

## ZCS AZZURRO – SINGLE-PHASE HYBRID SYSTEM

1PH HYD 3000 ZP1/HYD 3680 ZP1/HYD 4000 ZP1/HYD 4600 ZP1/HYD 5000 ZP1/HYD 6000 ZP1



- » Integrated storage system, with modular installation for easy mounting
- » Automatic management of the energy flows from the photovoltaic system, battery and grid
- » Compact design and extremely small footprint
- » Parallel-ready
- » Possibility of operation in zero grid feed-in mode
- » Independently managed batteries via integrated PCU (Power Control Unit)
- » Stand-Alone support mode guarantees continuity of operation and “island” operation, both from the photovoltaic source and battery in the event of power failure.
- » Maximum flexibility for expanding storage capacity (from 5.1kWh to 20.4kWh)



TECHNICAL DATA	1PH HYD 3000 ZP1	1PH HYD 3680 ZP1	1PH HYD 4000 ZP1	1PH HYD 4600 ZP1	1PH HYD 5000 ZP1	1PH HYD 6000 ZP1
<b>DC input data (photovoltaic)</b>						
Typical DC power*	4500W	5400W	6000W	6900	7500W	9000W
Maximum DC power for each MPPT	3500W (270V-520V)			3750W (300V-520V)		
No. of independent MPPTs / No. of strings per MPPT				2/1		
Maximum input voltage				550V		
Start-up voltage				100V		
Rated Input voltage				360V		
MPPT DC voltage range				85V-520V		
Maximum input current for each MPPT				16A/16A		
Maximum absolute current for each MPPT				22.5A/22.5A		
<b>Battery technical data</b>						
Type of compatible battery				HV ZBT 5K		
Rated voltage				400V		
Allowable voltage range				300V-435V		
Maximum charge/discharge power	3000W	3680W	4000W	4600W	5000W	6000W
Allowable temperature range**				-10°C/+50°C		
Number/capacity of installable batteries				1-4 / 5.1-20.4kWh		
Charge curve				Managed by integrated BMS		
Depth of Discharge (DoD)				0%-90% (programmable)		
Dimensions (H x L x D)				420mm x 708mm x 170mm		
Weight				50 kg		
<b>AC output (grid side)</b>						
Rated power	3000W	3680W	4000W	4600W	5000W	6000W
Maximum Power	3300VA	3680VA	4400VA	4600VA	5500VA	6600VA
Maximum current	15A	16A	20A	20.9A	25 A	30A
Connection type/Rated voltage				Single-phase L/N/PE 220, 230, 240V		
AC voltage range				180V-276V (according to the local standards)		
Rated frequency				50Hz/60Hz		
AC frequency range				44Hz -55Hz / 54Hz -66Hz (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>						
Maximum power supplied in EPS mode***	3000VA	3680VA	4000VA	4600VA	5000VA	6000VA
EPS output voltage and frequency				Single-phase 230V 50Hz/60Hz		
Current supplied in EPS mode	13A	16A	20A	20.9A	25A	30A
Total harmonic distortion				< 3%		
Switch time				< 10ms		
<b>Efficiency</b>						
Maximum efficiency				97.8%		
Weighted efficiency (EURO)				97.1%		
MPPT efficiency				>99.9%		
Consumption in stand-by				< 10W		
<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		
Battery soft start				Yes		
<b>Standard</b>						
EMC				EN 61000-3-2/3/11/12, EN 61000-6-2/3		
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 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, Bluetooth		
Additional inputs or connections				Input for current sensor connection or meter		
<b>Inverter general information</b>						
Allowable ambient temperature range				-10°C...+60°C (power limit above 45°C)		
Topology				Transformerless / High-frequency isolation battery output		
Environmental protection class				IP65		
Allowable relative humidity range				5% - 95% without condensation		
Maximum operating altitude				4000m		
Noise level				< 25dB @ 1mt		
Weight				23.5 kg		
Cooling				Natural convection		
Dimensions (H x L x D)				470mm x 708mm x 170mm		
Data monitoring				LCD Display + APP		
Warranty				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)