

HYD-40-60K-T1

40 / 49.9 / 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
- Supports 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 ^[1]			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 ^[2]			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 ^[3]			1.5 times of rated power, 10s	
THDv(@ linear load)			< 3%	
Switching Time ^[4]			4 ms	
Asymmetric load			Yes, Supports 100% 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	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
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 ^[5]	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 ^[6]			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 ~ +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)			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.