

FI H1P-(12-16)-220

Single Phase Low Voltage Energy Storage Inverters

Features:

- Generator-compatible to extend backup duration during grid power outage
- Multiple inverters can operate together to form a microgrid
- Supports dual backup ports for intelligent control of critical and non-critical loads
- 10 seconds of 200% overload capability
- Automatic switchover time is < 4ms, providing seamless transitions from grid to backup
- Supports a maximum input current of 20A, making it ideal for all high-power PV modules of any brand
- Ensures excellent power supply stability, keeping the load unaffected by a weak grid or generator supply fluctuations
- The battery's DC side can handle a maximum charge/discharge current of up to 290A, allowing it to store more surplus energy generated by PV systems

Models:

FI H1P-12-220

FI H1P-14-220

FI H1P-16-220



DATASHEET

Models	FI H1P-12-220	FI H1P-14-220	FI H1P-16-220
Input DC (PV side)			
Recommended max. PV array size	24 kW	28 kW	32 kW
Max. usable PV input power	19.2 kW	22.4 kW	22.4 kW
Max. input voltage	550 V		
Rated voltage	380 V		
Start-up voltage	100 V		
MPPT voltage range	80 - 520 V		
Max. input current	40 A / 40 A / 40 A		
Max. short circuit current	50 A / 50 A / 50 A		
MPPT number / Max. input strings number	3 / 6		
Battery			
Battery type	Li-ion / Lead-acid		
Battery voltage range	40 - 60 V		
Max. charge / discharge current	250 A	290 A	290 A
Communication	CAN / RS485		
Output AC (Grid side)			
Rated output power	12 kW	14 kW	16 kW
Operation phase	L/N/PE		
Rated grid voltage	220 V / 230 V		
Rated grid frequency	50 Hz / 60 Hz		
Rated grid output current	54.5 A / 52.2 A	63.6 A / 60.9 A	72.7 A / 69.6 A
Power factor	> 0.99 (0.8 leading - 0.8 lagging)		
THDi	< 3%		
Input AC (Grid side)			
Input voltage range	187 - 253 V		
Max. input current	81.8 A / 78.3 A	95.5 A / 91.3 A	109.1 A / 104.3 A
Frequency range	45 - 55 Hz / 55 - 65 Hz		
Output AC (Back-up)			
Rated output power	12 kW	14 kW	16 kW
Max. apparent output power	2 times of rated power, 10 s		
Back-up switch time	< 4 ms		
Rated output voltage	L/N/PE, 220 V / 230 V		
Rated frequency	50 Hz / 60 Hz		
Rated output current	54.5 A / 52.2 A	63.6 A / 60.9 A	72.7 A / 69.6 A
THDv (@linear load)	< 3%		
Input Generator			
Max. input power	12 kW	14 kW	16 kW
Max. input current	54.5 A / 52.2 A	63.6 A / 60.9 A	72.7 A / 69.6 A
Rated input frequency	50 Hz / 60 Hz		
Efficiency			
Max. efficiency	97.6%		
EU efficiency	97.0%		
BAT charged by PV max. efficiency	> 94.9%		
BAT charged / discharged to AC max. efficiency	> 94.33% / 93.51%		
Protection			
Surge protection	Yes		
DC reverse-polarity protection	Yes (PV only)		
Ground fault monitoring	Yes		
Integrated AFCI 2.0	Optional		
Protection class / Over voltage category	I / II (PV and BAT), III (MAINS and BACKUP and GEN)		
General Data			
Dimensions (W × H × D)	464 × 763 × 282 mm		
Weight	48.5 kg		
Topology	Transformerless		
Operating ambient temperature range	-25 ~ +60°C		
Ingress protection	IP66		
Noise emission (typical)	< 65 dB(A)		
Cooling concept	Intelligent fan-cooling		
Max. operation altitude	4000 m		
Grid connection standard	NRS 097-2-1, IEC 62116, IEC 61727, IEC 60068, IEC 61683, EN 50530		
Safety / EMC standard	IEC/EN 62109-1/-2, EN 61000-6-2/-3		
Features			
DC connection	MC4 plug (PV port) / Terminal Block (BAT port)		
AC connection	Terminal Block		
Display	7.0" LCD display & Bluetooth + APP		
Communication	RS485, Optional: Cellular, Wi-Fi, LAN		