

# ZCS AZZURRO - SINGLE-PHASE STRING INVERTER

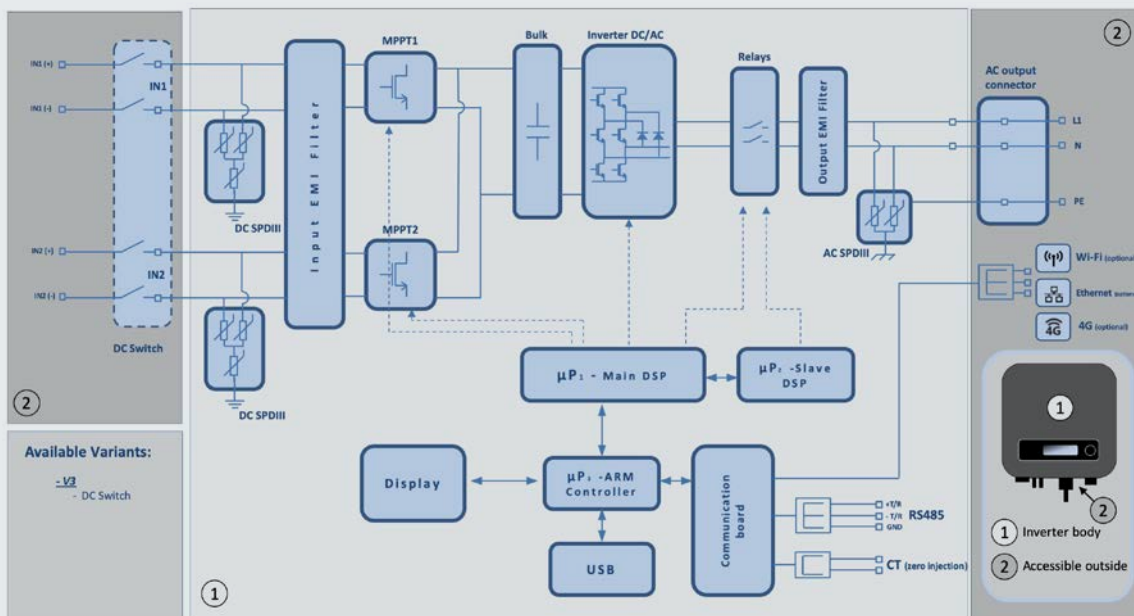
1PH 3000-TLM-V3/1PH 3680-TLM-V3/1PH 4000-TLM-V3/1PH 4600-TLM-V3/1PH 5000-TLM-V3/1PH 6000-TLM-V3



- » Maximum yield 98.4%
- » Dual MPPT channel
- » Fast and safe installation with all required parts included
- » Ultra compact
- » 5 or 10 year ZCS warranty
- » Wide input operating range from 80V to 550V



## BLOCK DIAGRAM



| TECHNICAL DATA                                     | 1PH<br>3000-TLM-V3  | 1PH<br>3680-TLM-V3 | 1PH<br>4000-TLM-V3 | 1PH<br>4600-TLM-V3 | 1PH<br>5000-TLM-V3   | 1PH<br>6000-TLM-V3   |
|--|---|--------------------|--------------------|--------------------|----------------------|----------------------|
| <b>DC Input data</b>                               |   |                    |                    |                    |                      |                      |
| Typical DC power*                                  | 3300W   | 4048W              | 4400W              | 5060W              | 5500W                | 6600W                |
| Maximum power for channel                          | 3000W (200V-500V)   |                    | 3500W (230V-500V)  |                    | 3750W<br>(250V-500V) | 4500W<br>(300V-500V) |
| No. of independent MPPTs / No. of strings per MPPT | 2/1   |                    |                    |                    |                      |                      |
| Maximum DC input voltage                           | 600V  |                    |                    |                    |                      |                      |
| Start-up voltage                                   | 90V   |                    |                    |                    |                      |                      |
| Nominal DC input voltage                           | 380V  |                    |                    |                    |                      |                      |
| MPPT DC voltage range                              | 80V-550V  |                    |                    |                    |                      |                      |
| DC voltage range at full load                      | 200V-500V   |                    |                    |                    | 210V-500V            | 260V-500V            |
| Maximum input current for each MPPT                | 15A/15A   |                    |                    |                    |                      |                      |
| Maximum absolute current for each MPPT             | 22.5A/22.5A   |                    |                    |                    |                      |                      |
| <b>AC Output data</b>                              |   |                    |                    |                    |                      |                      |
| Rated AC power                                     | 3000W   | 3680W              | 4000W              | 4600W              | 5000W                | 6000W                |
| Maximum AC power                                   | 3300VA  | 3680VA             | 4400VA             | 4600VA             | 5500VA               | 6600VA               |
| Maximum AC current                                 | 15A   | 16A                | 20A                | 23A                | 25A                  | 29A                  |
| Connection type/Rated grid voltage                 | Single-phase L/N/PE / 220V,230V,240V  |                    |                    |                    |                      |                      |
| Grid voltage range                                 | 180V~276V (according to the local grid standards)   |                    |                    |                    |                      |                      |
| Rated grid frequency                               | 50Hz/60Hz   |                    |                    |                    |                      |                      |
| Grid frequency range                               | 45Hz~55Hz / 54Hz~66Hz (according to the local grid standards)   |                    |                    |                    |                      |                      |
| Total harmonic distortion                          | <3%   |                    |                    |                    |                      |                      |
| Power factor                                       | 1 (programmable +/-0.8)   |                    |                    |                    |                      |                      |
| Active power adjustment range (settable)           | 0~100%  |                    |                    |                    |                      |                      |
| Grid feed-in limit                                 | Feed-in adjustable from zero to nominal power value**   |                    |                    |                    |                      |                      |
| <b>Efficiency</b>                                  |   |                    |                    |                    |                      |                      |
| Maximum efficiency                                 | 98.2%   |                    |                    | 98.4%              |                      |                      |
| Weighted efficiency (EURO)                         | 97.3%   |                    |                    | 97.5%              |                      |                      |
| MPPT efficiency                                    | >99.9%  |                    |                    |                    |                      |                      |
| Consumption at night                               | <1W   |                    |                    |                    |                      |                      |
| <b>Protections</b>                                 |   |                    |                    |                    |                      |                      |
| Internal interface protection                      | Yes   |                    |                    |                    |                      |                      |
| Safety protections                                 | Anti-islanding, RCMU, Ground Fault Monitoring   |                    |                    |                    |                      |                      |
| Reverse polarity protection DC                     | Yes   |                    |                    |                    |                      |                      |
| DC circuit breaker                                 | Integrated  |                    |                    |                    |                      |                      |
| Overheating protection                             | Yes   |                    |                    |                    |                      |                      |
| Overvoltage category/Protection class              | Overvoltage Category III / Protection class I   |                    |                    |                    |                      |                      |
| Integrated dischargers                             | AC/DC MOV: Type 3 standard  |                    |                    |                    |                      |                      |
| <b>Standard</b>                                    |   |                    |                    |                    |                      |                      |
| EMC  | EN 61000-6-2/3, EN 61000-3-2/3/11/12  |                    |                    |                    |                      |                      |
| Safety standard                                    | IEC 62116, IEC 61727, IEC 61683, IEC 60068-1/2/14/30, IEC 62109-1/2   |                    |                    |                    |                      |                      |
| Grid connection standard                           | Connection certificates and standards available at <a href="http://www.zcsazzurro.com">www.zcsazzurro.com</a> |                    |                    |                    |                      |                      |
| <b>Communication</b>                               |   |                    |                    |                    |                      |                      |
| Communication interfaces                           | Wi-Fi/4G/Ethernet (optional), RS485 (proprietary protocol), USB, Bluetooth                                    |                    |                    |                    |                      |                      |
| Additional inputs or connections                   | Input for current sensor connection   |                    |                    |                    |                      |                      |
| <b>General data</b>                                |   |                    |                    |                    |                      |                      |
| Allowable ambient temperature range                | -30°C...+60°C (power limit above 45°C)  |                    |                    |                    |                      |                      |
| Topology   | Transformerless   |                    |                    |                    |                      |                      |
| Environmental protection class                     | IP65  |                    |                    |                    |                      |                      |
| Allowable relative humidity range                  | 0%....95% non-condensing  |                    |                    |                    |                      |                      |
| Maximum operating altitude                         | 4000m   |                    |                    |                    |                      |                      |
| Noise level  | < 25dB @ 1mt  |                    |                    |                    |                      |                      |
| Weight   | 9.2 kg  |                    |                    | 10 kg              |                      |                      |
| Cooling  | Natural convection  |                    |                    |                    |                      |                      |
| Dimensions (H x L x D)                             | 349mmx344mmx164mm   |                    |                    |                    |                      |                      |
| Data monitoring                                    | LCD Display + APP   |                    |                    |                    |                      |                      |
| Warranty   | 5 or 10 years   |                    |                    |                    |                      |                      |

\* The typical DC power does not represent a maximum applicable power limit. The online configurator available at [www.zcsazzurro.com](http://www.zcsazzurro.com) will provide any applicable configurations.

\*\* Possible by connecting a current sensor (ZST-ACC-TA) or using a specific meter