HYD-5-20K-LT1

5 / 6 / 6.5 / 8 / 9.9 / 10 / 12 / 15 / 20 kW

Three-phase hybrid inverter



Robustness

- Maximum 200% PV input and 40 A per MPPT
- 200% overload capability for 10 seconds
- Max. charging / discharging current of 350 A

Safety

- IP66 protection rating
- Integrated type II surge protection
- AI based AFCI protection (Optional)

Flexibility

- Multiple inverters in parallel connection
- Flexible expansion of battery power and capacity
- Integration of generators to extend backup duration

Intelligent

- UPS-level switching time < 4 ms (Typical)
- Supports 150% unbalanced on both the BACKUP and GRID port
- Multi-function EMS integrated, highy utilization ratio of solar energy

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Model	HYD-5K-LT1	HYD-6K-LT1	HYD-6.5K-LT1	HYD-8K-LT1	HYD-9.9K-LT1-A	HYD-10K-LT1	HYD-12K-LT1	HYD-15K-LT1	HYD-20K-LT1
PV Input									
Recommended Max. PV Power	10 kWp	12 kWp	13 kWp	16 kWp	20 kWp	20 kWp	24 kWp	30 kWp	40 kWp
Max. Input Voltage	1000 Vd.c.								
Start-up Voltage [1]	200 Vd.c.								
Rated Input Voltage	600 Vd.c.								
MPP Voltage Range	160-950 Vd.c.								
Number of MPPT	2								
Max. Number of Input Strings per MPPT	2 / 2								
Max. Input Current	40 / 40 A								
Max. Isc	50 / 50 A								
Battery									
Voltage Range	40-60 Vd.c.								
Number of Battery Input Channels	1								
Max. Charging Power	12 kW							20 kW	
Max. Discharging Power	5 kW	6 kW	6.5 kW	8 kW	9.9 kW	10 kW	12 kW	15 kW	20 kW
Max. Charging Current	240 A							350 A	
Max. Discharging Current	120 A	135 A	145 A	190 A	205 A	210 A	240 A	300 A	350 A
Battery Type [2]	Lead-acid or Lithium-ion								
BMS Communication	RS-485 / CAN								
AC Backup									
Rated Output Voltage	3N~+PE, 380 / 400 / 415 Va.c.								
Rated Output Frequency	50 / 60 Hz								
Rated Output Power	5 kW	6 kW	6.5 kW	8 kW	9.9 kW	10 kW	12 kW	15 kW	20 kW
Rated Output Current	7.6/7.2/6.9 A	9.1/8.7/8.3 A	9.9/9.4/9.0 A	12.1/11.6/11.1 A	15.0/14.3/13.8 A	15.2/14.5/13.9 A	18.2/17.4/16.7 A	22.8/21.7/20.9 A	30.4/28.9/27.8 A
Rated Apparent Power	5 kVA	6 kVA	6.5 kVA	8 kVA	9.9 kVA	10 kVA	12 kVA	15 kVA	20 kVA
Max. Apparent Power	5.5 kVA	6.6 kVA	7.15 kVA	8.8 kVA	9.9 kVA	11 kVA	13.2 kVA	16.5 kVA	22 kVA
Max. Output Current	8.3/8.0/7.6 A	10/9.6/9.2 A	10.9/10.3/9.9 A	13.3/12.8/12.2 A	15.0/14.3/13.8 A	16.7/15.9/15.3 A	20.0/19.1/18.3 A	25.1/23.8/23.0 A	33.4/31.8/30.6 A
Peak Output Apparent Power [3]	2 times of rated power, 10 s								
THDv(@ linear load)	< 3%								
Switching Time	4 ms default								
Asymmetric load	Yes, Supports 150% three-phase unbalanced load								
AC Smartload/Generator									
Rated Output Voltage	3N~+PE, 380 / 400 / 415 Va.c.								
Rated Output Frequency	50 / 60 Hz								
Rated Output Power	5 kW	6 kW	6.5 kW	8 kW	9.9 kW	10 kW	12 kW	15 kW	20 kW
Rated Output Current	7.6/7.2/6.9 A	9.1/8.7/8.3 A	9.9/9.4/9.0 A	12.1/11.6/11.1 A	15.0/14.3/13.8 A	15.2/14.5/13.9 A	18.2/17.4/16.7 A	22.8/21.7/20.9 A	30.4/28.9/27.8 A
Rated Apparent Power	5 kVA	6 kVA	6.5 kVA	8 kVA	9.9 kVA	10 kVA	12 kVA	15 kVA	20 kVA
Max. Apparent Power	5.5 kVA	6.6 kVA	7.15 kVA	8.8 kVA	9.9 kVA	11 kVA	13.2 kVA	16.5 kVA	22 kVA
Max. Output Current	8.3/8.0/7.6 A	10/9.6/9.2 A	10.9/10.3/9.9 A	13.3/12.8/12.2 A	15.0/14.3/13.8 A	16.7/15.9/15.3 A	20.0/19.1/18.3 A	25.1/23.8/23.0 A	33.4/31.8/30.6 A
AC Grid									
Rated Voltage	3N~+PE, 380 / 400 / 415 Va.c.								
Rated Frequency	50 / 60 Hz								
Rated Output Power	5 kW	6 kW	6.5 kW	8 kW	9.9 kW	10 kW	12 kW	15 kW	20 kW
Rated Output Current	7.6/7.2/6.9 A	9.1/8.7/8.3 A	9.9/9.4/9.0 A	12.1/11.6/11.1 A	15.0/14.3/13.8 A	15.2/14.5/13.9 A	18.2/17.4/16.7 A	22.8/21.7/20.9 A	30.4/28.9/27.8 A
Rated Apparent Power	5 kVA	6 kVA	6.5 kVA	8 kVA	9.9 kVA	10 kVA	12 kVA	15 kVA	20 kVA
Max. Apparent Power	5.5 kVA	6.6 kVA	7.15 kVA	8.8 kVA	9.9 kVA	11 kVA	13.2 kVA	16.5 kVA	22 kVA
Max. Output Current	8.3/8.0/7.6 A	10/9.6/9.2 A	10.9/10.3/9.9 A	13.3/12.8/12.2 A	15.0/14.3/13.8 A	16.7/15.9/15.3 A	20.0/19.1/18.3 A	25.1/23.8/23.0 A	33.4/31.8/30.6 A
Max. Input Current [4]	35 A			40 A			45 A	50 A	60 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 + 45°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)	485×690×290 mm								
Cooling Mode	Intelligent Airflow								
Weight	52 kg								
Communication	RS485, Optional: Wi-Fi / 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.