

AZZURRO - HYBRID STORAGE INVERTER

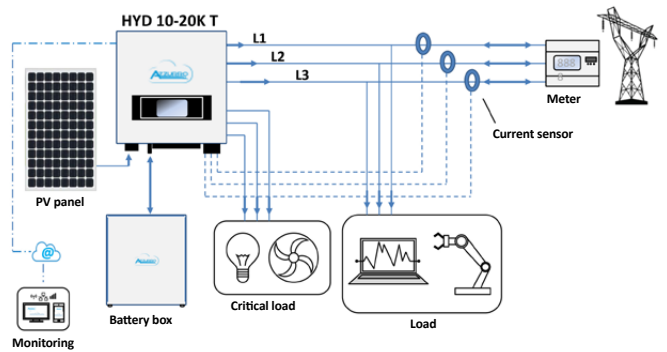
HYD 10000 ZSS / HYD 15000 ZSS
HYD 20000 ZSS



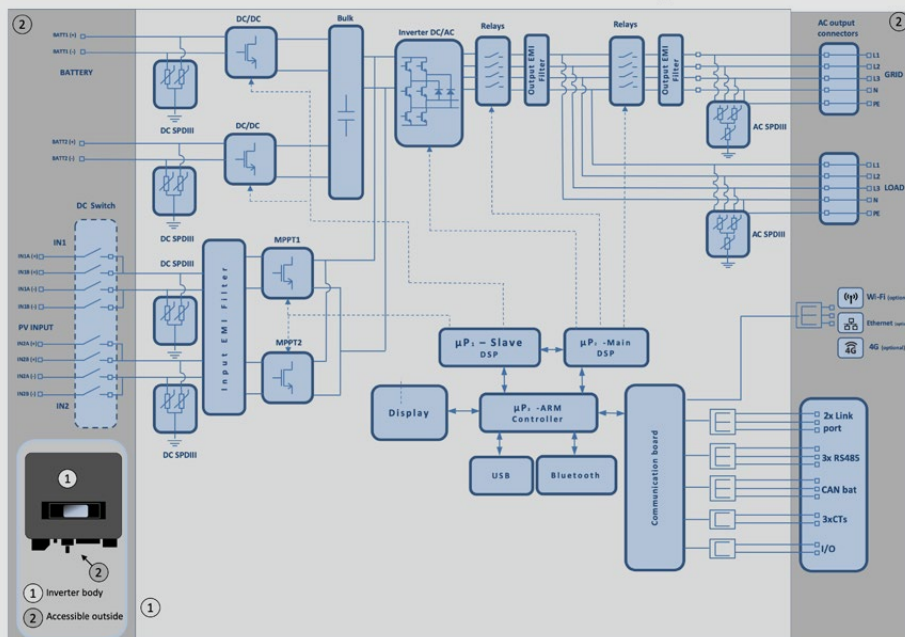
- Automatic management of the energy flows from the photovoltaic system, battery and grid
- On-board Energy Metre
- Parallel-ready
- Possibility of operation in zero grid feed-in mode
- Unit compatible with high voltage lithium battery (200-750V)

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	3PH HYD10000 ZSS	3PH HYD15000 ZSS	3PH HYD20000 ZSS
DC photovoltaic input			
Typical DC power *	15000W	22500W	30000W
Maximum DC power on each MPPT	7500W (300V-850V)	11250W (450V-850V)	15000W (600V-850V)
Independent MPPTs/Strings each MPPT		2/2	
Maximum DC voltage		1000V	
Start-up voltage		250V	
Nominal DC voltage		600V	
MPPT range in DC		180V-960V	
Full power range in DC	220V-850V	350V-850V	450V-850V
Maximum DC input current each MPPT		25A/25A	
Maximum absolute DC input current each MPPT		30A/30A	
Battery input data			
Type of batteries		Lithium Ion (supplied by Zucchetti)	
Voltage range		180V-750V	
Number of battery channels		2 (set as independent or parallel)	
Maximum charge/discharge power	10000W	15000W	20000W
Allowed temperature range**		-10°C/+50°C	
Maximum charge current		25A (35A for 60s)	
Maximum discharge current		25A (35A for 60s)	
Charge curve		Managed by integrated BMS	
Depth of Discharge (DoD)		0%-90% (set)	
AC output			
Nominal AC Power	10000W	15000W	20000W
Maximum AC Power	11000VA	16500VA	22000VA
Maximum AC current each phase	16A	24A	32A
Type of connection/Nominal AC grid voltage		Three Phase 3/N/PE, 220/380, 230/400	
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***	10000W	15000W	20000W
Peak apparnet power in EPS***	20000VA for 60s	22000VA for 60s	22000VA for 60s
Voltage and frequency in EPS		Three Phase 230V/400V 50Hz	
Maximum current in EPS	16A (30A for 60s)	24A (32A for 60s)	32A (33A for 60s)
Total Harmonic Distortion (THD)		3%	
Switch time		<20ms	
Efficiency			
Maximum Efficiency		98.2%	
Euro efficiency		97.7%	
Efficiency MPPT		99.9%	
Maximum charge/discharge efficiency		97.8%	
Standby consumption		<15W	
Protections			
Internal interface protection	Yes	No	
Safety protections		Anti islanding, RCMU, Ground Fault Monitoring	
DC reverse polarity protection		Yes	
DC switch		Integrated	
Overheating protection		Yes	
Overvoltage category/Protection class		Overvoltage Category III / Protective class I	
Integrated dischargers		AC/DC MOV: Type 2 standard	
AC output overcurrent protection		Yes	
Battery Soft start		Yes	
Standard			
EMC		EN61000-1, EN61000-3	
Safety standards		IEC62109-1, IEC62109-2, NB-T32004/IEC62040-1	
Grid standards		Grid standards and certificates available on www.zcsazzurro.com	
Communication			
Interfaces	Wi-Fi/4G/Ethernet (optional), (proprietary protocol), USB , CAN 2.0 (Battery data connection), Bluetooth		
Additional I/O	RS485 bus for external meters (up to 4 meter connectable), 6 digital inputs (5V TTL), CT direct connections		
Environmental data			
Temperature working range	-30°C...+60°C (limitazione di potenza sopra i 45°C)		
Topology	Transformerless		
Environmental protection degree	IP65		
Humidity range	0~100%		
Maximum operative altitude	4000m		
Acoustic noise	<45 dB @ 1m		
Weight	37Kg		
Cooling system	FANs cooled		
Dimensions (H*W*L)	515mm*571mm*264mm		
Display	LED display and APP		
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)