

AZZURRO - SINGLE-PHASE STRING INVERTERS

1100TL/1600TL/2200TL
2700TL/3000TL



The TL series **single-phase ZCS Azzurro** inverters are the ideal solution for small residential type PV systems.

They are available in versions from 1 to 3 Kw and are small, easy to manage and simple to install. Their wide input range makes them easy to configure and are suitable for all requirements on both new and retrofit installations on existing systems.

The multi-function graphic display provides instant viewing of all data and the WiFi connection provides zero cost remote monitoring.



AZZURRO ZCS TECHNOLOGY

- Performance optimisation
- WiFi integration on the ZCS platform for stable, effective and intelligent connectivity



MAXIMUM ENERGY EFFICIENCY

- Maximum performance 97.2%
- Stable efficiency in all working conditions
- Rapid and accurate MPPT algorithm



A FLEXIBLE, ECONOMIC AND EASY INSTALLATION SOLUTION

- IP65 Protection rating
- Rapid and secure installation with all required parts included
 - "Plug & Play" AC and DC side connections
 - Wireless communication with integrated Web Server
 - 4" LCD display
- Standard or fast Enel Autotest versions
 - Updates and diagnostics through SD Card



RELIABILITY, STURDINESS AND FLEXIBILITY

- External enclosure in rust-proof, corrosion-proof and UV-ray proof aluminium
 - Natural ventilation cooling
- Fast and flexible management of operating parameters
- Simple and user-friendly monitoring
 - 10 year ZCS warranty



INTELLIGENT GRID MANAGEMENT

- Dynamic management of delivery to the grid
 - "Zero Delivery"* grid function
 - Remote control over deliverable active/reactive output limit



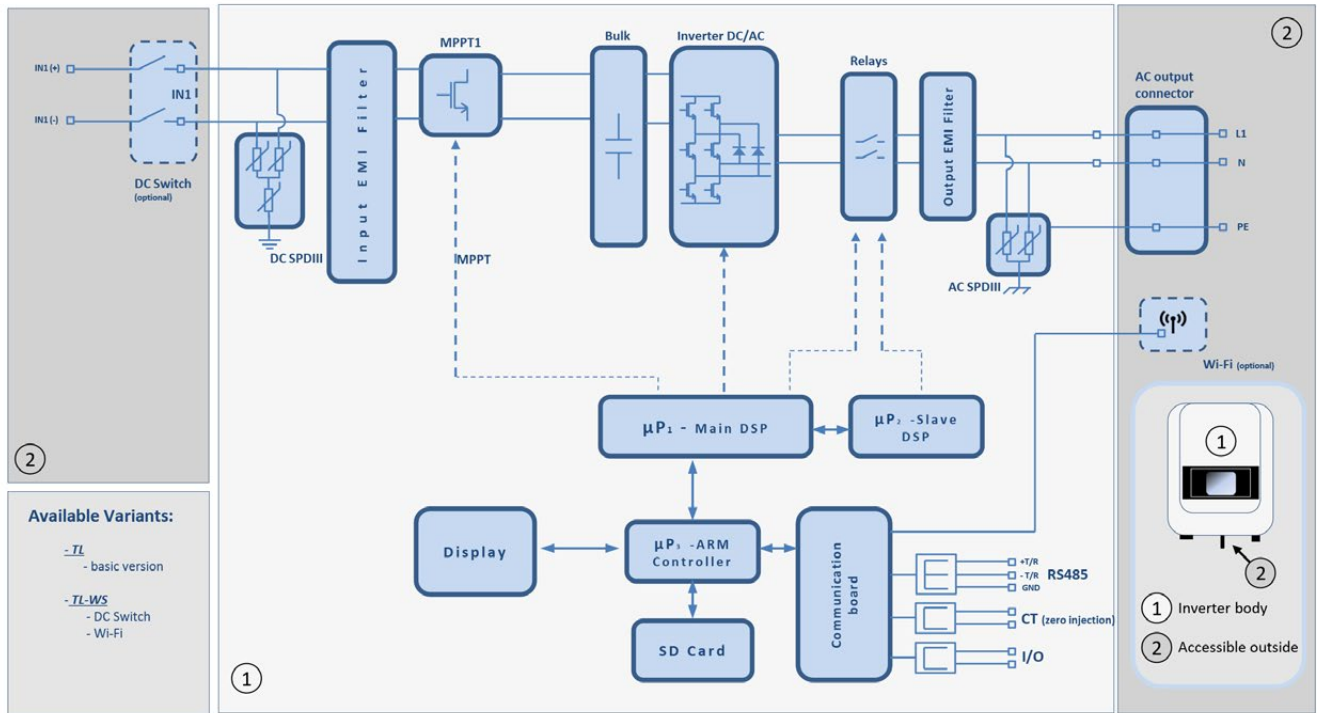
IDEAL FOR RETROFIT OPTIONS

- Wide operating input range from 90V to 550V
 - Compact size
- Simple and user-friendly installation and configuration

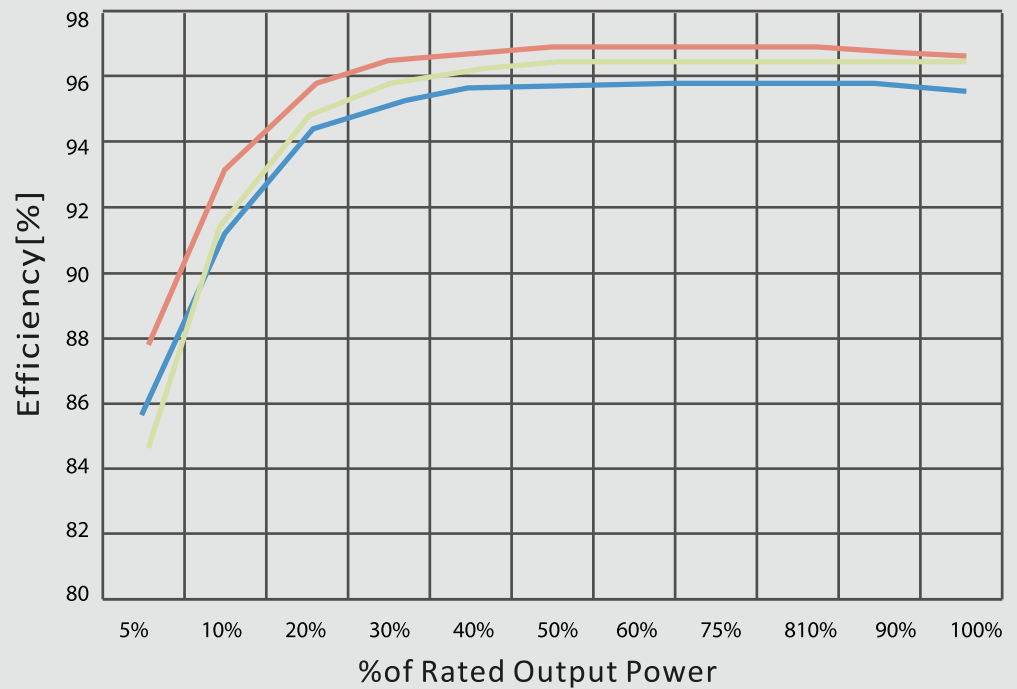


*Possible through current sensor (ZST-ACC-TA)

FLOW CHART



EFFICIENCY CURVE



TECHNICAL SPECIFICATIONS	1100TL	1600TL	2200TL	2700TL	3000TL
Input (DC)					
Rated input DC power	1200W	1800W	2400W	2900W	3300W
MPPT number/String for MPPT	1/1				
Maximum Input Voltage	450V		500V		
Input Voltage at Startup	100V		120V		
Rated Input Voltage	360V				
MPPT Rated Voltage	80-450V		100-500V		
Rated DC voltage at full load	110-450V	165-450V	170-500V	200-500V	
Max Input Current	10A		13A	13.5A	15A
Output (AC)					
Rated AC Power	1000VA	1550VA	2100VA	2600VA	3000VA
Maximum AC Power	1000VA	1550VA	2100VA	2600VA	3000VA
Maximum AC Current	4.5A	7A	9.5A	11.5A	13A
Rated Mains Voltage	L/N/PE 220,230,240V				
Mains Voltage Range	180~270V (According to the local network standard)				
Rated Mains Frequency	50/60Hz				
Output Frequency Range	45~53 / 57~63 Hz (According to the local network standard)				
Total current harmonic distortion	<3%				
Power factor	1 (adjustable +/- 0.8)				
Type of mains connection	Single phase				
Input limitation on the network	Input adjustable from zero to the rated value				
Efficiency					
Maximum Efficiency	97%		97.1%		97.2%
Weighted efficiency (EURO)	95.2%	95.9%	96.1%	96.4%	96.5%
MPPT efficiency	>99.5%				
Standard					
EMC	EN 61000-6-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4				
Safety Certificates	CE, IEC 62109-1, IEC 62109-2, IEC 62116, IEC 61727, IEC 60068(1,2,14,30)				
Mains Certificates	AS 4777, VDE V 0124-100, VDE V 0126-1-1, VDE-AR-N 4105, ENS0438, G83/2, CEI 0-21, C10/11, RD1699				
Protection					
Anti-Islanding Protection	Yes				
Reverse Polarity Protection	Yes				
Overheating Protection	Yes				
Current Dispersion Protection	Yes				
Overload protection	Yes				
Surge Protection	Yes				
Grounding Faults Protection	Yes				
Communication					
Standard Communication Mode	wifi (optional) + RS485 + SD card (optional)				
Data storage	25 years				
Interface	Yes				
I/O	Yes				
General Information					
DC Switch	Opzionale				
Ambient temperatures	-25°C...+60°C				
Insulation level	Transformerless				
Cooling system	Natural convection				
Relative humidity	0...95% Without Condensation				
Maximum operating altitude	2000m				
Noise level	<25db@1m				
Protection rating	IP65				
Dimensions (H x W x D)	405*314*135mm				
Weight	11kg		12kg		
Night Consumption	<1w				
Display	Graphic display				
Warranty	10 years				



AS4777 G83/2 G59/3

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