SOLAR ELECTRIC

PLENTICORE

Hybrid inverter - G3 4.0-20 kW

Data sheet

PLENTICORE G3: The original. New thought!

All-in-one

- Can be used universally as PV, hybrid or battery inverter
- Optionally releaseable Battery input[1, 2])
- Optional power upgrade[1)]
- Compatibility with various high-voltage batteries[2)]
- Backup power capable (backup function) with external switchover device
- 3 MPP trackers for maximum flexibility
- Extended MPP range - perfect for repowering

Easy to install

- Simple device configuration with commissioning wizard via display, smartphone with web browser or KOSTAL Solar App.
- Safe installation thanks to clearly arranged, separate terminal compartment with Push-In terminals and protected power electronics
- DC overvoltage protection type 2 optionally retrofittable
- Always up to date with the latest software thanks to AutoUpdate

Smart performance

- Fast, self-learning shadow management for maximum yields
- Dynamic active power control and 24-hour home-consumption measurement[2)]
- Low conversion losses due to DC coupling and high-voltage battery
- High DC input currents (17A/30A)
- Prepared for additional battery charge via AC energy sources [2)]

Smart connected

- Smart Communication Board: control interfaces integrated as standard
- Display, data logger and system monitoring
- Free KOSTAL Solar Portal and KOSTAL Solar App for monitoring the PV system
- 2 x LAN, WiFi, 4 x digital switching outputs for self-consumption control or event reporting, “SG Ready” compatible, evaluation of external overvoltage protection modules
- Modbus/SunSpec (TCP) for SmartHome integration

PLENTICORE G3: compact and rapidly deployable

[1)] Optional battery and power upgrade available for a fee from your wholesaler.

[2)] Compatible energy meter required (see document Released energy meters in the download area for the product)

PLENTICORE G3: Technical data

	PLENTICORE G3		S			M			L		
	Basic power	kW	4.0			8.5			15		
	Optional power upgrade level 1[1]	kW		5.5			10			17.5	
	Optional power upgrade level 2[1]	kW			7.0			12.5			20
Input side (DC)	Max. PV power (cos φ = 1)	kWp	6	8.25	10.25	12.75	15	18.75	22.5	26.5	30
	Max. PV power per DC input	kW	8.25	8.25	8.25	10.5	10.5	10.5	18	18	18
	Nominal DC power	kW	4.08	5.61	7.14	8.67	10.2	12.75	15.3	17.85	20.4
	Rated input voltage ($U_{DC,r}$)	V	650								
	Start-up input voltage ($U_{DCstart}$)	V	95								
	Max. system voltage (U_{DCmax})	V	1000								
	MPP range at rated output (U_{MPPmin})[3]	V	80	110	140	170	200	250	170	198	227
	MPP range at rated output (U_{MPPmax})[3]	V	800	800	800	800	800	800	800	800	800
	Working voltage range ($U_{DCworkmin}$ - $U_{DCworkmax}$)[4]	V	75...900								
	Max. input current (I_{DCmax}) DC1/DC2 input	A	17			17			30		
	Max. input current (I_{DCmax}) DC3 input	A	17			30			30		
	Max. PV short-circuit current (I_{SC_PV}) DC1/DC2 input	A	23.8			23.8			42.0		
	Max. PV short-circuit current (I_{SC_PV}) DC3 input	A	23.8			42.0			42.0		
	Number of DC inputs		3								
	Number of combined DC inputs (PV or battery)		1								
	Number of independent MPP trackers		3								
	DC 3 – battery input optional										
	Min. working voltage for battery input ($U_{DCworkbatmin}$)	V	95								
	Max. working voltage for battery input ($U_{DCworkbatmax}$)	V	650								
	Max. charging/discharging current at battery input	A	17/17			30/30			30/30		
	Max. BAT power per DC input	kW	8.25	8.25	8.25	10.5	10.5	10.5	18	18	18
Output side (AC)	Rated power, cos φ = 1 ($P_{AC,r}$)	kW	4.0	5.5	7.0	8.5	10	12.5	15	17.5	20
	Apparent output power ($S_{AC,Nom}$, $S_{AC,max}$)	kVA	4.0/ 4.0	5.5/ 5.5	7.0/ 7.0	8.5/ 8.5	10/ 10	12.5/ 12.5	15/ 15	17.5/ 17.5	20/ 20
	Min. output voltage (U_{ACmin})	V	320								
	Max. output voltage (U_{ACmax})	V	460								
	Rated AC current ($I_{AC,r}$)	A	5.8	7.9	10.1	12.3	14.4	18	21.7	25.3	28.9
	Max. output current (I_{ACmax})	A	11.2			20.0			32.0		
	Short-circuit current (peak/RMS)	A	9.1/ 6.4	12.4/ 8.8	15.9/ 11.3	19.2/ 13.6	22.6/ 16.0	28.2/ 20.0	34.1/ 24.1	39.6/ 28.1	45.4/ 32.1
	Grid connection		3N~, 230/400 V, 50 Hz								
	Rated frequency (f_r)	Hz	50								
	Min/max grid frequency (f_{min}/f_{max})	Hz	47 / 52.5								
	Setting range of the power factor (cos $\varphi_{AC,r}$)		0.8 … 1 (ind./cap.)								
	Power factor for rated power (cos $\varphi_{AC,r}$)		1								
	Max. THD	%	3								
	Standby	W	3.5								
Backup operation	Backup power operation		3N~, 230/400 V, 51 Hz								
	Nominal apparent power in backup mode [2]	kVA	7.0			12.5			20		
	Nominal power per phase	kW	2.33			4.16			6.66		
	Range cos φ		0...1								
	Start-up apparent power for min. 5 sec at $U_{AC,r}$	kVA	7.7			13.8			22.1		
	Max. output current per phase	A	11.2			20			32		
	Start time with manual KOSTAL BackUp Switch	s	<5								
	Start time with automatic backup box	s	<30								
	Operating hours in backup mode	h	5000								

[1] Optional battery and power upgrade available for a fee from your wholesaler.
[2] Nominal output power: The actual output power depends on the system and storage size.
[3] MPP range at rated output: Outside the MPP range, MPP control takes place below the nominal power. Based on full occupancy of all MPP trackers.
[4] Working voltage range: No feed-in takes place outside the working voltage range.

	PLENTICORE G3		S	M	L
η	Max. efficiency	%	98.03	98.14	98.21
	European efficiency	%	97.20	97.49	97.72
	MPP adjustment efficiency	%		99.9	
System data	Topology: Without galvanic isolation – transformerless			yes	
	Protection class according to IEC 60529			IP 65	
	Protective class according to IEC 62103			I	
	Overvoltage category according to IEC 60664-1, input side (PV generator)			II	
	Overvoltage category according to IEC 60664-1, output side (grid connection)			III	
	DC overvoltage protection module type 2 - optionally retrofittable			yes	
	Degree of contamination			4	
	Environmental category (outdoor installation)			yes	
	Environmental category (indoor installation)			yes	
	UV resistance			yes	
	AC cable diameter (min-max)	mm		10...28	
	AC cable cross-section (min-max)	mm^2	2.5 ...10	4...10	6...10
	DC cable cross-section (PV/BAT) (min-max)	mm^2	2.5 ...6 / 4...6	2.5 ...6 / 6	4...6 / 6
	Max. fuse protection on output side according to IEC 60898-1		B16/C16	B25/C25	B32/C32
	Internal operator protection according to EN 62109-2			yes	
	Independent disconnection device according to VDE 0126-1-1			yes	
	Mechanical DC disconnector according to IEC 60947-3			yes	
	Height/width/depth	mm		561/409/237	
	Weight	kg	21.8	22.3	24.3
	Cooling principle – regulated fans			yes	
	Max. air throughput	m^3/h		184	
	Noise emission (typical)	dB(A)		39	
	Ambient temperature	°C		-20…60	
	Max. installation altitude above sea level	m		2000	
	Relative humidity	%		4…100	
	Connection technology, DC side			SUNCLIX plug	
	Connection technology, AC side			Spring-type terminal strip	
	Connection technology, interfaces			Push-In terminal	
Interfaces	Ethernet LAN (RJ45) / WiFi (IEEE 802.11b/g/n 2.4GHz)			2 / yes	
	Connection of energy meter for collecting energy data (Modbus RTU)			yes	
	Connection external switching device (backup)			yes	
	Digital inputs			Ripple control receiver or external battery control, CEI, OVP monitoring	
	Digital outputs			4 (24 V, 100 mA)	
	Webserver (user interface)			yes	
	Warranty (Smart Warranty / Smart Warranty plus [1])	Years		10 (5 + 5)	
	Directives/Certification [2]			CE, GS, CEI 0-21, C10/11, EN 62109-1, EN 62109-2, EN 60529, EN 50438, EN 50549-1, NA/EEA, G98, G99, EIFS2018, IEC 61727, IEC 62116, RD 1699, RD 647, RFG, TOR Erzeuger, UNE 206006, UNE 206007-1, VDE 0126-1-1, VDE-AR-N 4105, VJV2018	

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

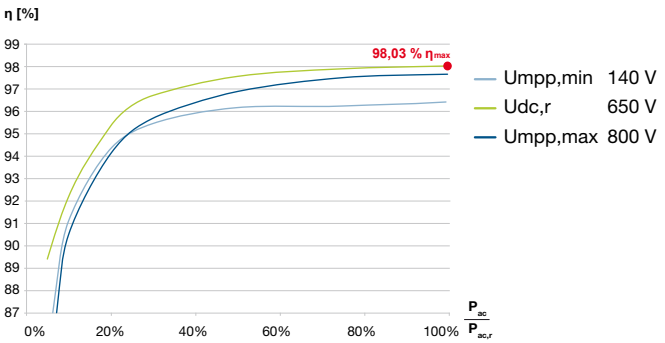
[1] Activate your free warranty (Smart Warranty) now in the KOSTAL Solar online shop (shop.kostal-solar-electric.com). For Smart Warranty Plus, you must also register your device in our KOSTAL Solar portal. This does not affect your statutory warranty. You will find more information about the service and warranty conditions in the download area for your product.

[2] Information on available Directive/parameter sets can be found in the product download area in the document 'Initial commissioning - Country setting'. Directive EN50438, EN50549-1: does not apply to all national annexes

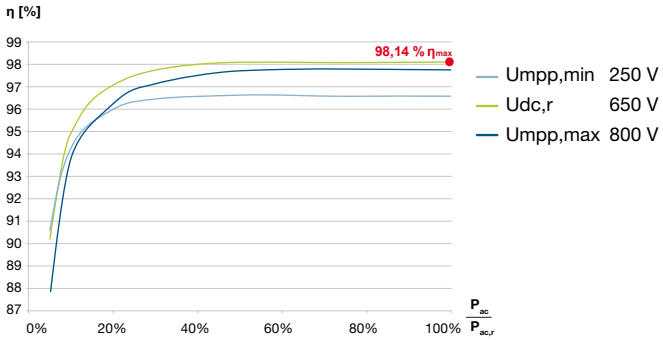
PLENTICORE G3: Overview of all power classes

Purchase the PLENTICORE inverter with a basic power of S, M or L.
The basic power can be optionally upgraded in two stages.
This gives you maximum flexibility when planning your system - even at a later date without replacing the inverter.

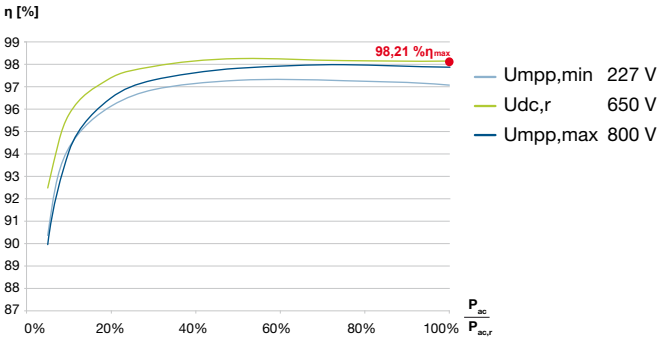
PLENTICORE S G3



PLENTICORE M G3



PLENTICORE L G3



PLENTICORE	S 4.0 - 7.0 kW	M 8.5 - 12.5 kW	L 15 - 20 kW
Basic power [kW]	4.0	8.5	15
Optional power upgrade [kW] Level 1	5.5	10	17.5
Optional power upgrade [kW] Level 2	7.0	12.5	20

Optional battery and power upgrade available for a fee from your wholesaler.

Services for our products

Activation of the KOSTAL Smart Warranty via shop.kostal-solar-electric.com
You can find all further information at www.kostal-solar-electric.com

www.kostal-solar-electric.com

10/2024 - EN - DOC03090475 - Subject to technical changes, errors excepted.
You can find current information at www.kostal-solar-electric.com.