



Smart  
connections.

Data sheet

PIKO 1.5-4.6 MP plus

MP

# 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)</sup>

Battery option possible with KOSTAL Smart Energy Manager

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)</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)</sup>

Dynamic active power control and 24h measurement

Integrated 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 disconnect

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 Manager required (available from Q1/2019)  
Product registration, warranty extension or purchase of accessories: [shop.kostal-solar-electric.com](http://shop.kostal-solar-electric.com)

## 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	
Input side (DC)	Max. PV power ( $\cos \varphi = 1$ )	kWp	2.3	3.0	3.75	4.5		5.4		6.9
	Nominal DC power	kW	1.54	2.05	2.56	3.07		3.77		4.74
	Rated input voltage ( $U_{DC,r}$ )	V	350							
	Start-up input voltage ( $U_{DCstart}$ )	V	100							
	Input voltage range ( $U_{DCmin} - U_{DCmax}$ )	V	75-450	75-450	75-450	75-750		75-750		75-750
	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
	MPP range at rated output in two-tracker operation ( $U_{MPPmin} - U_{MPPmax}$ )	V	-	-	-	-	115-600	-	140-600	180-600
	MPP working voltage range ( $U_{MPPworkmin} - U_{MPPworkmax}$ )	V	75-360	75-360	75-360	125-600		150-600		150-600
	Max. working voltage ( $U_{DCworkmax}$ )	V	450	450	450	750		750		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
	Number of bidirectional DC inputs		1	1	1	1	2	1	2	2
Number of independent MPP trackers		1	1	1	1	2	1	2	2	
Output side (AC)	Rated power, $\cos \varphi = 1$ ( $P_{AC,r}$ )	kW	1.5	2.0	2.5	3.0		3.7		4.6
	Max. apparent output power, $\cos \varphi_{adj}$	kVA	1.5	2.0	2.5	3.0		3.7		4.6
	Min. output voltage ( $U_{ACmin}$ )	V	185							
	Max. output voltage ( $U_{ACmax}$ )	V	276							
	Rated output current ( $I_{AC,r}$ )	A	6.6	8,7	10,9	13,1		16		20
	Max. output current ( $I_{ACmax}$ )	A	12	12	14	14		16		20
	Short-circuit current (peak/RMS)	A	21/12	21/12	24/12	24/16		27/16		20
	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
	European efficiency	%	96.1	96.5	96.6	96.3		96.3		96.9
	MPP adjustment efficiency	%	>99.8							

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		
System data	Topology: Without galvanic isolation – transformerless									✓	
	Protection class according to IEC 60529									IP 65	
	Protective class according to IEC 62103									II (RCD type 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	
	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 <sup>1)</sup>	Years									5 (2)	
Optional warranty extension for (years)									5/10/15		
Directives/Certification <sup>2)</sup>	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*										

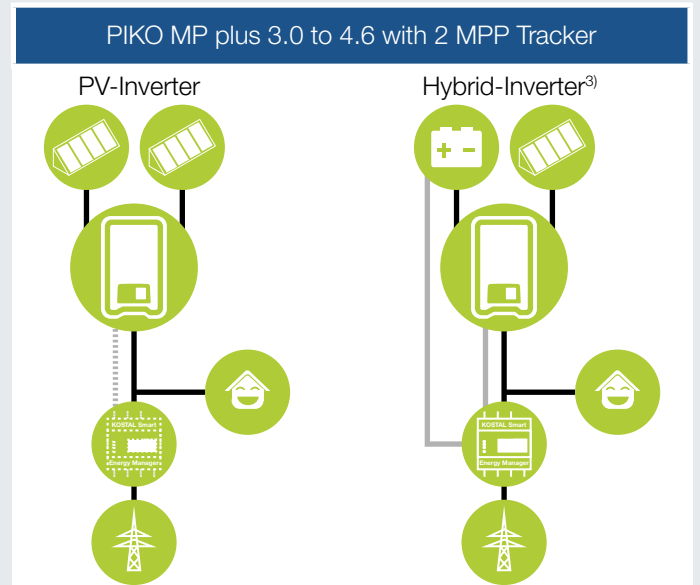
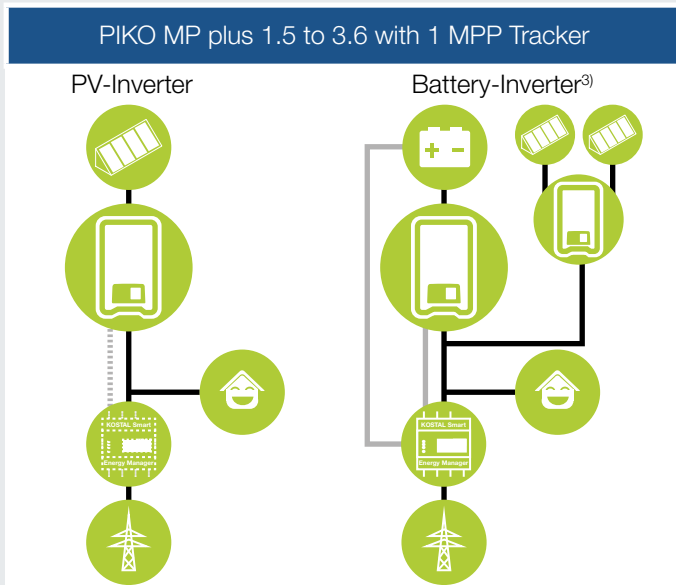
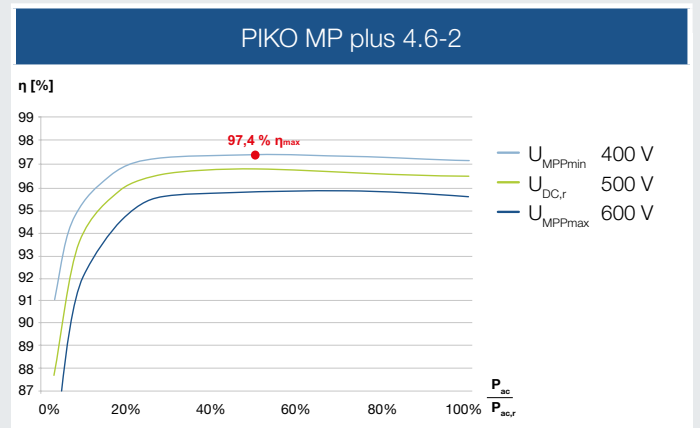
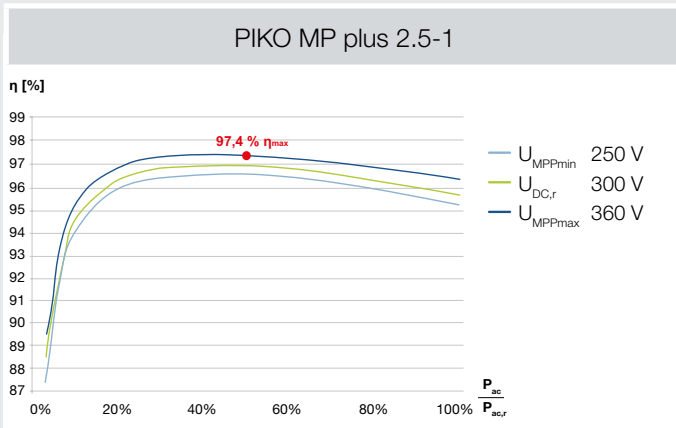
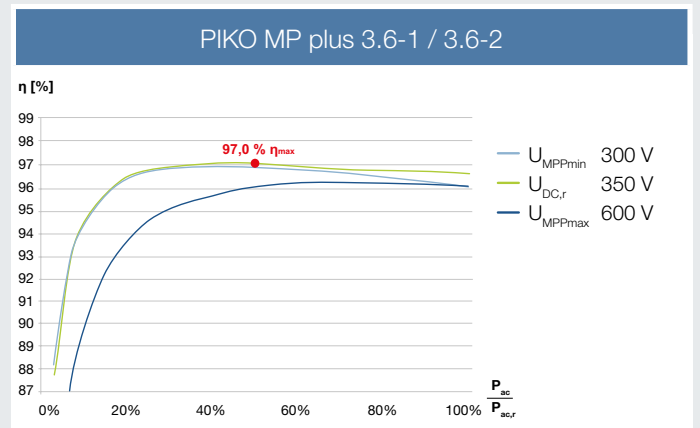
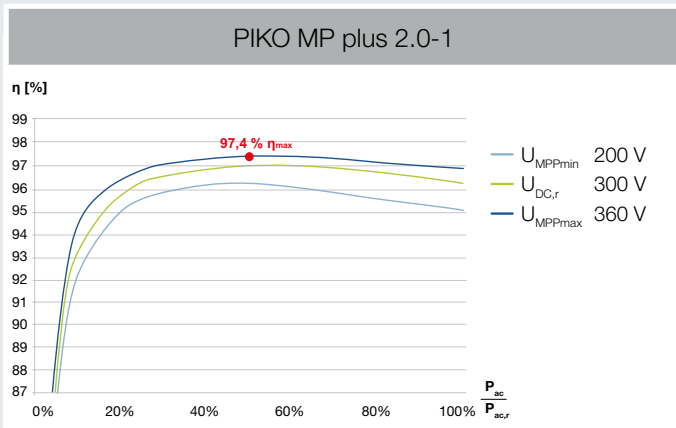
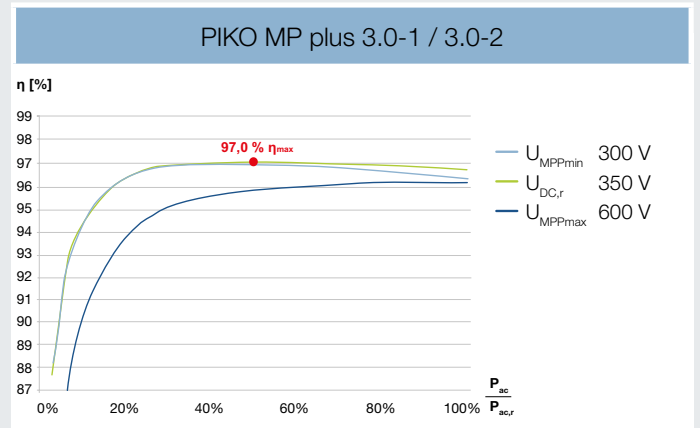
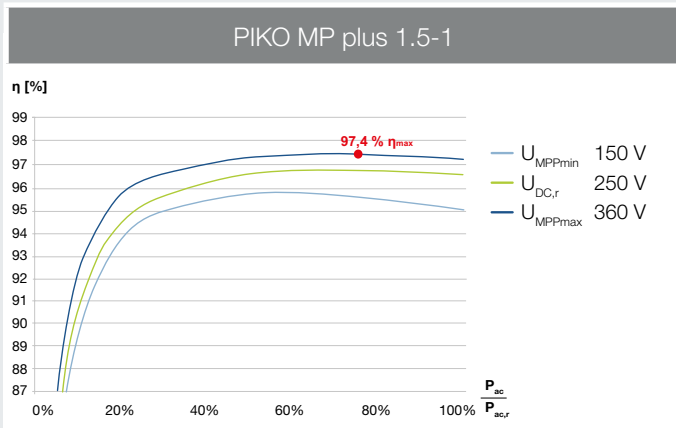
Subject to technical changes. Errors excepted. You can find current information at [www.kostal-solar-electric.com](http://www.kostal-solar-electric.com). Manufacturer: KOSTAL Industrie Elektrik GmbH, Hagen, Germany

<sup>1)</sup> 5-year warranty only after registration in the KOSTAL Solar online shop

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

<sup>3)</sup> Accessories: KOSTAL Smart Energy Manger required (available from Q1/2019)

# PIKO MP plus available in 6 power classes



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