



SUN2000-330KTL-H2

Output Characteristics Curve



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Version	Created by	Date	Remarks
01	Huawei	08/22/2022	preliminary

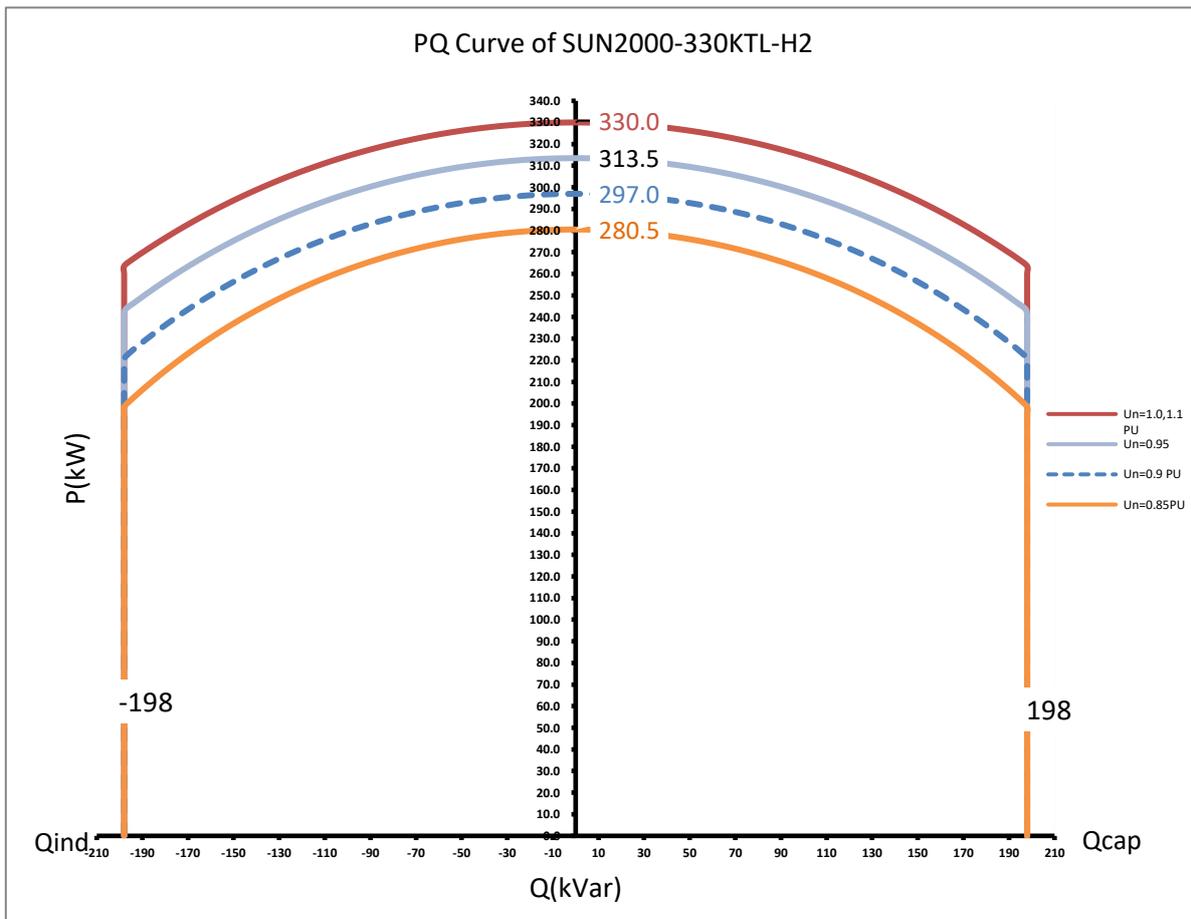
1. Description

This document describes output characteristics curve of the SUN2000-330KTL-H2, including the P-Q curve, temperature derating curve, and high altitude derating curve.

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2. Output Characteristics Curve

2.1 P-Q curve



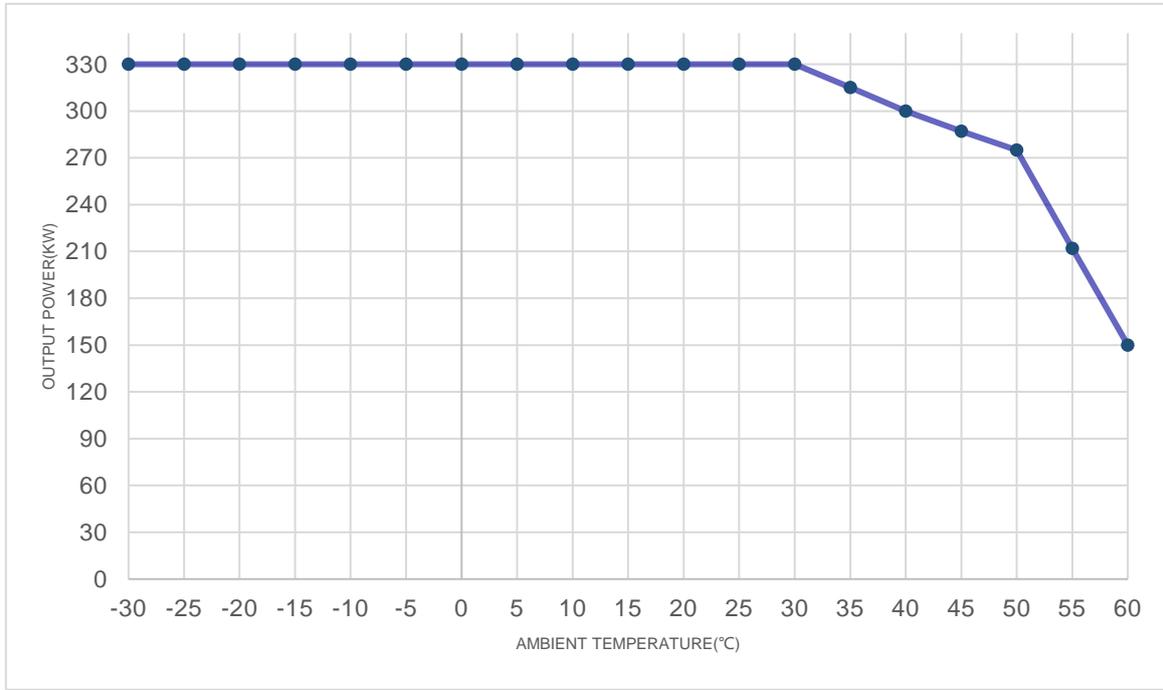
For SUN2000-330KTL-H2 inverter, its rated AC active power is 275kW and maximum AC active power is 330kW, maximum apparent active power is 330kVA, maximum reactive power range is -198kVar~+198kVar.



2.2 Power De-rating Curve VS. Ambient Temperature

When the ambient temperature is high, the inverter reduces the output power to ensure product safety and service life. The following figure shows the temperature derating curve of the SUN2000-330KTL-H2.

Power De-rating Curve VS. Ambient Temperature of SUN2000-330KTL-H2



Grid Voltage:800Vac,PF=1

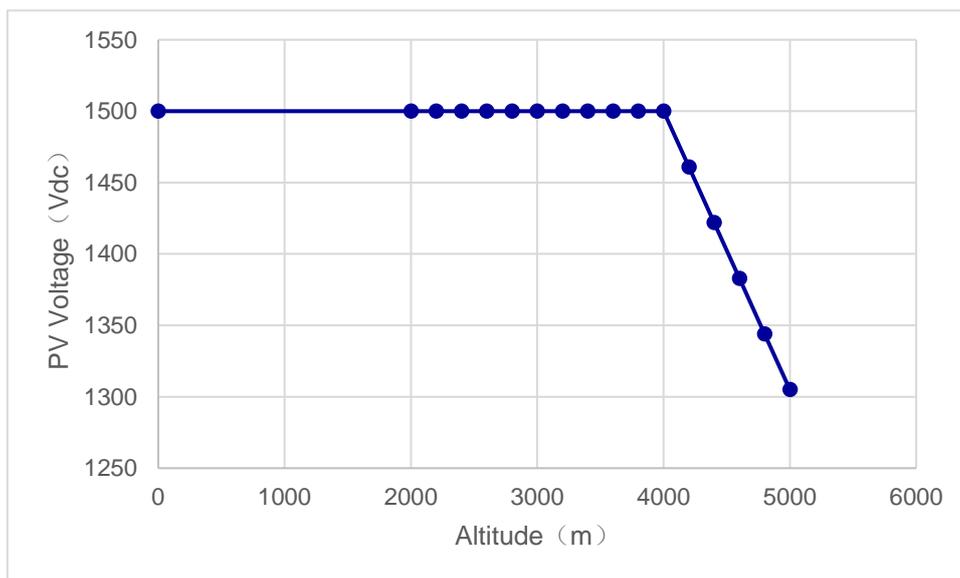
Model	-30°C	-25°C	-20°C	-15°C	-10°C	-5°C	0°C	5°C	10°C	15°C
SUN2000-	330 kW									
330KTL-		20°C	25°C	30°C	35°C	40°C	45°C	50°C	55°C	60°C
H2	330 kW	330 kW	330 kW	315 kW	300 kW	287 kW	275 kW	212 kW	150 kW	

2.3 DC Voltage Curve VS. Altitude

As the altitude increases, the air density decreases and the heat dissipation effect of the inverter decreases. In addition, the air density decreases, the free travel of electrons increases, the kinetic energy increases which may cause easier breakdown and ionization. Therefore, to ensure product safety, the maximum input voltage of the inverter needs derating. In actual applications, PV modules should be properly configured in high-altitude scenarios to prevent improper high voltage at the DC side of the inverter.

The altitude derating curve is as follows:

DC Voltage Curve of SUN2000-300KTL-H2



Technical Specifications (Preliminary)

Efficiency	
Max. Efficiency	≥99.0%
European Efficiency	≥98.8%
Input	
Max. Input Voltage	1,500 V
Number of MPP Trackers	6
Max. Current per MPPT	65 A
Max. Short Circuit Current per MPPT	115 A
Max. PV Inputs per MPPT	4/5/5/4/5/5
Start Voltage	550 V
MPPT Operating Voltage Range	500 V ~ 1,500 V
Nominal Input Voltage	1,080 V
Output	
Nominal AC Active Power	275,000 W*
Max. AC Apparent Power	330,000 VA
Max. AC Active Power (cosφ=1)	330,000 W
Nominal Output Voltage	800 V, 3W + PE
Rated AC Grid Frequency	50 Hz / 60 Hz
Nominal Output Current	198.5 A*
Max. Output Current	240.3 A
Adjustable Power Factor Range	0.8 LG ... 0.8 LD
Total Harmonic Distortion	< 1%
Protection	
Smart String-Level Disconnect(SSLD)	Yes
Anti-islanding Protection	Yes
AC Overcurrent Protection	Yes
DC Reverse-polarity Protection	Yes
PV-array String Fault Monitoring	Yes
DC Surge Arrester	Type II
AC Surge Arrester	Type II
DC Insulation Resistance Detection	Yes
AC Grounding Fault Protection	Yes
Residual Current Monitoring Unit	Yes
Communication	
Display	LED Indicators, WLAN + APP
USB	Yes
MBUS	Yes
RS485	Yes
General	
Dimensions (W x H x D)	1,048 x 732 x 395 mm
Weight (with mounting plate)	≤108 kg
Operating Temperature Range	-25 °C ~ 60 °C
Cooling Method	Smart Air Cooling
Max. Operating Altitude without Derating	4,000 m (13,123 ft.)
Relative Humidity	0 ~ 100%
AC Connector	Waterproof Connector + OT/DT Terminal
Protection Degree	IP66
Topology	Transformerless
*Environmental temperature is 50°C	