

Hybrid Inverter (COPIA-TH)

WHES

Three-Phase Hybrid Inverter
5-13kW

Small in Size,
Big on Power. 

Max. **1.67** times
Photovoltaic
Over-configuration

18 A
Max. PV Input
Current Per String

180-980 V
MPPT Operating
Voltage Range

Max. **16** kW
EPS Peak Output
Apparent Power

110 %
Unbalanced Output

< 10 ms
EPS Switching Time

Powered by

ECOS Smart Home
From WHES



Powerful

- Max. 18A DC input current per string, compatible with 182/210 PV modules.
- Ultra-wide MPPT voltage range captures every ray of light from dawn to dusk, maximizing energy collection.

Flexible

- Up to 110% three-phase unbalanced output, increasing self-use ratio and optimizing solar production.
- Max. 5 units in parallel, offering a cost-effective commercial solution.

Efficient

- High charge/discharge efficiency, up to 98.5%/97.7%.
- Reduced energy loss between battery and inverter interaction.

Friendly

- < 25dB, no noise pollution.
- IP65, indoor or outdoor application.

Contact Us

www.whes.com
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Technical Specifications

Model	WH-THA502	WH-THA602	WH-THA802	WH-THA103	WH-THA123	WH-THA133
PV Input						
Absolute Max. Voltage	1000 V					
MPPT Voltage Range	180...980 V					
Max. DC Input Power	7500 W	9000 W	12000 W	15000 W	20000 W	20000 W
Start-up Voltage	145 V					
Rated Operating Voltage	620V					
Max. Input Current	18/18 A					
Max. Inverter Backfeed Current to Array	0 A					
Isc PV	22/22 A					
No. of MPP Trackers	2					
No. of Strings per MPP Tracker	1					
Battery						
Battery Voltage Range	160...700 V					
Max. Charge/Discharge Current	25/25 A					
AC Input/Output						
Nominal Output Power	5000 W	6000 W	8000 W	10000 W	12000 W	13000 W
Max. Apparent Power to Grid	5000 W	6000 W	8000 W	10000 W	12000 W	13000 W
Max. Apparent Power from Grid	10000 W	12000 W	16000 W	17900 W	17900 W	17900 W
Nominal Voltage	3/N/PE; 220 V /380 V 3/N/PE; 230V /400 V 3/N/PE; 240 V / 415 V					
Nominal Frequency	50/60 Hz					
Max. AC Current to Grid	8.1 A	9.6 A	12.8 A	16 A	19.2 A	20.8 A
Max. AC Current from Grid	16.2 A	19.2 A	25.6 A	26 A	26 A	26 A
Max. Output Fault Current	52 A (peak), 37 A (rms)					
AC Output Max. Output Overcurrent Protection	37 A					
AC Input Power Factor	-0.8...+0.8					
AC Output Power Factor	1 (-0.8...+0.8 adjustable)					
THDi	< 3%					
EPS Output						
Nominal Output Power ¹	5000 W	6000 W	8000 W	10000 W	12000 W	13000 W
Peak Output Apparent Power @60 sec	10000 VA	12000 VA	16000 VA	16000 VA	16000 VA	16000 VA
Nominal Voltage	3/N/PE; 220 V /380 V 3/N/PE; 230V /400 V 3/N/PE; 240 V / 415 V					
Nominal Frequency	50 Hz / 60 Hz (±0.2%)					
Max. Output Current	8.1 A	9.6 A	12.8 A	16 A	19.2 A	20.8 A
Max. Output Fault Current	52 A (peak), 37 A (rms)					
EPS Output Max. Output Overcurrent Protection	37 A					
Switch Time	< 10 ms					
THDv @ Linear Load	< 2%					
Power Factor	-0.8...+0.8					
Efficiency						
PV Max. Efficiency	98%					
PV Europe Efficiency	97%					
PV Max. MPPT Efficiency	99.90%					
Battery Charge by PV Max. Efficiency	98.50%					
Battery Discharge Efficiency	97.70%					
Protection						
Over/Under Voltage Protection, DC Isolation Protection, DC Injection Monitoring, Residual Current Detection, Anti-islanding Protection, Over Load Protection, Battery Input Reverse Polarity Protection, PV Reverse Polarity Protection, Surge Protection, Over Heat Protection						
General Data						
Dimension (W*D*H)	510*205*480 mm					
Dimension of Packing (W*D*H)	705*355*615 mm					
Net Weight	30.8 kg					
Gross Weight	35 kg					
Operation Temp	-25°C...60°C					
Relative Humidity	0%...95%					
Altitude	≤ 3000m					
Ingress Protection	IP65					
Cooling	Natural					
Inverter Topology	Non-isolated					
Over Voltage Category	III (AC), II (DC)					
Protective Class	Class I					
Active Anti-Islanding Method	Frequency shift					
Human Interface	LED/APP					
BMS Communication Interface	RS485/CAN					
Meter Communication Interface	RS485					
Noise Emission	< 25 dB					
Standby Power Consumption	< 10 W					
Standard ²	IEC 62109, IEC 62040, AS/NZS 4777.2, EN 50549-1, C 10/11, VDE 4105, VDE 0124, XP C 15-712-3, VDE 0126, EN50549-1/RfG/PTPIREE, CEI 0-21, EIFS					

¹ Depends on the voltage and the discharge current of the batteries connected.

² For all standards refer to the certificates category on the WHES website.

* The product features a shiny silver color design with a mirror-like logo, which exhibits subtle color variations under different lighting conditions.

* All information reflects the current state of technology at the time of printing and is subject to change. Despite careful editing, no liability is assumed.