

ETR Series

50-125kW | Three Phase Hybrid Inverter (HV)

Designed for evolving Commercial and Industrial (C&I) energy needs, the GoodWe ETR hybrid inverter combines PV generation and future-ready energy storage in one flexible platform. Its Battery-Ready design allows businesses to start with solar today and seamlessly add storage whenever needed, reducing upfront investment while simplifying future expansion. Compatible with the GoodWe BAT-C 208/261kWh battery system, ETR supports intelligent energy management for applications such as self-consumption, peak shaving, backup power, and microgrid support. With reliable on/off-grid switching and scalable architecture, ETR delivers a flexible and dependable solution for modern C&I energy systems.



Battery-Ready Flexible Platform

- Battery-ready architecture enables seamless ESS upgrade
- No inverter replacement required for system expansion



High-Efficiency PV Performance

- MPPT efficiency up to 99.9% for optimized energy yield
- High MPPT input current (up to 42A per string) for flexible PV design



Industrial-Grade Stability

- IP66 protection for outdoor installation reliability
- Operating temperature range -35°C to +60°C
- Low-noise design (<60 dB) for commercial deployment scenarios



Grid-Forming Reliability & Fast Response

- On/Off-grid Switching Time (one-unit) <10ms
- Advanced grid support capability for stable operation
- High-speed response ensures uninterrupted power supply

Technical Data	GW50K- ETR-L-G10	GW75K- ETR-L-G10	GW75K- ETR-G10	GW80K- ETR-G10	GW99.99K- ETR-G10	GW100K- ETR-G10	GW110K- ETR-G10	GW124.99K- ETR-G10	GW125K- ETR-G10
Battery Side¹²									
Battery Type	LFP (LiFePO ₄)								
Nominal Voltage (V)	480	480	750	750	750	750	750	750	750
Voltage Range (V)	440 ~ 700	440 ~ 700	700 ~ 1000	700 ~ 1000	700 ~ 1000	700 ~ 1000	700 ~ 1000	700 ~ 1000	700 ~ 1000
Start-up Voltage (V)	440	440	700	700	700	700	700	700	700
Battery Connection Ports	1								
Max. Continuous Charging / Discharging Current (A)	113.6	170.4	107.1	125.7	142.8	157.1	172.8	178.5	180.0
Max. Charging / Discharging Power (kW)	50.0	75.0	75.0	88.0	99.99	110.0	121.0	124.99	137.5
PV Side									
Max. Input Power (kW)	100	150	150	160	200	200	220	250	250
Max. Input Voltage (V) ¹¹⁵	850	850	1100	1100	1100	1100	1100	1100	1100
MPPT Operating Voltage Range (V) ¹²	160 ~ 800	160 ~ 800	160 ~ 1000	160 ~ 1000	160 ~ 1000	160 ~ 1000	160 ~ 1000	160 ~ 1000	160 ~ 1000
Start-up Voltage (V)	200								
Nominal Input Voltage (V)	420	420	620	620	620	620	620	620	620
Max. MPPT Current (A)	42								
Max. MPPT Short Circuit Current (A)	55								
Number of MPPTs	8	10	8	8	10	10	10	10	10
Number of Strings per MPPT	2								
AC Side (On-Grid)									
Rated Power (kW)	50.0	75.0	75.0	80.0	99.99	100	110.0	124.99	125.0
Max. Power (kW)	50.0	75.0	75.0	88 ¹⁷	99.99	110 ¹⁷	121 ¹³	124.99	137.5
Rated Apparent Power (kVA)	50.0	75.0	75.0	80.0	99.99	100.0	110.0	124.99	125.0
Max. Apparent Power (kVA)	50.0	75.0	75.0	88 ¹⁸	99.99	110 ¹⁸	121 ¹³	124.99	137.5
Nominal Voltage (V)	127 / 220, 3L / N / PE		220 / 380, 230 / 400, 240 / 415, 3L / N / PE						
Voltage Range (V) (according to local standard)	114 ~ 139	114 ~ 139	180 ~ 280	180 ~ 280	180 ~ 280	180 ~ 280	180 ~ 280	180 ~ 280	180 ~ 280
Nominal Frequency (Hz)	50 / 60 ¹⁰	50 / 60 ¹⁰	50 / 60	50 / 60	50 / 60	50 / 60	50 / 60	50 / 60	50 / 60
Frequency Range (Hz)	45 ~ 55 / 55 ~ 65 ¹¹		45 ~ 55 / 55 ~ 65						
Rated Current (A)	131.3	196.9	114.0 @ 380V 108.3 @ 400V 104.4 @ 415V	121.6 @ 380V 115.5 @ 400V 111.3 @ 415V	152.0 @ 380V 144.4 @ 400V 139.2 @ 415V	152.0 @ 380V 144.4 @ 400V 139.2 @ 415V	167.2 @ 380V 158.8 @ 400V 153.1 @ 415V	174.0 @ 380V 168.4 @ 400V 168.4 @ 415V	190.0 @ 380V 180.5 @ 400V 174.0 @ 415V
Max. Current (A) ⁹	131.3	196.9	114.0 @ 380V 108.3 @ 400V 104.4 @ 415V	133.8 @ 380V 127.1 @ 400V 122.5 @ 415V	152.0 @ 380V 144.4 @ 400V 139.2 @ 415V	167.2 @ 380V 158.8 @ 400V 153.1 @ 415V	183.9 @ 380V 174.7 @ 400V ¹³ 168.4 @ 415V	190.0 @ 380V 180.5 @ 400V 174.0 @ 415V	209.0 @ 380V 198.5 @ 400V 191.3 @ 415V
Power Factor	~1 (Adjustable from 0.8 leading to 0.8 lagging)								
THDi	<3%								
Backup Side¹⁴									
Nominal Output Apparent Power (kVA)	50.0	75.0	75.0	80.0	99.99	100.0	110.0	124.99	125.0
Max. Output Apparent Power (kVA)	50.0	75.0	75.0	88.0	99.99	110.0	121 ¹³	124.99	137.5
Peak Output Power without Grid (kW)	120% @ 60s 150% @ 10s		110% @ continuous 120% @ 60s 150% @ 10s		120% @ 60s 150% @ 10s		110% @ continuous 120% @ 60s 150% @ 10s		120% @ 60s 150% @ 10s
Nominal Output Voltage (V)	127 / 220, 3L / N / PE		220 / 380, 230 / 400, 240 / 415, 3L / N / PE						
Nominal Output Frequency (Hz)	50 / 60 ¹⁰	50 / 60 ¹⁰	50 / 60	50 / 60	50 / 60	50 / 60	50 / 60	50 / 60	50 / 60
Nominal Output Current (A)	131.3	196.9	114.0 @ 380V 108.3 @ 400V 104.4 @ 415V	121.6 @ 380V 115.5 @ 400V 111.3 @ 415V	152.0 @ 380V 144.4 @ 400V 139.2 @ 415V	152.0 @ 380V 144.4 @ 400V 139.2 @ 415V	167.2 @ 380V 158.8 @ 400V 153.1 @ 415V	174.0 @ 380V 168.4 @ 400V 168.4 @ 415V	190.0 @ 380V 180.5 @ 400V 174.0 @ 415V
Max. Output Current (A)	131.3	196.9	114.0	133.8	152.0	167.2	183.9	190.0	209.0
THDv (@Linear Load)	<3%								
On / Off-grid Switching Time	<10ms (one-unit)								

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Technical Data	GW50K- ETR-L-G10	GW75K- ETR-L-G10	GW75K- ETR-G10	GW80K- ETR-G10	GW99.99K- ETR-G10	GW100K- ETR-G10	GW110K- ETR-G10	GW124.99K- ETR-G10	GW125K- ETR-G10
Efficiency									
Max. Efficiency	97.4%	97.4%	98.1%	98.1%	98.1%	98.1%	98.1%	98.1%	98.1%
European Efficiency	96.8%	96.8%	97.7%	97.7%	97.7%	97.7%	97.7%	97.7%	97.7%
Max. Battery to AC Efficiency ⁶	97.7%	97.7%	98.2%	98.2%	98.2%	98.2%	98.2%	98.2%	98.2%
MPPT Efficiency	99.9%								
Protection									
PV String Current Monitoring	Integrated								
Internal Humidity Monitoring	Integrated								
PV Insulation Resistance Detection	Integrated								
Residual Current Monitoring	Integrated								
PV Reverse Polarity Protection	Integrated								
Battery 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 II (Type I + II Optional)								
AC Surge Protection	Type II								
AFCI	Optional								
Emergency Power Off	Optional								
Rapid Shutdown	Optional								
Remote Shutdown	Optional								
General Data									
Operating Temperature Range (°C)	-35 ~ +60								
Relative Humidity	0 ~ 100%								
Max. Operating Altitude (m)	4000								
Cooling Method	Intelligent Air Cooling								
User Interface	LED, LCD (Optional), WLAN + APP								
Communication with BMS	CAN								
Communication	RS485, WIFI, LAN, Bluetooth, 4G								
Communication Protocols	Modbus TCP (SunSpec Compatible)								
Weight (kg)	82	98	82	82	96	96	96	98	98
Dimension (W × H × D mm)	995 × 758 × 358								
Noise Emission (dB)	60								
Ingress Protection Rating	IP66								
Mounting Method	Wall Mounted								

*1: For GW50K-ETR-L-G10/GW75K-ETR-L-G10, when the input voltage ranges from 800V to 850V, the inverter will enter the standby mode, and the voltage returns to 800V to enter the normal operation state. For GW75K-ETR-G10/GW80K-ETR-G10/GW99.99K-ETR-G10/GW100K-ETR-G10/GW110K-ETR-G10/GW124.99K-ETR-G10/GW125K-ETR-G10, when the input voltage ranges from 1000V to 1100V, the inverter will enter the standby mode, and the voltage returns to 1000V to enter the normal operation state.

*2: Please refer to the user manual for the MPPT Voltage Range at nominal Power.

*3: For Australia is 110kW/kVA.

*4: The STS Box or STS Cabinet is needed.

*5: When connecting the GW261.2-BAT-LCD-G10 battery, the open-circuit voltage input of the PV strings needs to be greater than 813V.

*6: This efficiency refers to the efficiency from the battery port of the inverter to the AC output port of the inverter.

*7: For Chile, Max. Power (kW): GW80K-ETR-G10: 80kW, GW100K-ETR-G10: 100kW.

*8: For Chile, Max. Apparent Power to Grid (kVA)/Max. Apparent Power from Grid (kVA): GW80K-ETR-G10: 80kVA, GW100K-ETR-G10: 100kVA.

*9: For Chile, Max. Current to Grid (A)/Max. Current from Grid (A): GW80K-ETR-G10: 121.6@380Vac, 115.5@400Vac, 111.3@415Vac; GW100K-ETR-G10: 152.0@380Vac, 144.4@400Vac, 139.2@415Vac.

*10: For Mexico and Colombia, the Nominal Frequency of GW50K-ETR-L-G10 and GW75K-ETR-L-G10 is 60Hz.

*11: For Mexico and Colombia, the Frequency Range of GW50K-ETR-L-G10 and GW75K-ETR-L-G10 is 55~65Hz.

*12: Battery-side parameters are only applicable with proprietary battery systems or DC/DC-supported battery interface.

*13: For Australia, Max. Current from Grid/Max. Current to Grid is 158.8A@400V.

*: Please visit GoodWe website for the latest certificates.