

AZZURRO - THREE-PHASE STRING INVERTER

20000TL-G2/25000TL-G2
30000TL-G2/33000TL-G2



The **20-33kW ZCS Azzurro compact three-phase** inverter is the best solution for medium-sized photovoltaic systems installed in commercial and industrial buildings.

The Italian technology developed by ZCS makes the Azzurro series efficient, versatile and highly functional.

Available in capacities from 20 to 33kW, they have external "Plug & Play" connections and therefore are easy to install and configure. Their technical characteristics adapt to any type of need in both new installations and retrofit projects.



ZCS AZZURRO TECHNOLOGY



- Performance optimisation
- Wi-Fi integration on ZCS platform for stable, effective and intelligent connectivity

MAXIMUM ENERGY EFFICIENCY



- Maximum performance 98.6%
- Stable efficiency in all working conditions
- Rapid and accurate MPPT algorithm
 - Dual input section with independent MPPTs

FLEXIBLE, ECONOMICAL AND EASY-TO-INSTALL SOLUTION



- Protection rating of IP65
- Fast connection without the need to access internal parts
- Possibility to communicate via Wi-Fi or Ethernet
 - Power Management Unit
 - 4-inch LCD graphic display
- Updates and diagnostics via SD card

RELIABILITY, DURABILITY AND FLEXIBILITY



- Rust-proof, corrosion-proof and UV-proof aluminium exterior casing
 - Maximum DC voltage 1100 V
 - Flexible and user-friendly management of operating parameters
- Topology without transformer
 - 5 - 10 year ZCS warranty

INTELLIGENT GRID MANAGEMENT



- Dynamic management of grid feed-in
 - "Zero Grid Feed-in" functionality*
 - Remote control of the deliverable active/reactive power limit

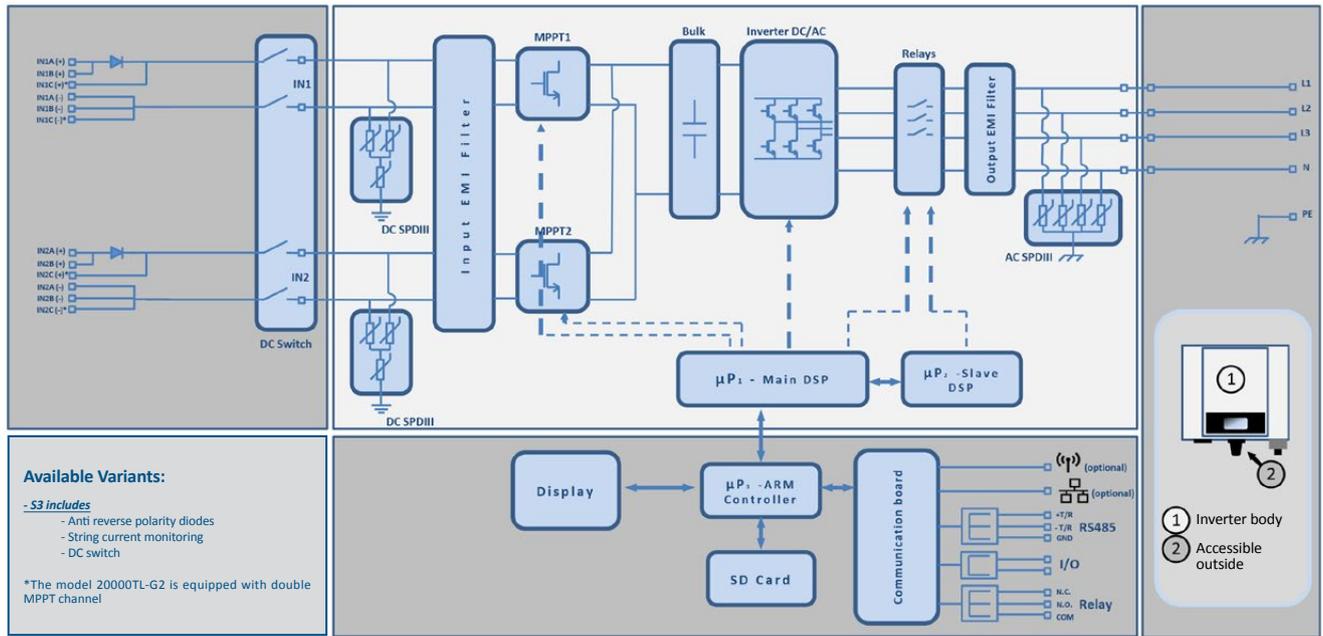
IDEAL FOR RETROFIT



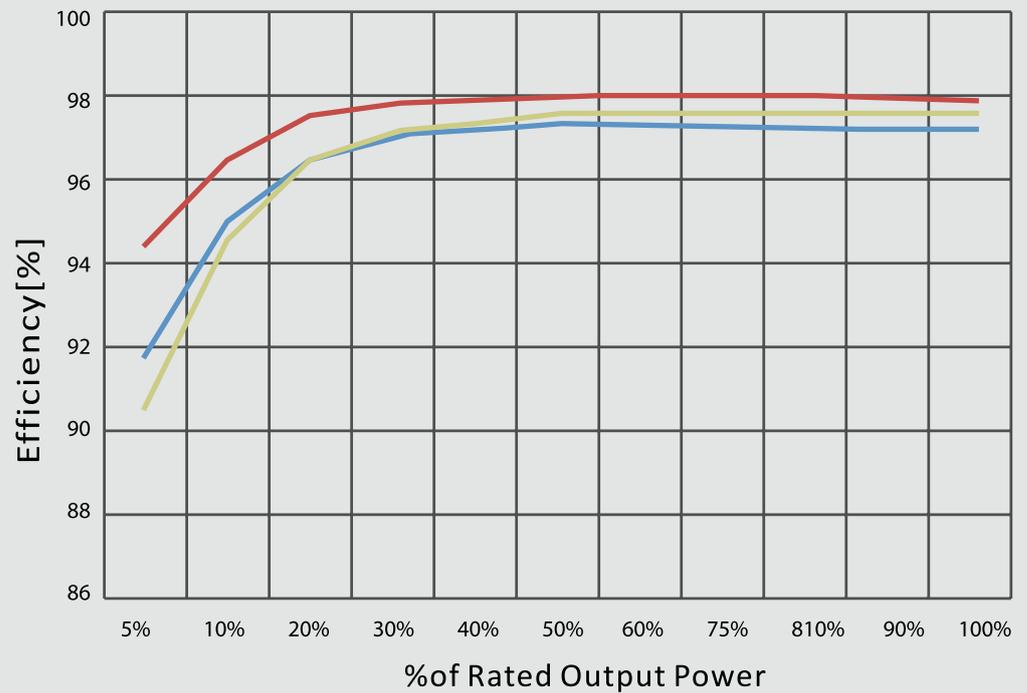
- Wide operating input range from 230V to 960V also suitable for small-sized string plants
 - Extremely compact size
- Simple and user-friendly installation and configuration
 - Dual MPPT channel

*Possible through anti-reverse power controller (ZSM-ZERO INJ)

FLOW CHART



EFFICIENCY CURVE



TECHNICAL DATA	20000TL-G2	25000TL-G2	30000TL-G2	33000TL-G2
DC input data				
Maximum DC power	26000W	32500W	39000W	42900W
Maximum DC power for each MPPT	13000W	16000W	18000W	20000W
No. of independent MPPTs/No. of strings per MPPT	2/2		2/3	
Maximum DC input voltage	1100V			
Activation voltage	250V			
Nominal DC input voltage	620V			
DC Voltage MPPT range	230V-950V			
DC voltage range at full load	480V-850V	460V-850V	520V-850V	580V-850V
Maximum input current for each MPPT	24A/24A	28A/28A	30A/30A	30A/30A
AC output data				
Nominal AC power	20000W	25000W	30000W	33000W
Maximum AC power	22000VA	27500VA	33000VA	36300VA
Maximum AC current per phase	32A	40A	48A	53A
Connection type/Grid nominal voltage	Three-phase 3PH/N/PE,220V,230V,240V/380V,400V,415V or Three-phase 3PH/PE,220V,230V,240V/380V,400V,415V			
Grid voltage range	180V~270V (according to the local grid standards)			
Grid nominal frequency	50Hz/60Hz			
Grid frequency range	45Hz~53Hz / 57Hz~63Hz (according to the local grid standards)			
Total harmonic distortion	<3%			
Power factor	1 (programmable +/-0.8)			
Active Power adjustment range	0~100%			
Grid feed-in limitation	Feed-in adjustable from zero to the nominal power value*			
Efficiency				
Maximum Efficiency	98.2%	98.4%	98.2%	98.6%
Weighted efficiency (EURO)	98%		98.2%	
MPPT efficiency	>99.9%			
Night-time consumption	<1W			
Protection				
Safety protections	Anti-islanding, RCMU, Ground Fault Monitoring			
DC reverse polarity protection	Yes			
DC switch	Integrated			
Overheating	Yes			
Protection class/Surge category	I/III			
Integrated dischargers	AC/DC MOV: Type III standard			
Standard				
EMC	EN 61000-6-1/2/3/4,			
Safety standard	IEC 62116, IEC 61727, IEC 61683, IEC 60068-1/2/14/30, IEC 62109-1/2			
Grid connection standard	CE, CGC, AS 4777, AS 3100, VDE-AR-N 4105, EN50438, G83/2, G59/3, C10/11, CEI 0-21			
Communication				
Communication interface	Wi-Fi (Optional), RS485 (proprietary protocol), SD card			
Additional inputs or connections	I/O inputs for anti-reverse power controller connection			
Data storage on SD	25 years			
General information				
Permissible ambient temperature range	-25°C...+60°C (power limitation above 45°C)			
Topology	Transformerless			
Environmental protection rating	IP65			
Permissible relative humidity range	0%.....95% without condensation			
Maximum operating altitude	2000m			
Noise	< 30dB @ 1mt		< 45dB @ 1mt	
Weight	37Kg			
Cooling	Natural ventilation	Forced ventilation	Forced ventilation	Forced ventilation
Dimensions (H*L*D)	666mm*512mm*254mm			
Display	LCD			
Warranty	5 - 10 years			

*Possible by connecting current sensor (ZST-ACC-TA) and anti-reverse power controller (ZSM-ZEROINJ)



AS4777 G83/2 G59/3

CE, CEI 0-21, CQC, IEC, VDE-AR-N4105/VDE-0126, EMC, C10/11, EN50438, RD1669