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	80kWp	100kWp		120kWp
Max. Input Voltage	1000Vd.c			
Start-up Voltage[1]	200Vd.c.			
Rated Input Voltage	600Vd.c.			
MPP Voltage Range	160-950Vd.c.			
Number of MPPT	4			
Max. Number of Input Strings per MPPT	2/2/2/2			
Max. Input Current	40/40/40/40A			
Max. Isc	50/50/50/50A			
Battery				
Voltage Range	600-1000Vd.c.			
Number of Battery Input Channels	1			
Max. Charging Power	60kW			
Max. Discharging Power	40kW	49.9kW	50kW	60kW
Max. Charging Current	100A			
Max. Discharging Current	64A	79.8A	80A	100A
Battery Type[2]	Lithium-ion			
BMS Communication	CAN			
AC Backup				
Rated Output Voltage	3N~+PE, 380/400/415Va.c.			
Rated Output Frequency	50/60Hz			
Rated Output Power	40kW	49.9kW	50kW	60kW
Rated Output Current	60.8/57.7/55.6A	75.8/72.0/69.4A	76.0/72.2/69.6A	91.2/86.6/83.5A
Rated Apparent Power	40kVA	49.9kVA	50kVA	60kVA
Max. Apparent Power	44kVA	49.9kVA	55kVA	66kVA
Max. Output Current	66.9/63.5/61.2A	75.8/72.0/69.4A	83.6/79.4/76.5A	100/95.3/91.8A
Peak Output Apparent Power[3]	1.5 times of rated power, 10s			
THDv(@ linear load)	< 3%			
Switching Time[4]	4ms			
Asymmetric load	Yes, Supports 100% three-phase unbalanced load			
AC Smartload/Generator				
Rated Output Voltage	3N~+PE, 380/400/415Va.c.			
Rated Output Frequency	50/60Hz			
Rated Output Power	40kW	49.9kW	50kW	60kW
Rated Output Current	60.8/57.7/55.6A	75.8/72.0/69.4A	76.0/72.2/69.6A	91.2/86.6/83.5A
Rated Apparent Power	40kVA	49.9kVA	50kVA	60kVA
Max. Apparent Power	44kVA	49.9kVA	55kVA	66kVA
Max. Output Current	66.9/63.5/61.2A	75.8/72.0/69.4A	83.6/79.4/76.5 A	100/95.3/91.8A
AC Grid				
Rated Voltage	3(N)~+PE, 380/400/415Va.c.			
Rated Frequency	50/60Hz			
Rated Output Power	40kW	49.9kW	50kW	60kW
Rated Output Current	60.8/57.7/55.6A	75.8/72.0/69.4A	76.0/72.2/69.6A	91.2/86.6/83.5A
Rated Apparent Power	40kVA	49.9kVA	50kVA	60kVA
Max. Apparent Power	44kVA	49.9kVA	55kVA	66kVA
Max. Output Current	66.9/63.5/61.2A	75.8/72.0/69.4A	83.6/79.4/76.5A	100/95.3/91.8A
Max. Input Current	100A			
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			
AFCI	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	4000m (derating above 2000m)			
Standby Self-consumption[7]	< 15W			
Installation Method	Wall Mounted			
Dimensions (W×H×D)	850×660×305 mm			
Cooling Mode	Intelligent Airflow			
Weight	75kg			
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.