9 Technical Data

- The following parameters may change without notice，please refer to the user manual and Datasheet on our website.

Model	HYD-14.9K-T1-A	HYD-15K-T1	HYD-20K-T1	HYD-25K-T1	HYD-29.9K-T1-A-PLUS	HYD-30K-T1-PLUS
PV Input						
Recommended Max. PV Power	30KWp		40KWp	50KWp	60KWp	
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	3					
Max. Number of Input Strings per MPPT	2/2/2					
Max. Input Current	40/40/40 A					
Max. Isc	50/50/50 A					
Battery						
Voltage Range	600-1000 Vd.c.					
Number of Battery Input Channels	1					
Max. Charging Power	30 kW					
Max. Discharging Power	14.9 kW	15 kW	20 kW	25 kW	29.9 kW	30 kW
Max. Charging Current	50 A					
Max. Discharging Current	23.8 A	24 A	32 A	40 A	47.8 A	50 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					

Model	HYD-14.9K-T1-A	HYD-15K-T1	HYD-20K-T1	HYD-25K-T1	HYD-29.9K-T1-A-PLUS	HYD-30K-T1-PLUS
Rated Output Power	14.9 kW	15 kW	20 kW	25 kW	29.9 kW	30 kW
Rated Output Current	22.6/21.5/20.7 A	22.8/21.7/20.9 A	30.4/28.9/27.8 A	38.0/36.1/34.8 A	45.4/43.2/41.6 A	45.6/43.3/41.7 A
Rated Apparent Power	14.9 kVA	15 kVA	20 kVA	25 kVA	29.9 kVA	30 kVA
Max. Apparent Power	14.9 kVA	16.5 kVA	22 kVA	27.5 kVA	29.9 kVA	33 kVA
Max. Output Current	22.6/21.5/20.7 A	25.1/23.8/23.0 A	33.4/31.8/30.6 A	41.8/39.7/38.3 A	45.4/43.2/41.6 A	50.0/47.6/45.9 A
Peak Output Apparent Power[3]	1.5 times of rated power, 10s					
THDv(@ linear load)	<3%					
Switching Time[4]	10 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	14.9 kW	15 kW	20 kW	25 kW	29.9 kW	30 kW
Rated Output Current	22.6/21.5/20.7 A	22.8/21.7/20.9 A	30.4/28.9/27.8 A	38.0/36.1/34.8 A	45.4/43.2/41.6 A	45.6/43.3/41.7 A
Rated Apparent Power	14.9 kVA	15 kVA	20 kVA	25 kVA	29.9 kVA	30 kVA
Max. Apparent Power	14.9 kVA	16.5 kVA	22 kVA	27.5 kVA	29.9 kVA	33 kVA
Max. Output Current	22.6/21.5/20.7 A	25.1/23.8/23.0 A	33.4/31.8/30.6 A	41.8/39.7/38.3 A	45.4/43.2/41.6 A	50.0/47.6/45.9 A
AC Grid						
Rated Voltage	3(N)~+PE,380/400/415 Va.c.					
Rated Frequency	50/60 Hz					
Rated Output Power	14.9 kW	15 kW	20 kW	25 kW	29.9 kW	30 kW
Rated Output Current	22.6/21.5/ 20.7 A	22.8/21.7/ 20.9 A	30.4/28.9/ 27.8 A	38.0/36.1/ 34.8 A	45.4/43.2/ 41.6 A	45.6/43.3/ 41.7 A
Rated Apparent Power	14.9 kVA	15 kVA	20 kVA	25 kVA	29.9 kVA	30 kVA
Max. Apparent Power	14.9 kVA	16.5 kVA	22 kVA	27.5 kVA	29.9 kVA	33 kVA
Max. Output Current	22.6/21.5/20.7 A	25.1/23.8/23.0 A	33.4/31.8/30.6 A	41.8/39.7/38.3 A	45.4/43.2/41.6 A	50.0/47.6/45.9 A
Max. Input Current	80 A					

Model	HYD-14.9K-T1-A	HYD-15K-T1	HYD-20K-T1	HYD-25K-T1	HYD-29.9K-T1-A-PLUS	HYD-30K-T1-PLUS
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 [4]	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 [5]	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℃ to +60℃ (derating above +45℃)					
Relative Humidity Range	5%-95%					

Model	HYD-14.9K-T1-A	HYD-15K-T1	HYD-20K-T1	HYD-25K-T1	HYD-29.9K-T1-A-PLUS	HYD-30K-T1-PLUS
Max. Operating Altitude	4000 m (derating above 2000 m)					
Standby Self-consumption [6]	<10 W					
Installation Method	Wall Mounted					
Cooling Mode	Intelligent Airflow					
Weight	53 kg					
Communication	RS485, Optional: Wi-Fi/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] Battery-AC maximum efficiency of battery charge and discharge.
[5] According to EN/IEC 61643-11.
[6] Standby loss at rated input voltage.