

AZZURRO - THREE-PHASE STRING INVERTER

3.3KTL/4.4KTL/5.5KTL/6.6KTL
8.8KTL/11KTL/12KTL



The compact **ZCS Azzurro three-phase** inverters are the ideal solution for small and medium sized PV systems for commercial or residential applications and small industries.

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

The wide input range makes the products easy to configure and suitable for any type of requirement, in new installations or retrofit projects.



ZCS AZZURRO TECHNOLOGY

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



MAXIMUM ENERGY EFFICIENCY

- Maximum performance 98.3%
- 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
- Topology without transformer
 - 10 year ZCS warranty



INTELLIGENT GRID MANAGEMENT

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



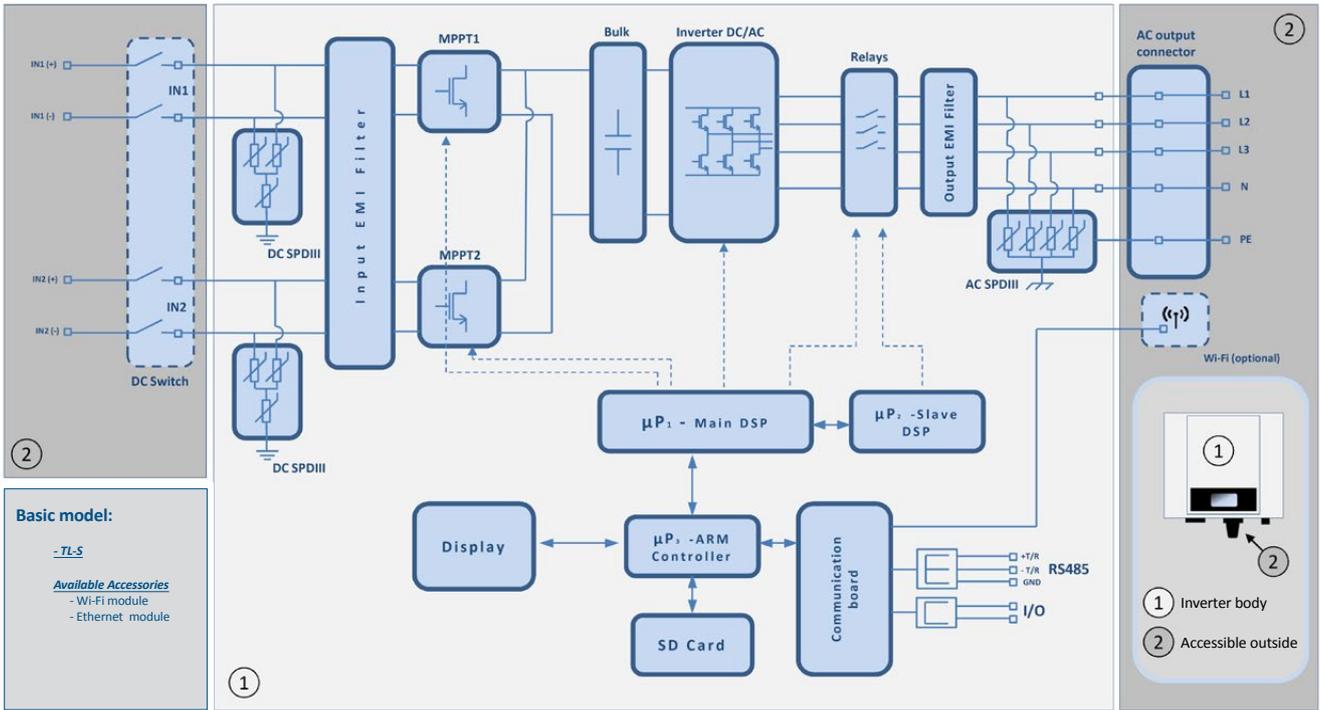
IDEAL FOR RETROFITTING

- Wide operating input range from 160V to 960V also suitable for small string systems
 - Compact size
- Simple and user-friendly installation and configuration
 - Dual MPPT channel

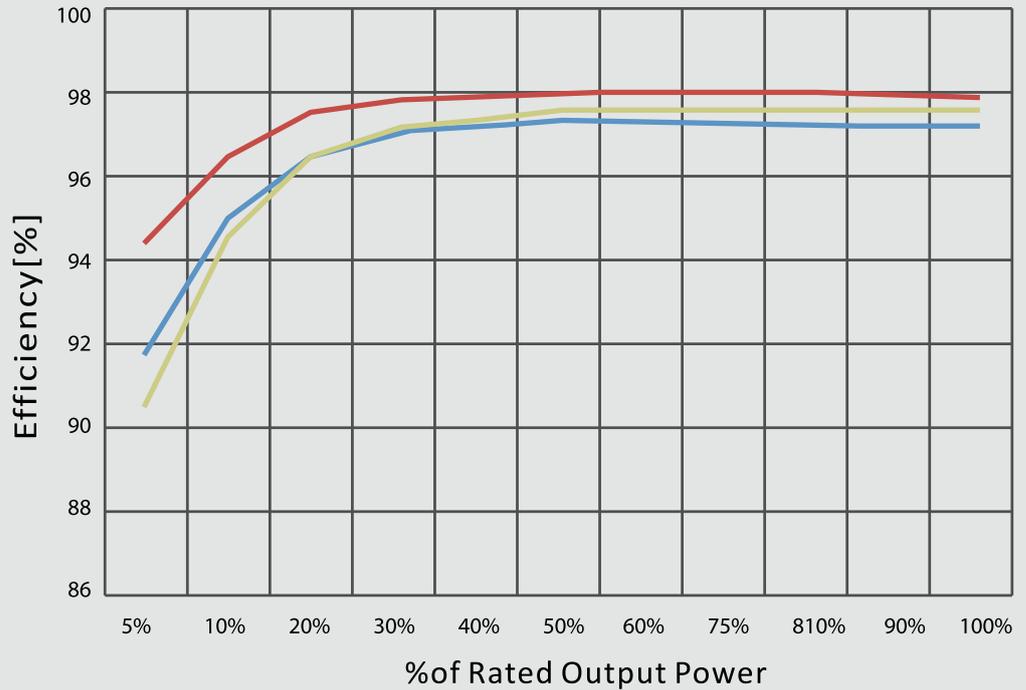


*Possible through current sensor (ZST-ACC-TA) and anti-reverse power controller (ZSM-ZEROINJ)

FLOW CHART



EFFICIENCY CURVE



TECHNICAL DATA	3.3KTL	4.4KTL	5.5KTL	6.6KTL	8.8KTL	11KTL	12KTL
DC input data							
Typical DC power	3600W	4800W	6000W	7200W	9600W	12000W	14400W
Maximum DC power per MPPT	3600W(300V-850V)	4800W(440V-850V)	6000W(545V-850V)	7200W(660V-850V)	8800W(800V-850V)	8800W(800V-850V)	8800W(800V-850V)
No of independent MPPTs/No. of strings per MPPT	2/1						
Maximum DC input voltage	1000V						
Activation voltage	180V						
Nominal DC input voltage	600V						
MPPT range of DC voltage	160V-960V						
DC voltage range at full load	190V-850V	240V-850V	290V-850V	380V-850V	480V-850V	575V-850V	
Maximum input current per MPPT	11A/11A						
AC output data							
Nominal AC power	3000W	4000W	5000W	6000W	8000W	10000W	12000W
Maximum AC power	3300VA	4400VA	5500VA	6600VA	8800VA	11000VA	13200VA
Maximum AC current per phase	4.8A	6.4A	8.0A	9.6A	12.8A	15.9A	19.1A
Connection type/Grid nominal voltage	Three-phase3PH/N/PE,220V,230V,240V/380V,400V,415VorThree-phase3PH/PE,220V,230V,240V/380V,400V,415V						
Grid voltage range	184V~276V (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%			98.3%			
Weighted efficiency (EURO)	97.5%			98%			
MPPT efficiency	>99.9%						
Night-time consumption	<1W						
Protections							
Internal interface protection	Yes						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						
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 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	< 29dB @ 1mt						
Weight	21Kg			22Kg			
Cooling	Natural ventilation						
Dimensions (H*L*D)	483mm*452mm*200mm						
Display	LCD						
Warranty	10 years						

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