

# **THEIA**<sup>TM</sup> SERIES

**PRODUCT GUIDE**  
STRING INVERTERS

[www.eltek.com](http://www.eltek.com)

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# MAXIMIZING THE POWER OF RENEWABLES

At Eltek, we are drawing on more than 40 years as a power conversion specialist. Driven by a strong ambition to push the frontiers of technology, our hallmark has always been an ability to develop power conversion products that set the industry standard when it comes to efficiency, compactness and flexibility.

This booklet gives an overview of Eltek's comprehensive String Inverter range for the PV industry, with specifications that speak for themselves. While we know that top quality and competitive products are a key priority for owners, designers and installers of solar installations, so is the reassurance that these products are supported and serviced by highly competent and motivated people.

At Eltek, we are committed to meeting all the power conversion needs of the photovoltaic industry. As a global leader and focused specialist, we have the power to deliver.



Phil Hardy  
Director - Renewable  
Eltek





# A WORLD LEADER IN HIGH-EFFICIENCY POWER ELECTRONICS

Eltek is a leading global power conversion specialist. Our unique, proprietary power conversion technology has for many years defined leadership in the power industry.

Our conversion products provide unmatched efficiency, power density and flexibility; and are perfect building blocks for our cost-effective and reliable energy systems.



With Eltek's power conversion equipment you can maximize your solar energy harvest. Whether you operate a large-scale plant, a commercial plant or a residential installation, Eltek offers inverters, accessories and services that will help you get the most out of every ray.

100%  
99%  
98%  
97%  
96%  
95%  
94%  
93%  
92%  
91%  
90%

THEIA™ HE-t

**97.3 %**

Efficiency with transformer

Competitors



# A GLOBAL SUPPLIER

Eltek is the only power specialist with true global coverage. This gives us a unique capability to serve global customers. At the same time, our organization around the world is firmly rooted in the local business environment. This enables us to serve customers in the best possible way, whether they are global, regional or local.





- Sales in more than 100 countries
- 2400 employees
- More than 40 years of experience
- Offices in over 30 countries

# THEIA™ SiteDesigner







The THEIA™ SiteDesigner is a free and easy-to-use tool for planning PV installations based on the entire range of THEIA™ inverters.

THEIA™ SiteDesigner consists of a comprehensive PV module database that supports the inclusion of customer specific PV modules. The PV installation design may be optimized based on either the inverter selection or the PV-modules, with the ability to save the design for later review and further adaption as required.

- Automatic system optimization
- Ability to build a large installation with multiple sections
- Annual yield estimations

See for yourself – visit [www.theiaportal.com](http://www.theiaportal.com)

STRING INVERTERS:  
**SETTING THE STANDARD**





Eltek offers a competitive, efficient and complete family of string inverters that covers any need from residential installations, to commercial systems, up to utility scale photovoltaic plants.



**THEIA™ HE-T**



**THEIA™ TL**



**THEIA™ TL 3R**



**THEIA™ TL 3PH**



**THEIA™ S**

The range includes models both with and without transformers, 1-phase and 3-phase output, ranging from 2 kW to 20 kW, all certified and available in all major markets around the world, for indoor and outdoor use.



SOLAR INVERTERS: 2.0 kW – 4.6 kW

# THEIA™ HE-t

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.

## PERFORMANCE

- Maximum efficiency 97.3 % with galvanic isolation
- Suitable for use with all PV modules of any technology, with the ability to ground the positive or the negative terminal on the DC side
- Compliance with the highest international safety standards
- Early startup and high efficiency at low irradiation gives longer operation time and higher energy yields

## RELIABILITY

- High quality components, with a robust design
- Bespoke Maximum Power Point Tracking
- Stable operation under extremely dynamic irradiation conditions
- IP65 protection level

## EASE OF USE

- Lightweight and easy to install
- With or without DC Disconnect Switch
- Color screen with touch sense buttons
- Intuitive user interface

## MONITORING AND COMMUNICATION

- Complete site overview from one single inverter
- Integrated webservice with easy-to-use monitoring software
- Multilanguage display



**Photon**  
The Photovoltaic Magazine International

**Theia 4.4HE-t**  
**A**

96,5 % at medium irradiation 11/2011

[www.photon-international.com](http://www.photon-international.com)

**Photon**  
The Photovoltaic Magazine International

**Theia 4.4HE-t**  
**A**

96,7 % at high irradiation 11/2011

[www.photon-international.com](http://www.photon-international.com)



**reddot design award**  
winner 2012

THEIA™ HE-t  
**97.3%**  
Maximum efficiency

MODEL	2.0 HE-t	2.9 HE-t	3.8 HE-t	4.4 HE-t	4.6 HE-t
<b>INPUT DATA</b>					
Nominal DC power	2100 W	3000 W	4000 W	4600 W	4800 W
Max. PV power	2625 W <sub>p</sub>	3750 W <sub>p</sub>	5000 W <sub>p</sub>	5750 W <sub>p</sub>	6000 W <sub>p</sub>
Max. DC voltage	600 V <sub>dc</sub>				
Voltage range MPPT	230 to 480 V <sub>dc</sub>	230 to 480 V <sub>dc</sub>	230 to 480 V <sub>dc</sub>	230 to 480 V <sub>dc</sub>	230 to 480 V <sub>dc</sub> <sup>1)</sup>
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				

<b>OUTPUT DATA</b>					
Nominal output power	2000 W	2900 W	3800 W	4450 W	4600 W
Max apparent power	2000 VA	2900 VA	3800 VA	4450 VA	4600 VA
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	230 Vac (+/-20 %) single or split phase				
Mains frequency	50 Hz / 60 Hz (+/-10 %)				
Cos Phi (power factor)	0.8i to 0.8c selectable				

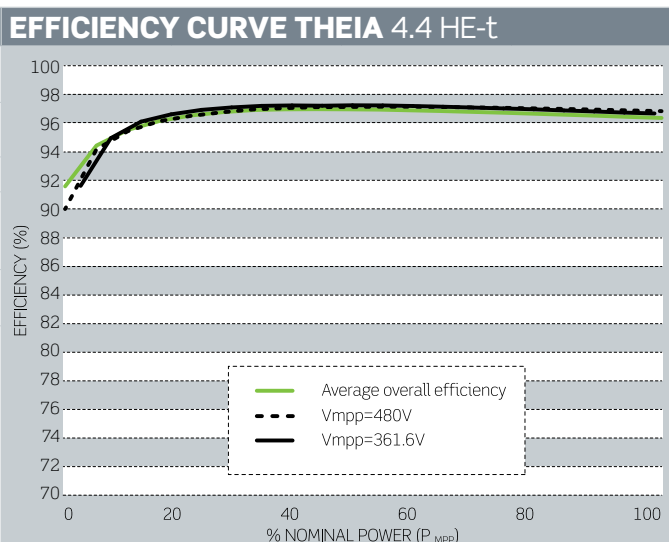
<b>PERFORMANCE DATA</b>					
Maximum efficiency	97.2 %	97.2 %	97.2 %	97.3 %	97.3 %
CEC efficiency	96.8 %	96.8 %	97.0 %	97.0 %	97.0 %
EU efficiency	96.3 %	96.5 %	96.7 %	96.9 %	96.9 %
Power feed starts at	< 7 W				
Night mode power	< 1 W				

<b>MECHANICAL DATA</b>					
Protection degree (EN 60529)	IP 65				
Dimensions	610 H x 353 W x 154 D mm / 24.02 H x 13.90 W x 6.06 D inches				
Weight	< 19 kg / 42 lbs	< 19 kg / 42 lbs	< 21 kg / 46 lbs	< 21 kg / 46 lbs	< 21 kg / 46 lbs
Cable access	Bottom				
Input cable connection	MC3, MC4, Tyco, Screw terminals, Cable clamp, Others on request				
Output cable connection	Screw terminals, Cable clamp				

<b>DESIGN STANDARDS</b>					
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, CEI 0-21, 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, G59/2				

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

<b>ADDITIONAL FEATURES</b>	
Topology	High frequency transformer, galvanic isolation
Protection class / Overvoltage category	I / III
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, 20 years and 25 years options



1) Output power limitation 230 V<sub>dc</sub> to 250 V<sub>dc</sub>

SOLAR INVERTERS: 3.4 kW – 7.2 kW

# THEIA™ TL STRING

High Performance, Transformerless String Inverters. With efficiencies up to 98 %, the THEIA™ TL String inverter range maximizes both the energy harvested per hour and the number of working hours per day on an installation.

## PERFORMANCE

- Maximum efficiencies to 98 %
- Energy harvest from very low irradiation levels, with power feed levels of less than 8 W
- Extra wide DC input voltage range (348 – 710 V<sub>dc</sub>)
- Multiple PV string inputs as standard for all models
- Optional DC disconnect switch for isolation

## RELIABILITY

- Top class MPP tracking through the use of Rapid Adaption Control Maximum Power Point tracking (RAC-MPP)
- Extraordinary high yields even under fluctuating irradiation conditions
- Smart thermal design able to withstand environmental extremes
- IP66 protection level

## EASE OF USE

- Simple connection systems for both the AC and DC terminations
- Automatically transfer settings from one inverter to all the others across the inverter network
- Large, backlit, full graphical LCD displays
- Optional integrated DC disconnect switch for isolation

## MONITORING AND COMMUNICATION

- Advanced monitoring software for quick site performance checks at any time
- Built-in datalogger saves measured values, yield and performance data for more than 30 years of operation
- Separate alarm log storage
- EIA485 interface for inverter interconnection and access to THEIA™ String plant monitoring systems



THEIA™ TL STRING

**98.0%**

Maximum efficiency



MODEL	3801 TLD	3800 TLD	4300 TLD	4800 TLD	5300 TLD	6300 TLD	7200 TLD
<b>INPUT DATA</b>							
Nominal DC power	3480 W	3800 W	4300 W	4800 W	5300 W	6300 W	7200 W
Max. PV power	4000 W <sub>P</sub>	4300 W <sub>P</sub>	4900 W <sub>P</sub>	5400 W <sub>P</sub>	6000 W <sub>P</sub>	7100 W <sub>P</sub>	8100 W <sub>P</sub>
Max. DC voltage	880 V <sub>dc</sub>						
Voltage range MPPT	349 to 710 V <sub>dc</sub>	350 to 710 V <sub>dc</sub>	351 to 710 V <sub>dc</sub>	348 to 710 V <sub>dc</sub>	349 to 710 V <sub>dc</sub>	350 to 710 V <sub>dc</sub>	351 to 710 V <sub>dc</sub>
Max. input current	10.5 A	11.5 A	13.0 A	14.5 A	16.0 A	18.5 A	21.0 A
Number of PV string inputs	2	2	2	2	2	3	3
Number of MPP trackers	1						
Input protection	Optional DC switch disconnecter Integrated in the device Reverse voltage protection Isolation control						

<b>OUTPUT DATA</b>							
Nominal output power	3330 W	3680 W	4120 W	4600 W	5000 W	6000 W	6900 W
Max. apparent power	3330 VA	3680 VA	4120 VA	4600 VA	5000 VA	6000 VA	6900 VA
Nominal AC current	14,5 A	16.0 A	17,9 A	20.0 A	21,7 A	26.1 A	30.0 A
Max. AC current	14.5 A	16.0 A	17.9 A	20.0 A	21.7 A	26.1 A	30.0 A
Mains output voltage range	230 V <sub>ac</sub> (+/-20 %) single phase						
Mains frequency	50 Hz (+/-5 %)						
Cos Phi (power factor)	0.7i to 0.7c selectable						
Ground fault monitoring	RCD						
Output protection	Short circuit detection. 1-phase or 3-phase grid monitoring						

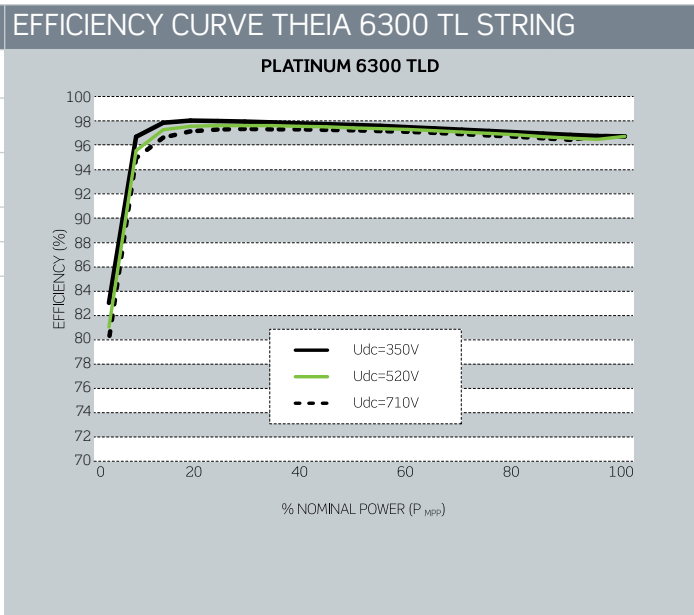
<b>PERFORMANCE DATA</b>							
Maximum efficiency	97.7 %	97.7 %	97.7 %	97.7 %	97.7 %	98.0 %	98.0 %
EU efficiency	97.4 %	97.4 %	97.4 %	97.4 %	97.4 %	97.5 %	97.5 %
Power feed starts at	7 W	7 W	7 W	7 W	7 W	8 W	8 W
Night mode power	< 2 W						

<b>MECHANICAL DATA</b>							
Protection degree (EN 60529)	IP 66, excluding digital interface						
Dimensions	720 H x 320 W x 250 D mm						
Weight	27 kg	27 kg	27 kg	28 kg	28 kg	29 kg	29 kg
Cable access	Bottom						
Input cable connection	MC4						
Output cable connection	Spring Clamp Technology						

<b>DESIGN STANDARDS</b>							
EM compatibility	EN 61000-6-2, EN 61000-6-3						
CE marking	Yes						
Other standards	VDE V 0126-1-1, EN 50438, AS 4777, RD 1663, RD 661, EN 61000-3-2, EN 61000-3-3, EN 61000-3-11, EN 61000-3-12, VDE AR-N 4105, BDEW-2008, CEI 0-21, C10/11, G83/1, G59/2, ÖNORM E8001-4-712, UTE C15-712-1, AS 3100, IEC 62109						

<b>ENVIRONMENTAL DATA</b>							
Operating temperature	- 20 °C to + 60 °C (output power derating above + 45 °C)						
Storage temperature	- 20 °C to + 80 °C						
Ventilation	Convection cooling (fan assist at high temperature)						

<b>INTERFACE</b>	
Topology	Transformerless, DIVE RAC-MPP Technology
Protection class / Overvoltage category	I/ III
Communication	Full graphic LCD: 170 x 76 pixels, EIA 232: 9-pin D-sub female, EIA 485: 2x RJ45 for network components
Warranty	10 years, 15 years and 20 years
Volt free contact option	1x Change over contact: 24 V <sub>ac</sub> /2 A rated



SOLAR INVERTERS: 6.0 kW – 15.0 kW

# THEIA™ TL 3R

The ideal choice for all PV installations from 6 to 15kWp. High efficiency, proven reliability and a compact and lightweight design make the THEIA TL 3R the best 3-phase inverter to date.

## PERFORMANCE

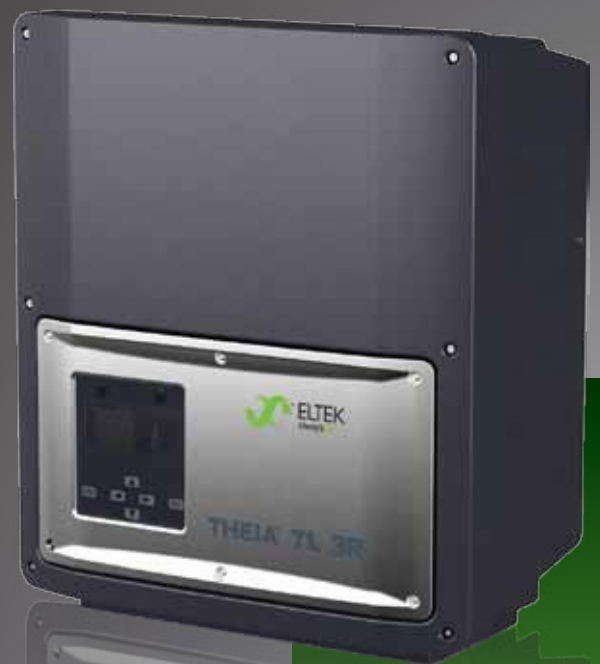
- Maximum efficiency of 98.4 %
- True 3-phase output, meaning imbalances are impossible
- Extra wide MPPT voltage range (350 – 720 V<sub>dc</sub>)
- Very low night power < 2 W
- Convection cooling only

## EASE OF USE

- Compact and lightweight < 45 kg
- IP66 protection
- Automatic transfer of settings to other inverters
- Simple connection systems for AC and DC terminations
- Optional integral DC disconnect

## MONITORING AND COMMUNICATION

- Built-in datalogger with storage space for more than 30 years of data
- Large backlit, full graphical LCD display
- Advance monitoring software and accessories
- Multi-language display with easy setup



THEIA™ TL 3R

# 98.4%

Maximum efficiency

MODEL	7000 TL 3R	9000 TL 3R	11000 TL 3R	14000 TL 3R	16000 TL 3R
<b>INPUT DATA</b>					
Max. DC power	6100 W	8200 W	10200 W	13300 W	15350 W
Max. PV power	6700 W <sub>p</sub>	9000 W <sub>p</sub>	11200 W <sub>p</sub>	14600 W <sub>p</sub>	16900 W <sub>p</sub>
Max. DC voltage	900 V <sub>dc</sub>				
Voltage range MPPT	350 to 720 V <sub>dc</sub>				
Max. input current	2x 10 A	2x 13 A	2x 16 A	2x 21 A	2x 24 A
Number of PV string inputs	1 + 1	2 + 2	2 + 2	2 + 2	2 + 2
Number of MPP trackers	1				
Input protection	Optional DC switch disconnecter integrated in the device Reverse polarity protection Isolation control				
<b>OUTPUT DATA</b>					
Nominal output power	6000 W	8000 W	10000 W	13000 W	15000 W
Max. apparent power	6000 VA	8000 VA	10000 VA	13000 VA	15000 VA
Nominal AC current	8.7 A	11.6 A	14.5 A	18.9 A	22.0 A
Max. AC current	11.2 A	14.8 A	18.5 A	22.0 A	22.0 A
Mains output voltage range	230 / 400 V <sub>ac</sub> 3-phase + N (+/-20 %)				
Mains frequency	50 Hz (+/- 5 %)				
Cos Phi (power factor)	0.7i to 0.7c selectable				
Ground fault monitoring	RCD				
Output protection	Short circuit detection, Grid monitoring				
<b>PERFORMANCE DATA</b>					
Maximum efficiency	98.4 %				
EU efficiency	97.7 %	97.8 %	97.9 %	98.0 %	98.0 %
Power feed starts at	20 W				
Night mode power	< 2 W				
<b>MECHANICAL DATA</b>					
Protection degree (EN 60529)	IP 66, excluding digital interface				
Dimensions	626 H x 547 W x 290 D mm				
Weight	45 kg				
Cable access	Bottom				
Input cable connection	Multicontact MC4				
Output cable connection	Spring clamp terminals				
<b>DESIGN STANDARDS</b>					
EM compatibility	EN 61000-6-2, EN 61000-6-3				
CE marking	Yes				
Other standards	VDE V 0126-1-1, VDE-AR-N 4105, BDEW-2008, CEI 0-21, C10/11, G83/1, G59/2, EN 50438, ÖNORM E8001-4-712, UTE C 15-712-1, RD1663/661, IEC 62109, AS 4777, AS 3100				
<b>ENVIRONMENTAL DATA</b>					
Operating temperature	- 20 °C to + 60 °C				
Storage temperature	- 25 °C to + 80 °C				
Ventilation	Convection cooling				
<b>INTERFACE</b>					
Topology	Transformless, DIVE RAC-MPP Technology				
Protection class / Overvoltage category	I/ III				
Communication	Graphical display LCD 170 x 76 pixels, EIA 485: 2x RL45 for network components				
Warranty	10 years				



SOLAR INVERTERS: 12.9 kW – 21.6 kW

# THEIA™ TL 3PH STRING

High Performance, Transformerless String Inverters. With efficiencies up to 98 %, and very low power feed in levels THEIA™ TL 3ph String inverters extend the TL String range with 3-phase AC output to provide more reliable and steady power for longer.

## PERFORMANCE

- Maximum efficiencies to 98 %
- DIVE, a patented technology, increases efficiency, especially at lower input power levels
- High overload capacity enable various plant configurations across many PV module types
- Multiple PV string inputs as standard

## RELIABILITY

- Utilizes (RAC-MPP), a principle for extraordinary high yields, even under extremely dynamic irradiation conditions
- State of the art components
- Rugged design for operation when others have failed
- IP66 protection level

## EASE OF USE

- Quick and easy installation
- Country settings adjustable on site without additional tools
- Automatic transfer of settings from one inverter to others in the network
- LCD shows performance and operating data in clear graphs and diagrams
- Optional integrated DC disconnect switch for isolation

## MONITORING AND COMMUNICATION

- Week and year review functions to enable efficient monitoring of plant behavior
- Datalogger has the high precision of an electricity meter
- A variety of THEIA™ String communication devices for integrating the inverters into total plant monitoring systems



THEIA™ TL 3PH

**>98.0%**

Maximum efficiency

MODEL	13000 TLD	16000 TLD	19000 TLD	22001 TLD	22000 TLD
<b>INPUT DATA</b>					
Nominal DC power	12900 W	15900 W	18900 W	20800 W	21600 W
Max. PV power	14700 W <sub>p</sub>	18000 W <sub>p</sub>	21300 W <sub>p</sub>	23000 W <sub>p</sub>	24300 W <sub>p</sub>
Max. DC voltage	880 V <sub>dc</sub>				
Voltage range MPPT	351 to 710 V <sub>dc</sub>	349 to 710 V <sub>dc</sub>	350 to 710 V <sub>dc</sub>	351 to 710 V <sub>dc</sub>	351 to 710 V <sub>dc</sub>
Max. input current	3x 13.0 A	3x 16.0 A	3x 18.5 A	3x 20.2 A	3x 21.0 A
Number of PV string inputs	6	6	9	9	9
Number of MPP trackers	3				
Input protection	Optional DC switch disconnect Integrated in the device Reverse voltage protection Isolation control				
<b>OUTPUT DATA</b>					
Nominal output power	12360 W	15000 W	18000 W	20000 W	20700 W
Max. apparent power	12360 VA	15000 VA	18000 VA	20000 VA	20700 VA
Nominal AC current	3x 17.9 A	3x 21.7 A	3x 26.1 A	3x 29.0 A	3x 30.0 A
Max. AC current	3x 17.9 A	3x 21.7 A	3x 26.1 A	3x 29.0 A	3x 30.0 A
Mains output voltage range	3x 230 V <sub>ac</sub> / 400 V <sub>ac</sub> + N (+/-20 %) 3-phase power feed				
Mains frequency	50 Hz (+/- 5 %)				
Cos Phi (power factor)	0.7i to 0.7c selectable				
Ground fault monitoring	RCD				
Output protection	Short circuit detection, Grid monitoring				
<b>PERFORMANCE DATA</b>					
Maximum efficiency	> 97.7 %	> 97.7 %	> 98.0 %	> 98.0 %	> 98.0 %
EU efficiency	> 97.4 %	> 97.4 %	> 97.5 %	> 97.5 %	> 97.5 %
Power feed starts at	21 W	21 W	24 W	24 W	24 W
Night mode power	< 6 W				
<b>MECHANICAL DATA</b>					
Protection degree (EN 60529)	IP 66, excluding digital interface				
Dimensions	743 H x 972 W x 262 D mm				
Weight	81 kg	84 kg	87 kg	87 kg	87 kg
Cable access	Bottom				
Input cable connection	MC4				
Output cable connection	Spring Clamp Technology				
<b>DESIGN STANDARDS</b>					
EM compatibility	EN 61000-6-2, EN 61000-6-3				
CE marking	Yes				
Other standards	VDE V 0126-1-1, EN 50438, AS 4777, RD 1663, RD 661, EN 61000-3-2, EN 61000-3-3, EN 61000-3-11, EN 61000-3-12, VDE AR-N 4105, BDEW-2008, CEI 0-21, C10/11, G83/1, G59/2, ÖNORM E8001-4-712, UTE C15-712-1, AS 3100, IEC 62109				
<b>ENVIRONMENTAL DATA</b>					
Operating temperature	-20 °C to +60 °C (output power derating above +45 °C)				
Storage temperature	-20 °C to +80 °C				
Ventilation	Convection cooling (fan assist at high temperature)				
<b>INTERFACE</b>					
Topology	Transformless, DIVE RAC-MPP Technology				
Protection class / Overvoltage category	I/ III				
Communication	Full graphic LCD: 170 x 76 pixels. EIA 232: 9-pin D-sub female. EIA 485: 2 x RJ45 for network components				
Warranty	10 years, 15 years and 20 years				
Volt free contact option	1x Change over contact: 24 V <sub>ac</sub> / 2 A rated				
<b>EFFICIENCY CURVE THEIA 22000TL 3PH STRING</b>					

SOLAR INVERTERS: 2.1 kW – 4.6 kW

# THEIA™ S STRING

A comprehensive range of galvanically isolated string inverters that will provide reliable and steady power for more time during the day, even under highly fluctuating environmental conditions, making the THEIA™ S String range suitable for a wide variety of applications.

## PERFORMANCE

- Quick, efficient, MPP tracking to maximize Whr gained from a PV generator
- THEIA™ S String inverters provide more power for more of the day, maximizing the working time of the installation
- Models 4301S and 4601S offer an especially high DC input current of up to 16 A

## RELIABILITY

- Smart thermal design for a wide operating temperature range
- Able to withstand high humidity and dust levels
- Galvanic isolation for improved resilience to electrical disturbances

## EASE OF USE

- Able to ground the positive or the negative terminal on the DC side
- Pluggable AC and DC connectors, accessible without opening the inverter
- Automatic transfer of settings from one inverter to all other connected THEIA™ S String inverters

## MONITORING AND COMMUNICATION

- Large, backlit, full graphical liquid crystal display
- Quick site performance checks at any time, even after sunset
- Built-in datalogger with space for 30 years of measured values, yield and performance data



THEIA™ S STRING

>94.6%

Maximum efficiency

MODEL	2100 S	2800 S	3100 S	3800 S	4300 S	4301 S	4600 S	4601 S
<b>INPUT DATA</b>								
Nominal DC power	2100 W	2800 W	3100 W	3800 W	4300 W	4300 W	4600 W	4600 W
Max. PV power	2300 W <sub>p</sub>	3200 W <sub>p</sub>	3450 W <sub>p</sub>	4200 W <sub>p</sub>	4800 W <sub>p</sub>	4800 W <sub>p</sub>	5100 W <sub>p</sub>	5100 W <sub>p</sub>
Max. DC voltage	480 V <sub>dc</sub>	780 V <sub>dc</sub>	780 V <sub>dc</sub>	780 V <sub>dc</sub>	780 V <sub>dc</sub>	580 V <sub>dc</sub>	780 V <sub>dc</sub>	580 V <sub>dc</sub>
Voltage range MPPT	206 to 390 V <sub>dc</sub>	313 to 630 V <sub>dc</sub>	314 to 630 V <sub>dc</sub>	315 to 630 V <sub>dc</sub>	320 to 630 V <sub>dc</sub>	277 to 470 V <sub>dc</sub>	320 to 630 V <sub>dc</sub>	278 to 470 V <sub>dc</sub>
Max. input current	9.0 A	9.0 A	9.0 A	12.0 A	12.5 A	15.0 A	13.0 A	16.0 A
Number of PV string inputs	1	1	1	2	2	2	2	2
Number of MPP trackers	1							
Input protection	Optional DC switch disconnector Integrated in the device Reverse voltage protection							
<b>OUTPUT DATA</b>								
Nominal output power	1750 W	2400 W	2550 W	3300 W	3680 W	3680 W	3800 W	3800 W
Max. apparent power	1900 VA	2600 VA	2800 VA	3600 VA	4050 VA	4050 VA	4200 VA	4200 VA
Nominal AC current	7.6 A	10.4 A	11.1 A	14.3 A	16.0 A	16.0 A	16.5 A	16.5 A
Max. AC current	8.3 A	11.3 A	12.2 A	15.7 A	17.6 A	17.6 A	18.3 A	18.3 A
Mains output voltage range	230 V <sub>ac</sub> (+/-20 %) single phase							
Mains frequency	50 Hz (+/- 5 %)							
Output protection	Short circuit detection 1-phase or 3-phase grid monitoring							
<b>PERFORMANCE DATA</b>								
Maximum efficiency	> 94.7 %	> 95.3 %	> 95.3 %	> 95.6 %	> 95.6 %	> 94.6 %	> 95.6 %	> 94.6 %
EU efficiency	> 93.7 %	> 94.4 %	> 94.4 %	> 94.6 %	> 94.7 %	> 93.5 %	> 94.8 %	> 93.6 %
Power feed starts at	13 W	14 W	14 W	18 W	18 W	17 W	18 W	17 W
Night mode power	< 2.5 W							
<b>MECHANICAL DATA</b>								
Protection degree (EN 60529)	IP 54							
Dimensions	720 H x 320 W x 250 D mm							
Weight	30 kg	35 kg	35 kg	42 kg	42 kg	43 kg	42 kg	43 kg
Cable access	Bottom							
Input cable connection	MC4							
Output cable connection	Wieland RST 3i or 5i (dependant upon 1-phase or 3-phase grid monitoring)							
<b>DESIGN STANDARDS</b>								
EM compatibility	EN 61000-6-2, EN 61000-6-3							
CE marking	Yes							
Other standards	VDE V 0126-1-1, G83/1, EN 50438, AS 4777, RD 1663, EN 61000-3-2, EN 61000-3-3, EN 61000-3-11, EN 61000-3-12, C10/11, G59/2, ÖNORM E8001-4-712, UTE C15-712-1, AS 3100							
<b>ENVIRONMENTAL DATA</b>								
Operating temperature	- 20 °C to + 60 °C (output power derating above + 45 °C)							
Storage temperature	- 20 °C to + 80 °C							
Ventilation	Convection cooling (fan assist at high temperature)							
<b>INTERFACE</b>								
Topology	LF Transformer, RAC-MPP Technology							
Protection class / Overvoltage category	I / III							
Communication	Full graphic LCD: 170 x 76 pixels. EIA 232: 9-pin D-sub female. EIA 485: 2x RJ45 for network components							
Warranty	10 years, 15 years and 20 years							
Volt free contact option	Normally open contact: 24 V <sub>ac</sub> / 2 A rated							

SOLAR INVERTERS: 2.0 kW – 4.4 kW

# THEIA™ HE-t UL

The THEIA™ HE-t UL takes high performance and user friendliness to a new level for isolated string inverters. Suitable for all PV cell technologies, and certified to UL1741, the THEIA™ HE-t is the perfect choice for any PV installation.

## PERFORMANCE

- Maximum efficiency 97.3 % with galvanic isolation
- Suitable for use with all PV modules of any technology, with the ability to ground the positive or the negative terminal on the DC side
- Compliance with the highest international safety standards
- Early startup and high efficiency at low irradiation gives longer operation time and higher energy yields

## RELIABILITY

- High quality components, with a robust design
- Proprietary Maximum Power Point Tracking
- Stable operation under extremely dynamic irradiation conditions
- NEMA 4X protection level

## EASE OF USE

- Lightweight and easy to install
- Color screen with touch sense buttons
- Intuitive user interface

## MONITORING AND COMMUNICATION

- Complete site overview from one single inverter
- Integrated webservice with easy-to-use monitoring software
- Multilanguage display



THEIA™ HE-t UL

**97.3%**

Maximum efficiency



MODEL	2.0 HE-t UL	2.9 HE-t UL	3.8 HE-t UL	4.4 HE-t UL
<b>INPUT DATA</b>				
Nominal DC power	2100 W	3000 W	4000 W	4600 W
Max. PV power	2625 W <sub>p</sub>	3750 W <sub>p</sub>	5000 W <sub>p</sub>	5750 W <sub>p</sub>
Max. DC voltage	600 V <sub>dc</sub>			
Voltage range MPPT	230 to 500 V <sub>dc</sub>	230 to 500 V <sub>dc</sub>	230 to 500 V <sub>dc</sub>	230 to 500 V <sub>dc</sub>
Max. input current	9.5 A	13.5 A	18.0 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 fuses for string inputs (optional) Field configurable for positive or negative grounding.			

<b>OUTPUT DATA</b>				
Nominal output power	2000 W	2900 W	3800 W	4450 W
AC current (240 V <sub>ac</sub> / 208 V <sub>ac</sub> )	8.5 A / 10.0 A	12.0 A / 14.0 A	16.0 A / 18.5 A	18.5 A / 21.5 A
Mains output voltage	240 V <sub>ac</sub> (+13 % / -25 %) or 208 V <sub>ac</sub> (+29 % / -14 %) single or split phase <sup>1)</sup>			
Mains frequency	60 Hz (+ 5 %, - 8.3 %)			
Cos Phi (power factor)	0.8i to 0.8c selectable			

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

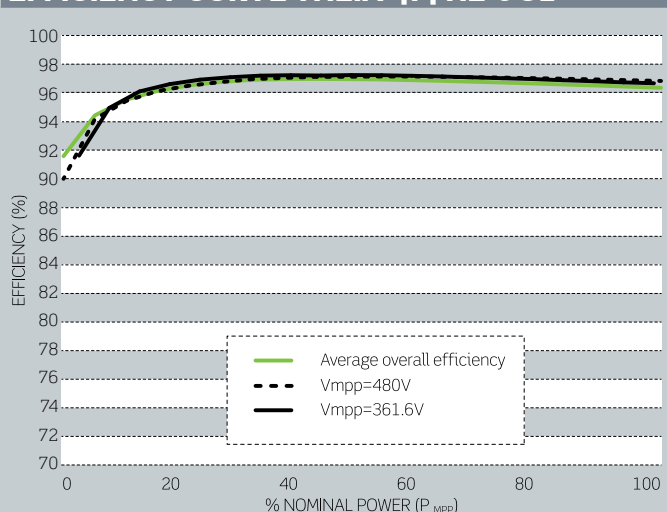
<b>MECHANICAL DATA</b>				
Protection degree	NEMA 4X or 3R			
Dimensions	720 H x 353 W x 165 D mm / 28.35 H x 13.90 W x 6.50 D inches			
Weight	< 22 kg / 49 lbs	< 22 kg / 49 lbs	< 23 kg / 51 lbs	< 23 kg / 51 lbs
Cable access (conduit knockouts)	2 x 3/4" + 2 x 1" base, 1 x 3/4" + 1 x 1" sides and back			
Input cable connection	Screw terminals / Cable clamp			
Output cable connection	Screw terminals / Cable clamp			

<b>DESIGN STANDARDS</b>				
EM compatibility	FCC Level B, EN 61000-6-2, EN 61000-6-3			
UL marking	Yes			
Other standards	UL 1741, IEEE 1547, IEC 61000-3-2/11, IEC 61000-3-3/12			

<b>ENVIRONMENTAL DATA</b>				
Operating temperature	- 25 °C to + 60 °C / - 13 to + 149 °F (possible power derating above + 45 °C / + 113 °F)			
Storage temperature	- 40 °C to + 80 °C / - 22 to + 176 °F			
Ventilation	Convection cooling			

<b>ADDITIONAL FEATURES</b>				
Topology	High frequency transformer, galvanic isolation			
Protection class / Overvoltage category	I / III			
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			

### EFFICIENCY CURVE THEIA 4.4 HE-t UL



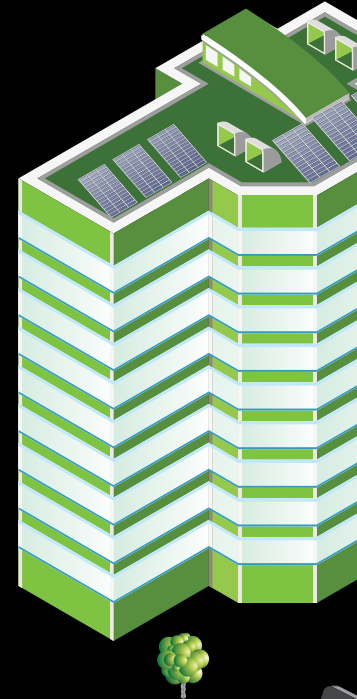
1) Voltage and frequency range adjusted to specific country settings

# MONITORING

Eltek offers complete solutions that include equipment and systems for continuous PV plant monitoring and system data evaluation.

## OUR RANGE OF MONITORS ARE DESIGNED FOR PV PLANTS OF ALL TYPES AND SIZES

When remote monitoring is required of inverters, whether a single site, or multiple installations, the THEIA HE-t's in-built THEIA Analyzer web-server meets all the requirements. With only an internet connection to the THEIA HE-t, all performance data is available in easy-to-read full color graphical displays for weekly, monthly and yearly review.



## MONITORING AND CONTROL OPTIONS FOR THEIA RANGE INCLUDE:



### POWER CONTROL INTERFACE

When AC grid management is needed the Power Control Interface provides the connection. Configurable through the THEIA webserver, and with inputs for 4 external sensors.



### WEBMASTER

With the PLATINUM WebMaster for string inverters, there is no need to worry. The PV plant is in good hands - it is under surveillance day and night



### VIEWMASTER

When a centralised view of inverter information is needed in a convenient location



### PV-MONITOR

The PLATINUM PV-Monitor provides a clear and easy to use display of all important values of the PV plant on a PC



# SERVICES THAT MAKE A DIFFERENCE

At Eltek we are committed to providing the highest quality of service to meet your specific requirements and add value to your solar investments.

As a customer of Eltek, wherever your location in the world, you can rely on high quality services and support, delivered by dedicated and highly qualified power professionals in our global organization.

- **24/7 TECHNICAL SUPPORT**
- **PREVENTATIVE MAINTENANCE**
- **TRAINING**
- **REPAIRS**
- **EXTENDED WARRANTY**
- **FINANCING**

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