



THEIA HE-t

SOLAR INVERTERS: 2.0kW - 4.6kW

Setting the Standard in Isolated String Inverters. The THEIA HE-t range defines a new level of efficiency, flexibility and user friendliness for isolated string inverters. Suitable for all PV cell technologies, and ready for use all over the world, the THEIA HE-t is the perfect choice for any PV installation.

PRODUCT DESCRIPTION

Performance

Using the latest of Eltek Valere's unique, high frequency conversion technology, the THEIA HE-t combines galvanic isolation with unprecedented levels of performance. With its extreme efficiency and global design solutions, it defines a new standard when it comes to performance, flexibility and user friendliness, as well as offering superior reliability under all conditions. Allowing the user the ability to ground the positive or the negative terminal on the DC side makes the device suitable for use with either monocrystalline, polycrystalline or thin-film PV modules of any technology, whilst maintaining the highest international safety standards. With early start-up and high efficiency at low irradiation, longer operation time and maximum energy harvest is ensured.

Reliability

The efficiency of the THEIA HE-t inverter range is one of the highest amongst inverters of all types, and coupled with bespoke Maximum Power Point Tracking, extraordinary high yields, even under extremely fluctuating and dynamic irradiation conditions, are achieved. With a protection level of IP65 / NEMA 4X and intelligent thermal design, the inverters are able to withstand temperature variations, high humidity and dust levels, and are able to operate with convection cooling only, giving the user confidence that the PV plant will operate consistently over the lifetime of the installation.

Ease of use

Flexible connection kits make it easy and cost effective to configure the inverter for various site conditions and country-specific requirements, while multiple PV string inputs as standard provide for easy installation and maintenance. With all connections in an easily accessible front compartment, a multi-language display, and simple country configuration setup, installation occurs in the minimum amount of time. Even in installations containing dozens of inverters, setup is minimized by the use of an automatic transfer of settings from one inverter to the others thanks to master programming across the connected THEIA HE-t inverter network.

Monitoring and Communication

Introducing a new level of user friendliness, the THEIA HE-t range has an integrated web server, thus eliminating the need for any external web server. A color screen with touch sense buttons provides an intuitive user interface, while displaying operating conditions in clearly arranged graphs and diagrams. For sites with multiple THEIA HE-t inverters installed, a single inverter can act as a central monitoring hub, collecting data from all inverters linked on the site network to provide a single point of access, allowing a quick site performance check – either remotely or on-site – at any time.

TECHNICAL SPECIFICATIONS

Model	2.0HE-t	2.9HE-t	3.8HE-t	4.4HE-t	4.6HE-t
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INPUT DATA

Nominal DC power	2100 W	3000 W	4000 W	4600 W	4800 W
Max. Recommended PV Power	2625 W	3750 W	5000 W	5750 W	6000 W
Max. DC voltage	600 V _{dc}	600 V _{dc}	600 V _{dc}	600 V _{dc}	600 V _{dc}
Voltage range MPPT	230 to 480 V _{dc}	230 to 480 V _{dc}	230 to 480 V _{dc}	230 to 480 V _{dc}	230 to 480 V _{dc} ¹⁾
Max. input current	9.5 A	13.5 A	18.0 A	21.0 A	21.0 A
Number of PV string inputs	3				
Number of MPP trackers	1				
Input features	Reverse polarity protection, Ground fault monitoring, Integral DC switch disconnecter (optional), Integral DC fuses for string inputs (optional) Field configurable for positive or negative grounding, or ungrounded				

OUTPUT DATA

Nominal output power	2000 W	2900 W	3800 W	4450 W	4600 W
Nominal AC current	9.0 A	13.0 A	17.0 A	19.5 A	20.0 A
Max. AC current	10.5 A	15.2 A	19.7 A	23.0 A	23.0 A
Mains output voltage	184Vac to 276Vac single or split phase ²⁾				
Mains frequency	50Hz / 60Hz (+/- 5Hz) ²⁾				
Cos Phi (power factor)	0.8i to 0.8c selectable				

PERFORMANCE DATA

Maximum efficiency	97.2 %	97.2 %	97.2 %	97.3 %	97.3 %
CEC efficiency	96.8 %	96.8 %	97.0 %	97.0 %	97.0 %
EU efficiency	96.3 %	96.5 %	96.7 %	96.9 %	96.9 %
Power feed starts at	< 7 W				
Night mode power	< 1 W				

MECHANICAL DATA

Protection degree	IP 65 / NEMA 4X				
Dimensions	610H x 353W x 154D mm / 24.02H x 13.90W x 6.06D inches				
Weight	19kg / 42lbs	19kg / 42lbs	21kg / 46lbs	21kg / 46lbs	21kg / 46lbs
Cable access	Bottom				
Input cable connection	MC3, MC4, Tyco, Screw terminals, Cable clamp, Others on request				
Output cable connection	Screw terminals, Cable clamp				

DESIGN STANDARDS

EM compatibility	EN 61000-6-2, EN 61000-6-3
CE marking	Yes
Other standards	DIN VDE V 0126-1-1, G83/1, EN 50438, AS 4777, ENEL Guidelines (DK 5940), EN 61000-3-2, EN 61000-3-3, EN 61000-3-11, EN 61000-3-12, IEC 62109-2, IEC 61727, UTE C 15-712-1, C10/11, VDE-AR-N 4105, RD1663 ++

ENVIRONMENTAL DATA

Operating temperature	-25 to +65 °C / -13 to +149 °F (possible power derating above +45°C / +113°F)
Storage temperature	-30 to +80 °C / -22 to +176 °F
Ventilation	Convection cooling

ADDITIONAL FEATURES

Topology	High frequency transformer, galvanic isolation
Noise Emission	≤ 37 dB (A)
Communication	Graphical, color display with touch sense buttons, Embedded web-server, Ethernet, CAN and RS485 bus interface, 3x LEDs for visual status indication
Warranty	5 years, 10 years, 15 years, and 20 years options

1) Output power limitation 230Vdc to 250Vdc

2) Voltage and frequency range adjusted to specific country settings

357115.DS3 rev7- Specifications subject to change without notice