Technical Data PIKO 6.0 BA / 8.0 BA / 10 BA

- Charge controller and inverter in one casing
- Forecast of building consumption and energy yields - forecasted yield will be optimally adapted to the current building consumption
- Integrated energy management system
- Smart battery control
- Provision of grid services, in particular reactive power, active power reduction according to VDE-AR-N 4105
- 3-phase feed-in
- Integrated communication and monitoring package - visualisation via the PIKO Solar App and PIKO Solar Portal
- 2 independent MPP trackers - optimal interconnection of east/west facing PV systems and maximum of energy yields
- Relais control self consumption; Smart Home and EEBus kompatible

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_{DCmax})	V	950		
Min. input voltage (U_{DCmin})	V	180		
Start-up input voltage ($U_{DCstart}$)	V	180		
Max. MPP voltage (U_{MPPmax})	V	850		
Min. MPP voltage for DC rated output in single tracker mode (U_{MPPmin})		530	700	–
Min. MPP voltage for DC rated output in two-tracker mode (U_{MPPmin})	V	260	350	440
Max. input current (I_{DCmax})	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	500		
Min. voltage battery input	V	153		

Output side (AC)

Rated output, cos φ = 1 ($P_{AC,r}$)	kW	6	8	10
Max. output apparent power, cos φ, adj	kVA	6	8	10
Max. output voltage (U_{ACmax})	V	264.5		
Min. output voltage (U_{ACmin})	V	184		
Rated output current	A	8.7	11.6	14.5
Max. output current (I_{ACmax})	A	9.7	12.9	15.5
Short-circuit current (peak)	A	19/12.2		
Grid connection		3N~, AC, 400 V		
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		
Power factor for rated power (cos $\varphi_{AC,r}$)		1		
Max. total harmonic distortion	%	≤3		

Device properties

Standby consumption	W	2.3		

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

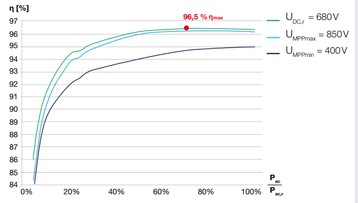
System data

Topology: Without galvanic separation - transformerless		✓
Internal protection according to IEC 60529		IP 55
Protection class according to IEC 62109-1		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^2	2.5
Minimum cable cross-section of DC connecting line	mm^2	4
Max. fusing on output side		B25, C25
Operator protection internal according to (EN 62109-2)		RCMU/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^3/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

- 6 performance categories - optimally adapted to your needs
- Modular concept: compact and expandable within the first 18 months
- Powerful and efficient: 15-year guarantee on the battery modules[5]
- Meets the highest requirements for lithium-house storage
- 3-level electronic protection against overcharging
- Integrated battery management system
- Easy, fast and safe voltage-free installation

Battery

Battery type		FORTELION*					
Battery technology		Lithium iron phosphate ($LiFePO_4$)					
Number of battery modules		3	4	5	6	7	8
Total energy content (C5 [2])	kWh	3.6	4.8	6	7.2	8.4	9.6
Depth of discharge (DoD [3])	%	90					
Number of cycles (at 80% remaining capacity)		6000 [1]					
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 [4]), 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

Warranty

Warranty product/battery modules[5] (years)		5/15

[1] Battery manufacturer information [2] C5 = Capacity with 5-hour discharge [3] DoD = Depth of Discharge [4] SoC = State of Charge
[5] See service and warranty conditions of PIKO Battery Li

* FORTELION is a trademark of Sony Corporation

Technical Data PIKO BA Sensor

- Registration of building consumption with analogue current measurement [1]
- Easy installation due to assembly on top-hat rail according to DIN EN 60715
- Visualization and control of your home consumption in real time
- Enables dynamic 50/60/70 % regulation

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

[1] The measurement of building consumption takes place during operation of the PIKO inverter

Technical Data PIKO BA Backup Unit - accessories

- 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 cosumer 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		3N~, AC, 400V
AC connection		3N~, AC, 400V
Consumer connection		3N~, AC, 400V
Control line		2, AC, 230 V
Max. load	A	63
The following electricity network configurations are supported		TT, TN-S, TN-C-S
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 Li from 5 battery modules.

This manual is subject to technical changes and printing errors. You can find current information at www.kostal-solar-electric.com.
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Data sheet

PIKO BA System

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