

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 disconnector 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>					