

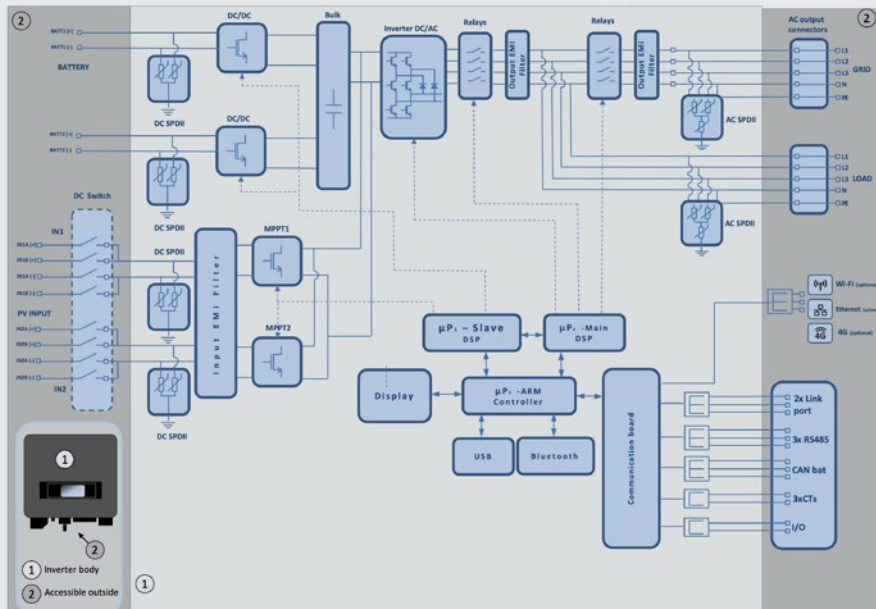
# ZCS AZZURRO - THREE-PHASE HYBRID INVERTER

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 Meter
- » 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.

## FLOW CHART



TECHNICAL DATA	3PH HYD10000 ZSS	3PH HYD15000 ZSS	3PH HYD20000 ZSS
<b>DC input data (photovoltaic)</b>			
Typical DC power*	15000 W	22500 W	30000 W
Maximum DC power for each MPPT	7500W (300V-850V)	11250W (450V-850V)	15000W (600V-850V)
No. of independent MPPTs / No. of strings per MPPT	2/2		
Maximum input voltage	1000V		
Start-up voltage	250V		
Rated Input voltage	600V		
MPPT DC voltage range	180V-960V		
DC voltage range at full load	220V-850V	350V-850V	450V-850V
Maximum input current for each MPPT	25A/25A		
Maximum absolute current for each MPPT	30A/30A		
<b>Battery connection data</b>			
Type of compatible battery	Lithium-ion (supplied by Zucchetti)		
Allowable voltage range	180V-750V		
Number of independent battery channels	2 HV battery channels (configurable as independent or in parallel)		
Maximum charge/discharge power	10000 W	15000 W	20000 W
Allowable temperature range**	-10°C/+50°C		
Maximum charge current per battery channel	25A (35A of peak for 60s)		
Maximum discharge current per battery channel	25A (35A of peak for 60s)		
Charge curve	Managed by the battery's BMS		
Depth of Discharge (DoD)	0%-90% (programmable)		
<b>AC output (grid side)</b>			
Rated power	10000 W	15000 W	20000 W
Maximum Power	11000VA	16500VA	22000VA
Maximum current	16A	24A	32A
Connection type/Rated voltage	Three-phase 3/N/PE, 220/380, 230/400		
AC voltage range	184V~ 276V (according to the local standards)		
Rated frequency	50Hz/60Hz		
AC frequency range	45Hz~55Hz / 55Hz~65Hz (according to the local standards)		
Total harmonic distortion	<3%		
Power factor	1 default (Programmable +/- 0.8)		
Grid feed-in limit	Programmable from display		
<b>EPS Output (Emergency Power Supply)</b>			
Power supplied in EPS mode***	10000 W	15000 W	20000 W
Apparent peak power in EPS mode***	20000VA for 60s	22000VA for 60s	22000VA for 60s
EPS output voltage and frequency	Three-phase 230V/400V 50Hz		
Current supplied in EPS mode (peak)	16A (30A for 60s)	24A (32A for 60s)	32A (33A for 60s)
Total harmonic distortion	3%		
Switch time	<20ms		
<b>Efficiency</b>			
Maximum efficiency	98.2%		
Weighted efficiency (EURO)	97.7%		
MPPT efficiency	99.9%		
Maximum battery charge/discharge efficiency	97.8%		
Consumption in stand-by	<15W		
<b>Protections</b>			
Internal interface protection	yes	no	
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 2 Standard		
Output overcurrent protection	Yes		
Battery soft start	Yes		
<b>Standard</b>			
EMC	EN61000-1, EN61000-3		
Safety standard	IEC62109-1, IEC62109-2, NB-T32004/IEC62040-1		
Grid connection standard	Connection certificates and standards available on <a href="http://www.zcsazzurro.com">www.zcsazzurro.com</a>		
<b>Communication</b>			
Communication interfaces	Wi-Fi/4G/Ethernet (optional), RS485 (proprietary protocol), USB, CAN 2.0 (for battery connection), Bluetooth		
Other inputs	RS485 line for external meters (up to 4 meters can be connected), 6 digital inputs (5V TTL), connection for direct sensors (CT)		
<b>General data</b>			
Allowable ambient temperature range	-30~60 °C		
Topology	Transformerless		
Environmental protection class	IP65		
Allowable relative humidity range	0~100%		
Maximum operating altitude	4000m		
Noise level	<45 dB @ 1m		
Weight	37Kg		
Cooling	Forced convection		
Dimensions (H x W x D)	515mm x 571mm x 264mm		
Display	LED display and 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.

\*\* Standard value for lithium batteries; maximum operating range between +10°C and +40°C

\*\*\* Power output in EPS mode depends on the number and type of batteries, and the status of the system (e.g. residual capacity, temperature)