

CONFIGURATION	SF4.0/300	SF4.0/400	SF4.6/300	SF4.6/400
<b>SOLAR ARRAY</b>				
Cell type	Polycrystalline 156 x 156mm			
Number of panels	18			
Total nominal PV power <sup>1</sup>	4680W <sub>p</sub>			
Module efficiency <sup>1</sup>	16,01%			
Maximum system voltage	250V <sub>DC</sub>		600V <sub>DC</sub>	
PV converter type	MPPT (DC/DC)		MPPT (DC/AC)	
Maximum PV converter power	4900W	5800W	5000W	
Maximum PV Converter efficiency	98%		97%	
<b>BATTERY PACK</b>				
Battery technology	LEAD CRYSTAL* (see backside for further details)			
Number of batteries	24 x 2V			
Rated capacity C <sub>10</sub> <sup>2</sup>	300Ah	400Ah	300Ah	400Ah
Usable capacity [kWh] at 80% DOD <sup>2</sup>	11,52	15,36	11,52	15,36
Float service life (40°C) <sup>2</sup>	7 years			
Cycle life (60% DOD, 40°C) <sup>2</sup>	2073 cycles			
Round-trip efficiency <sup>2</sup>	93,45%			
<b>CHARGER</b>				
Rated voltage / voltage range (DC)	48V / 38 - 66V		48V / 41 - 63V	
Maximum charge current	100A		110A	
Charge control	IUoU with automatic full charge, temperature compensated			
<b>STAND-ALONE OPERATION</b>				
Rated output voltage / voltage range (AC)	230V / 210 - 245V		230V / 202 - 253V	
Output frequency range	50 / 60Hz		45 - 65Hz	
Rated power (25°C, continuous)	4kW		4,6kW	
Peak power (25°C, instantaneous)	10kW		11kW	
Power (40°C, continuous)	3,7kW		3,7kW	
Maximum efficiency	95%		95,8%	
<b>OPERATION WITH BACK-UP GENERATOR / GRID</b>				
Rated input voltage / voltage range (AC)	230V / 187 - 265V		230V / 172,5 - 264,5V	
Input frequency range	45 - 65Hz		40 - 70Hz	
Maximum input power from generator	23kW		11,5kW	
Maximum output power to consumers	27kW		16,1kW	
<b>SCALABILITY AND FEATURES</b>				
Parallel operation (single phase)	Up to 2 units			
Three-phase operation	From 3 units			
Minigrid operation (Total PV power - battery capacity C <sub>10</sub> - AC output power)	Up to 3 units (14,1kW <sub>p</sub> - 43,2 / 57,6kWh - 12kW)		Up to 36 units (169,2kW <sub>p</sub> - 518,4 / 691,2kWh - 300kW)	
Load shedding contactor	Standard			
Remote monitoring / access	Optional			
<b>GENERAL DATA</b>				
Dimensions folded (W x H x D)	6060 x 850 x 2450mm			
Dimensions solar array (W x H)	5000 x 6600mm			
Weight (approx.)	3100kg	3200kg	3150kg	3250kg
Operating temperature range <sup>3</sup>	-25 - 60°C			
Maximum elevation	2000m a.s.l.			
<b>REMARKS</b>				

<sup>1</sup> Values under Standard Test Conditions (STC): air mass 1,5AM, irradiance 1000W/m<sup>2</sup>, cell temperature 25°C.

<sup>2</sup> Standard test method according to IEC60896 Stationary lead-acid batteries - Part 21, 22.

<sup>3</sup> Absolute limits, optimal operating temperature range 15 - 25°C.

# LEAD CRYSTAL® BATTERIES



## LEAD CRYSTAL® BATTERIES CHARACTERISTICS IN A NUTSHELL

### Performance

Robust, resilient, high performing, Lead Crystal® batteries can be discharged deeper, cycled more often (even in extreme temperatures) and have a longer service life. They recover to full capacity over and over again.

### Technology

A unique micro-porous high absorbent mat (AGM), pure lead plates, safe SiO<sub>2</sub> electrolyte solution that solidifies into a white crystalline powder when charged /discharged.

### Cleaner & safe

Less acid, no cadmium, no antimony. Lead Crystal® batteries are up to 99% recyclable and are classified as non-hazardous goods for transport

## WHAT MAKES LEAD CRYSTAL® STAND OUT

### High quality lead plates (99.97% PURE LEAD)

The positive and negative plates are the core electrochemical reaction area and the most important components of the battery.

### AGM-like partition material

Made from ultra-fine glass fiber separator of high porosity, using cathode absorption.

### Unique electrolyte

A unique complex technology is used to synergize a range of inorganic salts and organic substances, thereby optimizing the reaction between the electrolyte and the active electrode material. This reaction also improves product safety, making it less harmful to installers and other users.

### No maintenance

Lead Crystal® Batteries are maintenance free and therefore there are no filler caps on top of the batteries. So naturally the user never forgets to carry out maintenance.

## LEAD CRYSTAL® BATTERIES OUTPERFORM THEIR COMPETITORS

	LEAD ACID	LEAD GEL	LEAD CRYSTAL®	LITHIUM
TEMPERATURE	-18°C - +45°C	-18°C - +50°C	-40°C - +65°C	-20°C - +65°C
FLOAT SERVICE LIFE	2-3 years	3-4 years	8- 12 years	5-6 years
ENVIRONMENTAL IMPACT	harmful	harmful	friendly	friendlier
HANDELING SAFETY	average	good	very good	very poor
80% DISCHARGE CYCLE	350	400	1400	average
HIGH CURRENT DISCHARGE ABILITY	poor	poor	very good	average
PERFORMANCE	average	average	very good	good
RECYCLABILITY	good	good	very good	poor
SIZE	average	average	average	small
PRICE	lowest	low	low - med	5-6x higher than gel
COST PER CYCLE	average	average	low	high

 Best performer