

## ZEN 3000TL/4000TL/5000TL Solar Control Centre



### Perfection Plus. Usability. The transformerless ZEN Solar Control Centre

More communicative, easier to use and more efficient than ever: this ZEN Solar Control Centre is setting new standards in inverter technology. A modern graphic display, readout of daily values even after sunset, simplified installation concept and wireless communication via Bluetooth: The new ZEN Solar Control Centres fulfill every wish. With the new OptiTrac Global Peak shade management and an optimal efficiency of 97%, the inverters ensure optimum solar yield. As transformerless, multi-string devices, the 4000TL and 5000TL provide maximum flexibility for plant design, and are the first choice for demanding generator designs.

#### High Yields

- Maximum efficiency of 97%
- Multi-String technology\*
- Transformerless, with H5 topology
- Shade management with OptiTrac Global Peak

#### Safe

- Integrated ESS DC switch-disconnector

#### Simple

- Easily accessible connection area
- Cable connection without tools
- DC plug system SUNCLIX

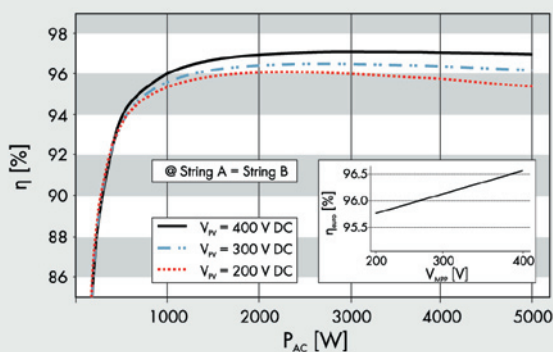
#### Communicative

- Bluetooth technology as standard
- Multilingual graphic display
- Multi-function relay as standard

\*Sunny Boy 4000TL / 5000TL

Technical data	3000TL	4000TL	4000TL/V	5000TL
<b>Input (DC)</b>				
Max. DC power ( $\text{@ } \cos \varphi = 1$ )	3200 W	4200 W	4200 W	5300 W
Max. DC voltage	550 V	550 V	550 V	550 V
MPP voltage range	188 V – 440 V	175 V – 440 V	175 V – 440 V	175 V – 440 V
DC nominal voltage	400 V	400 V	400 V	400 V
Min. DC voltage / start voltage	125 V / 150 V	125 V / 150 V	125 V / 150 V	125 V / 150 V
Max. input current / per string	17 A / 17 A	2 x 15 A / 15 A	2 x 15 A / 15 A	2 x 15 A / 15 A
Number of MPP trackers / strings per MPP tracker	1 / 2	2 / A: 2, B: 2	2 / A: 2, B: 2	2 / A: 2, B: 2
<b>Output (AC)</b>				
AC nominal power ( $\text{@ } 230 \text{ V, } 50 \text{ Hz}$ )	3000 W	4000 W	3680 W	4600 W
Max. AC apparent power	3000 VA	4000 VA	4000 VA	5000 VA
Nominal AC voltage; range	220, 230, 240 V; 180 – 280 V	220, 230, 240 V; 180 – 280 V	220, 230, 240 V; 180 – 280 V	220, 230, 240 V; 180 – 280 V
AC grid frequency; range	50, 60 Hz; $\pm 5 \text{ Hz}$	50, 60 Hz; $\pm 5 \text{ Hz}$	50, 60 Hz; $\pm 5 \text{ Hz}$	50, 60 Hz; $\pm 5 \text{ Hz}$
Max. output current	16 A	22 A	22 A	22 A
Power factor ( $\cos \varphi$ )	1	1	1	1
Phase conductors / connection phases	1 / 1	1 / 1	1 / 1	1 / 1
<b>Efficiency</b>				
Max. efficiency / Euro-eta	97.0% / 96.3%	97.0% / 96.4%	97.0% / 96.4%	97.0% / 96.5%
<b>Protection devices</b>				
DC reverse-polarity protection	•	•	•	•
ESS switch-disconnector	•	•	•	•
AC short circuit protection	•	•	•	•
Ground fault monitoring	•	•	•	•
Grid monitoring (SMA Grid Guard)	•	•	•	•
Galvanically isolated / all-pole sensitive fault current monitoring unit	-/•	-/•	-/•	-/•
Protection class / overvoltage category	I / III	I / III	I / III	I / III
<b>General data</b>				
Dimensions (W / H / D) in mm	470 / 445 / 180	470 / 445 / 180	470 / 445 / 180	470 / 445 / 180
Weight	22kg	25kg	25kg	25kg
Operating temperature range	-25°C ... +60°C	-25°C ... +60°C	-25°C ... +60°C	-25°C ... +60°C
Noise emission (typical)	$\leq 25 \text{ dB(A)}$	$\leq 29 \text{ dB(A)}$	$\leq 29 \text{ dB(A)}$	$\leq 29 \text{ dB(A)}$
Internal consumption: (night)	< 0.5 W	< 0.5 W	< 0.5 W	< 0.5 W
Topology	transformerless	transformerless	transformerless	transformerless
Cooling concept	Convection	OptiCool	OptiCool	OptiCool
Electronics protection rating / connection area (as per IEC 60529)	IP65 / IP54	IP65 / IP54	IP65 / IP54	IP65 / IP54
Climatic category (per IEC 60721-3-4)	4K4H	4K4H	4K4H	4K4H
<b>Features</b>				
DC connection: SUNCLIX	•	•	•	•
AC connection: screw terminal / plug connector / spring-type terminal	-/-/•	-/-/•	-/-/•	-/-/•
Display: text line / graphic	-/•	-/•	-/•	-/•
Interfaces: RS485 / Bluetooth	o/•	o/•	o/•	o/•
Warranty: 5 / 10 / 15 / 20 / 25 years	•/o/o/o/o	•/o/o/o/o	•/o/o/o/o	•/o/o/o/o
Certificates and permits (more available on request)	CE, VDE 0126-1-1, DK 5940, RD 1663, G83/1-1, PPC, AS4777, EN 50438*, C10/C11, PPDS			
* Does not apply to all national deviations of EN 50438				
• Standard features o Optional features - not available				
Data at nominal conditions				
Type designation	3000TL-20	4000TL-20	4000TL-20/V 0159	5000TL-20

**Efficiency curve - ZEN 5000TL Solar Control Centre**



**Accessories**



RS485 interface  
DM-485CB-10