

# HYD-40-60K-T1

40 / 50 / 60 kW

*Three-phase hybrid inverter*



## Simplicity

- Light weight and convenient transportation
- LCD and App for easy commissioning



## Safety

- IP66 protection rating
- DC SPD type I+II, AC SPD type II
- AI based AFCI protection



## Flexibility

- Multiple inverters in parallel connection
- Supports intelligent control of non critical loads



## Robustness

- Maximum 200% PV input, and 40A per MPPT
- Support 100% unbalanced loads
- 150% overload capability for 10 seconds
- Integration of generators to extend backup duration

Model	HYD-40K-T1		HYD-49.9K-T1-A		HYD-50K-T1		HYD-60K-T1	
PV Input								
Recommended Max. PV Power	80 kWp		100 kWp		120 kWp			
Max. Input Voltage			1000 Vd.c					
Start-up Voltage <sup>[1]</sup>			200 Vd.c.					
Rated Input Voltage			600 Vd.c.					
MPP Voltage Range			160-950 Vd.c.					
Number of MPPT			4					
Max. Number of Input Strings per MPPT			2/2/2/2					
Max. Input Current			40/40/40/40 A					
Max. Isc			50/50/50/50 A					
Battery								
Voltage Range			600-1000 Vd.c.					
Number of Battery Input Channels			1					
Max. Charging Power			60 kW					
Max. Discharging Power	40 kW		49.9 kW		50 kW		60 kW	
Max. Charging Current			100 A					
Max. Discharging Current	64 A		79.8 A		80 A		100 A	
Battery Type <sup>[2]</sup>			Lithium-ion					
BMS Communication			CAN					
AC Backup								
Rated Output Voltage			3N--PE, 380/400/415 Va.c.					
Rated Output Frequency			50/60 Hz					
Rated Output Power	40 kW		49.9 kW		50 kW		60 kW	
Rated Output Current	60.8/57.7/55.6 A		75.8/72.0/69.4 A		76.0/72.2/69.6 A		91.2/86.6/83.5 A	
Rated Apparent Power	40 kVA		49.9 kVA		50 kVA		60 kVA	
Max. Apparent Power	44 kVA		49.9 kVA		55 kVA		66 kVA	
Max. Output Current	66.9/63.5/61.2 A		75.8/72.0/69.4 A		83.6/79.4/76.5 A		100/95.3/91.8 A	
Peak Output Apparent Power <sup>[3]</sup>			1.5 times of rated power, 10s					
THDv(@ linear load)			<3%					
Switching Time <sup>[4]</sup>			4 ms					
Asymmetric load			Yes, Supports 100% three-phase unbalanced load					
AC Generator								
Rated Input Voltage			3N--PE, 380/400/415 Va.c.					
Rated Input Frequency			50/60 Hz					
Rated Input Power	40 kW		49.9 kW		50 kW		60 kW	
Rated Input Current	60.8/57.7/55.6 A		75.8/72.0/69.4 A		76.0/72.2/69.6 A		91.2/86.6/83.5 A	
Rated Apparent Power	40 kVA		49.9 kVA		50 kVA		60 kVA	
Max. Apparent Power	44 kVA		49.9 kVA		55 kVA		66 kVA	
Max. Output Current	66.9/63.5/61.2 A		75.8/72.0/69.4 A		83.6/79.4/76.5 A		100/95.3/91.8 A	
AC Grid								
Rated Voltage			3(N)--PE, 380/400/415 Va.c.					
Rated Frequency			50/60 Hz					
Rated Output Power	40 kW		49.9 kW		50 kW		60 kW	
Rated Output Current	60.8/57.7/55.6 A		75.8/72.0/69.4 A		76.0/72.2/69.6 A		91.2/86.6/83.5 A	
Rated Apparent Power	40 kVA		49.9 kVA		50 kVA		60 kVA	
Max. Apparent Power	44 kVA		49.9 kVA		55 kVA		66 kVA	
Max. Output Current	66.9/63.5/61.2 A		75.8/72.0/69.4 A		83.6/79.4/76.5 A		100/95.3/91.8 A	
Max. Input Current			100 A					
THDi			<3%					
Power Factor Range			0.8 lagging-0.8 leading					
Efficiency								
Max. MPPT Efficiency			99.9%					
Max. Efficiency	98.2%		98.2%		98.2%		98.2%	
European Efficiency	97.5%		97.5%		97.5%		97.5%	
Max. Efficiency of Charging/Discharging <sup>[5]</sup>	98.2%		98.2%		98.2%		98.2%	
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 <sup>[6]</sup>			PV: Type I+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 to + 60°C (derating above +45°C)					
Relative Humidity Range			5%-95%					
Max. Operating Altitude			4000 m (derating above 2000 m)					
Standby Self-consumption <sup>[7]</sup>			<15 W					
Installation Method			Wall Mounted					
Dimensions (W×H×D)			850×660×305 mm					
Cooling Mode			Intelligent Airflow					
Weight			75 kg					
Communication			RS485, 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. [4] In the on-grid mode, the nominal power of the hybrid inverter is higher than the total power of the home loads.

[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.