



# X1-Hybrid HV

(SINGLE PHASE)

X1-HYBRID-3.0T

X1-HYBRID-3.7T

X1-HYBRID-4.6T

X1-HYBRID-5.0T

INPUT (DC)	X1-HYBRID-3.0T	X1-HYBRID-3.7T	X1-HYBRID-4.6T	X1-HYBRID-5.0T
Max.recommended DC power[W]	4000	5000	6000	6000
Max.DC voltage[V]	600	600	600	600
Norminal DC operating voltage[V]	360	360	360	360
Max.input current[A]	10/10	10/10	10/10	10/10
Max. short circuit current[A]	14/14	14/14	14/14	14/14
MPPT voltage range[V]	125-550	125-550	125-550	125-550
No. of MPP trackers	2	2	2	2
Strings per MPP tracker	1	1	1	1
<b>OUTPUT AC</b>				
Norminal AC power [VA]	3000	3680	4600	4999
Max. AC power [VA]	3000	3680	4600	4999
Rated grid voltage(AC voltage range) [V]	230(180 to 270)	230(180 to 270)	230(180 to 270)	230(180 to 270)
Rated grid frequency [Hz]	50/60	50/60	50/60	50/60
Norminal AC current [A]	13	16	20	21.7
Max. AC current [A]	14.4	16	21	21.7
Displacement power factor	0.8 leading ... 0.8 lagging			
Total harmonic distortion(THD, rated power) [%]	<2			
Load control	Yes (optional)			
<b>OUTPUT DC (BATTERY)</b>				
Battery voltage range [V]	85-400			
Recommended battery voltage [V]	300			
Max.charging/discharging power [W]	6000			
Max.charging/discharging current [A]	20			
Communication interfaces	CAN/RS485			
Reverse connect protection	Yes			
<b>EPS OUTPUT (WITH BATTERY)</b>				
EPS rated power [VA]	4000	4000	5000	5000
EPS rated voltage [V], Frequency [Hz]	230, 50/60	230, 50/60	230, 50/60	230, 50/60
EPS rated current [A]	17.4	17.4	21.7	21.7
EPS peak power[W];Duration [s]	8000,10	8000,10	8000,10	8000,10
Switch time[s]	<0.5			
Total harmonic distortion(THD, linear load) [%]	<2			
Parallel operation	Being developed			
<b>EFFICIENCY</b>				
MPPT efficiency [%]	99.9			
Euro efficiency [%]	97.0			
Max. efficiency [%]	97.8			
Battery charge/discharge efficiency [%]	96.5 (PV-BAT) 97.0 (BAT-AC)			
<b>POWER CONSUMPTION</b>				
Standby consumption [W]	<7			
Idle mode	YES			
<b>STANDARD</b>				
Safety	IEC62109-1-2 / IEC62040			
EMC	EN61000-6-1/EN61000-6-2/EN61000-6-3			
Certification	VDE0126-1-1 A1:2012/VDE-AR-N4105/G83/G59/AS4777/EN50438/CEI0-21/VDE2510			
<b>ENVIRONMENT LIMIT</b>				
Protection class	IP65			
Operating temperature range [°C]	-20~+60 (derating at+45)			
Altitude[m]	<2000			
Storage temperature[°C]	-20~+60			
Noise emission(typical) [dB]	<30			
Over voltage category	III (electric supply side), II (PV side)			
<b>DIMENSION AND WEIGHT</b>				
Dimensions(WxHxD) [mm]	460*477*181.5			
Weight[kg]	26.9			
Cooling concept	Natural			
Topology	Transformerless			
Communication	Ethernet/Meter/WIFI (optional)/RF(optional)/DRM/USB/ISO alarm/Parallel operation			
LCD display	Backlight 20*4 character			
Standard warranty [years]	5-10			

\*Can be modified without notice.(V3)