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

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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℃ ~ +60℃ (derating above + 45℃)			
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.