

## 8. Technical Data

Model	HYD 3000-ES	HYD 3600-ES	HYD 4000-ES	*HYD 4600-ES	HYD 5000-ES	HYD 6000-ES
<b>Battery Parameters</b>						
Battery Type	Lead-acid, Lithium-ion					
Nominal battery voltage	48V					
Battery voltage range	42 - 58V					
Min discharge voltage	Lithium:(according to BMS), General 46.0V					
	Lead acid: 44.0V					
Max charge voltage	Lithium-ion:(according to BMS), Max 58V					
	Lead acid: 58V					
Battery capacity	50-2000Ah					
Recommended storage capacity	9.6 kWh					
Max charge current	65A					
Charge current range	0 - 65A programmable					
Charge curve	3 - stage adaptive with maintenance					
Max discharge current	70A programmable					
Battery protection	Over voltage protection / Over current protection / Over temperature protection					
Depth of discharge	Lithium: 0 - 90% DOD adjustable					
	Lead acid: 0 - 50% DOD adjustable					
<b>PV parameters</b>						
Recommended Max.PV input power	3990Wp	4790Wp	5320Wp	6120Wp	6650Wp	7980Wp
Max DC input power	3500W	4000W	4400W	5000W	5500W	6600W
Max DC power for single MPPT	2000W (160-520V)	2400W (180-520V)	2600W (200-520V)	2800W (230-520V)	3000W (250-520V)	3500W (300-520V)
The max DC input voltage	600V					
Start-up DC voltage	120V					

Nominal DC Voltage	360V					
MPPT operating voltage range	90-580V					
Full load DC voltage range	160-520V	180-520V	200-520V	230-520V	250-520V	300-520V
MPPT number	2					
The max DC input current	12A/12A					
The max DC input short current	15A/15A					
<b>AC parameters</b>						
Max output power	3000W	3680W	4000W	4600W	5000W	6000W
Max output current	13.7A	16A	18.2A	21.0A	22.8A	27.3A
Nominal grid voltage & frequency	220V, 230V, 240V, 44 - 55Hz or 54 - 66Hz					
AC voltage range	180 - 276V (according to local authority requirements)					
THD	<3%					
Power factor	1 default (+ / - 0.8 adjustable)					
Inrush current	0.8A / 1us					
Max output fault current	100A / 1us					
<b>System parameters</b>						
Max efficiency	Charge: 94.6% / discharge 94.6%					
Standby losses	< 10W (PV SPS)					
Topology	High frequency isolation(for bat)					
Ingress protection ratings	IP 65					
Safety protection	Anti-islanding, RCMU, ground fault monitoring					
Communication	Wi-Fi/GPRS/Ethernet(optional), RS485, SD,CAN2.0					
Certification	EN 61000-6-2, EN 61000-6-3, EN 61000-3-2, EN 61000-3-3, EN 61000-3-11, EN 61000-3-12 IEC62109-1/2, IEC62040-1, IEC62116, IEC61727, IEC-61683, IEC60068(1,2,14,30) AS/NZS 4777, VDE V 0124-100, V 0126-1-1, VDE-AR-N 4105, CEI 0-21, EN50438/EN50549, G83/G59/G98/G99, UTE C15-712-1, UNE 206 007-1					

<b>Environmental data</b>	
Ambient temperature range	-25°C to +60°C(Derating above +45°C)
Relative humidity range	0% - 100% (no condensing)
Protective class	Class I
Max operating altitude	2000m
Current transformer connection	Hard wired
<b>General data</b>	
Noise	<25dB
Weight	20.5kg
Cooling	Natural convection
Dimensions (W*H*D)	566 x 394 x 173 mm
Display	LCD display
Warranty	5 years or more
<b>EPS (Emergency Power Supply) data</b>	
EPS rated power	3000VA
EPS nominal voltage/frequency	230V, 50/60Hz
EPS rated current	13.2A
THD	<3%
Switch time	10mS default

**The models marked with “\*” should be available only for some designated countries.**