HYD

3000 … 6000-EP

3000 / 3680 / 4000 / 4600 / 5000 / 5500 / 6000

SINGLE-PHASE ENERGY STORAGE INTEGRATED INVERTER

- Various operational modes available
- Flexible configuration, allowing both lead-acid and lithium batteries
- Supports both on- and off-grid operation
- IP65 design for outdoor
- Smart fanless cooling design
- EPS function (switchover time less than 10 ms)
- Built-in zero export function

Datasheet	HYD 3000-EP	HYD 3680-EP	HYD 4000-EP	HYD 4600-EP	HYD 5000-EP*	HYD 5500-EP	HYD 6000-EP
Battery Parameters							
Battery type	Lithium-ion, Lead-acid						
Rated battery voltage (V)	48						
Battery voltage range (V)	42 – 58						
Battery capacity (Ah)	50 – 2000						
Max. charging / discharging power (W)	3750	4000	4250	5000			
Max. charging current (A)	75	80	85	100			
Max. discharging current (A)	75	80	85	100			
Charging curve (Lithium-ion)	BMS						
Charging curve (Lead-acid)	3-Stage adaptive with maintenance						
Depth of discharge	Lithium-ion: 0 – 90% DOD adjustable, Lead-acid: 0 – 50% DOD adjustable						
Input DC (PV side)							
Recommended max. PV input power (Wp)	4500	5400	6000	6900	7500		9000
Max. DC power for single MPPT (W)	3500				3750		
Max. input voltage (V)	600						
Start-up voltage (V)	100						
Rated input voltage (V)	360						
MPPT operating voltage range (V)	90 – 550						
Full power MPPT voltage range (V)	160 – 500	180 – 500	200 – 500	230 – 500	250 – 500		300 – 500
Number of MPP trackers	2						
Max. input current per MPPT (A)	13 / 13						
Max. input short circuit current per MPPT (A)	18 / 18						
Output / Input AC (Grid side)							
Rated AC power (W)	3000	3680	4000	4600	5000		6000
Max. AC power output to utility grid (VA)	3300	3680	4400	4600	5000	5500	6000
Max. AC power from utility grid (VA)	6000	7360	8000	9200	10000		12000
Max. AC current output to utility grid (A)	15	16	20	20.9	21.7	25	27.3
Max. AC current from utility grid (A)	27.3	32	36.4	41.8	43.4		54.6
Rated grid voltage	L / N / PE, 230 Vac						
Grid voltage range	180 – 276 Vac (according to local standard)						
Rated frequency	50 Hz / 60 Hz						
Output THDi (@Rated output)	< 3%						
Power factor	1 default (+/-0.8 adjustable)						
Output AC (Emergency Power Supply)							
Max. apparent power (VA)	3000	3680	4000	4600	5000		
Peak output power, duration (VA, s)	3600, 60	4400, 60	4800, 60	5520, 60	6000, 60		
Max. output current (A)	13.6	16	18.2	20.9	22.7		
Rated voltage, frequency	220 / 230 V, 50 / 60 Hz						
THDv (@Symmetrical load)	< 3%						
Switch time	10 ms default						
Efficiency							
MPPT efficiency	99.9%						
Max. efficiency of solar inverter	97.6%			97.8%			98.0%
European efficiency of solar inverter	97.2%			97.3%			97.5%
Max. charging efficiency of battery	94.6%						
Max. discharging efficiency of battery	94.6%						
Protection							
PV reverse polarity protection	Yes						
PV insulation detection	Yes						
Ground fault monitoring	Yes						
Overcurrent protection	Yes						
Overvoltage protection	Yes						
DC switch	Optional						
Firm frequency response function	Optional						
SPD protection	MOV: Type III standard						
General Data							
Ambient temperature range	-30°C – 60°C (above 45°C derating)						
Standby self-consumption (W)	< 10						
Topology	High frequency insolation (for battery)						
Degree of protection	IP65						
Allowable relative humidity range	0 – 100%						
Communication	RS485 / WiFi / Bluetooth / CAN2.0 / Etherrnet						
Protective class	Class I						
Max. operating altitude	4000 m						
Current sensor connection	External						
Noise	<25 dB						
Weight (kg)	21.5						
Cooling	Natural						
Dimension (mm)	482*503*183						
Display	LCD, App via Bluetooth						
Warranty	Standard 5 years, optional: up to 20 years						
Certifications & Standards							
EMC	EN 61000-6-2, EN 61000-6-3, EN 61000-3-2, EN 61000-3-3, EN 61000-3-11, EN 61000-3-12						
Safety standards	IEC 62109-1 / 2, IEC62040-1, IEC 62116, IEC 61727, IEC 61683, IEC 60068 (1, 2, 14, 30)						
Grid standards	VDE V 0124-100, V 0126-1-1, VDE-AR-N 4105, CEI 0-21, EN 50549, G83 / G59 / G98 / G99, UTE C15-712-1, UNE 206007-1						