

# PIKO MP plus

1.5–5.0 kW



Smart connections.

Data sheet

# PIKO MP plus: the new standard for single-phase inverters; flexible, communicative and with accessories; also usable as battery inverter

## Flexible in use

- One or two MPP trackers
- 1 MPP tracker can be used as bidirectional input, optionally for PV generator or high-voltage battery<sup>1,2)</sup>
- Battery option possible with KOSTAL Smart Energy Meter
- Battery functionality for devices with an MPP tracker as AC-coupled battery connection – also ideal for retrofitting
- Battery functionality for devices with two MPP trackers for DC-coupled battery connection – ideal for new plants<sup>1,2)</sup>
- Extended MPP range – perfect for repowering

## Smart connected

- Display, data logger, system monitoring, network and control interfaces integrated as standard
- Free monitoring of the PV system via KOSTAL Solar Portal, KOSTAL Solar App and internal web server



## Smart performance

- Integration of energy meters possible
- High efficiency
- Efficient DC coupling of high-voltage batteries<sup>1,2)</sup>
- Dynamic active power control and 24h measurement
- Intergrated shadow management – adapts individually to the installation site
- Zero feed-in possible

## Easy to install

- 1-phase supply
- Connection without opening the device
- Integrated DC disconnecter
- Simple menu-guided operation and installation
- Optimum protection against dust and water for outdoor use (protection class IP65)

## PIKO MP plus: compact and rapidly deployable



<sup>1)</sup> PIKO MP plus with 2 MPP trackers - Equipped with a bidirectional DC input - Accessories: KOSTAL Smart Energy Meter and activation code battery required

<sup>2)</sup> Available later on via software update

# Technical data PIKO MP plus

Power class		1.5-1	2.0-1	2.5-1	3.0-1	3.0-2	3.6-1	3.6-2	4.6-2	5.0-2 <sup>4)</sup>	
Input side (DC)	Max. PV power ( $\cos \varphi = 1$ )	kWp	2.3	3.0	3.75	4.5		5.4		7.5	
	Nominal DC power	kW	1.54	2.05	2.56	3.07		3.77		5.2	
	Rated input voltage ( $U_{DC,r}$ )	V	350								
	Start-up input voltage ( $U_{DCstart}$ )	V	75								
	Input voltage range ( $U_{DCmin} - U_{DCmax}$ )	V	75-450			75-750					
	MPP working voltage range ( $U_{MPPworkmin} - U_{MPPworkmax}$ )	V	75-360			75-600					
	MPP range at rated output in single-tracker operation ( $U_{MPPmin} - U_{MPPmax}$ )	V	120-360	160-360	200-360	230-600		280-600		360-600	360-600
	MPP range at rated output in two-tracker operation ( $U_{MPPmin} - U_{MPPmax}$ )	V	-	-	-	-	115-600	-	140-600	180-600	180-600
	Max. working voltage ( $U_{DCworkmax}$ )	V	450			750					
	Max. input current ( $I_{DCmax}$ ) per DC input	A	13								
	Max. PV short-circuit current ( $I_{SC,PV}$ ) per DC input	A	15								
	Number of DC inputs		1	1	1	1	2	1	2	2	2
	Number of bidirectional DC inputs		1	1	1	1	1	1	1	1	1
Number of independent MPP trackers		1	1	1	1	2	1	2	2	2	
Output side (AC)	Rated power, $\cos \varphi = 1$ ( $P_{AC,r}$ )	kW	1.5	2.0	2.5	3.0		3.68		4.6	5.0
	Apparent output power ( $S_{AC,Nom}, S_{AC,max}$ )	kVA	1.5	2.0	2.5	3.0		3.68		4.6	5.0
	Min. output voltage ( $U_{ACmin}$ )	V	184								
	Max. output voltage ( $U_{ACmax}$ )	V	288								
	Rated output current ( $I_{AC,r}$ )	A	6.6	8.7	10.9	13.1		16		20	22
	Max. output current ( $I_{ACmax}$ )	A	12	12	14	14		16		20	22
	Short-circuit current (peak/RMS)	A	21/12	21/12	24/12	24/16		27/16		20	22
	Grid connection		1N~, 230V, 50 Hz								
	Rated frequency ( $f_r$ )	Hz	50 / 60								
	Min/max grid frequency ( $f_{min}/f_{max}$ )	Hz	45...65								
	Setting range of the power factor ( $\cos \varphi_{AC,r}$ )		0,8...1...0,8								
	Power factor for rated power ( $\cos \varphi_{AC,r}$ )		1								
	Max. THD	%	<3								
Standby/standby incl. 24h home-consumption measurement	W	<3,0/<20,0									
$\eta$	Max. efficiency	%	97.4	97.4	97.4	97.0		97.0		97.4	97.4
	European efficiency	%	96.1	96.5	96.6	96.3		96.3		96.9	96.8
	MPP adjustment efficiency	%	>99.8								

		1.5-1	2.0-1	2.5-1	3.0-1	3.0-2	3.6-1	3.6-2	4.6-2	5.0-2 <sup>4)</sup>	
System data	Power class										
	Topology: Without galvanic isolation – transformerless					✓					
	Protection class according to IEC 60529					IP 65					
	Protective class according to IEC 62103					II (RCD Typ A)					
	Overvoltage category according to IEC 60664-1, input side (PV generator)					II					
	Overvoltage category according to IEC 60664-1, output side (grid connection)					III					
	Degree of contamination					4					
	Environmental category (outdoor installation)					✓					
	Environmental category (indoor installation)					✓					
	UV resistance					✓					
	AC cable diameter (min-max)	mm					10...14				
	AC cable cross-section (min-max)	mm <sup>2</sup>	1.5...4					2.5...4			
	DC cable cross-section (min-max)	mm <sup>2</sup>					2.5...6				
	Max. fuse protection on output side				B16/C16				B25/C25		
	Internal operator protection according to EN 62109-2						RCMU				
	Independent disconnection device according to VDE 0126-1-1						✓				
	Height/width/depth	mm (in)					657/399/222 (25.87/15.71/8.74)				
	Weight	kg (lb)	12,6	12,6	12,6	13,8	14,0	13,8	14,0	14,0	14,0
	Cooling principle – regulated fans						✓				
	Max. air throughput	m <sup>3</sup> /h					-				
Max. noise emission	dBA					31					
Ambient temperature	°C (°F)					-25...60 (-13...140)					
Max. installation altitude above sea level	m (ft)					2000 (6562)					
Relative humidity (non-condensating)	%					0...100					
Connection technology, DC side						SUNCLIX plug					
Connection technology, AC side						Wieland RST25i3					
Interfaces	Ethernet LAN (RJ45)					1					
	Connection of energy meter for collecting energy data (Modbus RTU) (RJ45)					1					
	RS485 (RJ45)					1					
	Potential-free contact for self-consumption control					-					
	Webserver (user interface)					✓					
Warranty (Smart Warranty / Smart Warranty plus <sup>1)</sup> )	Years					10 (5 + 5)					
Directives/Certification		IEC/EN 62109-1, IEC/EN 62109-2, IEC/EN 60730, IEC 62116, VDE-AR-N 4105, DIN VDE 0126 1-1, G59/3-2, G83/2, UTE C 15-712-1, CEI 0-21, TOR D4, RD1699, RD 413, UNE 206007-1, IEC 61727, EN 50438 <sup>2)</sup>									

Subject to technical changes. Errors excepted. You can find current information at [www.kostal-solar-electric.com](http://www.kostal-solar-electric.com). Manufacturer: KOSTAL Industrie Elektrik GmbH, Hagen, Germany

<sup>1)</sup> Activate your free warranty (Smart Warranty) now in the KOSTAL Solar online shop ([shop.kostal-solar-electric.com](http://shop.kostal-solar-electric.com)). This does not affect your statutory warranty. You will find more information about the service and warranty conditions in the download area for your product.

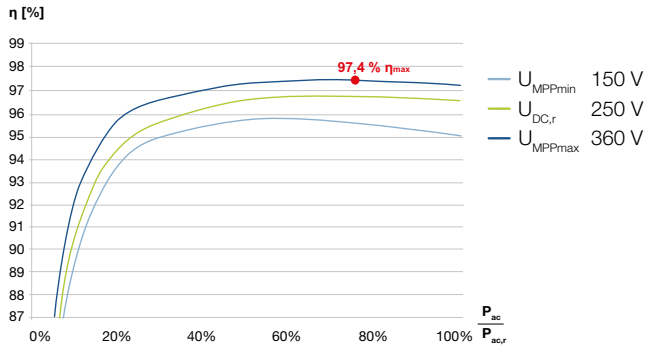
<sup>2)</sup> Does not apply to all national annexes to EN 50438

<sup>3)</sup> Available later on via software update - Accessories: KOSTAL Smart Energy Meter and activation code battery required

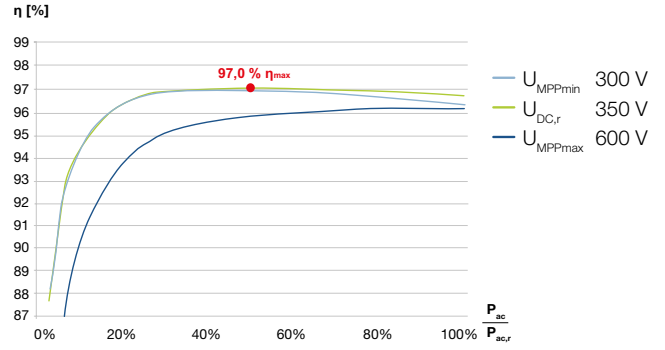
<sup>4)</sup> PIKO MP plus 5.0-2: Available from Q2 / 2020

# PIKO MP plus available in 7 power classes

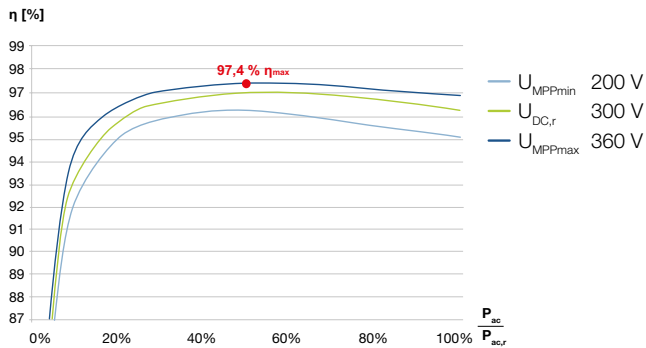
PIKO MP plus 1.5-1



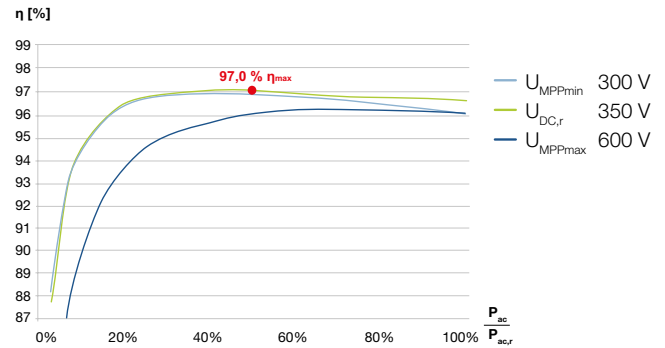
PIKO MP plus 3.0-1 / 3.0-2



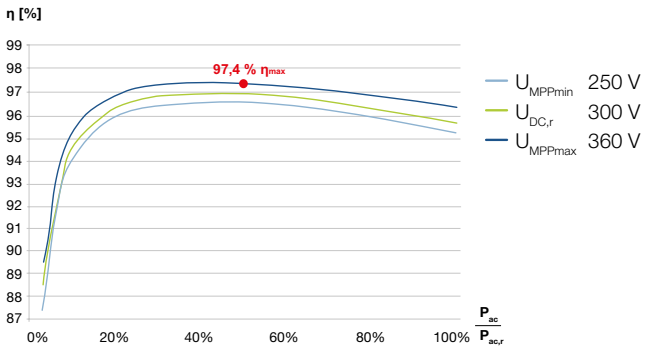
PIKO MP plus 2.0-1



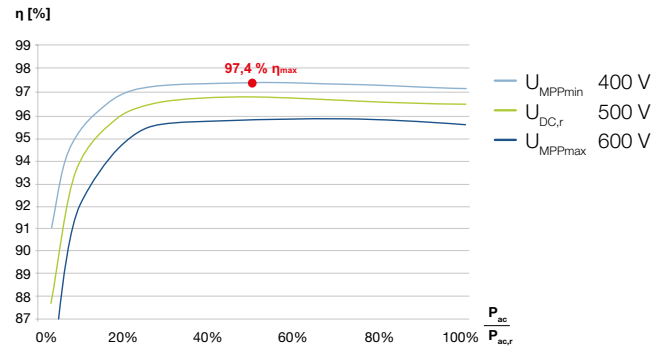
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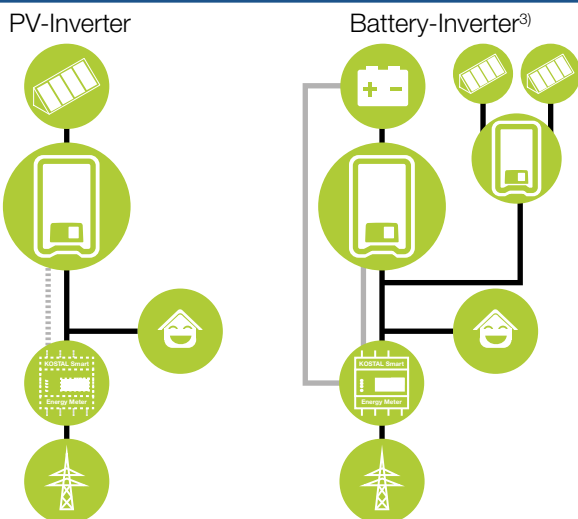
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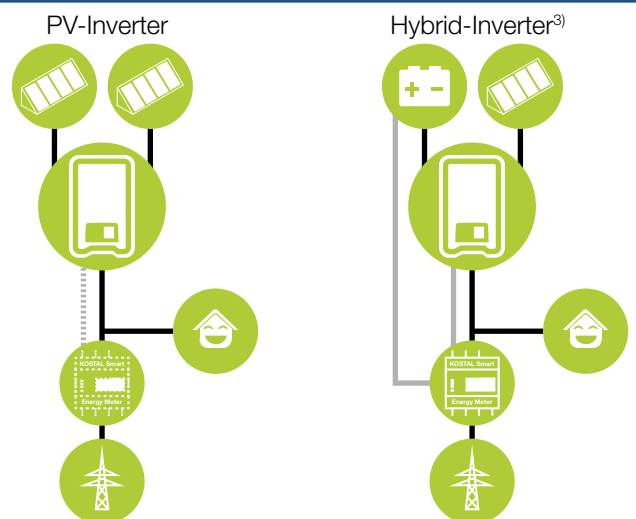
PIKO MP plus 4.6-2 / 5.0-2



PIKO MP plus 1.5 to 3.6 with 1 MPP Tracker



PIKO MP plus 3.0 to 5.0 with 2 MPP Tracker



# KOSTAL

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Smart  
connections.