

Hybrid Inverter Model	Guard Plus 10KH3
PV String Input	
Max. Continuous PV Input Power	20kW
Max. DC Voltage	1100V
Nominal Voltage	720V
MPPT Voltage Range	140V-1000V
MPPT Voltage Range (Full Load)	420V-850V
Start Voltage ¹	200V
Number of MPPT	2
Strings Per MPPT	1
Max. Input Current Per MPPT	15A
Max. Short-circuit Current Per MPPT	20A
Output (On Grid)	
Nominal AC Output Power	10kW
Max. AC Apparent Power	11kVA
Nominal AC Voltage	400Vac
AC Grid Frequency Range	50 / 60Hz±5Hz
Nominal Output Current	14.5A
Max. Output Current	16A
Power Factor (cosΦ)	0.8leading-0.8lagging *
Max. total harmonic distortion	<3%
Battery Input	
Battery Type	LFP (LiFePO4)
Nominal Battery Voltage	51.2V
Charging Voltage Range	44-58V
Max. Charging Current	160A
Max. Discharging Current	200A
Battery Capacity	200/400/600/800Ah
Output (Off Grid)	
Nominal AC Output Power	9.2kW
Max. Apparent Power	10kVA
Nominal Output Current	13.3A
Max. Output Current	14.5A
Nominal Output Voltage	400V
Nominal Output Frequency	50/60Hz
Output THDv (@Linear Load)	<3% (Linear Load)
Power factor range	0.8leading-0.8lagging

Hybrid Inverter Model	Guard Plus 10KH3
Efficiency	
Max. PV Efficiency	97.60%
Euro. PV Efficiency	97.00%
Features & Protections	
Anti-islanding Protection	Yes
Output Over Current Protection	Yes
DC Reverse Polarity Protection	Yes
String Fault Detection	Yes
AC/DC Surge Protection	DC Type II; AC Type III
Insulation Detection	Yes
AC Short Circuit Protection	Yes
Input-side disconnection device	YES
Residual current monitoring	YES
AC overcurrent protection	YES
AC overvoltage protection	YES
Ripple receiver control	YES
Battery reverse charging from grid	YES
General Data	
Dimensions W x H x D	540*980*240mm
Weight	49kg
Operating Temperature Range	-25 C → +60 C
Cooling Type	Natural Convection
Max. Operation Altitude	2000m
Operation Humidity	0-95% (No Condensation)
IP Class	IP65
Topology	Battery Isolation
Communication	RS485/CAN2.0/WIFI/4G
Display	LCD/APP
Standard Compliance (more available upon request)	
Certificates	IEC 62109-1:2010; EN IEC 61000-6-1:2019 EN IEC 61000-6-2:2019; EN IEC 61000-6-4:2019 EN 61000-6-3:2007/A1:2011; EN IEC 61000-3-11:2019 IEC 62109-2:2011
Grid connection standards	VDE-AR-N 4105:2018 DIN VDE V 0124-100:2020; CEI 0-21:2019; OVE-Richtlinie R 25:2020; EN 50549-1:2019/AC:2019

* 0.95leading-0.95lagging for Germany.