GOODWE

# ES Uniq Series 3-12kW

Single Phase | 1/2 MPPTs Hybrid Inverter (LV)

Power More. Never Pause.

## 3 AC Ports

Microgrid, generator &
PV system retrofit ready

## 200% PV Input Oversizing

Capture more solar.
Store more energy

## Max. 20A DC input current per string

## Micro-grid operation with PV inverter

## Supports on- and off-grid parallel operation of up to 6 units

## Type II SPD

on both DC&AC sides

## AI-driven AFCI optional[1]

## Seamless switching to backup < 4ms

*1 Optional functions or devices are purchased separately.

# ES Uniq Series

GOODWE

| Technical Data | GW3000-ES-C10 | GW3600-ES-C10 | GW5000-ES-C10 | GW6000-ES-C10 | GW8000-ES-C10 | GW10K-ES-C10 | GW12K-ES-C10 |
|---|---|---|---|---|---|---|---|
| **Battery Input Data** | | | | | | | |
| Battery Type | | | | Li-Ion / Lead-acid | | | |
| Nominal Battery Voltage (V) | | | | 48 | | | |
| Battery Voltage Range (V) | | | | 40 ~ 60 | | | |
| Start-up Voltage (V) | | | | 44.2 | | | |
| Number of Battery Input | | | | 1 | | | |
| Max. Continuous Charging Current (A) | 70 | 90 | 120 | 140 | 160 | 200 | 240 |
| Max. Continuous Discharging Current (A) | 70 | 90 | 120 | 140 | 160 | 200 | 240 |
| Max. Charging Power (kW)*1 | 3.0 | 3.6 | 5.0 | 6.0 | 8.0 | 10.0 | 12.0 |
| Max. Discharging Power (kW)*1 | 3.3 | 3.96 | 5.5 | 6.6 | 8.8 | 11.0 | 13.2 |
| **PV String Input Data** | | | | | | | |
| Max. Input Power (kW) | 6.0 | 7.2 | 10.0 | 12.0 | 16.0 | 20.0 | 24.0 |
| Max. Input Voltage (V)*2 | | | | 600 | | | |
| MPPT Operating Voltage Range (V)*3 | | | | 60 ~ 550 | | | |
| Start-up Voltage (V) | | | | 58 | | | |
| Nominal Input Voltage (V) | | | | 360 | | | |
| Max. Input Current per MPPT (A) | 20 | 20 | 20 | 20 | 32 / 16*4 | 32 / 32*4 | 32 / 32*4 |
| Max. Short Circuit Current per MPPT (A) | 26 | 26 | 26 | 26 | 48 / 24 | 48 / 48 | 48 / 48 |
| Number of MPPT Trackers | 1 | 2 | 2 | 2 | 2 | 2 | 2 |
| Number of Strings per MPPT | 1 | 1 | 1 | 1 | 2 / 1 | 2 / 2 | 2 / 2 |
| **AC Output Data (On-grid)** | | | | | | | |
| Nominal Output Power (kW) | 3.0 | 3.6 | 5.0 | 6.0 | 8.0 | 10.0 | 12.0 |
| Nominal Apparent Power Output to Utility Grid (kVA) | 3.0 | 3.6 | 5.0 | 6.0 | 8.0 | 10.0 | 12.0 |
| Max. AC Active Power (kW)*5*6 | 3.3 | 3.96*7 | 5.5 | 6.6 | 8.8 | 11.0 | 13.2 |
| Max. Apparent Power Output to Utility Grid (kVA)*5*6 | 3.3 | 3.96*7 | 5.5 | 6.6 | 8.8 | 11.0 | 13.2 |
| Max. Apparent Power from Utility Grid (kVA) | 7.04 | 7.04 | 8.8 | 8.8 | 16.5 | 16.5 | 16.5 |
| Nominal Output Voltage (V)*8 | | | | 220 / 230 / 240 | | | |
| Output Voltage Range (V) | | | | 170 ~ 280 | | | |
| Nominal AC Grid Frequency (Hz) | | | | 50 / 60 | | | |
| AC Grid Frequency Range (Hz) | | | | 45 ~ 55 / 55 ~ 65 | | | |
| Max. AC Current Output to Utility Grid (A) | 15 | 18*9 | 25 | 30 | 40 | 50 | 60 |
| Max. AC Current From Utility Grid (A) | 32 | 32 | 40 | 40 | 75 | 75 | 75 |
| Power Factor | | | | ~1 (Adjustable from 0.8 leading to 0.8 lagging) | | | |
| Max. Total Harmonic Distortion | | | | <3% | | | |
| **AC Output Data (Back-up)** | | | | | | | |
| Back-up Nominal Apparent Power (kVA) | 3.0 | 3.6 | 5.0 | 6.0 | 8.0 | 10.0 | 12.0 |
| Max. Output Apparent Power without Grid (kVA) | 3.3 (6.0, 10s) | 3.96 (7.2, 10s) | 5.5 (10.0, 10s) | 6.6 (12.0, 10s) | 8.8 (16.0, 10s) | 11.0 (20.0, 10s) | 13.2 (24.0, 10s) |
| Max. Output Apparent Power with Grid (kVA) | 7.04 | 7.04 | 8.8 | 8.8 | 16.5 | 16.5 | 16.5 |
| Max. Output Current without Grid (A) | 15 | 18 | 25 | 30 | 40 | 50 | 60 |
| Max. Output Current with Grid (A) | 32 | 32 | 40 | 40 | 75 | 75 | 75 |
| Nominal Output Voltage (V) | | | | 220 / 230 / 240 | | | |
| Nominal Output Frequency (Hz) | | | | 50 / 60 | | | |
| Output THDv (@Linear Load) | | | | <3% | | | |
| **AC Data (Generator)** | | | | | | | |
| Nominal Apparent Power from AC generator (kVA) | 3.0 | 3.6 | 5.0 | 6.0 | 8.0 | 10.0 | 12.0 |
| Max. Apparent Power from AC generator (kVA) | 3.3 | 3.96 | 5.5 | 6.6 | 8.8 | 11.0 | 13.2 |
| Nominal Intput Voltage (V)*8 | | | | 220 / 230 / 240 | | | |
| Input Voltage Range (V) | | | | 170 ~ 280 | | | |
| Nominal AC generator Frequency (Hz) | | | | 50 / 60 | | | |
| AC generator Frequency Range (Hz) | | | | 45 ~ 55 / 55 ~ 65 | | | |
| Max. AC Current From AC generator (A) | 32.0 | 32.0 | 40.0 | 40.0 | 50.0 | 54.5 | 54.5 |
| Nominal AC Current From AC generator (A) | 13.7 at 220V<br>13.1 at 230V<br>12.5 at 240V | 16.4 at 220V<br>15.7 at 230V<br>15.0 at 240V | 22.8 at 220V<br>21.8 at 230V<br>20.9 at 240V | 27.3 at 220V<br>26.1 at 230V<br>25.0 at 240V | 36.4 at 220V<br>34.8 at 230V<br>33.3 at 240V | 45.5 at 220V<br>43.5 at 230V<br>41.7 at 240V | 54.5 at 220V<br>52.2 at 230V<br>50.0 at 240V |
| Nominal Input Current (A) | 13.7 at 220V<br>13.1 at 230V<br>12.5 at 240V | 16.4 at 220V<br>15.7 at 230V<br>15.0 at 240V | 22.8 at 220V<br>21.8 at 230V<br>20.9 at 240V | 27.3 at 220V<br>26.1 at 230V<br>25.0 at 240V | 36.4 at 220V<br>34.8 at 230V<br>33.3 at 240V | 45.5 at 220V<br>43.5 at 230V<br>41.7 at 240V | 54.5 at 220V<br>52.2 at 230V<br>50.0 at 240V |
| **Efficiency** | | | | | | | |
| Max. Efficiency | | | | 97.6% | | | |
| European Efficiency | | | | 96.2% | | | |
| Max. Battery to AC Efficiency | | | | 95.5% | | | |
| MPPT Efficiency | | | | 99.9% | | | |
| **Protection** | | | | | | | |
| PV String Current Monitoring | | | | Integrated | | | |
| PV Insulation Resistance Detection | | | | Integrated | | | |
| Residual Current Monitoring | | | | Integrated | | | |
| PV Reverse Polarity Protection | | | | Integrated | | | |
| Anti-islanding Protection | | | | Integrated | | | |
| AC Overcurrent Protection | | | | Integrated | | | |
| AC Short Circuit Protection | | | | Integrated | | | |
| AC Overvoltage Protection | | | | Integrated | | | |
| DC Switch | | | | Integrated | | | |
| DC Surge Protection | | | | Type III | | | |
| AC Surge Protection | | | | Type III | | | |
| AFCI | | | | Optional | | | |
| Rapid Shutdown | | | | Optional | | | |
| Remote Shutdown | | | | Integrated | | | |
| **General Data** | | | | | | | |
| Operating Temperature Range (℃) | | | | -35 ~ +60 | | | |
| Relative Humidity | | | | 0 ~ 95% | | | |
| Max. Operating Altitude (m) | | | | 3000 | | | |
| Cooling Method | | Natural Convection | | | | Smart Fan Cooling | |
| User Interface | | | | LCD, WLAN + APP | | | |
| Communication with BMS | | | | CAN | | | |
| Communication | | | | RS485, WiFI + LAN + Bluetooth | | | |
| Communication Protocols | | | | Modbus-RTU, Modbus-TCP | | | |
| Weight (kg) | 14.5 | 15.5 | 15.5 | 15.5 | 27.0 | 29.0 | 29.0 |
| Dimension (W × H × D mm) | | 560 × 415 × 204 | | | | 560 × 444.5 × 226 | |
| Topology | | | | Non-isolated | | | |
| Ingress Protection Rating | | | | IP66 | | | |
| Mounting Method | | | | Wall Mounted | | | |

*1: When the PV input voltage is higher than 490V, the battery charging and discharging power will be gradually limited, and the power limitation will be lifted after the input voltage is lowered.
*2: When the input voltage is 580V-600V, the inverter will enter standby mode, and the voltage returns to 580V to enter the normal operation state.
*3: Please refer to the user manual for the MPPT Voltage Range at Nominal Power.
*4: The maximum input current per string is 16A. Or For the MPPT with two strings, the current of each string is 16A.
*5: For Sri Lanka, Max. Output Power (kW) is 3.0kW for GW3000-ES-C10, 3.6kW for GW3600-ES-C10, 5.0kW for GW5000-ES-C10, 6.0kW for GW6000-ES-C10, 8.0kW for GW8000-ES-C10, 10.0kW for GW10K-ES-C10, and 12.0kW for GW12K-ES-C10.
*6: For Brazil and Chile, the max. AC output power is Pn, such as the max. AC output power of GW8000-ES-C10 is 8000W (VA).
*7: For Jordan, UK G98, Max. AC Active Power and Max. Apparent Power Output to Utility Grid are 3.6kW/kVA for GW3600-ES-C10.
*8: In South America, back-up output does not support relative phase (F-F) connections and 110-127V loads; Only supports relative neutral wire (F-N) 208-240V connection and 208-240V load.
*9: For Jordan, UK G98, Max. AC Current Output to Utility Grid is 15.7A for GW3600-ES-C10.
*: Please visit GoodWe website for the latest certificates.

GoodWe-Single page-20261020-EN-V2.1. Information may be subject to change without notice during product improving.