

AZZURRO - SINGLE-PHASE STRING INVERTER

3KTLM-L/3.6KTLM-L/4KTLM-L
4.6KTLM-L/5KTLM-L/6KTLM-L



The **LITE** series **ZCS Azzurro Single-Phase** inverters are the ideal solution for photovoltaic systems in residential or commercial buildings. Available in sizes from 3 to 6kw, they are very compact, easy to handle, easy to install and come with double MPPT channel for maximum energy efficiency.

The wide range of input makes them easy to configure and suitable for any type of need, for both new installations or for retrofitting on existing systems. The alphanumeric display provides immediate viewing of all the data and the Wi-Fi connectivity allows remote monitoring at no cost.



ZCS AZZURRO TECHNOLOGY

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



MAXIMUM ENERGY EFFICIENCY

- Maximum performance 98%
- 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
- "Plug & Play" AC and DC connections
- Wireless communication with integrated Web Server
- Alphanumeric display
- ENEL Autotest in standard or fast versions
- Updates and diagnostics via SD card



RELIABILITY, DURABILITY AND FLEXIBILITY

- Rust-proof, corrosion-proof and UV-proof aluminium exterior casing
- Natural ventilation cooling
- Fast and flexible management of operating parameters
- Simple and user-friendly monitoring
- 5 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



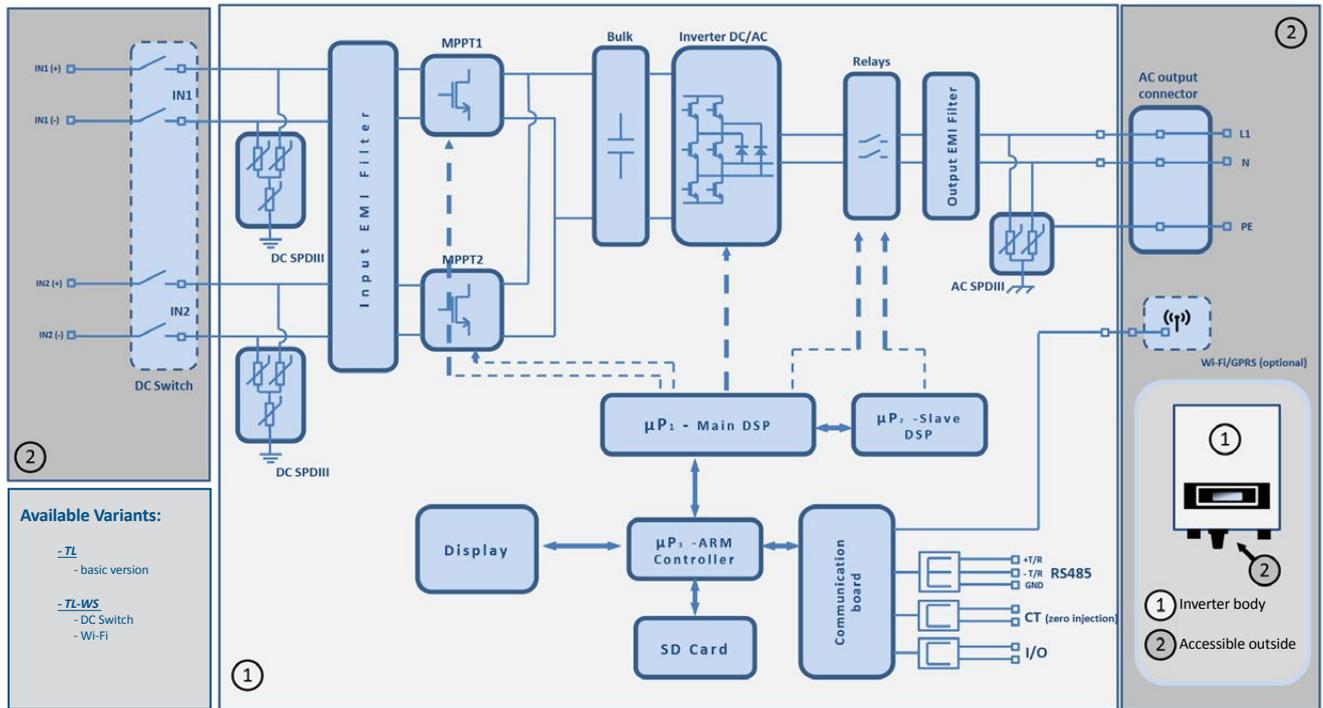
IDEAL FOR RETROFITTING

- Wide input operating range from 160V to 520V
- Compact size
- Simple and user-friendly installation and configuration
- Dual MPPT channel

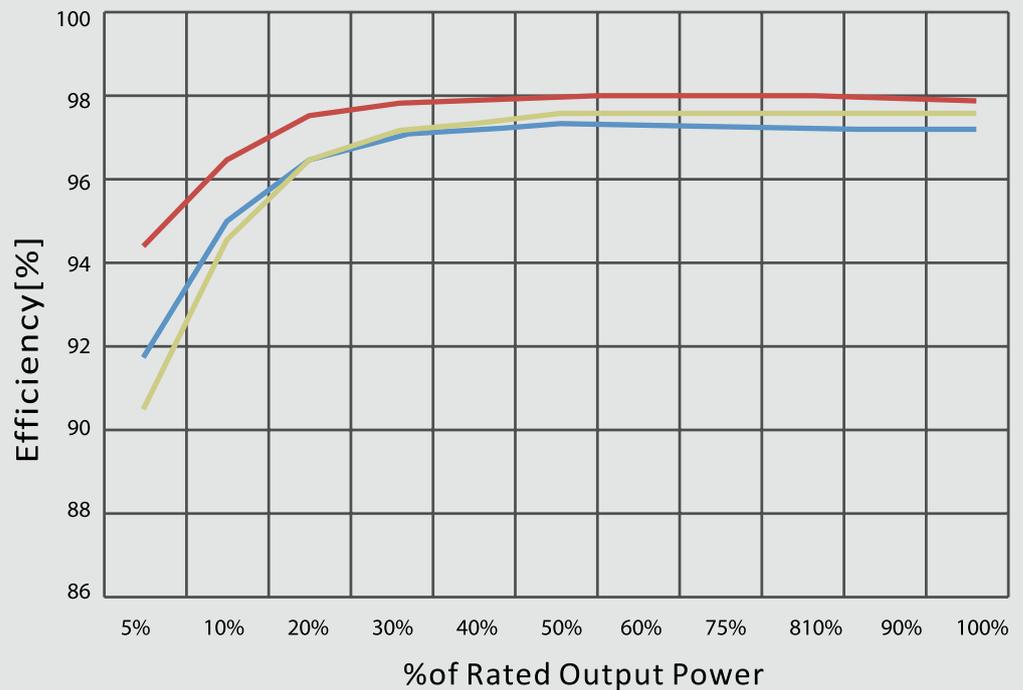


*Possible with the use of a current sensor (ZST-ACC-TA)

FLOW CHART



EFFICIENCY CURVE



| TECHNICAL DATA | 3KTLM-L | 3.6KTLM-L | 4KTLM-L | 4.6KTLM-L | 5KTLM-L | 6KTLM-L |
|--|---|-------------------|-------------------|-------------------|-----------|-------------------|
| DC input data | | | | | | |
| Typical DC power | 3500W | 4000W | 4400W | 5000W | 5500W | 6600W |
| Maximum DC power for each MPPT | 2000W (160V-520V) | 2400W (180V-520V) | 2600W (200V-520V) | 3000W (250V-520V) | | 3500W (300V-520V) |
| No. of independent MPPTs/No. of strings per MPPT | 2/1 | | | | | |
| Maximum DC input voltage | 600V | | | | | |
| Activation voltage | 120V | | | | | |
| Nominal DC input voltage | 360V | | | | | |
| DC voltage MPPT range | 90V-580V | | | | | |
| DC voltage range at full load | 160V-520V | 180V-520V | 200V-520V | 230V-520V | 250V-520V | 300V-520V |
| Maximum input current for each MPPT | 11A/11A | | | | | |
| AC output data | | | | | | |
| Nominal AC power | 3000W | 3680W | 4000W | 4600W | 5000W | 6000W |
| Maximum AC power | 3000VA | 3680VA | 4000VA | 4600VA | 5000VA | 6000VA |
| Maximum AC current | 13.7A | 16.8A | 18.2A | 21A | 22.8A | 27.3A |
| Type of connection/nominal grid voltage | Single-phase L/N/PE / 220V,230V,240V | | | | | |
| 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% | | | | | |
| Weighted efficiency (EURO) | 97.5% | | | | | |
| MPPT efficiency | >99.9% | | | | | |
| Nigh-time consumption | <1W | | | | | |
| Protection | | | | | | |
| Safety protections | Anti islanding, RCMU, Ground Fault Monitoring | | | | | |
| DC reverse polarity protection | Yes | | | | | |
| DC switch | Optional (only WS models) | | | | | |
| 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 | NB/T32004-2013, AS 4777, VDE 0126-1-1, VDE-AR-N 4105, EN50438, G83/2, G59/3, C10/11, CEI 0-21, RD1699/UTECS15-712-1 | | | | | |
| Communication | | | | | | |
| Communication interface | Wi-Fi (only models -WS), RS485 (proprietary protocol), SD card | | | | | |
| Additional inputs or connections | Input for current sensor 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 | < 25dB @ 1mt | | | | | |
| Weight | 11.5Kg | | | | | |
| Cooling | Natural ventilation | | | | | |
| Dimensions (H*L*D) | 405mm*315mm*135mm | | | | | |
| Display | LCD | | | | | |
| Warranty | 5 years | | | | | |

*Possible by connecting current sensor (ZST-ACC-TA)