

AZZURRO - HYBRID STORAGE INVERTER

HYD 10000 T / HYD 15000 T
HYD 20000 T



Automatic management of the energy flows from the photovoltaic system, battery and grid

On-board Energy Metre

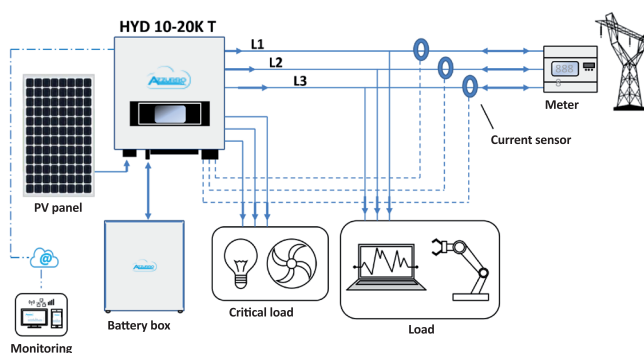
Parallel-ready

Possibility of operation in zero grid feed-in mode

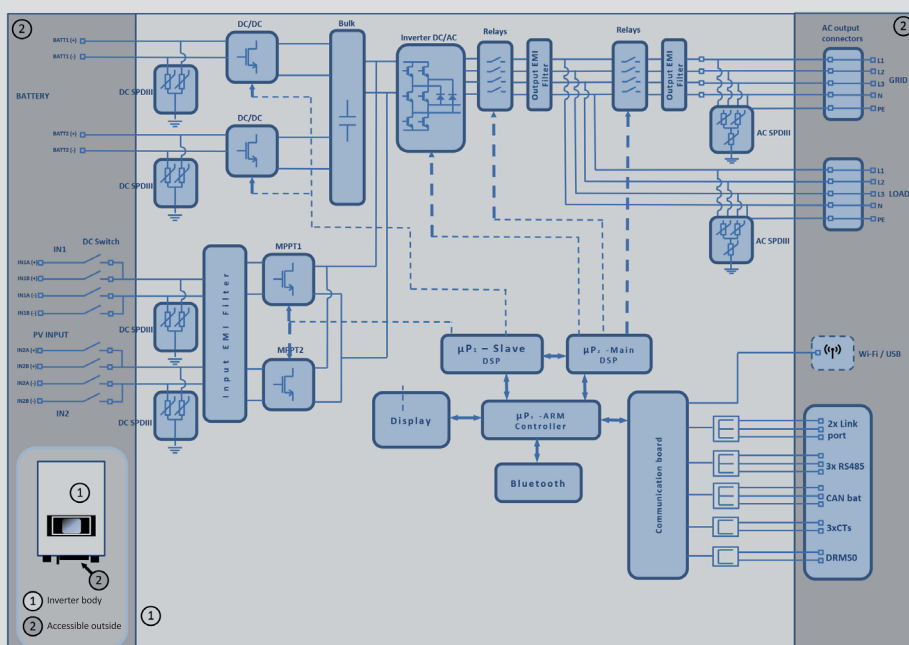
Unit compatible with high voltage lithium battery (200-750V)

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 SPECIFICATIONS		HYD 10000 T		HYD 15000 T		HYD 20000 T	
DC input data (photovoltaic)							
Maximum DC Power		15000W		22500W		30000W	
Maximum DC power for each MPPT		7500W (300V-850V)		11250W (450V-850V)		15000W (600V-850V)	
Number of independent MPPTs/Number 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			
Battery connection data							
Type of compatible battery				Lithium-ion (supplied by Zucchetti)			
Allowable voltage range				200V-750V			
Recommended battery capacity				25Ah- 100Ah			
Number of batteries that can be connected				2 independent HV battery packs			
Maximum charge/discharge power		10000W		15000W		20000W	
Allowable temperature range*				-10°C-50°C			
Maximum charge current per battery pack				25A (35A of peak per 60s)			
Maximum discharge current per battery pack				25A (35A of peak per 60s)			
Charge curve				Managed by the battery's BMS			
Depth of Discharge (DoD)				0%-90% (programmable)			
AC output (grid side)							
Rated power		10000W		15000W		20000W	
Maximum Power		11000VA		16500VA		20000VA	
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 limit				Programmable from display			
EPS Output (Emergency Power Supply)							
Power supplied in EPS mode** in the absence of photovoltaic production		10000W		15000W		20000W	
Apparent peak power in EPS mode** in the absence of photovoltaic production		15000VA for 60s		22000VA for 60s		22000VA for 60s	
EPS output voltage and frequency				Three-phase 230V/400V 50Hz			
Current supplied in EPS mode		16A		24A		32A	
Peak current in EPS mode		22A per 60s		32A per 60s		33A per 60s	
Total harmonic distortion				3%			
Switch time				<20ms			
Efficiency							
Maximum efficiency		97.5%		97.8%		98.0%	
Weighted efficiency (EURO)		97.0%		97.5%		97.8%	
MPPT efficiency				99.9%			
Maximum battery charge efficiency		97.0%		97.5%		97.7%	
Maximum battery discharge efficiency		97.0%		97.5%		97.7%	
Consumption in stand-by				<10W			
Protections							
Internal interface protection				no			
Safety protections				Anti-islanding, RCMU, Ground Fault Monitoring			
Reverse polarity protection DC				Yes			
DC circuit breaker				integrated			
Overheating protection				Yes			
Overvoltage category/Protective class				Overvoltage Category III / Protective class I			
Integrated dischargers				AC/DC MOV: Type 2 Standard			
Output overcurrent protection				Yes			
Battery soft start				Yes			
Standard							
EMC		EN61000-1, EN61000-2, EN61000-3, EN61000-4, EN61000-4-16, EN61000-4-18, EN61000-4-29					
Safety standard				IEC62109-1, IEC62109-2, NB-T32004/IEC62040-1			
Communication							
Communication interfaces		Wi-Fi, RS485 (proprietary protocol), SD card, CAN 2.0 (for battery connection), Bluetooth, GPRS (optional)					
Other inputs				CAN line for external meter, 6 digital inputs (5V, TTL)			
General data							
Allowable ambient temperature range				-30~60 °C			
Topology				Transformerless			
Environmental protection class				IP65			
Allowable relative humidity range				0~100%			
Maximum operating altitude				4000m (in derating, starting from 2000m)			
Noise level				<45 dB @ 1m			
Weight				37Kg			
Cooling				Forced convection			
Dimensions (H x W x D)				565mm x 508mm x 244mm			
Display				LED display and APP			
Warranty				5 or 10 years			

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

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