

THEIA TX CENTRAL INVERTERS

SOLAR INVERTERS: 20-100 kW

3-phase Inverters with internal Transformer with a wide input voltage window, Maximum Power Point Tracking, and high efficiency, the THEIA Solar Inverter range is designed to provide maximum power for maximum time, with minimal maintenance. The versatility of the THEIA TX Central Inverter range means that it can be used in a wide variety of photovoltaic power generation systems around the world.



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357105.DS3 rev8

PRODUCT DESCRIPTION

Performance

The THEIA TX Central Inverter range has been developed using bespoke high frequency IGBT switching designs to produce a high performance, high efficiency, inverter system with very low harmonic distortion.

Expandability

The inverter's ability to be interconnected together means they are ideal for all sizes of photovoltaic power generation systems, including phased building of sites to minimize initial investment costs.

Reliability

Using innovative MPPT algorithms to maximize the output power of the PV array under all conditions, and well proven design methods, the THEIA TX Central Inverter range can be trusted to provide long term, reliable energy harvesting even under adverse conditions.

APPLICATIONS

From Low Voltage grid-connected systems, to hybrid systems, THEIA inverters are suitable for all photovoltaic plant needs.

Coupled with Eltek's market leading Global Service and Support network, which is able to provide site planning, installation, monitoring and maintenance services, the THEIA TX Central Inverter range is the ultimate choice for any central inverter solution.

KEY FEATURES

- **FLEXIBILITY**
With their flexible design the inverter system can be configured to specific site needs.
- **INTELLIGENCE**
Participates in Management of a 'smart' PV power generation site with the integration of multiple features to provide comprehensive site information.
- **MONITORING**
Its advanced system control and diagnostics, including local and remote interface, makes set-up and installation easier, with operation and maintenance also extremely cost effective by reducing the need for expensive site visits.
- **COMMUNICATION**
RS232, USB and RS485 connections enable communication locally, remotely by modem or via Data Control Interfaces, while volt-free contacts can be available for alarm signaling.
- **GLOBAL COMPLIANCE**
The THEIA TX Central Inverter range is CE marked, and compliant to EN 50178, IEC 62103, VDE V 0126-1-1, AS 4777 (Australia), RD 1663 and RD 661 (Spain), and DK 5940/ENEL Guidelines (Italy), with local language certification available.

Power - kW		20	30	50	100
INPUT DATA					
Input voltage - Max Value: -Range MPPT:	V _{dc}	900 (950 with optional EIV kit) 450 - 820			
Maximum recommended PV power	kWp	24	35	60	120
Input maximum current	A _{dc}	46	69	115	230
Input protection		Circuit breaker Fuses (20kW to 50kW)			
OUTPUT DATA					
Voltage	kW	20	30	50	100
Nominal output voltage (* range adjustable to local reqs.)	V _{ac}	400V, 3-phase + PE (+/-20%*)			
Output frequency	Hz	50 or 60 (+/-5Hz configurable)			
Power factor at	cosØ	> 0,99 (nominal power and grid voltage)			
Current harmonics	THD	< 2%			
Output protection		Short circuit detection Fuses Output contactor			
PERFORMANCE DATA					
Maximum Efficiency	%	> 96,8	> 97,2	> 97,0	> 97,4
EU Efficiency	%	> 95,3	> 95,8	> 96,0	> 96,6
Night mode power	W	< 5			
Heat dissipation (nominal load)	W	1150	1350	2100	3720
MECHANICAL DATA					
Protection degree (IEC529)		IP 20 (others on request)			
Color		RAL 7024			
Dimensions (mm)	W	690	690	690	800
	D	895	895	895	800
	H	1345	1345	1345	1900
Weight	kg	431	431	488	740
Environment		Bottom (Top on request)			
DESIGN STANDARDS					
Acoustic noise (according EN 62040)	dB	< 62	< 62	< 63	< 64
EM compatibility		EN61000-6-2, EN61000-6-4			
CE marking		Yes - Restricted application			
Other standards		DIN VDE V 0126-1-1, ENEL Guidelines (DK 5940) AS 4777, RD 1663/2000, RD 661/2007, EN 50178, IEC 62103, EN 55011, IEC 61000-3-11, IEC 61000-3-12, IEC 61000-6-3			
ENVIRONMENTAL DATA					
Operating temperature	°C	-20 to +55 (output power derating typically above +45°C)			
Storage temperature	°C	-30 to +70			
Relative humidity (non-condensing)	%	< 95			
Ventilation		Forced, expelled from top (optional redundant fans)			
Required cooling air flow	M3/h	600	600	600	1000
Altitude	m	< 1000			
INTERFACE					
Front Panel		LCD display with status LEDs			
Communication		RS232 and USB RS485 Modbus protocol			
Remote connection option		Data Control Interface			
Volt free contact option		Alarm relay card (8x outputs)			