

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	
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		
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 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 ^[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 to + 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.