

Technical Report No.: 64.290.22.30586.02

Date: 2023-08-25

Client: Huawei Digital Power Technologies Co.,Ltd.
Office 01, 39th Floor, Block A Antuoshan Headquarters Towers 33
Antuoshan 6th Road, Futian District 518043 Shenzhen PEOPLE'S
REPUBLIC OF CHINA

Manufacturer: Huawei Digital Power Technologies Co.,Ltd.
Office 01, 39th Floor, Block A Antuoshan Headquarters Towers 33
Antuoshan 6th Road, Futian District 518043 Shenzhen PEOPLE'S
REPUBLIC OF CHINA

Factory: Factory 1: Liding Electronic Technology (Dongguan) Co., LTD.
Address 1: Building 2, No.313, Qingxi North Ring Road, Qingxi
Town, Dongguan City, Guangdong Province, P.R.China

Factory 2: Huizhou Huazhi New Energy Technology Co.,Ltd.
Address 2: No.8 Factory, Xinhua Avenue, Chenjiang Street,
Zhongkai High-tech Zone, Huizhou, Guangdong Province,
P.R.China

Factory 3: Astec Electronics(Luoding) Co.,Ltd.
Address 3: No.68 Baocheng Road East, Fucheng, Luoding,
Guangdong, P.R.China

Test object: Product: Solar Inverter & Hybrid Inverter

Model: Solar Inverter models:
SUN2000-12KTL-M5, SUN2000-15KTL-M5, SUN2000-17KTL-M5, SUN2000-20KTL-M5, SUN2000-25KTL-M5
Hybrid Inverter models:
SUN2000-12K-MB0, SUN2000-15K-MB0, SUN2000-17K-MB0, SUN2000-20K-MB0, SUN2000-25K-MB0

Test specification: EN 50549-2:2019/AC:2019

Purpose of examination: • Testing and evaluation according to the test specification

Test result: The test results show that the presented product is in compliance with the above listed test specifications.

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1. Description of the test object

1.1 Picture(s)

(M5 Series)



Over view



Internal view

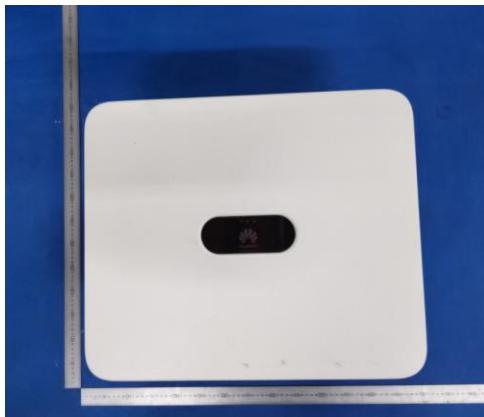


Left side DC switch view

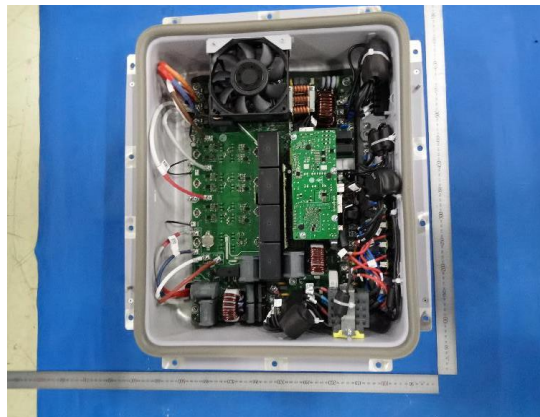


External view

(MB0 Series)



Overall view



Internal view



Left side DC switch view

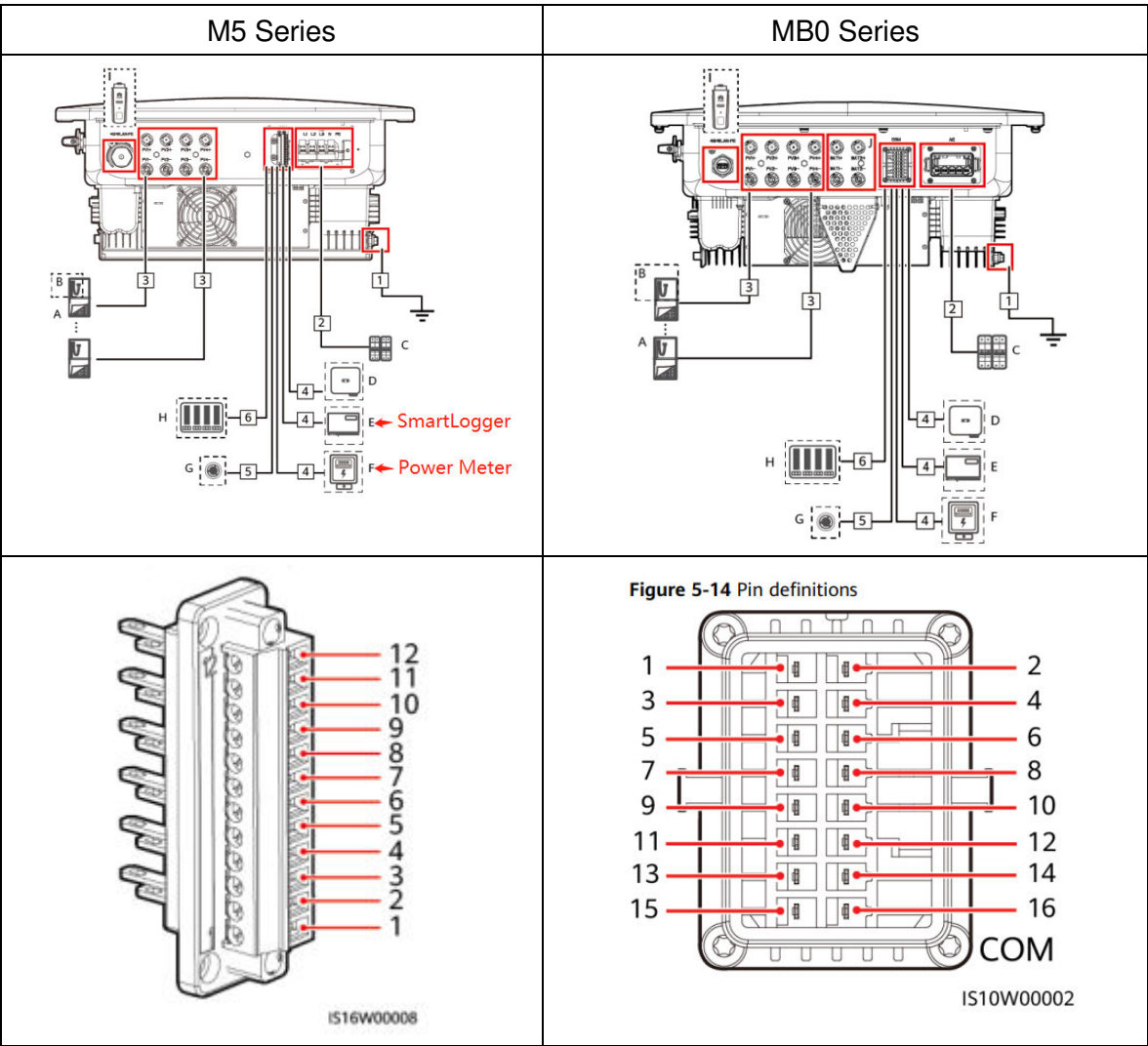


External view

1.2 Function

Manufacturer's specification for intended use:

- (1) The unit is non-isolated (transformerless) Solar Inverter or Hybrid Inverter for connection with public grid, for outdoor use, and defined as type B generator according to Regulation (EU) 2016/631 (RfG).
- (2) In order to protect the inverter, user and installer, external DC and AC circuit breaker shall be equipped for all source port (battery, AC grid) at the end-use application.
- (3) The unit has below reactive power control modes, shall comply with national and local regulation:
 - 1) Q setpoint mode
 - 2) Q(U) mode
 - 3) Cos ϕ setpoint mode
 - 4) Cos ϕ (P)
- (4) Software version: V200R023, Firmware version: V200R023.
- (5) RS485 communication port is used as the logic interface of the unit to control active power. By connecting to the SmartLogger which provides display the protection settings and remoted control function.



Pin	Definition	Function	Description
1	GND	Ripple control	GND port for the DIN1 to DIN5 signals
2	DIN1		Dry contact for grid scheduling
3	DIN2		
4	DIN3		
5	DIN4		
6	DIN5	Rapid shutdown signal+	For the rapid shutdown DI signal or connecting to the signal cable of an NS protective device
7	GND	GND	-
8	-	-	-
9	485A1	RS485A1 differential signal+	For inverter cascading or connecting to the RS485 signal port of a SmartLogger
10	485B1	RS485B1 differential signal-	
11	485A2	RS485A2 differential signal+	Connecting to the RS485 signal port of a power meter
12	485B2	RS485B2 differential signal-	

Pin	Definition	Function	Description	Pin	Definition	Function	Description
1	485A1-1	RS485A, RS485 differential signal+	For inverter cascading or connecting to the RS485 signal port of a	2	485A1-2	RS485A, RS485 differential signal+	For inverter cascading or connecting to the RS485 signal port of a
3	485B1-1	RS485B, RS485 differential signal-	SmartLogger	4	485B1-2	RS485B, RS485 differential signal-	SmartLogger
5	PE	Shield layer grounding	-	6	PE	Shield layer grounding	-
7	485A2	RS485A, RS485 differential signal+	Connecting to RS485 signal ports of devices such as power meters and batteries	8	DIN1	Digital input signal 1+	Connecting to the power grid scheduling dry contact or receiving feedback signals of the on/off-grid controller
9	485B2	RS485B, RS485 differential signal-		10	DIN2	Digital input signal 2+	
11	EN	Enable signal	For the enable signal of the battery	12	DIN3	Digital input signal 3+	Connecting to the power grid scheduling dry contact
13	GND	GND	-	14	DIN4	Digital input signal 4+	
15	DIN5	Rapid shutdown	For the rapid shutdown DI signal or connecting to the signal cable of an NS protection device	16	GND	GND of DIN1, DIN2, DIN3, or DIN4	Connecting to GND of DIN1, DIN2, DIN3, or DIN4

Model differences:

Solar Inverter models or Hybrid inverter models have same electric circuits topology design, same enclosure structure design, same main control circuits and firmware. Hybrid inverter models have battery interface, solar inverter models do not. The output power and current are limited by software.

1.3 Consideration of the foreseeable use

- ☐ Not applicable
- ☒ Covered through the applied standard.
- ☐ Covered by the following comment.
- ☐ Covered by attached risk analysis

1.4 Technical Data

Model	SUN2000-12KTL-M5	SUN2000-15KTL-M5	SUN2000-17KTL-M5	SUN2000-20KTL-M5	SUN2000-25KTL-M5
PV terminal parameters					
Maximum DC input voltage	1100 Vd.c.				
Rated input voltage	600 Vd.c.				
MPPT range	200~1000 Vd.c.				
MPPT range (full load)	370~800 Vd.c.	410~800 Vd.c.	440~800 Vd.c.	480~800 Vd.c.	530~800 Vd.c.
Maximum input current	2*30 Ad.c.				
Isc PV	2*40 Ad.c.				
Maximum input power	18000 W	22500 W	25500 W	30000 W	37500 W
Grid terminal parameters					
Rated AC voltage	230/400 Va.c., 3W+N+PE				
Rated AC output current	17.3 Aa.c.	21.7 Aa.c.	24.5 Aa.c.	28.9 Aa.c.	36.1 Aa.c.
Maximum AC output current	20.2 Aa.c.	25.2 Aa.c.	28.6 Aa.c.	33.6 Aa.c.	42.0 Aa.c.
Rated output active power	12000 W	15000 W	17000 W	20000 W	25000 W
Maximum continuous output apparent power	13200 VA	16500 VA	18700 VA	22000 VA	27500 VA
Rated AC frequency	50 Hz				
Power factor	0.8 inductive(under-excited) to 0.8 capacitive(over-excited)				

Model	SUN2000-12K-MB0	SUN2000-15K-MB0	SUN2000-17K-MB0	SUN2000-20K-MB0	SUN2000-25K-MB0
Battery input/output parameters					
Battery type	Li-ion				
Rated voltage	600 Vd.c.				
Battery voltage range	600-980 Vd.c.				
Maximum charge/discharge current	26.25 Ad.c./26.25 Ad.c.				
Maximum charge power	25000 W	25000 W	25000 W	25000 W	25000 W
Maximum discharge power	13200 W	16500 W	18700 W	22000 W	25000 W

Maximum charge power from grid to battery	13200 W	15000 W	15000 W	15000 W	15000 W
PV terminal parameters					
Maximum DC input voltage	1100 Vd.c.				
Rated input voltage	600 Vd.c.				
MPPT Range	200~1000 Vd.c.				
MPPT Range (full load)	370~800 Vd.c.	410~800 Vd.c.	440~800 Vd.c.	480~800 Vd.c.	530~800 Vd.c.
Maximum Input Current	2*30 Ad.c.				
Isc PV	2*40 Ad.c.				
Maximum Input Power	18000 W	22500 W	25500 W	30000 W	37500 W
Grid terminal parameters					
Rated AC voltage	230/400 Va.c., 3W+N+PE				
Maximum continuous input current	19.1 Aa.c.	21.7 Aa.c.			
Maximum continuous input power	13200 W	15000 W			
Rated AC output current	17.3 Aa.c.	21.7 Aa.c.	24.5 Aa.c.	28.9 Aa.c.	36.1 Aa.c.
Maximum AC output current	20.2 Aa.c.	25.2 Aa.c.	28.6 Aa.c.	33.6 Aa.c.	42.0 Aa.c.
Rated output active power	12000 W	15000 W	17000 W	20000 W	25000 W
Maximum continuous output apparent power	13200 VA	16500 VA	18700 VA	22000 VA	27500 VA
Rated AC frequency	50 Hz				
Power factor	0.8 inductive(under-excited) to 0.8 capacitive(over-excited)				

Remark: The maximum AC output current is the maximum current that can be withstood at low voltages.

1.5 Rating Label

型号 Model: SUN2000-12KTL-M5 名称 Name: 太阳能光伏逆变器 SOLAR INVERTER 最大输入电压 d.c. Max. Input Voltage: 1100 Vd.c. 最大输入电流 d.c. Max. Input Current: 30 A/30 A 输入短路电流 Isc: 40 A/40 A MPPT电压范围 d.c. MPPT Range: 200 ~ 1000 Vd.c. 输出电压 a.c. Output Nominal Voltage: 220/380 Va.c., 230/400 Va.c., 240/415 Va.c.; 3(N)~+@ 输出频率 a.c. Nominal Operating Frequency: 50/60 Hz 额定输出功率 a.c. Output Rated Power: 12 kW 额定视在功率 a.c. Output Rated Apparent Power: 12 kVA 最大视在功率 a.c. Max. Output Apparent Power: 13.2 kVA 额定输出电流 a.c. Output Rated Current: 18.2 A(380 Va.c.)/17.3 A(400 Va.c.)/16.7 A(415 Va.c.) 最大输出电流 a.c. Max. Output Current: 20.2 A(380 Va.c.)/19.1 A(400 Va.c.)/18.5 A(415 Va.c.) 功率因数 Power Factor: 0.8(lagging) ~ 0.8(leading) 温度范围 Operating Temperature Range: - 25 ~ + 60 °C 海拔Altitude: 4000 m(>2000 m refer to usermanual) 过电压类别 Overvoltage Category: II(DC)/III(AC) 逆变器拓扑 Inverter Topology: Non - Isolation 防护等级 Enclosure: IP66 保护等级Protection Class: I 电弧故障保护 AFCI: TYPE I 合格证 QC PASS 华为数字能源技术有限公司 Huawei Digital Power Technologies Co., Ltd. Huawei Digital Power Antuoshan Headquarters, Shenzhen 518043, P.R.C 中国制造 MADE IN CHINA	型号 Model: SUN2000-15KTL-M5 名称 Name: 太阳能光伏逆变器 SOLAR INVERTER 最大输入电压 d.c. Max. Input Voltage: 1100 Vd.c. 最大输入电流 d.c. Max. Input Current: 30 A/30 A 输入短路电流 Isc: 40 A/40 A MPPT电压范围 d.c. MPPT Range: 200 ~ 1000 Vd.c. 输出电压 a.c. Output Nominal Voltage: 220/380 Va.c., 230/400 Va.c., 240 V/415 Va.c.; 3(N)~+@ 输出频率 a.c. Nominal Operating Frequency: 50/60 Hz 额定输出功率 a.c. Output Rated Power: 15 kW 额定视在功率 a.c. Output Rated Apparent Power: 15 kVA 最大视在功率 a.c. Max. Output Apparent Power: 16.5 kVA 额定输出电流 a.c. Output Rated Current: 22.8 A(380 Va.c.)/21.7 A(400 Va.c.)/20.9 A(415 Va.c.) 最大输出电流 a.c. Max. Output Current: 25.2 A(380 Va.c.)/23.9 A(400 Va.c.)/23.1 A(415 Va.c.) 功率因数 Power Factor: 0.8(lagging) ~ 0.8(leading) 温度范围 Operating Temperature Range: - 25 ~ + 60 °C 海拔Altitude: 4000 m(>2000 m refer to usermanual) 过电压类别 Overvoltage Category: II(DC)/III(AC) 逆变器拓扑 Inverter Topology: Non - Isolation 防护等级 Enclosure: IP66 保护等级Protection Class: I 电弧故障保护 AFCI: TYPE I 合格证 QC PASS 华为数字能源技术有限公司 Huawei Digital Power Technologies Co., Ltd. Huawei Digital Power Antuoshan Headquarters, Shenzhen 518043, P.R.C 中国制造 MADE IN CHINA
型号 Model: SUN2000-17KTL-M5 名称 Name: 太阳能光伏逆变器 SOLAR INVERTER 最大输入电压 d.c. Max. Input Voltage: 1100 Vd.c. 最大输入电流 d.c. Max. Input Current: 30 A/30 A 输入短路电流 Isc: 40 A/40 A MPPT电压范围 d.c. MPPT Range: 200 ~ 1000 Vd.c. 输出电压 a.c. Output Nominal Voltage: 220/380 Va.c., 230/400 Va.c., 240/415 Va.c.; 3(N)~+@ 输出频率 a.c. Nominal Operating Frequency: 50/60 Hz 额定输出功率 a.c. Output Rated Power: 17 kW 额定视在功率 a.c. Output Rated Apparent Power: 17 kVA 最大视在功率 a.c. Max. Output Apparent Power: 18.7 kVA 额定输出电流 a.c. Output Rated Current: 25.8 A(380 Va.c.)/24.5 A(400 Va.c.)/23.7 A(415 Va.c.) 最大输出电流 a.c. Max. Output Current: 28.6 A(380 Va.c.)/27.1 A(400 Va.c.)/26.1 A(415 Va.c.) 功率因数 Power Factor: 0.8(lagging) ~ 0.8(leading) 温度范围 Operating Temperature Range: - 25 ~ + 60 °C 海拔Altitude: 4000 m(>2000 m refer to usermanual) 过电压类别 Overvoltage Category: II(DC)/III(AC) 逆变器拓扑 Inverter Topology: Non - Isolation 防护等级 Enclosure: IP66 保护等级Protection Class: I 电弧故障保护 AFCI: TYPE I 合格证 QC PASS 华为数字能源技术有限公司 Huawei Digital Power Technologies Co., Ltd. Huawei Digital Power Antuoshan Headquarters, Shenzhen 518043, P.R.C 中国制造 MADE IN CHINA	型号 Model: SUN2000-20KTL-M5 名称 Name: 太阳能光伏逆变器 SOLAR INVERTER 最大输入电压 d.c. Max. Input Voltage: 1100 Vd.c. 最大输入电流 d.c. Max. Input Current: 30 A/30 A 输入短路电流 Isc: 40 A/40 A MPPT电压范围 d.c. MPPT Range: 200 ~ 1000 Vd.c. 输出电压 a.c. Output Nominal Voltage: 220/380 Va.c., 230/400 Va.c., 240/415 Va.c.; 3(N)~+@ 输出频率 a.c. Nominal Operating Frequency: 50/60 Hz 额定输出功率 a.c. Output Rated Power: 20 kW 额定视在功率 a.c. Output Rated Apparent Power: 20 kVA 最大视在功率 a.c. Max. Output Apparent Power: 22 kVA 额定输出电流 a.c. Output Rated Current: 30.4 A(380 Va.c.)/28.9 A(400 Va.c.)/27.8 A(415 Va.c.) 最大输出电流 a.c. Max. Output Current: 33.6 A(380 Va.c.)/31.9 A(400 Va.c.)/30.8 A(415 Va.c.) 功率因数 Power Factor: 0.8(lagging) ~ 0.8(leading) 温度范围 Operating Temperature Range: - 25 ~ + 60 °C 海拔Altitude: 4000 m(>2000 m refer to usermanual) 过电压类别 Overvoltage Category: II(DC)/III(AC) 逆变器拓扑 Inverter Topology: Non - Isolation 防护等级 Enclosure: IP66 保护等级Protection Class: I 电弧故障保护 AFCI: TYPE I 合格证 QC PASS 华为数字能源技术有限公司 Huawei Digital Power Technologies Co., Ltd. Huawei Digital Power Antuoshan Headquarters, Shenzhen 518043, P.R.C 中国制造 MADE IN CHINA

型号 Model: SUN2000-25KTL-M5
名称 Name: 太阳能光伏逆变器
SOLAR INVERTER

最大输入电压 d.c. Max. Input Voltage: 1100 Vd.c.
 最大输入电流 d.c. Max. Input Current: 30 A/30 A
 输入短路电流 Isc: 40 A/40 A
 MPPT电压范围 d.c. MPPT Range: 200 - 1000 Vd.c.
 输出电压 a.c. Output Nominal Voltage:
 220/380 Va.c., 230/400 Va.c., 240/415 Va.c.; 3(N)~+~
 输出频率 a.c. Nominal Operating Frequency: 50/60 Hz
 额定输出功率 a.c. Output Rated Power: 25 kW
 额定视在功率 a.c. Output Rated Apparent Power: 25 kVA
 最大视在功率 a.c. Max. Output Apparent Power: 27.5 kVA
 额定输出电流 a.c. Output Rated Current:
 38.0 A(380 Va.c.)/36.1 A(400 Va.c.)/34.8 A(415 Va.c.)
 最大输出电流 a.c. Max. Output Current:
 42.0 A(380 Va.c.)/39.9 A(400 Va.c.)/38.5 A(415 Va.c.)
 功率因数 Power Factor: 0.8(lagging) - 0.8(leading)
 温度范围 Operating Temperature Range: -25 - +60 °C
 海拔Altitude: 4000 m(>2000 m refer to user manual)
 过电压类别 Overvoltage Category: II(DC)/III(AC)
 逆变器拓扑 Inverter Topology: Non - Isolation
 防护等级 Enclosure: IP66
 保护等级 Protection Class: I
 电弧故障保护 AFCI: TYPE I

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 Huawei Digital Power Technologies Co., Ltd.
 Huawei Digital Power Antuoshan Headquarters, Shenzhen 518043, P.R.C

中国制造
 MADE IN CHINA

型号 Model: SUN2000-12K-MB0
名称 Name: 太阳能光伏逆变器
SOLAR INVERTER

最大输入电压 d.c. Max. Input Voltage: 1100 Vd.c.
 最大输入电流 d.c. Max. Input Current: 30 A/30 A
 输入短路电流 Isc: 40 A/40 A
 MPPT电压范围 d.c. MPPT Range: 200 - 1000 Vd.c.
 输出电压 a.c. Output Nominal Voltage:
 220/380 Va.c., 230/400 Va.c., 240/415 Va.c.; 3(N)~+~
 输出频率 a.c. Nominal Operating Frequency: 50/60 Hz
 额定输出功率 a.c. Output Rated Power: 12 kW
 额定视在功率 a.c. Output Rated Apparent Power: 12 kVA
 最大视在功率 a.c. Max. Output Apparent Power: 13.2 kVA
 额定输出电流 a.c. Output Rated Current:
 18.2 A(380 Va.c.)/17.3 A(400 Va.c.)/16.7 A(415 Va.c.)
 最大输出电流 a.c. Max. Output Current:
 20.2 A(380 Va.c.)/19.1 A(400 Va.c.)/18.5 A(415 Va.c.)
 功率因数 Power Factor: 0.8(lagging) - 0.8(leading)
 温度范围 Operating Temperature Range: -25 - +60 °C
 海拔Altitude: 4000 m(>2000 m refer to user manual)
 过电压类别 Overvoltage Category: II(DC)/III(AC)
 逆变器拓扑 Inverter Topology: Non - Isolation
 电池额定电压 Battery normal voltage: 600 Vd.c.
 电池电压范围 Battery voltage range: 600 - 980 Vd.c.
 电池最大电流 Battery maximum current: 26.25 Ad.c./26.25 Ad.c.
 电池类型 Battery type: Li-Ion
 防护等级 Enclosure: IP66
 保护等级 Protection Class: I
 电弧故障保护 AFCI: TYPE I

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 Huawei Digital Power Technologies Co., Ltd.
 Huawei Digital Power Antuoshan Headquarters, Shenzhen 518043, P.R.C

中国制造
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型号 Model: SUN2000-15K-MB0
名称 Name: 太阳能光伏逆变器
SOLAR INVERTER

最大输入电压 d.c. Max. Input Voltage: 1100 Vd.c.
 最大输入电流 d.c. Max. Input Current: 30 A/30 A
 输入短路电流 Isc: 40 A/40 A
 MPPT电压范围 d.c. MPPT Range: 200 - 1000 Vd.c.
 输出电压 a.c. Output Nominal Voltage:
 220/380 Va.c., 230/400 Va.c., 240 V/415 Va.c.; 3(N)~+~
 输出频率 a.c. Nominal Operating Frequency: 50/60 Hz
 额定输出功率 a.c. Output Rated Power: 15 kW
 额定视在功率 a.c. Output Rated Apparent Power: 15 kVA
 最大视在功率 a.c. Max. Output Apparent Power: 16.5 kVA
 额定输出电流 a.c. Output Rated Current:
 22.8 A(380 Va.c.)/21.7 A(400 Va.c.)/20.9 A(415 Va.c.)
 最大输出电流 a.c. Max. Output Current:
 25.2 A(380 Va.c.)/23.9 A(400 Va.c.)/23.1 A(415 Va.c.)
 功率因数 Power Factor: 0.8(lagging) - 0.8(leading)
 温度范围 Operating Temperature Range: -25 - +60 °C
 海拔Altitude: 4000 m(>2000 m refer to user manual)
 过电压类别 Overvoltage Category: II(DC)/III(AC)
 逆变器拓扑 Inverter Topology: Non - Isolation
 电池额定电压 Battery normal voltage: 600 Vd.c.
 电池电压范围 Battery voltage range: 600 - 980 Vd.c.
 电池最大电流 Battery maximum current: 26.25 Ad.c./26.25 Ad.c.
 电池类型 Battery type: Li-Ion
 防护等级 Enclosure: IP66
 保护等级 Protection Class: I
 电弧故障保护 AFCI: TYPE I

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华为数字能源技术有限公司
 Huawei Digital Power Technologies Co., Ltd.
 Huawei Digital Power Antuoshan Headquarters, Shenzhen 518043, P.R.C

中国制造
 MADE IN CHINA

型号 Model: SUN2000-17K-MB0
 名称 Name: 太阳能光伏逆变器
 SOLAR INVERTER

最大输入电压 d.c. Max. Input Voltage: 1100 Vd.c.
 最大输入电流 d.c. Max. Input Current: 30 A/30 A
 输入短路电流 Isc: 40 A/40 A
 MPPT电压范围 d.c. MPPT Range: 200 ~ 1000 Vd.c.
 输出电压 a.c. Output Nominal Voltage:
 220/380 Va.c., 230/400 Va.c., 240/415 Va.c.; 3(N)~+④
 输出频率 a.c. Nominal Operating Frequency: 50/60 Hz
 额定输出功率 a.c. Output Rated Power: 17 kW
 额定视在功率 a.c. Output Rated Apparent Power: 17 kVA
 最大视在功率 a.c. Max. Output Apparent Power: 18.7 kVA
 额定输出电流 a.c. Output Rated Current:
 25.8 A(380 Va.c.)/24.5 A(400 Va.c.)/23.7 A(415 Va.c.)
 最大输出电流 a.c. Max. Output Current:
 28.6 A(380 Va.c.)/27.1 A(400 Va.c.)/26.1 A(415 Va.c.)
 功率因数 Power Factor: 0.8(lagging) ~ 0.8(leading)
 温度范围 Operating Temperature Range: - 25 ~ + 60 °C
 海拔Altitude: 4000 m(>2000 m refer to usermanual)
 过电压类别 Overvoltage Category: II(DC)/III(AC)
 逆变器拓扑 Inverter Topology: Non - Isolation
 电池额定电压 Battery normal voltage: 600 Vd.c.
 电池电压范围 Battery voltage range: 600 ~ 980 Vd.c.
 电池最大电流 Battery maximum current: 26.25 Ad.c./26.25 Ad.c.
 电池类型 Battery type: Li-ion
 防护等级 Enclosure: IP66
 保护等级 Protection Class: I
 电弧故障保护 AFCI: TYPE I

扫码获取支持
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华为数字能源技术有限公司
 Huawei Digital Power Technologies Co., Ltd.
 Huawei Digital Power Antuoshan Headquarters, Shenzhen 518043, P.R.C

中国制造
 MADE IN CHINA

型号 Model: SUN2000-20K-MB0
 名称 Name: 太阳能光伏逆变器
 SOLAR INVERTER

最大输入电压 d.c. Max. Input Voltage: 1100 Vd.c.
 最大输入电流 d.c. Max. Input Current: 30 A/30 A
 输入短路电流 Isc: 40 A/40 A
 MPPT电压范围 d.c. MPPT Range: 200 ~ 1000 Vd.c.
 输出电压 a.c. Output Nominal Voltage:
 220/380 Va.c., 230/400 Va.c., 240/415 Va.c.; 3(N)~+④
 输出频率 a.c. Nominal Operating Frequency: 50/60 Hz
 额定输出功率 a.c. Output Rated Power: 20 kW
 额定视在功率 a.c. Output Rated Apparent Power: 20 kVA
 最大视在功率 a.c. Max. Output Apparent Power: 22 kVA
 额定输出电流 a.c. Output Rated Current:
 30.4 A(380 Va.c.)/28.9 A(400 Va.c.)/27.8 A(415 Va.c.)
 最大输出电流 a.c. Max. Output Current:
 33.6 A(380 Va.c.)/31.9 A(400 Va.c.)/30.8 A(415 Va.c.)
 功率因数 Power Factor: 0.8(lagging) ~ 0.8(leading)
 温度范围 Operating Temperature Range: - 25 ~ + 60 °C
 海拔Altitude: 4000 m(>2000 m refer to usermanual)
 过电压类别 Overvoltage Category: II(DC)/III(AC)
 逆变器拓扑 Inverter Topology: Non - Isolation
 电池额定电压 Battery normal voltage: 600 Vd.c.
 电池电压范围 Battery voltage range: 600 ~ 980 Vd.c.
 电池最大电流 Battery maximum current: 26.25 Ad.c./26.25 Ad.c.
 电池类型 Battery type: Li-ion
 防护等级 Enclosure: IP66
 保护等级 Protection Class: I
 电弧故障保护 AFCI: TYPE I

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 输出电压 a.c. Output Nominal Voltage:
 220/380 Va.c., 230/400 Va.c., 240/415 Va.c.; 3(N)~+④
 输出频率 a.c. Nominal Operating Frequency: 50/60 Hz
 额定输出功率 a.c. Output Rated Power: 25 kW
 额定视在功率 a.c. Output Rated Apparent Power: 25 kVA
 最大视在功率 a.c. Max. Output Apparent Power: 27.5 kVA
 额定输出电流 a.c. Output Rated Current:
 38.0 A(380 Va.c.)/36.1 A(400 Va.c.)/34.8 A(415 Va.c.)
 最大输出电流 a.c. Max. Output Current:
 42.0 A(380 Va.c.)/39.9 A(400 Va.c.)/38.5 A(415 Va.c.)
 功率因数 Power Factor: 0.8(lagging) ~ 0.8(leading)
 温度范围 Operating Temperature Range: - 25 ~ + 60 °C
 海拔Altitude: 4000 m(>2000 m refer to usermanual)
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2. Order

2.1 Date of Purchase Order, Customer's Reference

2022-05-11, 2023-05-12

2.2 Test Sample(s)

- Reception date(s): 2022-09-01, 2023-07-20
- Location(s) of reception: TÜV SÜD Testing Center, D1 building, No. 63 Chuangqi Road, Shilou Town, Panyu District, Guangzhou 511447, P.R. China
- Condition of test sample(s): Intact

2.3 Testing

- Testing date(s): 2022-09-01 to 2022-10-30, 2023-07-22 to 2023-08-23
- Location(s) of testing: TÜV SÜD Testing Center, D1 building, No. 63 Chuangqi Road, Shilou Town, Panyu District, Guangzhou 511447, P.R. China

2.4 Points of Non-Compliance or Exceptions of the Test Procedure

- None

3. Test Results

- Decision rule according to IEC Guide 115:2023, clause 4.3 was applied.

3.1 Positive Test Results

Test specification(s)	Report no. / Rev. No.	Date	Remark
Grid Code compliance:	64.290.22.30586.02	2023-08-25	--

3.2 Points of Non-Compliance according to the test specification

- None

4. Test History

This report is based on the original certificate No. D 114387 0092 Rev. 00 and original report No: 64.290.22.30586.01, Date: 2023-03-14, the original certificate is cancelled, and reports are replaced by 64.290.22.30586.02, the mainly update as follows:

- (1) In this revision, hybrid inverter models are added with the same grid connection configuration based on solar inverter models. Detail please refer to model difference.
- (2) Updated the software and firmware version number from V200R022 to V200R023, except for the version number, all other features and parameters are the same as before.
- (3) The below tests were done on new models (SUN2000-25K-MB0):
 - a) Test d clause 4.6.1 Power response to overfrequency;
 - b) Clause 4.6.2 Power response to underfrequency.

5. Remarks

5.1 General

The user manual has been examined according to the minimum requirements described in the product standard. The manufacturer is responsible for the accuracy of further particulars as well as of the composition and layout.

5.2 Factory surveillance cycle

Your production facility is currently on the following surveillance cycle.

- ☐ Annual (12 month)
- ☐ Bi-Annual (6 month)
- ☐ Quarterly (3 month)
- ☒ None

6. Documentation

- None

7. Summary

The test specification is met

TÜV SÜD Certification and Testing (China) Co., Ltd. Guangzhou Branch
TÜV SÜD Group

Tested by:

Jinjing Peng
 (Project Handler)

Peng Jinjing

printed name, function & signature

Approved by:

Yuneng Chen
 (Designated Reviewer)

Yuneng Chen

printed name, function & signature

