

## THREE PHASE INVERTERS

### SUNZET TP

#### Three-phase central inverters range with and without transformer

##### Description

The SUNZET TP three-phase central inverters range goes from 20 to 166 KW and combines design and versatility with easy operation and modularity.

An outstanding feature of SUNZET TP inverters is their 96% efficiency with transformer (T model) and 98% (TL model) without it. SUNZET TP inverters provide high reliability and guaranteed operation. Another outstanding function is the high-energy efficiency of its MPPT, which is over 99%. As an important feature, its automatic regulation of reactive power and built in communications tools. All its parameters are configurable both locally and remotely. SUNZET TP inverters operate with an output voltage 3x400 V and comply with most European regulations concerning the support of voltage sags without disconnection. Due to their double-conversion architecture they never generate dangerous overvoltages when disconnecting from mains.



Sunzet TP 30 TL

Sunzet TP 100 TL

##### Features

- > Range of input DC voltage (300-700 VDC)
- > Maximum power point tracking (MPPT)
- > High energy efficiency MPPT > 99%
- > Very low harmonic distortion, THD < 3%
- > Selectable power factor
- > Direct mains connection (T & TL model)
- > Unlimited parallel connection
- > Anti-islanding protection with automatic shut down
- > Monitoring from the unit with LCD
- > Galvanic isolation through the transformer (T model)
- > Strings current monitoring (with option "Sunzet String Box")
- > IP21 protection level
- > Protection against: inverse polarity, short-circuits, overvoltages, insulation failure with output to relay
- > Service life of more than 20 years
- > Automatic reactive energy regulation
- > PC-based Web server programme for full access to inverter data
- > Maximum yield of solar plants
- > Modularity
- > Output voltage 3x 400 V (T & TL model)
- > DC and AC surge protections included
- > Compatible with thin film modules
- > ETHERNET communications ports
- > Easy access through any web browser
- > Remote SCADA (SWS 1000): communications system, parameter display, inverter records control, production data storage etc, (optional)

on-grid solar plants

mid voltage solar plants

hybrid generation

energy saving

telecom back up

wind energy



NON - STOP POWER

ZIGOR

## Web server for three-phase SUNZET TP inverters

This is a PC-based Web server programme to provide full access to the inverter data and to monitor and communicate with three-phase SUNZET TP inverters.

The Web server let the user to communicate with the inverters in different languages and record the following data.

- > Status
- > Parameters
- > Events
- > Event Log
- > Production



## SWS 1000 SCADA system for SUNZET three-phase TP inverters

The SWS 1000 Scada system is a platform for monitoring and register variables, check and modify the settings as well as customise all parameters from the three-phase SUNZET TP inverters. It can control up to 20 units, which makes the SWS 1000 a suitable tool to monitor a generation plant through a uniquefixed IP address.

The SWS 1000 has a Web server in several different languages (selectable by the user) where the following functions can be run:



SWS 1000

See more information about connectivity and accessories on page 48

## > Sunzet TP model with transformer

ELECTRICAL CHARACTERISTICS							
Modelo	Sunzet 20 TP T	Sunzet 25 TP T	Sunzet 30 TP T	Sunzet 50 TP T	Sunzet 75 TP T	Sunzet 100 TP T	Sunzet 133 TP T
Reference	16112	13038	17698	17173	16113	17038	301206
Continuous output power	20 KW **	25 KW **	30 KW	50 KW	75 KW ***	100 KW	133 KW
Nominal DC power	≥ 21 KW	≥ 27 KW	≥ 31 KW	≥ 52 KW	≥ 78 KW	≥ 105 KW	≥ 140 KW
Nominal AC voltage AC	380-400 V 3P+N						
Nominal frequency	50 Hz						
Power factor	1 adjustable ± 0.8						
Nominal line current AC	29 A	36 A	43 A	72 A	108 A	180 A	191 A
Current distortion AC	< 3% THD of nominal power <sup>(1)</sup>						
Maximum open circuit voltage DC	880 V <sup>(2)</sup>						
Power tracking range (MPPT) DC *	300 to 720 V						300 to 720 V
Maximum input current DC	70 A	90 A	103 A	173 A	260 A	350 A	462 A
Maximum efficiency	96%						
European efficiency	94.95%						
ENVIRONMENTAL AND MECHANICAL FEATURES							
Range of ambient temperatures	-10°C +50°C <sup>(3)</sup>						
Type and grade of environmental protection	IP21						
Aproximate weight	270 Kg	290 Kg	310 Kg	390 kg	1020 Kg		950 Kg
Dimensions (HxWxD) <sup>(4)</sup>	2150 X 800 x 600				2150 x 1200 x 600		
Operating height	<1000m without power loss						
Relative humidity	0 a 95% without condensation						
GENERAL FEATURES							
Cooling method	Internal forced ventilation External fan control (6 Amax.)						
Protection functions	Inverse polarity / Over/Sub-voltage AC / Over/Sub-frequency / Overvoltage DC						
User interfase	Screen LCD						
Breakers (AC and DC)	Integrated in the system						
Communication software	Web server through Ethernet connection						
Equipment supervision: self diagnostic	Yes						
Data acquisition	SNMP						
SWS 1000 scada system (option)	Ethernet / GSM modem (option) / Data logger / Monitoring programme						
External measurements	2 analogue inputs for monitoring (option) Digital Inputs/Outputs						
STANDARDS							
Certificates	CE Marking, VDE, ENEL						
Directives	2004/108/CE (UNE-EN 61000-6-2 / UNE-EN 61000-6-3) 2006/95/CE (EN 50178)						
Standards	IEC 62116 (2008) - Anti-islanding protection						
Countries standards							
Spain	PO 12.3						
Germany	VDE 0126-1-1						
Italy	DK5940 (Chapter 8.2 Allegato 17. TERNA Regolazione)						
UK	G83						
France	Decret: Arrête du 23 avril 2008						

(1) For THD V< 1% and Nominal Power.

(2) This voltage must not be exceeded under any circumstances.

(3) Under 40°C, the system operates with nominal values, at 50°C nominal values are maintained for two hours.

(4) Dimensions of the equipmet without packing.

\* Minimum voltage 250V working with thin film solar modules at nominal power.

\*\* This units are the Sunzet 30 TP T with output power limited by software.

\*\*\* This unit is the Sunzet 100 TP T with output power limited by software.

These specifications may be changed without notice.

## > Sunzet TP model transformerless

ELECTRICAL CHARACTERISTICS								
Modelo	Sunzet 20 TP TL	Sunzet 25 TP TL	Sunzet 30 TP TL	Sunzet 50 TP TL	Sunzet 75 TP TL	Sunzet 100 TP TL	Sunzet 100 TP TL	Sunzet 166 TP TL
Reference	16114	16115	16116	17174	16117	15754	200186	200104
Continuous output power	20 KW **	25 KW **	30 KW	50 KW	75 KW ***	100 KW	150 KW	166 KW
Nominal DC power	≥ 20.4 KW	≥ 25.5 KW	≥ 30.6 KW	≥ 51 KW	≥ 76.5 KW	≥ 102 KW	≥ 160 KW	≥ 170 KW
Nominal AC voltage AC	400 V AC 3P							
Nominal frequency	50 Hz							
Power factor	1 adjustable ± 0.8							
Nominal line current AC	29 A	36 A	43 A	72 A	108 A	180 A	215 A	240 A
Current distortion AC	< 3% THD of nominal power <sup>(1)</sup>							
Maximum open circuit voltage DC	880 V DC <sup>(2)</sup>							
Power tracking range (MPPT) DC *	300 to 720 V							
Maximum input current DC	66.6 A	83.3 A	102 A	170 A	255 A	340 A	533 A	475 A
Maximum efficiency	98 %						97,60 %	97,13 %
European efficiency	96,78%						96,27 %	95,79 %
ENVIRONMENTAL AND MECHANICAL FEATURES								
Range of ambient temperatures	-10°C a +50°C <sup>(3)</sup>							
Type and grade of environmental protection	IP21							
Aproximate weight	230 Kg	250 Kg	270 Kg	320 Kg	490 Kg	450 Kg	580 Kg	
Dimensions (HxWxD) <sup>(4)</sup>	2150 X 800 x 600							
Operating height	<1000m without power loss							
Relative humidity	0 a 95% without condensation							
GENERAL FEATURES								
Cooling method	Internal forced ventilation External fan control (6 Amax.)							
Protection functions	Inverse polarity / Over/Sub-voltage AC / Over/Sub-frequency / Overvoltage DC							
User interfase	Screen LCD							
Breakers (AC and DC)	Integrated in the system							
Communication software	Web server through Ethernet connection							
Equipment supervision: self diagnostic	Yes							
Data acquisition	SNMP							
SWS 1000 scada system (option)	Ethernet / GSM modem (option) / Data logger / Monitoring programme							
External measurements	2 analogue inputs for monitoring (option) Digital Inputs/Outputs							
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