

HYD-29.9/30/40/49.9/50/60K-T1

29.9 / 30 / 40 / 49.9 / 50 / 60kW

THREE PHASE HYBRID INVERTER



Product advantages

- Up to 4 MPPT with AFCI and Input Current per MPPT is up to 40A, making it ideal for all high-power PVmodules and more security.
- Up to 110% continuous grid-connected overload output.
- Generator-compatible to extend backup duration during grid power outage.
- Supports 100% three-phase unbalanced and Half-Wave Loads on Backup Port.
- Multiple parallel systems, more flexible system solutions.
- IP66 protection degree, suitable for outdoor installation.



Model

HYD-29.9/30/40/49.9/50/60K-T1

Inverter Module

HYD-29.9K-T1-A

HYD-30K-T1

HYD-40K-T1

HYD-49.9K-T1-A

HYD-50K-T1

HYD-60K-T1

PV Input

Recommended Max. PV Power	60 kWp		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	2/2/2/2					
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	50 kW					
Max. Discharging Power	29.9 kW	30 kW	40 kW	49.9 kW	50 kW	60 kW
Max. Charging Current	100 A					
Max. Discharging Current	47.8 A	48 A	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	29.9 kW	30 kW	40 kW	49.9 kW	50 kW	60 kW
Rated Output Current	45.4/43.2/41.6 A	45.6/43.3/41.7 A	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	29.9 kVA	30 kVA	40 kVA	49.9 kVA	50 kVA	60 kVA
Max. Apparent Power	29.9 kVA	33 kVA	44 kVA	49.9 kVA	55 kVA	66 kVA
Max. Output Current	45.4/43.2/41.6 A	50.1/47.6/45.9 A	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	29.9 kW	30 kW	40 kW	49.9 kW	50 kW	60 kW
Rated Input Current	45.4/43.2/41.6 A	45.6/43.3/41.7 A	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	29.9 kVA	30 kVA	40 kVA	49.9 kVA	50 kVA	60 kVA
Max. Apparent Power	29.9 kVA	33 kVA	44 kVA	49.9 kVA	55 kVA	66 kVA
Max. Output Current	45.4/43.2/41.6 A	50.1/47.6/45.9 A	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	3N→PE, 380/400/415 Va.c.					
Rated Frequency	50/60 Hz					
Rated Output Power	29.9 kW	30 kW	40 kW	49.9 kW	50 kW	60 kW
Rated Output Current	45.4/43.2/41.6 A	45.6/43.3/41.7 A	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	29.9 kVA	30 kVA	40 kVA	49.9 kVA	50 kVA	60 kVA
Max. Apparent Power	29.9 kVA	33 kVA	44 kVA	49.9 kVA	55 kVA	66 kVA
Max. Output Current	45.4/43.2/41.6 A	50.1/47.6/45.9 A	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	98.0%	98.0%	98.2%	98.2%	98.2%	98.2%
European Efficiency	97.0%	97.0%	97.5%	97.5%	97.5%	97.5%
Max. Efficiency of Charging/Discharging ^[5]	98.0%	98.0%	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*305mm
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.