# HYD-14.9-30K-T1

14.9 / 15 / 20 / 25 / 29.9 / 30 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-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 | 30 kWp | 30 kWp | 40 kWp | 50 kWp | 60 kWp | 60 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 | 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 | | | | | |
| 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 | 10 ms default | | | | | |
| 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 |
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| **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 |
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| 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 | | | | | |
| 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˚C ~ +60˚C (derating above + 45˚C) | | | | | |
| Relative Humidity Range | 5%-95% | | | | | |
| Max. Operating Altitude | 4000 m (derating above 2000 m) | | | | | |
| Standby Self-consumption[6] | <10 W | | | | | |
| Installation Method | Wall Mounted | | | | | |
| Dimensions (W×H×D) | 680×525×325 mm | | | | | |
| Cooling Mode | Intelligent Airflow | | | | | |
| Weight | 40 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] Battery-AC maximum efficiency of battery charge and discharge. [5] According to EN/IEC 61643-11. [6] Standby loss at rated input voltage.

*All specifications are subject to change without notice.