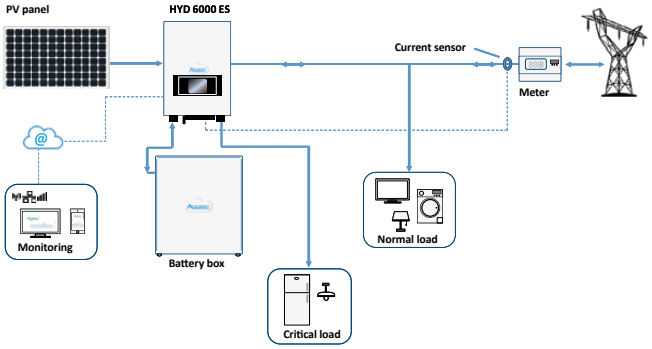
AZZURRO - HYBRID STORAGE INVERTER

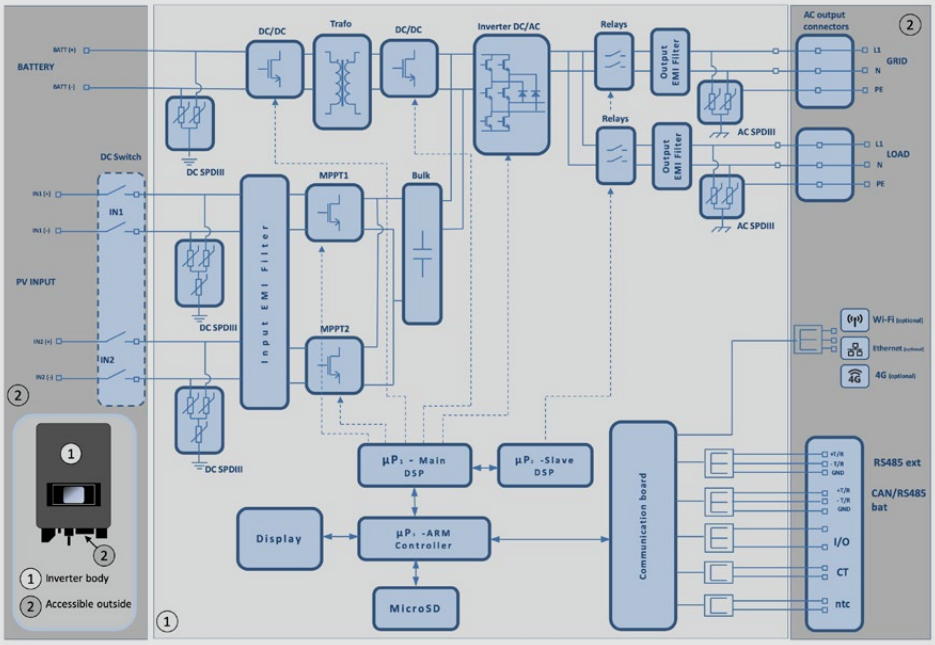
HYD 3000-ZSS/HYD 3600-ZSS/HYD 4000-ZSS/HYD 5000-ZSS/HYD 6000-ZSS

- Automatic management of the energy flows from the photovoltaic system, battery and grid
- On-board Energy Metre
- Possibility of operation in zero grid feed-in mode
- Unit compatible with both lithium batteries and other 48V technologies
- Stand-Alone support mode guarantees continuity of operation and "island" operation, both from the photovoltaic source and battery in the event of power failure.

STORAGE DIAGRAM



FLOW CHART



TECHNICAL DATA	1PH HYD3000 ZSS	1PH HYD3600 ZSS	1PH HYD4000 ZSS	1PH HYD5000 ZSS	1PH HYD6000 ZSS
DC photovoltaic input					
Typical DC power *	3600W	4320W	4800W	6000W	7200W
Maximum DC power on each MPPT	2000W (160V-520V)	2400W (180V-520V)	2600W (200V-520V)	3000W (250V-520V)	3500W (300V-520V)
Independent MPPTs/Strings each MPPT	2/1				
Maximum DC voltage	600V				
Start-up voltage	120V				
Nominal DC voltage	360V				
MPPT range in DC	90V-580V				
Full power range in DC	160V-520V	180V-520V	200V-520V	250V-520V	300V-520V
Maximum DC input current each MPPT	12A/12A				
Maximum absolute DC input current each MPPT	15A/15A				
Battery input data					
Type of batteries	Lithium Ion (supplied by Zucchetti)				
Nominal voltage	48V				
Voltage range	42V-58V				
Maximum charge/discharge power	3000W				
Allowed temperature range**	-10°C/+50°C				
Maximum charge current	65A (set)				
Maximum discharge current	65A (set)				
Charge curve	Managed by integrated BMS				
Depth of Discharge (DoD)	0%-90% (set)				
AC output					
Nominal AC Power	3000W	3680W	4000W	5000W	6000W
Maximum AC Power	3000VA	3680VA	4000VA	5000VA	6000VA
Maximum AC current each phase	13.7A	16A	18.2A	22.8A	27.3A
Type of connection/Nominal AC grid voltage	Single phase L/N/PE / 220V,230V,240V				
AC voltage range	180V~276V (according to local standards)				
Nominal AC frequency	50Hz/60Hz				
AC frequency reange	45Hz~55Hz / 54Hz~64Hz (according to local standards)				
Total Harmonic Distortion (THD)	< 3%				
Power Factor	1 default (set +/- 0.8)				
Active power grid injection	Set by display				
EPS (Emergency Power Supply) output					
Maximum Power in EPS***	3000VA				
Voltage and frequency in EPS	Single Phase 230V 50Hz/60Hz				
Maximum current in EPS	13A				
Peak of apparent power in EPS	4000VA for 10s				
Total Harmonic Distortion (THD)	< 3%				
Switch time	< 10ms				
Efficiency					
Maximum Efficiency		97.6%		97.8%	98.0%
Euro efficiency		97.2%		97.3%	97.5%
Efficiency MPPT	>99.9%				
Maximum charge/discharge efficiency	94.6%				
Standby consumption	< 5W				
Protections					
Internal interface protection	Yes				
Safety protections	Anti islanding, RCMU, Ground Fault Monitoring				
DC reverse polarity protection	Yes				
DC switch	Integrated				
Overheating protection	Yes				
Overvoltage catergory/Protection class	Overvoltage Category III / Protective class I				
Integrated dischargers	AC/DC MOV: Type 3 standard				
Battery Soft start	Yes				
Standard					
EMC	EN 61000-3-2/3/11/12, EN 61000-6-2/3				
Safety standards	IEC 62116, IEC 61727, IEC 61683, IEC 60068-1/2/14/30, IEC 62109-1/2				
Grid standards	Grid standards and certificates available on www.zcsazzurro.com				
Communication					
Interfaces	Wi-Fi/4G/Ethernet (optionals), RS485 (proprietary protocol), SD card, CAN 2.0 (Battery data connection)				
Additional I/O	AC Current sensor connection input or dedicated meter				
SD card data storage	25 years				
Environmental data					
Temperature working range	-30°C...+60°C (power derating over 45°C)				
Topology	Tranformerless/Battery output high frequency isolated				
Environmental protection degree	IP65				
Humidity range	0%.....95% no condensing				
Maximum operative altitude	2000m				
Acustic noise	< 25dB @ 1mt				
Weight	20.5Kg				
Cooling system	Natural cooled				
Dimensions (H*W*L)	566mm*394mm*173mm				
Display	LCD				
Warranty	10 years				

* Typical Dc power is not an absolute maximum rating. Online configurator available on www.zcsazzurro.com will guide the user on valid and possible configurations
** Standard value for lithium-ion batteries; maximum operativity in the range +10°C/+40°C
*** Power in EPS depends on battery type and on status of the storage system (residual capacity, temperature)