SOLAR ELECTRIC

# PLENTICORE MP G3

## Hybrid inverter monophase - 3.0 to 7.0 kW




Data sheet

# PLENTICORE MP G3: For single-phase connection

## 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
- 2-3 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)
- 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
- EEBus

# PLENTICORE MP G3: compact and rapidly deployable










PLENTICORE MP S G3




PLENTICORE MP M G3

[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 MP G3: Technical data

| | PLENTICORE MP G3 | | S | | | M | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Basic power | kW | 3.0 | - | - | 4.6[5] | 5.0[5] | - | - |
| | Optional power upgrade level 1[1] | kW | - | 3.6[5] | 4.0[5] | - | - | 6.0 | - |
| | Optional power upgrade level 2[1] | kW | - | - | - | - | - | - | 7.0 |
| Input side (DC) | Max. PV power | kWp | 4.5 | 5.4 | 6.0 | 6.9 | 7.5 | 9.0 | 10.5 |
| | Max. PV power per DC input | kW | 4.5 | 4.7 | 4.7 | 6.9 | 7.5 | 8.25 | 8.25 |
| | Nominal DC power | kW | 3.07 | 3.68 | 4.09 | 4.69 | 5.1 | 6.12 | 7.14 |
| | 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 | 85 | 125 | 125 | 95 | 105 | 125 | 145 |
| | MPP range at rated output ($U_{MPPmax}$)[3] | V | 800 | 800 | 800 | 800 | 800 | 800 | 800 |
| | Working voltage range ($U_{DCworkmin}$ - $U_{DCworkmax}$)[4] | V | 75...900 | | | | | | |
| | Max. input current ($I_{DCmax}$) per DC input | A | 17 | | | 17 | | | |
| | Max. PV short-circuit current ($I_{SC_PV}$) per DC input | A | 23.8 | | | 23.8 | | | |
| | Number of DC inputs | | 2 | | | 3 | | | |
| | Number of combined DC inputs (PV or battery) | | 1 | | | | | | |
| | Number of independent MPP trackers | | 2 | | | 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 | 820 | | | | | | |
| | Max. charging/discharging current at battery input | A | 17/17[7] | | | | | | |
| | Max. battery power DC input | kW | 4.5 | 4.7 | 4.7 | 6.9 | 7.5 | 8.25 | 8.25 |
| Output side (AC) | Rated power, cos ϕ = 1 ($P_{AC,r}$) | kW | 3.0 | 3.6 | 4.0 | 4.6 | 5.0 | 6.0 | 7.0 |
| | Rated power, cos ϕ = 0.9 ($P_{AC,r}$)[6] | kW | 2.70 | 3.24 | 3.6 | 4.14 | 4.5 | 5.4 | 6.3 |
| | Apparent output power ($S_{AC,Nom}$, $S_{AC,max}$) | kVA | 3.0/3.0 | 3.6/3.6 | 4.0/4.0 | 4.6/4.6 | 5.0/5.0 | 6.0/6.0 | 7.0/7.0 |
| | Min. output voltage ($U_{ACmin}$) | V | 184 | | | | | | |
| | Max. output voltage ($U_{ACmax}$) | V | 264.5 | | | | | | |
| | Rated AC current ($I_{AC,r}$) | A | 13.0 | 15.7 | 17.4 | 20.0 | 21.7 | 26.1 | 30.4 |
| | Max. output current ($I_{ACmax}$) | A | 19.3 | | | 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 |
| | Grid connection | | ~, 230 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 $\phi_{AC,r}$) | | 0.8 … 1 (ind./cap.) | | | | | | |
| | Power factor for rated power (cos $\phi_{AC,r}$) | | 1 | | | | | | |
| | Max. THD | % | 3 | | | | | | |
| | Standby | W | 2.5 | | | | | | |
| Backup operation | Backup power operation | | ~, 230 V, 51 Hz | | | | | | |
| | Nominal apparent power in backup mode[2] | kVA | 4.0 | | | 7.0 | | | |
| | Nominal power per phase | kW | 4.0 | | | 7.0 | | | |
| | Range cos ϕ | | 0...1 | | | | | | |
| | Start-up apparent power for min. 5 sec at $U_{AC,r}$ | kVA | 4.4 | | | 7.36 | | | |
| | Max. output current | A | 19.32 | | | 32.0 | | | |
| | 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.
[5] Only one PLENTICOIN is needed for the power upgrade 3.6 and 4.0. The basic power level 4.6 and 5.0 is country-dependent and is set via the country parameter set.
[6] Nominal power defined for Italy
[7] Limited charge/discharge current 7.1–17 A (in the voltage range 75–175 V)

| | PLENTICORE MP G3 | | S | | | M | | | |
|---|---|---|---|---|---|---|---|---|---|
| η | Max. efficiency | % | 97.7 | 97.7 | 97.7 | 98.0 | 98.0 | 98.0 | 98.0 |
| | European efficiency | % | 96.5 | 96.6 | 96.7 | 96.9 | 97.0 | 97.1 | 97.2 |
| | 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 | | | |
| | DC cable cross-section (PV/BAT) (min-max) | $mm^2$ | 2.5...6 / 6 | | | 2.5...6 / 6 | | | |
| | Max. fuse protection on output side according to IEC 60898-1 | | B25/C25 | | | B32/C32 | | | |
| | Internal operator protection according to EN 62109-2 | | RCCB type B | | | | | | |
| | 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 | 18.6 | | | 20.3 | | | |
| | 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) | | | | | | |
| | Clamping range, connection terminals, interfaces | $mm^2$ | 0.2 ... 1.5 | | | | | | |
| | 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.

[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.

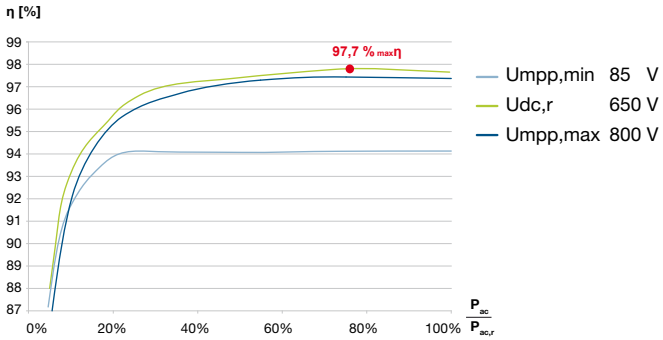
[2] Information on available Directive/parameter sets can be found in the product download area in the document 'Initial commissioning - Country setting'. Directive EN50438, EN50549-1: does not apply to all national annexes

# PLENTICORE MP G3: Overview of all power classes

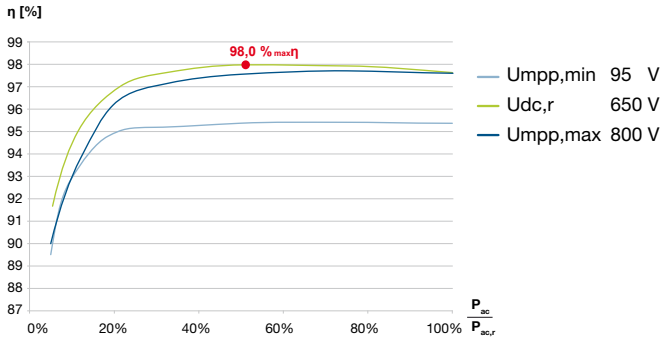


Purchase the PLENTICORE MP inverter with a basic power of S or M.
The basic power can be optionally upgraded in two stages.
This gives you maximum flexibility when planning your system - even at a later date without replacing the inverter.

## PLENTICORE MP S G3




## PLENTICORE MP M G3




| PLENTICORE MP G3 | S<br>3.0 - 4.0 kW | M<br>4.6 - 7.0 kW |
|---|---|---|
| Basic power [kW] | 3.0 | 4.6/5.0* |
| Optional power upgrade [kW] Level 1 | 3.6*<br>4.0* | 6.0 |
| Optional power upgrade [kW] Level 2 | - | 7.0 |







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

* PLENTICORE MP S G3: Only one PLENTICOIN is needed for power upgrades from 3.6 to 4.0.
PLENTICORE MP M G3: The basic power level 4.6 and 5.0 is country-dependent and is set via the country parameter set.

## 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

09/2025 - EN - DOC03535066 - Subject to technical changes, errors excepted.
You can find current information at www.kostal-solar-electric.com.