GOODWE Tesla Solar SA

ES Uniq Series

3-12kW I Single Phase I 1/2 MPPTs Hybrid Inverter (LV)

GoodWe's ES Uniq Series inverter, available in 3-12kW capacities, are specifically designed for residential PV installations. It offers flexible compatibility with both on-grid and off-grid systems and support parallel connection of up to 6 inverters for easy system expansion. The ES Uniq inverters feature a user-friendly touch-screen LCD display for intuitive operation and monitoring, and can be combined with a range of battery capacities and brands, including GoodWe's Lynx A and Lynx U batteries.



Flexible & Adaptable Applications

- 3-in-1 Port: generator & smart loads & on-grid inverter
- Micro-grid operation with PV inverter
- Supports on- and off-grid parallel operation of up to 6 units

Higher Power Generation

- Max. 20A DC input current per string
- 200% PV input oversizing

Superb Safety & Reliability

- AI-driven AFCI[1]
- IP66 ingress protection

Smart Control & Monitoring

- Smart load control
- Seamless switching to backup <4ms

1: Optional functions or devices are purchased separately.

ES Uniq Series

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*1				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)	3.0*2	3.6*2	5.0*2	6.0*2	8.0*3	10.0*3	12.0*3
Max. Discharging Power (kW)	3.3*2	3.96*2	5.5*2	6.6*2	8.8*3	11.0*3	13.2*3
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)*4				600			
MPPT Operating Voltage Range (V)*5				60 ~ 550			
Start-up Voltage (V)				58			
Nominal Input Voltage (V)				360			
Max. Input Current per MPPT (A)	20	20	20	20	32 / 16*6	32 / 32*6	32 / 32*6
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)*7*8	3.3	3.96	5.5	6.6	8.8	11.0	13.2
Max. Apparent Power Output to Utility Grid (kVA)*7*8	3.3	3.96	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)				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	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)				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 13.1 at 230V 12.5 at 240V	16.4 at 220V 15.7 at 230V 15.0 at 240V	22.8 at 220V 21.8 at 230V 20.9 at 240V	27.3 at 220V 26.1 at 230V 25.0 at 240V	36.4 at 220V 34.8 at 230V 33.3 at 240V	45.5 at 220V 43.5 at 230V 41.7 at 240V	54.5 at 220V 52.2 at 230V 50.0 at 240V
Nominal Input Current (A)	13.7 at 220V 13.1 at 230V 12.5 at 240V	16.4 at 220V 15.7 at 230V 15.0 at 240V	22.8 at 220V 21.8 at 230V 20.9 at 240V	27.3 at 220V 26.1 at 230V 25.0 at 240V	36.4 at 220V 34.8 at 230V 33.3 at 240V	45.5 at 220V 43.5 at 230V 41.7 at 240V	54.5 at 220V 52.2 at 230V 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: The Li-Ion battery usually contain two mainstream type: LFP and Ternary Lithium battery.
*2: When the PV input voltage is higher than 500V, the battery charging and discharging power will be gradually limited, and the power limitation will be lifted after the input voltage is lowered.
*3: 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.
*4: When the input voltage is 560V-600V, the inverter will enter standby mode. The inverter will return to normal operation state when the voltage returns to the MPPT working voltage range.
*5: Please refer to the user manual for the MPPT Voltage Range at Nominal Power.
*6: The maximum input current per string is 16A. Or For the MPPT with two strings, the current of each string is 16A.
*7: 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.
*8: 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).
*: Please visit GoodWe website for the latest certificates.

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