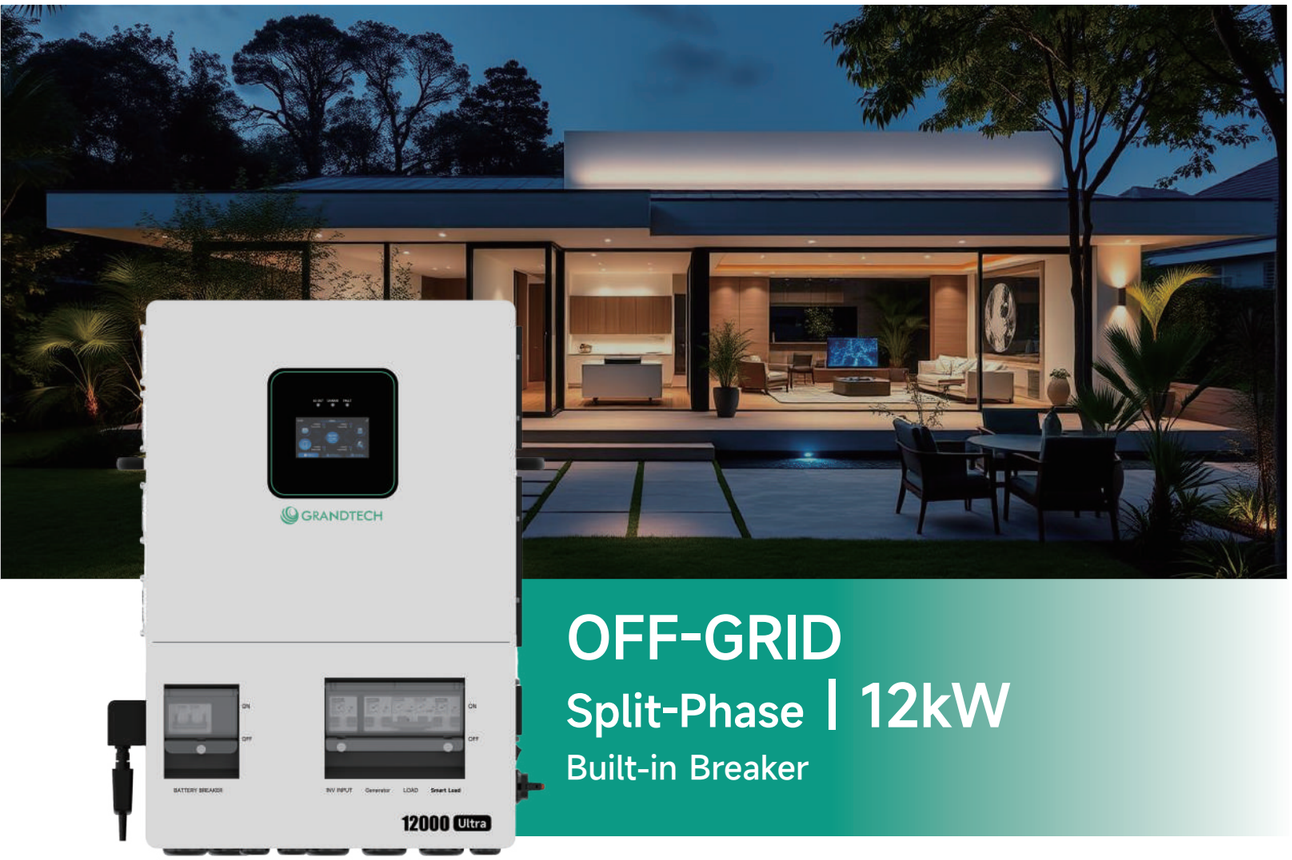
GRANDTECH

https://www.gtsolarenergy.com



OFF-GRID

Split-Phase | 12kW

Built-in Breaker

- Whole-Home Backup
- Peak Shaving, Smart Tariff Management
- 6-Unit Parallel Expansion, Up to 72kW for Medium-to-Large Off-Grid Projects
- Battery 270A Continuous Discharge, 250A Max Charge
- Independent SmartLoad Output, Microinverter Input Compatible
- Color Touchscreen
- CT Anti-Backflow + AC Coupling, Zero Feed-in Protection
- 24kW Dual MPPT, 32A/12000W per Channel
- 10ms UPS Transfer, Uninterrupted Power for Critical Loads
- Independent Diesel Generator Interface, Dry Contact Start/Stop + Generator Efficiency Boost
- AFCI+RSD+ISO Triple Safety Protection

MODEL	GTOF51120US2P03
DC Input (PV)	
Max DC Input Power	12000W+12000W
Max DC Input Voltage	500V
Start Voltage	120V
PV Input Voltage Range	90~500V
MPPT Voltage Range	90~450V
MPPT Channels	2
Max MPPT Input Current	32A+32A
Max PV Charging Current	250A
AFCI Function	
Rated Output Voltage	12Vdc
Rated Output Current	1Adc
AC Input	
Per-Phase AC Input Range	85~140Vac
Frequency Range	47~55Hz/57~65Hz
Max Per-Phase AC Input Current	200A
Max AC Charge Current	160Adc
AC Output	
Rated AC Output Power	12000W
Max AC Output Power	12000VA
Peak Power	18000VA/5s
Rated Output Voltage	L1/L2/N 120/240Vac
Output Frequency	50/60Hz
Power Factor	1
AC Connection Type	L1+L2+N+PE
Load Port	
Load Output Rated Current	125Aac
Smart Load Output Rated Current	60Aac
Efficiency	
Max Efficiency	>93.5%
Battery Parameters	
Rated Battery Voltage	51.2V
Min Start Voltage	44V
Battery Voltage Range	40~60Vdc
Battery Type	Lead-Acid /Lithium
Max Charge/ Discharge Current	250A/270A
Charge Voltage Range	40~60Vdc
Generator	
Rated Input Voltage	L1/L2/N 120/240Vac
Input Voltage Range	85~140Vac
Frequency Range	40~70Hz
Max Charge Current	160A
Transfer Time(Generator to Inverter)	10ms (Typical)
Overload Protection	63A Circuit Breaker
Protection	
Grid Overload Protection	Circuit Breaker
AC Reverse Feed Protection	Yes
Charge Short Circuit Protection	Circuit Breaker
AC Output Short Circuit Protection	Yes
Wiring Protection	Yes
Transfer Time	10ms (Typical)
General Data	
Dimensions(W×D×H)	760x485x160.8mm
Weight	35.5kg
Operating Temperature	-10° C to 55° C (Derating above 45° C)
Storage Temperature	-25°C~60°C
Humidity Range	5%~95%
Cooling Method	Forced Air Cooling (Variable Speed)
Protection Class	IP21
Noise	≤60dB
Altitude	4000m (2000m≤NoDerating)
Safety / EMC Certification	UL1741 / CSA C22.2#107.1 | EMC: FCC Part15 Class B
Features	
Parallel Units	1 to 6 Units
Phases	Split-Phase
Communication Ports	CAN/USB/WiFi/RS485
AC Coupling	Yes
Dry Contact Control	Yes
Battery-less Operation	Yes
Remote Diagnostics/OTA	Yes
CT Anti-Backflow	Yes
Special Functions	AFCI+RSD+ISO Triple Protection / SmartLoad Independent Output / Microinverter Compatible