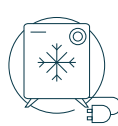
phone  
charging



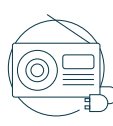
TV  
*optional*



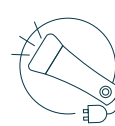
standing fan  
*optional*



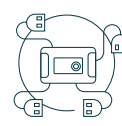
cooler  
*coming soon*



radio  
*optional*



torch  
*optional*



flexible  
design



Open  
PAYGO

## TECHNICAL SPECIFICATIONS

fosera® IGNITE	50	100	150	200	250	units
Nominal system voltage	12.8					V
Battery capacity	3.8	7.6	11.4	15.2	19.0	Ah
Battery energy capacity	48.6	97.3	145.9	194.6	243.2	Wh
Battery type	LiFePO4					
Protection features	Overcharge, deep discharge, overcurrent, short circuit					
Appliance outlets	5x 3A regular 1x 3A configurable 1x 4A high power	5x 3A regular 1x 3A configurable 1x 8A high power				
Appliance outlets total current	3.8	8.0				A
USB outputs	2x 2A USB / Max. 2A total					
Max. input current	3.8	8.0				A
Weight	1.00	1.41	1.78	2.17	2.53	kg
Dimensions	233.0 x 172.5 x 90.0					mm
PAYG (optional)	OpenPAYGO Token					

## RECOMMENDED SOLAR PANEL

Module peak power	15	30	50	75	Wp
Module current <i>I<sub>mp</sub></i>	0.8	1.6	2.8	4.0	A
Module technology	36 cells polycrystalline silicon				
Cable length panel to box	6				m
Module dimensions	350 x 250 x 17	650 x 340 x 20	670 x 530 x 25	770 x 670 x 30	mm
Module weight	0.9	2.6	4.2	5.4	kg

## OPERATION TIME

Solar runtime* <i>With 4x Power Line Lamp 200</i>	7:20	15:00	25:30	25:30	37:00	hrs
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\*additional phone charging will reduce the runtime

## IGNITE 100 KIT



IGNITE 100



30Wp SOLAR PANEL



x1

CEILING LAMP 100



x2

CEILING LAMP 200



x1

CEILING LAMP 400



13:15 hrs\*  
Solar runtime



## IGNITE 150 KIT



IGNITE 150



50Wp SOLAR PANEL



x2

CEILING LAMP 100



x2

CEILING LAMP 200



x1

CEILING LAMP 400



19:30 hrs\*  
Solar runtime



\*additional phone charging will reduce the runtime



## IGNITE 200 KIT



IGNITE 200



50Wp SOLAR PANEL



x2

CEILING LAMP 100



x2

CEILING LAMP 200



x1

CEILING LAMP 400



19:30 hrs\*  
Solar runtime



## IGNITE 250 KIT



IGNITE 250



75Wp SOLAR PANEL



x2

CEILING LAMP 100



x2

CEILING LAMP 200



x1

CEILING LAMP 400



29:45 hrs\*  
Solar runtime



For more information, contact our sales team at [sales@fosera.com](mailto:sales@fosera.com)



# CONNECTING THE WORLD WITH RENEWABLE AND AFFORDABLE ELECTRICITY.



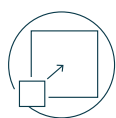






## fosera® TV320

The **fosera**. POWER LINE TV 320 is a solar powered TV that consumes only 16 W. It is designed with inputs to accommodate modern entertainment, such as a USB port for flash memory sticks to watch your favourite shows and movies. It is the perfect product extension for the fosera. IGNITE solar home system.



### LARGE SCREEN SIZE

Enjoy a 32" TV



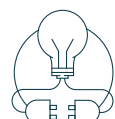
### BUILT IN RECEIVER

Covers a wide range from VHF, UHF, DVB-C, DVB-T/T2, DVB-S/S2 that complements many geographical areas



### CLEAR AND CRISP DISPLAY

TFT LED technology provides vivid image quality for an improved experience



### WATCH YOUR OWN CONTENT

Includes a USB port, HDMI, AV in inputs and more to enjoy personal entertainment

## fosera. TV 320

Supply voltage	12 V +/- 3 V
Power consumption	16 W
Standby consumption	<0.1 W
Output speakers	2 x 10 W

### SCREEN

Display Type	32" TFT LED
Ratio	16:9
Resolution	1366 x 768
Screen Brightness	100nit on mode
Backlight module	DLED

### MISCELLANEOUS

Accessories	Remote control, 2 x AAA battery, cable for fosera POWER LINE, Mini YPBPR cable, User Manual
TV dimension	732 x 211.5 x 512.5 mm
TV weight	4.2 kg

### SIGNALS

Inputs	DC, HDMI, USB, VGA, Earphone, PC Audio, AV in, DVB-S/S2, DVB-C/T/T2, Coaxial, CI, mini YPBPR
Analog receiving range	48.25 MHz - 863.25 MHz 200channel
Analog video system	PAL / SECAM / NTSC
Digital receiving range	VHF (50 MHz - 230 MHz) UHF (474 MHz - 862 MHz) DVB-C: 500 channel DVB-T/T2: 500 channel DVB-S/S2: 4000 channel
Digital bandwidth	6 MHz / 7 MHz / 8 MHz
Digital video system	MPEG-2, 4 AVC/H.264, HEVC/H.265
Digital sound system	MPEG-1,2 (layer 1/2), MP3, DD*
USB	Video: AVI, ASF, MPEG, MKV, MP4, 3GPP, FLV, WMV, SWF, WebM, DIVX*, RN* Music: MP3, MP4, WAV, AAC, ASF, FLAC, AC3*, EAC3* Picture: JPEG, BMP, PNG
HDMI & Component	480i, 480p, 576i, 576p, 720p, 1080i, 1080p

\*License needed

# fosera® STANDING FAN

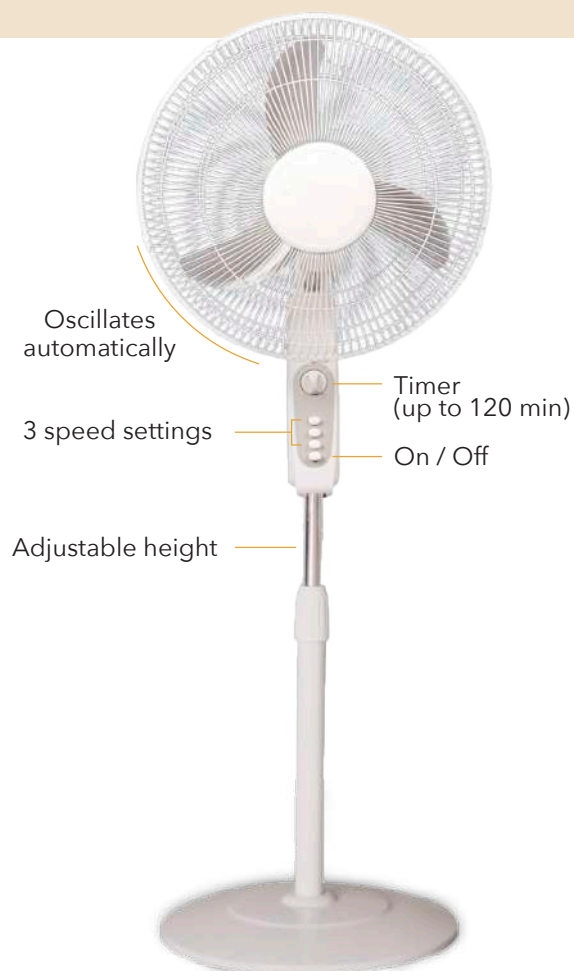
ENERGY EFFICIENT COMFORT FOR HOT CLIMATES.

LIGHT AND EASY TO MOVE AROUND AT HOME OR AT WORK.

PERFECT MATCH FOR 12 V FOSERA. SOLAR HOME SYSTEMS.

## fosera® STANDING FAN

Nominal voltage	12.8 V
Voltage range	12 ± 3 V
Power	8.5 W
Current	0.65 A
Airflow	1 824 m³/h
Speed settings	3 (High, Med, Low)
Blade diameter	16"
Cable lenght	6 m
Height (max. height)	1.25 m
Weight (net)	3.93 kg
Weight (gross)	4.50 kg



The **fosera**. POWER LINE Standing Fan 12V adds efficient cooling and improved air circulation to any indoor space. Designed for use at home, it's easy to move and adjust for focusing cool air wherever needed. The fan is Plug & Play and can be easily connected to the Fosera IGNITE or EVO solar home system.



## fosera® LAMPS

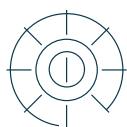


The **fosera**. Power Line LAMPS use highly-efficient LED technology with a very long lifetime. They come in three versatile styles: Ceiling Lamp, Tube Light and Mini to fit any solar home system size. With an efficiency of up to 145 lm/W they provide powerful lighting options for SPARK and IGNITE Solar Home System kits.

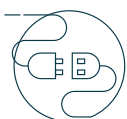


fosera® Blue Line	CEILING LAMP		LAMP mini		units
	100	200	100	150	
Nominal Lamp Voltage	3.2		3.2		V
Lamp current	228	456	237	356	mA
Nominal power	0.73	1.46	0.76	1.14	W
Light Source	3	6	2	3	LEDs
Color temperature	5000		5000		K
Illuminance	100	200	100	150	lm
Efficiency	137		132		lm/W
Cable length	6		6		m
Switch	Mechanical switch 2 dimming modes		Capacitive touch switch 3 dimming modes		
Weight	0.33		0.15		kg

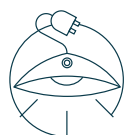


**BRIGHT VERSATILE LIGHT RANGE**

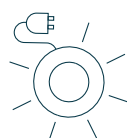
Offered in 100 to 700 lumen strength, solid bright light for any room.

**PLUG & PLAY**

Simply plug the lamp into a **fosera.** battery box and flip the switch for instant light.

**TOUCH SWITCH**

Modern touch switch more resistant to wear and tear provides three dimming levels.

**HIGHLY EFFICIENT**

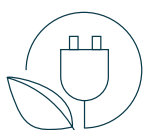
Up to 145 lm / W for a long lifetime of regular use.



fosera® Power Line	CEILING LAMP			LAMP mini	TUBE LIGHT		units
	100	200	400	100	400	700	
Nominal Lamp Voltage	12.8			12.8	12.8		V
Lamp current	61	122	244	54	244	450	mA
Nominal power	0.78	1.56	3.12	0.69	3.12	5.76	W
Light Source	4	4	8	4	12		LEDs
Color temperature	5000			5000	5000		K
Illuminance	110	220	420	100	400	700	lm
Efficiency	141	141	134	145	128	121	lm/W
Cable length	6			6	6		m
Switch	Mechanical switch 2 dimming modes			Capacitive touch switch 3 dimming modes	Mechanical switch 2 dimming modes		
Weight	0.31			0.15	0.35		kg

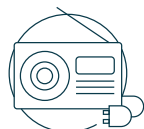
## fosera® RADIO 100

PORTABLE AND RUGGED, ENJOY ON THE GO.  
VERSATILE OPTIONS FOR CONNECTING YOUR OWN ENTERTAINMENT.  
PERFECT MATCH FOR ALL FOSERA. SYSTEMS.



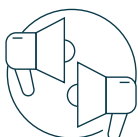
### ENERGY EFFICIENT

Consumes only 2.5W for easy charging .



### FM/AM/SW RADIO FORMAT

Multiple options for receiving different signals.



### LISTEN TO YOUR OWN CONTENT

Includes AUX IN and can be used as a loudspeaker for USB memory sticks, SD cards and cell phones.

## fosera® RADIO 100

Power supply	Mini USB, DC 5V
Power consumption	2.5 W
Speaker unit	2.5" 4 Ω
Function	USB + TF + AUX + RADIO
Radio format	FM / AM / SW
FM radio freq. range	88 - 108 MHz
AM radio freq. range	530 - 1600 KHz
SW 1-2 radio freq. range	8 - 18 MHz

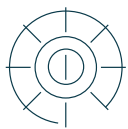
The **fosera. Radio 100** is optimized for low energy consumption without compromising the sound quality. The RADIO comes with an AUX IN and can be used as a loudspeaker for cell phones or MP3 storages such as USB flash memory sticks or SD cards.



# fosera® mobile ONE



The **fosera. mobile ONE** has the functions of a solar home system and the flexibility of a portable torch. The mobile ONE can be charged using a solar panel or any other USB port, found on the SPARK and IGNITE systems. It can also be used as a portable battery, so you can charge your phone or connect additional lamps.



## BRIGHT INTEGRATED LIGHT

Ranges from 17 / 70 / 210 lumens for the right light level needed



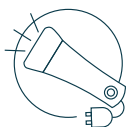
## FLEXIBLE RECHARGING

Charge from a solar panel, USB port of the SPARK or IGNITE and with a USB adapter



## PROTECTION FEATURES

Overcharge, overcurrent, deep discharge and short circuit protection for added safety



## SLEEK DESIGN

Lightweight for comfortable transportation, ergonomic design for steady handling



## fosera® mobile ONE

units

Nominal System Voltage	3.2	V
System capacity	3.8	Ah
Energy capacity	12.16	Wh
Battery type	LiFePO <sub>4</sub>	
Protection features	Overcharge, overcurrent, deep discharge, short circuit	
Charge indicator	Yes	
SOC indicator	6 stages	
Energy saving mode	Yes	
Appliance outlets	1x 2.7A regular	
USB outputs	1x 0.75A USB	
Solar input	1x Solar input max. 2.2A	
Weight	173	g
Dimensions	135 x 60 x 60	mm

## RECOMMENDED SOLAR PANEL

Module peak power	2.5	Wp
Module current (Impp)	0.58	A
Module technology	Polycrystalline silicon	
Cable length panel to box	6	m
Module dimensions	150 x 192 x 17	mm
Module weight	450	g

## INTEGRATED LIGHT

Brightness (Mode 1/2/3)	17 / 70 / 210	lm
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## OPERATION TIME

Full battery runtime*	5:30 hrs	
<i>Integrated light 100%</i>		

\*additional phone charging will reduce the runtime



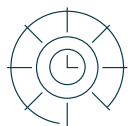
## fosera® GO



The **fosera.GO** is our versatile and portable lantern. With 100 lm and designed for maximum affordability.

The functional housing allows for versatile usage: hang it from the wall, stand it on the table, use it as portable lantern or as a desk lamp with a stand.

The **fosera.GO** features housing with enhanced ingress protection to make it durable and resistant against water or dust.



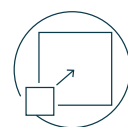
### PROLONGED ENDURANCE

With a runtime of up to 6 hours



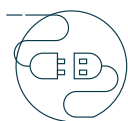
### HIGHLY EFFICIENT BATTERY

LiFePO<sub>4</sub>-batteries, highly efficient and resistant to capacity losses



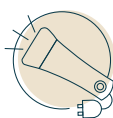
### VERSATILE USE

Stand it, hang it or carry it.

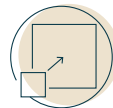


### CAN BE CHARGED FROM ALL FOSERA. SYSTEMS

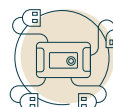
Without any additional solar panel



PORTABLE SOLAR LANTERN WITH INTEGRATED BATTERY



100-LUMEN LANTERN THAT YOU CAN TAKE WITH YOU WHEREVER YOU GO



FUNCTIONAL DESIGN ALLOWS FLEXIBLE USAGE

fosera® GO	100	units
Nominal System Voltage	3.2	V
System capacity	1.2	Ah
Energy capacity	3.8	Wh
Battery type	LiFePO <sub>4</sub>	
Protection features	Overcharge, overcurrent, deep discharge, short circuit	
Charge indicator	Yes	
SOC indicator	Yes	
Solar input	1x Solar input	
Weight	143	g
Dimensions	120 x 85 x 45	mm

### RECOMMENDED SOLAR PANEL

Module peak power	1.5	Wp
Module current (Imp)	0.34	A
Module technology	Polycrystalline silicon	
Cable length panel to box	6	m
Module dimensions	150 x 192 x 17	mm
Module weight	450	g

### INTEGRATED LIGHT

Brightness (Mode 1/2/3)	100 / 50 / 10	lm
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### OPERATION TIME

Full battery runtime*	6:00 hrs	
<i>Integrated light 100%</i>		

\*additional phone charging will reduce the runtime



READ OR  
STUDY FOR  
LONGER  
WITHOUT  
KEROSENE.





## WHY FOSERA?



Tool-box of plug & play kit options which allows you to build the system you need.



LiFePO<sub>4</sub> - long system lifetime up to 10 years, non-toxic materials and safe to use.



High quality with 3 years warranty.



Innovative features and appliances.



Superior battery protection against short-circuit, over current and ESD.



Open PAYGO enabled with solid anti-tampering measures.





## BECOME A PARTNER.

Sustainability is at the heart of what we do. Longterm partnerships are a main component. We provide training material as well as online onboarding sessions, after sales support as well as a 3 year warranty, marketing support and reliable products. Let's grow together.

Please reach out to us on [sales@fosera.com](mailto:sales@fosera.com) and we will be in touch.



# fosera®



## BUILT TO LAST



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