HYD-3-8K-LS1-PRO

3 / 3.6 / 4 / 4.6 / 5 / 6 / 7 / 7.6 / 8 kW

Single-phase hybrid inverter



High performance

- 2 MPPTs, Max. 32 A DC input current
- Supports 200% overload for 10 seconds
- Max. charging/discharging current up to 190 A
- On/off grid seamless switching (4 ms)

Flexible application

- Multiple inverters in parallel to build a microgrid
- Supports diesel generator
- Supports various brands of lithium batteries

Safe & Reliable

- Wide temperature range from -30˚C to 60˚C
- Full power output at 50˚C

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Model	HYD-3K-LS1 -PRO	HYD-3.6K-LS1 -PRO	HYD-4K-LS1 -PRO	HYD-4.6K-LS1 -PRO	HYD-5K-LS1 -PRO	HYD-6K-LS1 -PRO	HYD-7K-LS1 -PRO	HYD-7.6K-LS1 -PRO	HYD-8K-LS1 -PRO
PV Input									
Recommended Max. PV Power	6 kWp	7.2 kWp	7.2 kWp	9.2 kWp	10 kWp	12 kWp	14 kWp	15.2 kWp	16 kWp
Max. Input Voltage	500 Vd.c								
Start-up Voltage[1]	90 Vd.c.								
Rated Input Voltage	360 Vd.c.								
MPP Voltage Range	60-435 Vd.c.								
Number of MPPT	2								
Max. Number of Input Strings per MPPT	1 / 1						2 / 1		
Max. Input Current	20 / 20 A						32 / 20 A		
Max. Isc	25 / 25 A						40 / 25 A		
Battery									
Voltage Range	40-60Vd.c								
Number of Battery Input Channels	1								
Max. Charging Power	7 kW							8 kW	
Max. Discharging Power	3 kW	3.6 kW	4 kW	4.6 kW	5 kW	6 kW	7 kW	7.6 kW	8 kW
Max. Charging Current	175 A							190 A	
Max. Discharging Current	75 A	90 A	100 A	115 A	125 A	150 A	175 A	190 A	190 A
Battery Type[2]	Lead-acid or Lithium-ion								
BMS Communication	RS-485 / CAN								
AC Backup									
Rated Output Voltage	L+N+PE, 220 / 230 / 240 Va.c.								
Rated Output Frequency	50 / 60 Hz								
Rated Output Power	3 kW	3.6 kW	4 kW	4.6 kW	5 kW	6 kW	7 kW	7.6 kW	8 kW
Rated Output Current	13.6 / 13.0 / 12.5 A	16.4 / 15.7 / 15.0 A	18.2 / 17.4 / 16.7 A	20.9 / 20.0 / 19.2 A	22.7 / 21.7 / 20.8 A	27.3 / 26.1 / 25.0 A	31.8 / 30.4 / 29.2 A	34.5 / 33.0 / 31.7 A	36.4 / 34.8 / 33.3 A
Rated Apparent Power	3 kW	3.6 kW	4 kW	4.6 kW	5 kW	6 kW	7 kW	7.6 kW	8 kW
Max. Apparent Power	3.3 kVA	3.6 kVA	4.4 kVA	4.6 kVA	5.5 kVA	6.6 kVA	7.7 kVA	8.4 kVA	8.8 kVA
Max. Output Current	15.0 / 14.3 / 13.8 A	16.4 / 15.7 / 15.0 A	20.0 / 19.1 / 18.3 A	20.9 / 20.0 / 19.2 A	25.0 / 23.9 / 22.9 A	30.0 / 28.7 / 27.5 A	35 / 33.5 / 32.1 A	38.0 / 36.3 / 34.8 A	40.0 / 38.3 / 36.7 A
Peak Output Apparent Power[3]	2 times of rated power, 10 s								
THDv(@ linear load)	< 3%								
Switching Time	4 ms default								
AC Smartload/Generator									
Rated Output Voltage	L+N+PE, 220 / 230 / 240 Va.c.								
Rated Output Frequency	50 / 60 Hz								
Rated Output Power	3 kW	3.6 kW	4 kW	4.6 kW	5 kW	6 kW	7 kW	7.6 kW	8 kW
Rated Output Current	13.6 / 13.0 / 12.5 A	16.4 / 15.7 / 15.0 A	18.2 / 17.4 / 16.7 A	20.9 / 20.0 / 19.2 A	22.7 / 21.7 / 20.8 A	27.3 / 26.1 / 25.0 A	31.8 / 30.4 / 29.2 A	34.5 / 33.0 / 31.7 A	36.4 / 34.8 / 33.3 A
Rated Apparent Power	3 kW	3.6 kW	4 kW	4.6 kW	5 kW	6 kW	7 kW	7.6 kW	8 kW
Max. Apparent Power	3.3 kVA	3.6 kVA	4.4 kVA	4.6 kVA	5.5 kVA	6.6 kVA	7.7 kVA	8.4 kVA	8.8 kVA
Max. Output Current	15.0 / 14.3 / 13.8 A	16.4 / 15.7 / 15.0 A	20.0 / 19.1 / 18.3 A	20.9 / 20.0 / 19.2 A	25.0 / 23.9 / 22.9 A	30.0 / 28.7 / 27.5 A	35 / 33.5 / 32.1 A	38.0 / 36.3 / 34.8 A	40.0 / 38.3 / 36.7 A
AC Grid									
Rated Voltage	L+N+PE, 220 / 230 / 240 Va.c.								
Rated Frequency	50 / 60 Hz								
Rated Output Power	3 kW	3.6 kW	4 kW	4.6 kW	5 kW	6 kW	7 kW	7.6 kW	8 kW
Rated Output Current	13.6 / 13.0 / 12.5 A	16.4 / 15.7 / 15.0 A	18.2 / 17.4 / 16.7 A	20.9 / 20.0 / 19.2 A	22.7 / 21.7 / 20.8 A	27.3 / 26.1 / 25.0 A	31.8 / 30.4 / 29.2 A	34.5 / 33.0 / 31.7 A	36.4 / 34.8 / 33.3 A
Rated Apparent Power	3 kW	3.6 kW	4 kW	4.6 kW	5 kW	6 kW	7 kW	7.6 kW	8 kW
Max. Apparent Power	3.3 kVA	3.6 kVA	4.4 kVA	4.6 kVA	5.5 kVA	6.6 kVA	7.7 kVA	8.4 kVA	8.8 kVA
Max. Output Current	15.0 / 14.3 / 13.8 A	16.4 / 15.7 / 15.0 A	20.0 / 19.1 / 18.3 A	20.9 / 20.0 / 19.2 A	25.0 / 23.9 / 22.9 A	30.0 / 28.7 / 27.5 A	35 / 33.5 / 32.1 A	38.0 / 36.3 / 34.8 A	40.0 / 38.3 / 36.7 A
Max. Input Current[4]	35 A					40 A		50 A	
THDi	< 3%								
Power Factor Range	0.8 lagging - 0.8 leading								
Efficiency									
Max. MPPT Efficiency	99.9%								
Max. Efficiency	97.6%								
European Efficiency	97.0%								
Max. Efficiency of Charging/ Discharging[5]	95.0%								
Protection									
DC Switch	Yes								
PV Reverse Connection Protection	Yes								
Battery Reverse Connection Protection	Yes								
Output Short Circuit Protection	Yes								
Output Overcurrent Protection	Yes								
Output Overvoltage Protection	Yes								
Insulation Impedance Detection	Yes								
Residual Current Detection	Yes								
Anti-island Protection	Yes								
Surge Protection[6]	PV: Type II, AC: Type II								
General Parameter									
Inverter Topology	Non-Isolation								
Protective Class	Class I								
IP Rating	IP66								
Overvoltage Category	AC III, DC II								
Operating Temperature Range	-30˚C ~ +60˚C (derating above +50˚C)								
Relative Humidity Range	5% - 95%								
Max. Operating Altitude	4000 m (derating above 2000 m)								
Standby Self-consumption[7]	< 15 W								
Installation Method	Wall Mounted								
Dimensions (W×H×D) / Weight	335×540×220 mm / 24 kg								
Cooling Mode	Intelligent Airflow								
Communication	RS485 / Bluetooth, Optional: WiFi / 4G / LAN								
Display	LCD & APP								

[1] Minimum PV voltage to start MPPT operation. [2] Please refer to document "SOFAR inverter Model compatible battery list". [3] Full sun and battery.
[4] Continuous AC passthrough current from grid to load. [5] Battery-AC maximum efficiency of battery charge and discharge. [6] According to EN/IEC 61643-11. [7] Standby loss at rated input voltage.

*All specifications are subject to change without notice.