

How to check AC connections for Inverters



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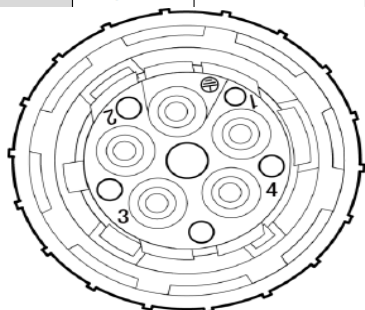
Connect the SUN2000 to the AC power distribution frame (PDF) or power grid using AC output power cables. Ensure that the cable connections meet the requirements of the local power grid operator.

An independent three-phase circuit breaker must be installed on the AC side (dimension this equipment according with the power install) to ensure that the inverters can be safely disconnected from the power grid.

1. SUN2000/8-28KTLinverters

Recommended AC output power cable specifications

Inverter Model	Cable Type		Cross-sectional Area (mm ²)		Cable Outer Diameter (mm)	
	Range	Recommended Value	Range	Recommended Value	Range	Recommended Value
SUN2000-8KTL	<ul style="list-style-type: none"> 4-core outdoor cable (3+N) 5-core outdoor cable (3+N+PE) 	4-core outdoor cable (3+N)	4-10 (or 12 AWG-8 AWG)	4 (or 12 AWG)	11-20 NOTE <ul style="list-style-type: none"> For a cable with an outer diameter of 11 mm to 13 mm, add cable clamps. For a cable with an outer diameter of 16 mm to 20 mm, strip a seal ring from inside the cable gland. For an armored cable with an outer diameter exceeding 20 mm, strip the jacket and armored layer and waterproof and ultraviolet-proof the cable. 	15
SUN2000-10KTL						
SUN2000-12KTL						
SUN2000-15KTL			6-10 (or 10 AWG-8 AWG)	6 (or 10 AWG)		
SUN2000-17KTL						
SUN2000-20KTL						
SUN2000-23KTL						
SUN2000-28KTL	<ul style="list-style-type: none"> 3-core outdoor cable 4-core outdoor cable (3+PE) 	3-core outdoor cable				



IS011C0002

- Connect L1 to hole number 1.
- Connect L2 to hole number 2.
- Connect L3 to hole number 3.
- Connect N to hole number 4.

For the SUN2000-28KTL, do not connect the neutral wire to hole number 4.

First check the integrity of cable (not be damage, interrupted of AC line), and then close the Circuit Breaker. Please measure the AC voltage using a multi-meter

Correct voltage should be (Uf):

Ua= ~230V;

Ub= ~230V;

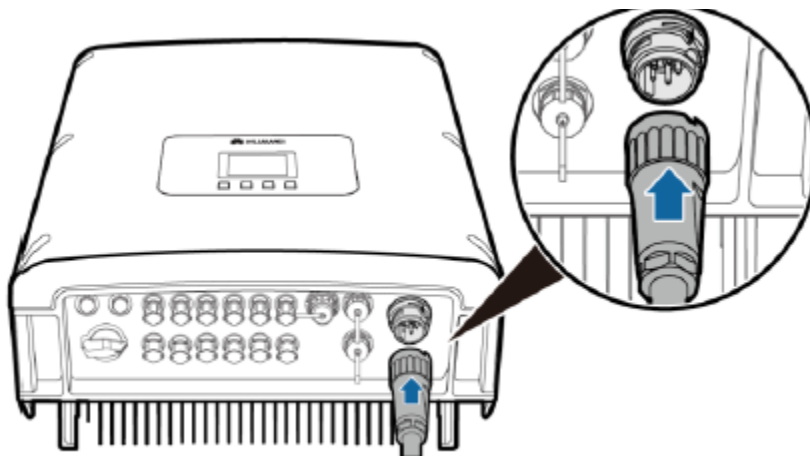
Uc= ~230V.

If Line and Neutral get exchanged, you will have one phase (L-N) voltage is 230V, the other two should be about 410V.



Please check the grid code of inverter/inverters and check also the output mode/power grid mode of inverter/inverters.

Connect the AC output connector to the bayonet coupling of the AC output wiring terminal on the SUN2000 and rotate it clockwise until a "click" sound is heard, Connecting an AC output connector



ISO11C0006

In case of fault of the inverter please check:

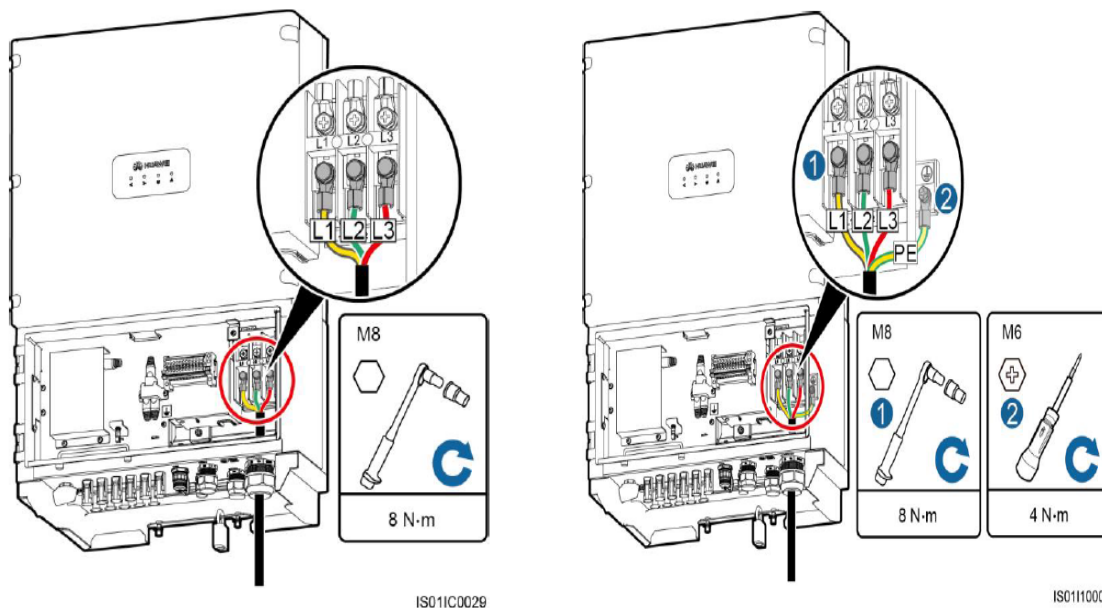
- the transformer top-changer (level of voltage) sometimes the grid operation change position 1/2/3 which mean different level of voltages
- check AC breaker, AC Line and AC fuses (combined box if is the case)
- check the level of protection overvoltage/under-voltage

-check the frequency level

2. SUN2000/ 33KTL/33KTL-E001/33KTL-A/ 40KTL/42KTL/60KTL/100KTL inverters

Recommended AC output power cable specifications

Inverter Model	Cross-sectional Area (mm ²)		Cable Outer Diameter (mm)	
	Range	Recommended Value	Range	Recommended Value
SUN2000-33KTL/S UN2000-33KTL-E001	16–25 (or 6–3 AWG)	16 (or 6 AWG)	24–32	28
SUN2000-30KTL-A/ SUN2000-40KTL	16–35 (or 6–2 AWG)			



Connecting the SUN2000-30KTL-A or SUN2000-40KTL AC output cable without/with ground cable. Check that the cables are connected correctly and securely, and then seal the cable holes with fires-top putty; with no open circuit or short-circuit.

Check the integrity of cable (not to be damage, interrupted of AC line), and then close the Circuit Breaker. Please measure the AC voltage using a multi-meter

Correct voltage should be (Uf):

Ua= ~230V;

Ub= ~230V;

Uc= ~230V.

Please check the grid code of inverter/inverters and check also the output mode/power grid mode of inverter/inverters.

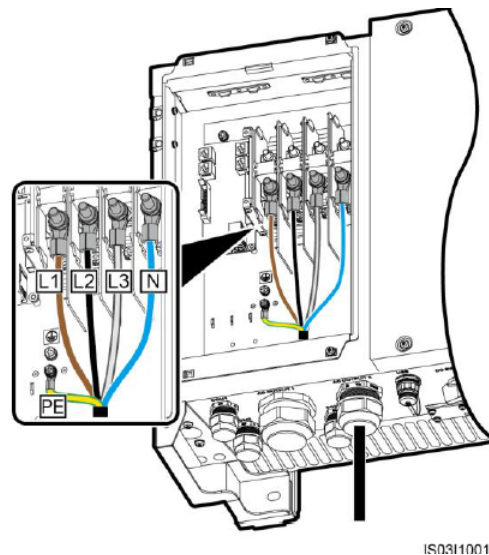
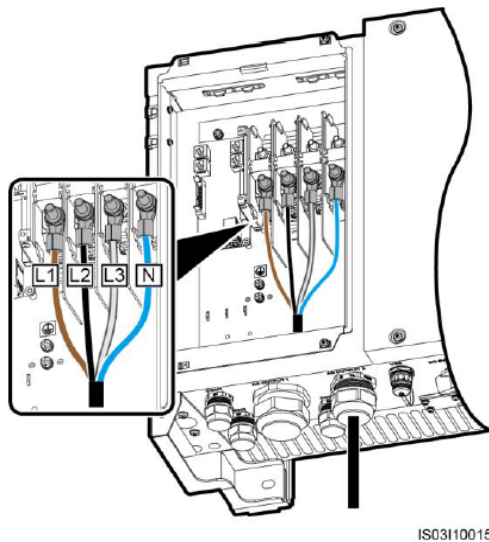
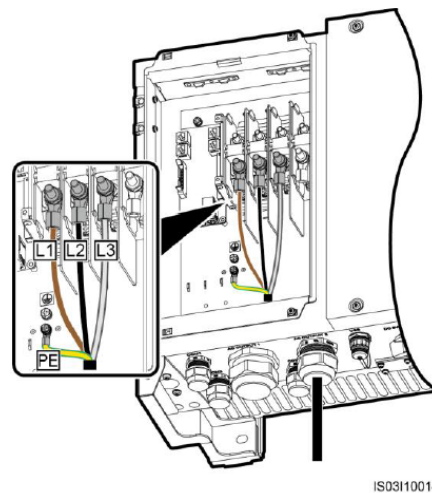
In case of fault of the inverter please check:

- the transformer top-changer (level of voltage) sometimes the grid operation change position 1/2/3 which mean different level of voltages
- check AC breaker, AC Line and AC fuses (combined box if is the case)
- check the level of protection overvoltage/under-voltage
- check the frequency level

3. SUN2000/36KTL/40KTLinverters

Recommended AC output power cable specifications

Cable Specifications		Copper-Core Cable	Copper-Clad Aluminum Cable or Aluminum Alloy Cable
Conductor cross-sectional area (mm ²)	Value range	16-70	25-70
	Recommended value	25	35
Cable outer diameter supported by AC OUTPUT 1 connector (mm)	Value range	37-44	
	Recommended value	40	
Cable outer diameter supported by AC OUTPUT 2 connector (mm)	Value range	24-32	
	Recommended value	28	



Connecting 36KTL/40KTL inverters 3 wires & ground cable, 3 wires+N, 3 wires+N & ground cable

Check that the cables are connected correctly and securely, and then seal the cable holes with fire-top putty; with no open circuit or short-circuit.

Check the integrity of cable (not to be damaged, interrupted of AC line), and then close the Circuit Breaker. Please measure the AC voltage using a multi-meter.

Please check the grid code of inverter/inverters and check the output mode/power grid mode of inverter/inverters.

In case of fault of the inverter please check:

-the transformer tap-changer (level of voltage) sometimes the grid operation change position 1/2/3 which mean different level of voltages

-check AC breaker, AC Line and AC fuses (combined box if is the case)

-check the level of protection overvoltage/under-voltage

-check the frequency level

If RS485 is used, do not connect the PLC CCO module to the AC power cable.