

Three-phase C&I On-grid Inverter



FORTH G3

80kW / 99.9kW / 100kW
110kW / 125kW



High Efficiency

- Max. 98.8% efficiency, up to 20% lighter with SiC technology
- Max. 52A input current per MPPT, compatible with almost all PV modules
- Full power output up to 45°C*



Assured Safety

- Auto-trip switch standard, AI-powered AFCI (500m range / 0.5s trip, optional)
- Type II DC/AC SPD (DC-side Type I+II optional) for lightning protection
- DC/AC terminal temperature and internal humidity monitoring



Intelligent Design

- Removable self-cleaning fan for lower O&M cost
- Up to 10-unit parallel operation without external EMS
- Online I-V curve scanning for smart string fault diagnosis



Flexible Adaptability

- Three-phase unbalanced output for precise power control (optional)
- Genset fuel-saving with auto start-stop support
- IP66 ingress protection and C5 corrosion resistance for harsh environments
- AC-side aluminum wiring compatibility for lower BOS cost

* Full power maintained under rated operating conditions.

FTH80T-S3
FTH99.9T-S3
FTH100T-S3
FTH110T-S3
FTH125T-S3

PV INPUT					
Max. recommended PV array power	120 kWp	150 kWp	150 kWp	165 kWp	188 kWp
Max. PV input voltage ^①	1100 d.c. V				
Rated PV input voltage	600 d.c. V				
Operating voltage range	160 - 1000 d.c. V				
Start-up voltage	200 d.c. V				
No. of MPP trackers / Strings per MPP tracker	6 / 3				
Max. input current per MPPT	45 d.c. A				52 d.c. A
Max. input short circuit current per MPPT	60 d.c. A				65 d.c. A
AC OUTPUT (ON-GRID)					
Rated output apparent power	80 kVA	99.9 kVA	100 kVA	110 kVA	125 kVA
Rated output current	121.3 a.c. A@220 a.c. V	151.4 a.c. A@220 a.c. V	151.6 a.c. A@220 a.c. V	166.7 a.c. A@220 a.c. V	189.4 a.c. A@220 a.c. V
	116.0 a.c. A@230 a.c. V	144.8 a.c. A@230 a.c. V	145.0 a.c. A@230 a.c. V	159.5 a.c. A@230 a.c. V	181.2 a.c. A@230 a.c. V
	96.3 a.c. A@277 a.c. V	120.3 a.c. A@277 a.c. V	120.4 a.c. A@277 a.c. V	132.4 a.c. A@277 a.c. V	150.5 a.c. A@277 a.c. V
Max. output apparent power	88 kVA	99.9 kVA	110 kVA	121 kVA	125 kVA
Max. output continuous current	133.4 a.c. A@220 a.c. V	151.4 a.c. A@220 a.c. V	166.7 a.c. A@220 a.c. V	183.4 a.c. A@220 a.c. V	189.4 a.c. A@220 a.c. V
	127.6 a.c. A@230 a.c. V	144.8 a.c. A@230 a.c. V	159.5 a.c. A@230 a.c. V	175.4 a.c. A@230 a.c. V	181.2 a.c. A@230 a.c. V
	105.9 a.c. A@277 a.c. V	120.3 a.c. A@277 a.c. V	132.4 a.c. A@277 a.c. V	145.7 a.c. A@277 a.c. V	150.5 a.c. A@277 a.c. V
Rated AC voltage	3W / (N) / PE, 220 / 380 a.c. V 3W / (N) / PE, 230 / 400 a.c. V 3W / (N) / PE, 277 / 480 a.c. V				
Rated AC frequency	50 / 60 Hz				
AC frequency range ^②	50 ± 5 / 60 ± 5 Hz				
Adjustable power factor range	~ 1 (0.8 lagging to 0.8 leading)				
EFFICIENCY					
Max. efficiency	98.8%				
European efficiency	98.4%				
ENVIRONMENT LIMIT					
Ingress protection	IP66				
Operating temperature range	-30 – +60°C (> 45°C derating)				
Max. operating altitude	4000 m				
Relative humidity	4 – 100% RH (condensing)				
Overvoltage Category	Mains: III, PV: II				
GENERAL					
Dimensions (W × H × D)	942 × 673 × 316 mm				
Net weight	70 kg				72 kg
Cooling concept	Smart air cooling				
Communication interfaces	RS485, USB, DRM, DI/DO, PLC(Optional)				
Power consumption (night)	10 W (< 1 W Optional)				
Topology	Non-isolated				
Certifications	IEC/EN 62109-1, IEC/EN 62109-2, IEC/EN 61000, IEC 61727, IEC 62116, EN50549				
AC auxiliary power supply (APS)	Built-in				
PROTECTION					
Protections	Over / under voltage protection, DC isolation protection, DC reverse-polarity protection, Grid monitoring, DC injection monitoring, Back feed current monitoring, Residual current detection, Over temperature protection, AC overcurrent protection, AC short-circuit protection				
Surge protection	DC: Type II (Optional I + II), AC: Type II				
Arc-fault circuit interrupter (AFCI)	Optional				
Anti-PID	Optional				

① The maximum input voltage is the upper limit of the DC voltage. Any higher input DC voltage would probably damage inverter

② The AC frequency range may vary from different country codes