

AZZURRO - THREE-PHASE STRING INVERTER

10000TL/15000TL/17000TL/20000TL



The **ZCS Azzurro three-phase** inverters are 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 sizes from 10 to 20kw, they have a very wide input range which makes them easy to configure and suitable for 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 98.2%
- 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
- Integrated string combiner with different configuration options
 - 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
 - Natural ventilation cooling
 - Flexible and user-friendly management of operating parameters
- Optional Class II surge protection devices (AC and DC)
- 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

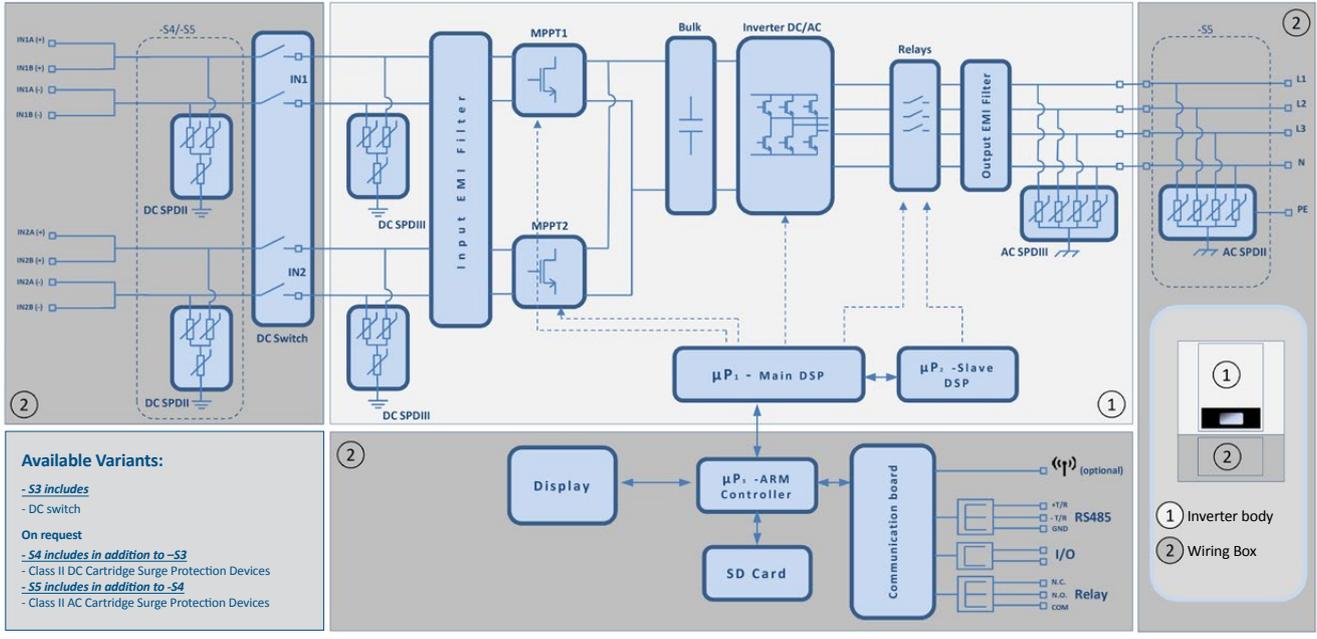
IDEAL FOR RETROFITTING



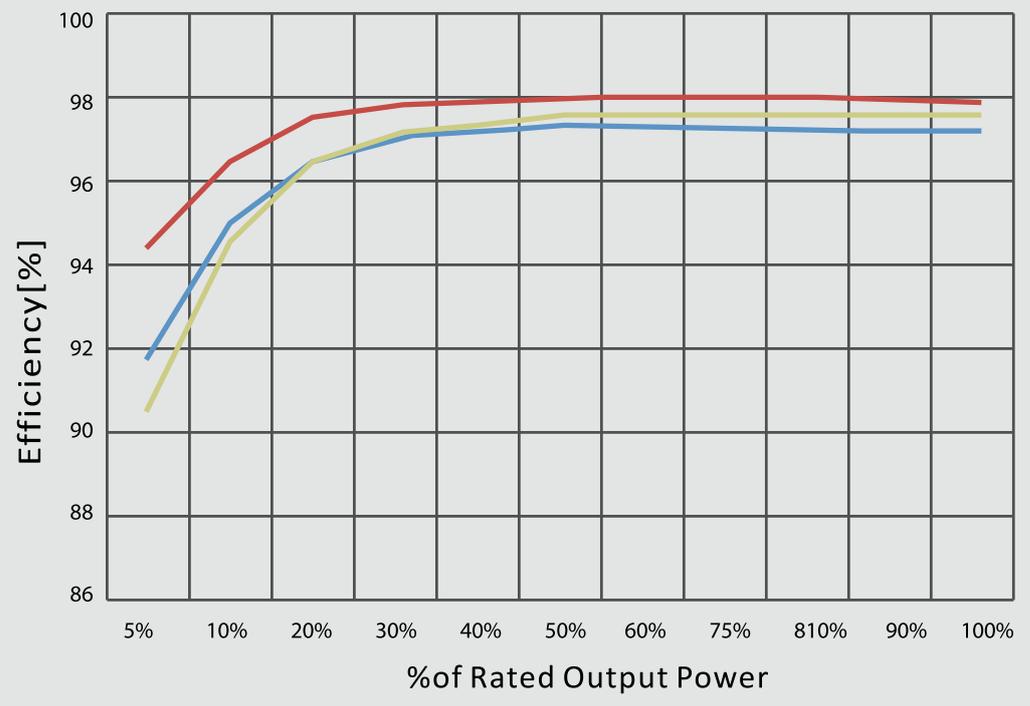
- Wide operating input range from 250V to 960V also suitable for small-sized string systems
 - Compact size
- Simple and user-friendly installation and configuration
 - Dual MPPT channel

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

FLOW CHART



EFFICIENCY CURVE



TECHNICAL DATA	10000TL	15000TL	17000TL	20000TL
DC input data				
Typical DC power	11000W	16500W	18700W	22000W
Maximum DC power for each MPPT	6750W (450V-850V)	10500W (500V-850V)		12000W (500V-850V)
No. of independent MPPTs/No. of strings per MPPT				2/2
Maximum DC input voltage				1000V
Activation voltage				350V
Nominal DC input voltage				600V
DC voltage MPPT range				250V-960V
DC voltage range at full load				350V-850V
Maximum input current for each MPPT	350V-850V	370V-850V	420V-850V	430V-850V
Maximum input current for each MPPT	15A/15A	21A/21A		24A/24A
AC output data				
Nominal AC power	10000W	15000W	17000W	20000W
Maximum AC power	10000VA	15000VA	17000VA	20000VA
Maximum AC current per phase	15A	22A	25A	29A
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 nominal power value*			
Efficiency				
Maximum efficiency				98.2%
Weighted efficiency (EURO)	97.6%		97.9%	98%
MPPT efficiency				>99.9%
Night-time consumption				<1W
Protections				
Internal interface protection				No
Safety protections	Anti islanding, RCMU, Ground Fault Monitoring			
DC reverse polarity protection				Yes
DC switch				Integrated
Surge protection				Yes
Protection class/Surge category				I/III
Integrated dischargers	AC/DC MOV: Type III standard, optional AC/DC dischargers type II (only S5 models)			
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, CEI 0-16			
Communication				
Communication interfaces	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 data				
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	< 45dB @ 1mt			
Weight	45Kg			48Kg
Cooling	Natural ventilation			
Dimensions (H*L*D)	707mm*492mm*240mm			
Display	LCD			
Warranty	10 years		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