KOSTAL

# PLENTICORE plus

## Hybrid inverter - G2 3.0–10 kW

## Data sheet

# PLENTICORE plus G2: The new standard – versatile and smart

## All-in-one

- PV hybrid inverter with battery input with optional activation code [1, 2]
- Compatibility with various high-voltage batteries [2]
- 3 MPP trackers suited to the layout of almost all roofs
- Extended MPP range – perfect for repowering

## Smart connected

- Smart Communication Board: control interfaces integrated as standard
- Future-proof: new functions via software update
- Display, data logger and system monitoring
- Free Solar Portal 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 Smart Home integration

## Smart performance

- Fast, self-learning shadow management – adapts individually to the installation site
- Dynamic active power control and 24-hour home-consumption measurement [2]
- Self-learning generation and consumption forecast – for optimum self-consumption [2]
- Low conversion losses due to DC coupling and high-voltage battery
- Prepared for additional battery charge via AC energy sources [2]

## Easy to install

- Simple device configuration using commissioning wizard via display or smartphone
- Safe installation due to clearly arranged, separate terminal compartment with Push-In terminals and protected power electronics
- Compatible with RCD type A
- Auto Update: Always at the cutting edge of technology

# PLENTICORE plus G2: compact and rapidly deployable

23,3 cm

40,5 cm

56,3 cm
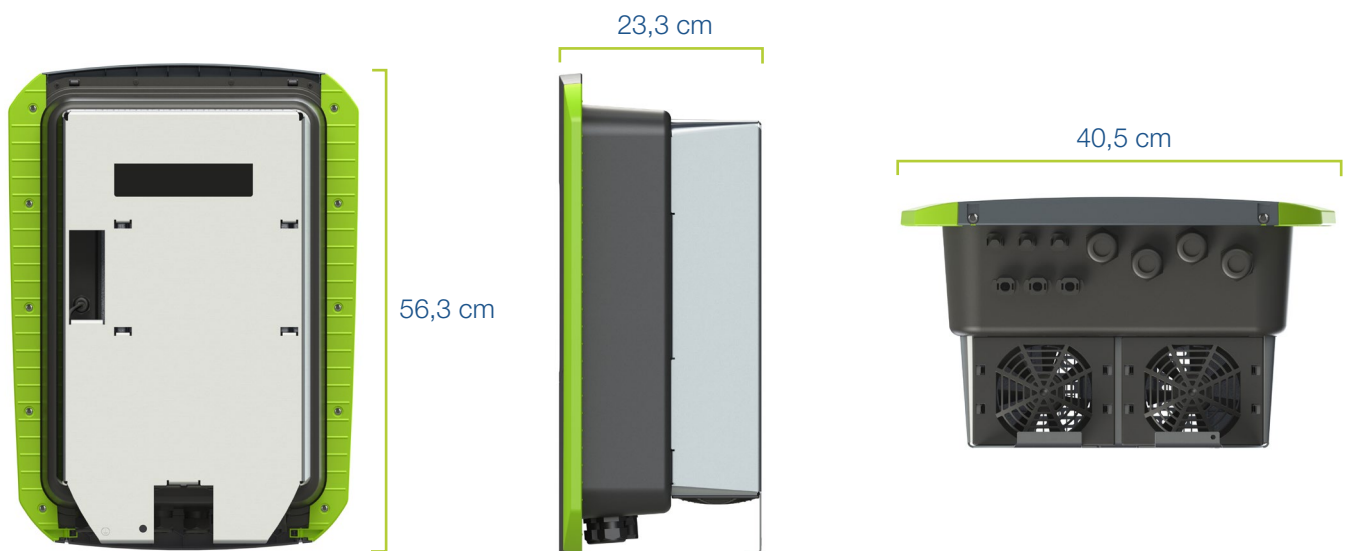
[1] Activation code battery available at: shop.kostal-solar-electric.com
[2] Compatible energy meter required (see document Released energy meters in the download area for the product)

## Technical data PLENTICORE plus G2

| | | Power class | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | 3.0 | 4.2 | 5.5 | 7.0 | 8.5 | 10 |
| **Input side (DC)** | Max. PV power (cos φ = 1) | kWp | 4.5 | 6.3 | 8.25 | 10.5 | 12.75 | 15 |
| | Max. PV power per DC input | kWp | 6.5 | | | | | |
| | Nominal DC power | kW | 3.09 | 4.33 | 5.67 | 7.22 | 8.76 | 10.31 |
| | Rated input voltage ($U_{DC,r}$) | V | 570 | | | | | |
| | Start-up input voltage ($U_{DCstart}$) | V | 150 | | | | | |
| | Input voltage range ($U_{DCmin}$ - $U_{DCmax}$) | V | 120...1000 | | | | | |
| | MPP working voltage range ($U_{MPPworkmin}$ - $U_{MPPworkmax}$) | V | 120...720[3] | | | | | |
| | Max. working voltage ($U_{DCworkmax}$) | V | 900 | | | | | |
| | Max. input current ($I_{DCmax}$) per DC input | A | 13 | | | | | |
| | Max. PV short-circuit current ($I_{SC\_PV}$) per DC input | A | 16.25 | | | | | |
| | 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 | 120[3] | | | | | |
| | Max. working voltage for battery input ($U_{DCworkbatmax}$) | V | 650 | | | | | |
| | Max. charging current/discharging current at battery input | A | 13/13 | | | | | |
| **Output side (AC)** | Rated power, cos φ = 1 ($P_{AC,r}$) | kW | 3.0 | 4.2 | 5.5 | 7.0 | 8.5 | 10 |
| | Apparent output power ($S_{AC,Nom}$, $S_{AC,max}$) | kVA | 3.0 | 4.2 | 5.5 | 7.0 | 8.5 | 10 |
| | Min. output voltage ($U_{ACmin}$) | V | 320 | | | | | |
| | Max. output voltage ($U_{ACmax}$) | V | 500 | | | | | |
| | Rated output current ($I_{AC,r}$) | A | 4.33 | 6.06 | 7.94 | 10.10 | 12.27 | 14.43 |
| | Max. output current ($I_{ACmax}$) | A | 4.81 | 6.74 | 8.82 | 11.23 | 13.63 | 16.04[4] |
| | Short-circuit current (peak/RMS) | A | 6.8/4.8 | 9.5/6.7 | 12.5/8.8 | 15.9/11.2 | 19.3/13.6 | 22.8/16.1 |
| | Grid connection | | 3N~, 230/400 V, 50 Hz | | | | | |
| | Rated frequency ($f_r$) | Hz | 50 | | | | | |
| | Min/max grid frequency ($f_{min}/f_{max}$) | Hz | 47/53 | | | | | |
| | Setting range of the power factor (cos $φ_{AC,r}$) | | 0.8 … 1 | | | | | |
| | Power factor for rated power (cos $φ_{AC,r}$) | | 1 | | | | | |
| | Max. THD | % | 3 | | | | | |
| | Standby | W | 7.9 | | | | | |
| **η** | Max. efficiency | % | 97.1 | 97.1 | 97.1 | 97.2 | 97.2 | 97.2 |
| | European efficiency | % | 95.3 | 95.5 | 96.2 | 96.5 | 96.5 | 96.5 |
| | MPP adjustment efficiency | % | 99.9 | 99.9 | 99.9 | 99.9 | 99.9 | 99.9 |

| Power class | | 3.0 | 4.2 | 5.5 | 7.0 | 8.5 | 10 |
|---|---|---|---|---|---|---|---|
| **System data** | | | | | | | |
| Topology: Without galvanic isolation – transformerless | | ✓ | | | | | |
| 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 | | | | | |
| Degree of contamination | | 4 | | | | | |
| Environmental category (outdoor installation) | | ✓ | | | | | |
| Environmental category (indoor installation) | | ✓ | | | | | |
| UV resistance | | ✓ | | | | | |
| AC cable diameter (min-max) | mm | 8...17 | | | | | |
| AC cable cross-section (min-max) | mm² | 1.5...6 | | | 2.5...6 | | 4...6 |
| DC cable cross-section (PV/BAT) (min-max) | mm² | 2,5...6 / 4...6 | | | | | |
| Max. fuse protection on output side | | B16 / C16 | | | | | B25 / C25 |
| Internal operator protection according to EN 62109-2 (compatible with RCD type A from FW 01.14) | | ✓ | | | | | |
| Independent disconnection device according to VDE 0126-1-1 | | ✓ | | | | | |
| Height/width/depth | mm (in) | 563 / 405 / 233 (22.17 / 15.94 / 9.17) | | | | | |
| Weight | kg (lb) | 19.6 (43.21) | | | 21.6 (46,62) | | |
| Cooling principle – regulated fans | | ✓ | | | | | |
| Max. air throughput | m³/h | 184 | | | | | |
| Noise emission (typical) | dB(A) | 39 | | | | | |
| Ambient temperature | °C (°F) | -20...60 (-4...140) | | | | | |
| Max. installation altitude above sea level | m (ft) | 2000 (6562) | | | | | |
| 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 / ✓ | | | | | |
| Connection of energy meter for collecting energy data (Modbus RTU) | | 1 | | | | | |
| Digital inputs | | Ripple control receiver or external battery control, CEI, OVP monitoring | | | | | |
| Digital outputs | | 4 (24 V, 100 mA) | | | | | |
| Webserver (user interface) | | ✓ | | | | | |
| Warranty (Smart Warranty / Smart Warranty plus [1]) | Years | 10 (5 + 5) | | | | | |
| Directives/Certification | | CE, GS, CEI 0-21, C10/11, EN 62109-1, EN 62109-2, EN 60529, EN 50438[2], EN 50549-1[2], NA/EEA, G98, G99, EIFS2018, IEC 61727, IEC 62116, RD 1699, RD 647, RFG, TF3.3.1, TOR Erzeuger, UNE 206006, UNE 206007-1, VDE 0126-1-1, VDE-AR-N 4105, VJV2018 | | | | | |

# PLENTICORE plus G2 available in 6 power classes

| 3.0 | 4.2 | 5.5 | 7.0 | 8.5 | 10 |

## PLENTICORE plus 3.0 G2
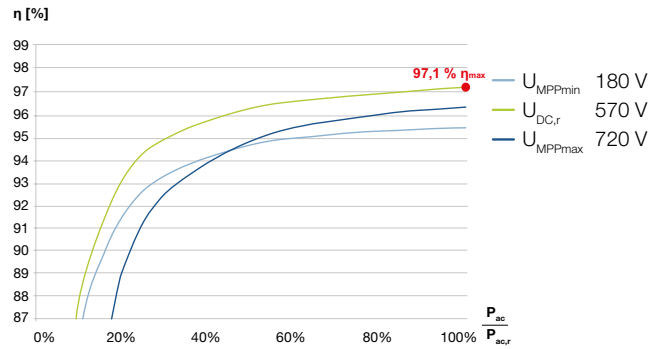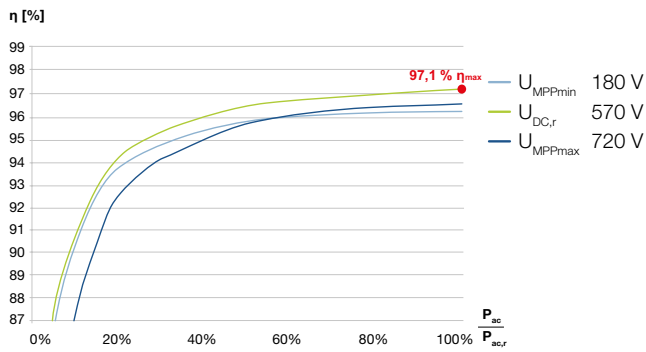
η [%]

**97,1 % η$_{max}$**

| U$_{MPPmin}$ | 180 V |
| U$_{DC,r}$ | 570 V |
| U$_{MPPmax}$ | 720 V |

$\frac{P_{ac}}{P_{ac,r}}$

## PLENTICORE plus 4.2 G2

η [%]

**97,1 % η$_{max}$**

| U$_{MPPmin}$ | 180 V |
| U$_{DC,r}$ | 570 V |
| U$_{MPPmax}$ | 720 V |

$\frac{P_{ac}}{P_{ac,r}}$

## PLENTICORE plus 5.5 G2

η [%]

**97,1 % η$_{max}$**

| U$_{MPPmin}$ | 225 V |
| U$_{DC,r}$ | 570 V |
| U$_{MPPmax}$ | 720 V |

$\frac{P_{ac}}{P_{ac,r}}$

## PLENTICORE plus 7.0 G2

η [%]

**97,2 % η$_{max}$**

| U$_{MPPmin}$ | 290 V |
| U$_{DC,r}$ | 570 V |
| U$_{MPPmax}$ | 720 V |

$\frac{P_{ac}}{P_{ac,r}}$

## PLENTICORE plus 8.5 G2

η [%]

**97,2 % η$_{max}$**

| U$_{MPPmin}$ | 345 V |
| U$_{DC,r}$ | 570 V |
| U$_{MPPmax}$ | 720 V |

$\frac{P_{ac}}{P_{ac,r}}$

## PLENTICORE plus 10 G2

η [%]

**97,2 % η$_{max}$**

| U$_{MPPmin}$ | 405 V |
| U$_{DC,r}$ | 570 V |
| U$_{MPPmax}$ | 720 V |

$\frac{P_{ac}}{P_{ac,r}}$
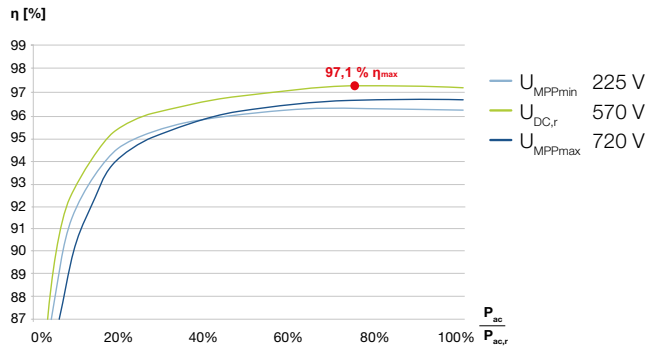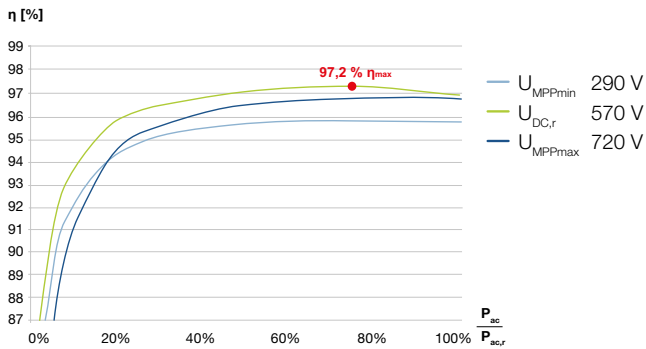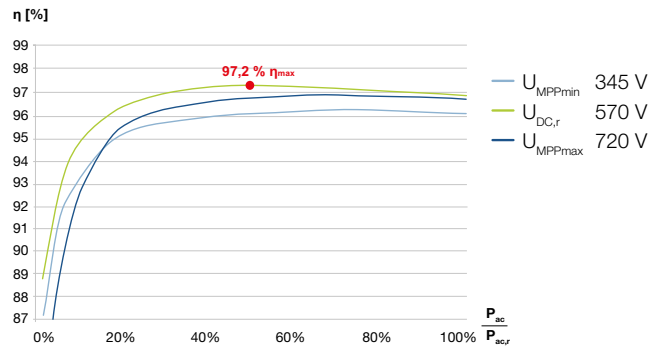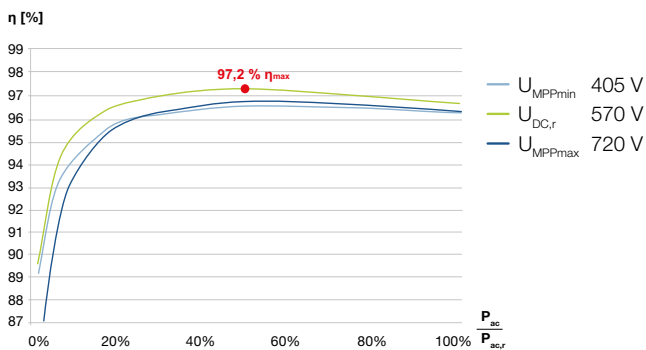
## Services for our products

FAQs:
kostal-solar-electric.com/Service_Support

Product registration, KOSTAL Smart Warranty, warranty extension, battery activation code or purchase of accessories: shop.kostal-solar-electric.com

Get in touch: service-solar@kostal.com

**www.kostal-solar-electric.com**