

## Technical Data PIKO 6.0 BA / 8.0 BA / 10 BA



- Charge controller and inverter in one casing
- Integrated energy management system
- Provision of grid services, in particular reactive power, active power reduction according to VDE-AR-N 4105
- 3-phase feed-in
- Future-oriented, as fully equipped for new storage technologies
- Integrated communication and monitoring package
- 2 independent MPP trackers
- Relais control self consumption; EEBus ready
- Visualisation via the PIKO Solar App and PIKO Solar Portal

### Input side (DC)

Inverter type		6.0 BA	8.0 BA	10 BA
Max. PV power	kWp	6.6	8.8	11
Rated input voltage ( $U_{DC,r}$ )	V	680		
Max. input voltage ( $U_{DC,max}$ )	V	950		
Min. input voltage ( $U_{DC,min}$ )	V	180		
Start-up input voltage ( $U_{DC,start}$ )	V	180		
Max. MPP voltage ( $U_{MPP,max}$ )	V	850		
Min. MPP voltage for DC rated output in single tracker mode ( $U_{MPP,min}$ )		530	700	–
Min. MPP voltage for DC rated output in two-tracker mode ( $U_{MPP,min}$ )	V	260	350	440
Max. input current ( $I_{DC,max}$ )	A	12		
Max. input current with parallel connection	A	24		
Number of DC inputs		2		
Number of independent MPP trackers		2		

### Battery input (system)

Max. voltage battery input	V	420		
Min. voltage battery input	V	153		

### Output side (AC)

Rated output, $\cos \varphi = 1$ ( $P_{AC,r}$ )	kW	6	8	10
Max. output apparent power, $\cos \varphi_r$ adj	kVA	6	8	10
Max. output voltage ( $U_{AC,max}$ )	V	264.5		
Min. output voltage ( $U_{AC,min}$ )	V	184		
Rated output current	A	8.7	11.6	14.5
Max. output current ( $I_{AC,max}$ )	A	9.7	12.9	17.5
Short-circuit current (peak)	A	19/12.2		
Grid connection		3/N/PE, AC, 400V		
Rated frequency ( $f_r$ )	Hz	50		
Max. grid frequency ( $f_{max}$ )	Hz	51.5		
Min. grid frequency ( $f_{min}$ )	Hz	47.5		
Setting range of the power factor $\cos \varphi_{AC,r}$		0.9...1...0.9		
Max. total harmonic distortion	%	1		

### Device properties

Standby consumption	W	2.3		
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### Efficiency

Max. efficiency	%	96,1	96,3	96,5
European efficiency	%	94,8	95,0	95,3
MPP adjustment efficiency	%	95.3		

### Various interfaces

Ethernet RJ45		2		
RS485		1		
S0		1		
Analogue inputs		4		
PIKO BA Sensor Interface		1		
CAN or RS485 Interface (for battery-communication)		1		

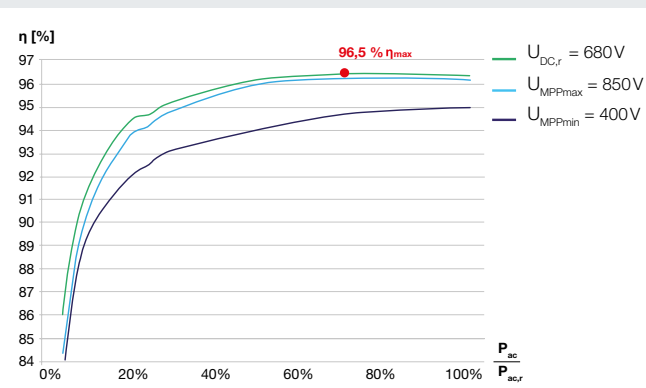
### System data

Topology: Without galvanic separation - transformerless		✓
Internal protection according to IEC 60529		IP 55
Protection class according to IEC 62103		I
Surge category according to IEC 60664-1 Input side (PV generator)		II
Surge category according to IEC 60664-1 Output side (grid connection)		III
Degree of contamination		3
Environmental category (outdoor installation)		✓
Environmental category (interior installation)		✓
UV resistance		✓
Minimum cable cross-section of AC connecting line	mm <sup>2</sup>	2.5
Minimum cable cross-section of DC connecting line	mm <sup>2</sup>	4
Max. fusing on output side		B25, C25
Operator protection according to (EN 62109-2)		RCCM Typ B
Electronic disconnection device integrated		✓
Height	mm	450
Width	mm	520
Depth	mm	230
Weight	kg	33
Cooling principle - convection		–
Cooling principle - regulated fans		✓
Max. air throughput	m <sup>3</sup> /h	188
Max. noise emission dBA		46
Ambient temperature	°C	-20...60
Max. installation altitude above sea level	m	2000
Relative humidity (non-condensing)	%	4...100
Connection technology at input side - MC 4		✓
Connection technology at output side - spring-loaded terminal strip		✓

### Warranty

Warranty (years)		5
Warranty extension optional (years)		10/20

### Efficiency characteristics of PIKO 10 BA



## Technical Data PIKO Battery Li



- Compact and expandable within the first 18 months (modular concept), various performance categories
- Powerful, efficiency and with a long life cycle up to 20 years<sup>1</sup>
- Meets the highest requirements for lithium storage
- Awarded with the ees AWARD 2015 for the advanced memory technology
- 3-level electronic protection against overcharging
- Integrated battery management system
- Communication interface with PIKO BA
- Identification of the battery status

### Battery

Battery type	FORTELION <sup>*</sup>						
Battery technology	Lithium iron phosphate (LiFePO <sub>4</sub> )						
Number of battery modules	3	4	5	6	7	8	
Total energy content (C5 <sup>2</sup> )	kWh	3.6	4.8	6	7.2	8.4	9.6
Depth of discharge (DoD <sup>3</sup> )	%	90					
Number of cycles (at 80% remaining capacity)		6000 <sup>1</sup>					
Max. output power	kW	1.84	2.45	3.1	3.7	4.3	4.9
Rated voltage	V	153	205	258	307	358	410
IP protection class		20					
Guideline		UN38.3, EN62311:2008, EN50178, EN62109-1, IEC 61508-1:2008, CE					

### Battery Management

Calculation of the battery status		Charging status (SoC <sup>3</sup> ), ageing status (SoH)					
Interface of battery management – inverter		RS485					

### System

Structure	Battery cabinet with 3 to 8 battery modules						
Height	mm	1145					
Width	mm	550					
Depth (*with tilt bracket)	mm	655*	655*	575	575	575	575
Weight	kg	120	136	153	169	186	202

### Operating conditions

Recommended operating temperature	°C	10...30					
Min. operating temperature	°C	5					
Max. operating temperature	°C	35					
Relative humidity (non-condensing)	%	0...85					

### Efficiency

Max. system efficiency	%	98					
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### Warranty

Warranty (years)		5					
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<sup>1</sup> Battery manufacturer information <sup>2</sup> C5 = Capacity with 5-hour discharge <sup>3</sup> DoD = Depth of Discharge <sup>4</sup> SoC = State of Charge

\* FORTELION is a trademark of Sony Corporation

## Technical Data PIKO Battery Pb



- High energy yields and long useful life
- Low floor space requirement
- Modular structure for easy installation
- Complete storage solution from one supplier
- Maintenance-free battery technology
- Integrated battery management system
- Communication interface with PIKO BA
- Identification of the battery status

### Battery

Battery type		HOPPECKE 12VOPzV blocsolar.power 70	
Battery technology		Maintenance-free, cycle-optimised lead-gel battery	
Number of cycles (50% DoD <sup>1</sup> )		2500	
Total energy content (C10 <sup>2</sup> )	kWh	11.6	
Max. output power	kW	approx. 2.7	
Number of block batteries (at 12V rated voltage)		19	
Rated voltage	V	228	
Capacity (C100 <sup>2</sup> )	Ah	70	
IP protection class		21	
Test		IEC 60896-21, IEC 61427	

### Battery management

Calculation of the battery status		Charging status (SoC <sup>3</sup> ), ageing status (SoH)	
Interface of battery management – inverter		CAN Open Standard	

### System

Structure		Modular frame system consisting of 5 basic units	
Height	mm	1584	
Width	mm	900	
Depth	mm	388	
Weight	kg	ca. 850	

### Operating conditions

Recommended operating temperature	°C	10...30	
Relative humidity (non-condensing)	%	0...85	

Ventilation		Supply and exhaust opening with 154 cm <sup>2</sup> cross-section area	
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### Efficiency

Max. system efficiency	%	92	
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### Warranty

Warranty (years)		2	
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<sup>1</sup> Depth of Discharge

<sup>2</sup> C10 / C100 = Capacity with 10-/100-hour discharge

<sup>3</sup> SoC = State of Charge

## Technical Data PIKO BA Backup Unit



- Secure supply in case of power failure
- VDE-tested replacement power function
- Automatic switching to replacement power mode after approx. 20 sec.
- 3-phase power supply with real three-phase AC
- Suitable for consumers up to 2,500 W with PIKO Battery Pb
- Suitable for consumer between 2,900 - 4700 W with PIKO Battery Li (depending on the number of the battery modules)
- Up to 18 hours of operation (with consumption of 500 W and fully-charged battery)

### Backup Unit

Backup connection		3/N/PE, AC, 400 V
AC connection		3/N/PE, AC, 400 V
Consumer connection		3/N/PE, AC, 400 V
Control line		2, AC, 230 V
Max. load	A	63
Potential equalisation		1
Internal protection according to IEC 60529		IP 45
Protection class according to IEC 62103		II
Degree of contamination		3
Environmental category (interior installation)		✓

UV resistance		✓
Height	mm	680
Width	mm	366
Depth	mm	173
Weight	kg	11.4
Ambient temperature	°C	-5...35
Relative humidity (condensing)	%	4...96
Connection technology - spring-loaded terminal strip		✓

The PIKO BA Backup Unit can be combined with the PIKO Battery Pb or the PIKO Battery Li from 5 battery modules.

## Technical Data PIKO BA Sensor



- Registration of building consumption with analogue current measurement <sup>1</sup>
- Easy installation due to assembly on top-hat rail according to DIN EN 60715

### Sensor

Rated current, primary (Peak/RMS)	A	50/35
Rated current, secondary	A	1
Accuracy class		1
Connected power	kW	14
Height	mm	90
Width	mm	105
Depth	mm	54
Max. line diameter	mm	13.5

<sup>1</sup> The measurement of building consumption takes place during operation of the PIKO inverter

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Smart connections.

Data sheet  
PIKO BA System

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