

Three Phase Inverter cable size

(50 KW, 60K-4G, 60K-HV)



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Ground Cable.

Solis recommends two Ground protections.

- External heat sink connection.
- Grid connection.

a) External heat sink Ground connection.

Cable Size : $\geq 16 \text{ mm}^2$.
Cable Type : Copper-core cable.
Lug Type : OT.
Lug Size : M6.
Torque : 3 N.

➤ Ground Cable Stripping.

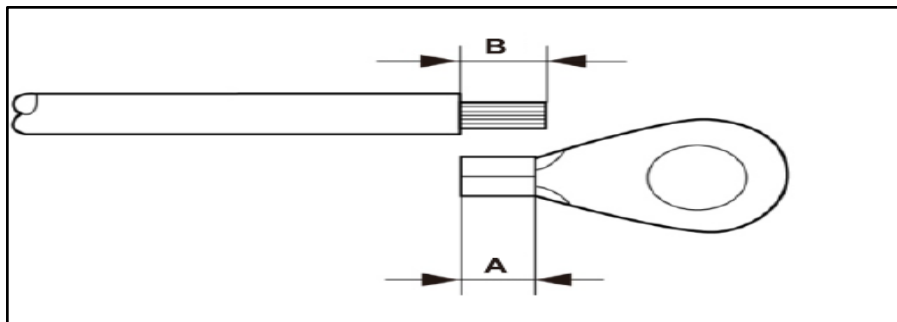


Figure 1 Suitable Length

B (insulation stripping length) is 2mm~3mm longer than A.

➤ Ground Lug and cable arrangement.

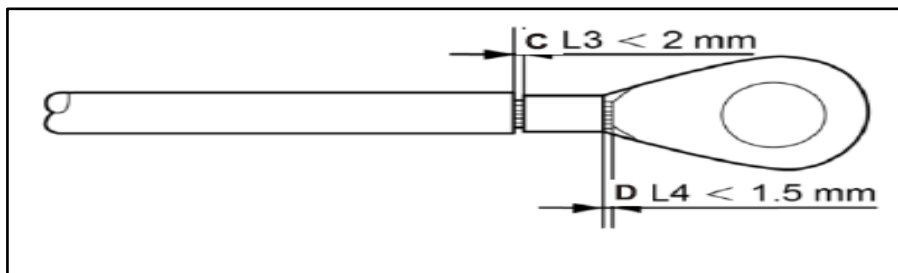


Figure 2 Strip Wire

Inverter Grounding Picture.

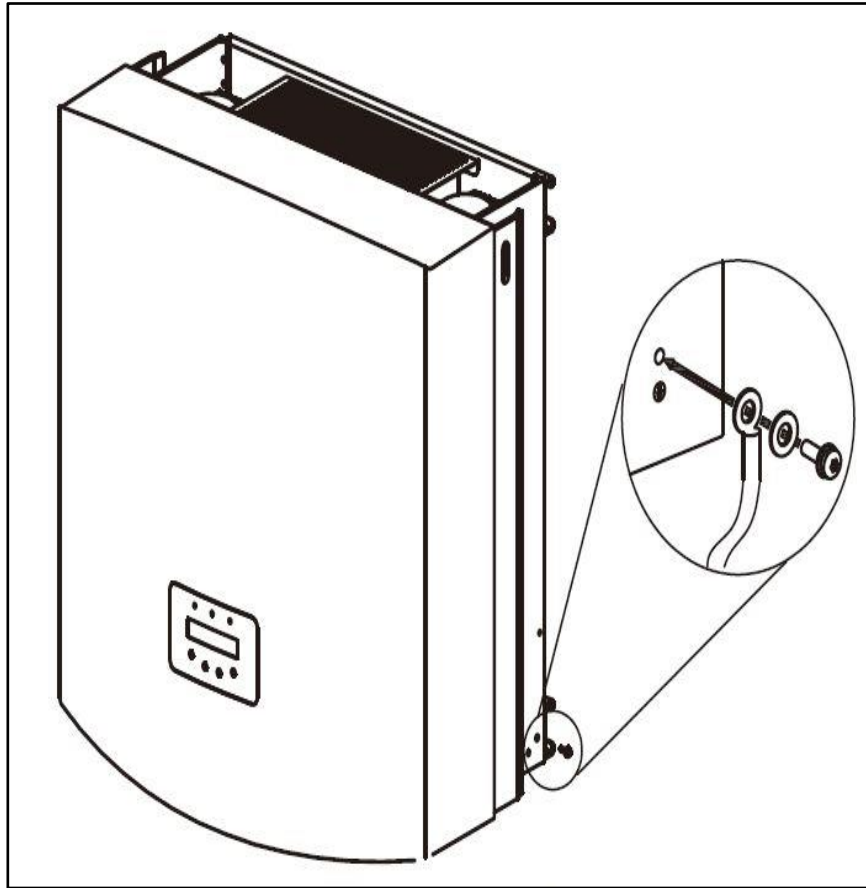


Figure 3 Fixed Cable for Grounding Cable

AC Termination cable.

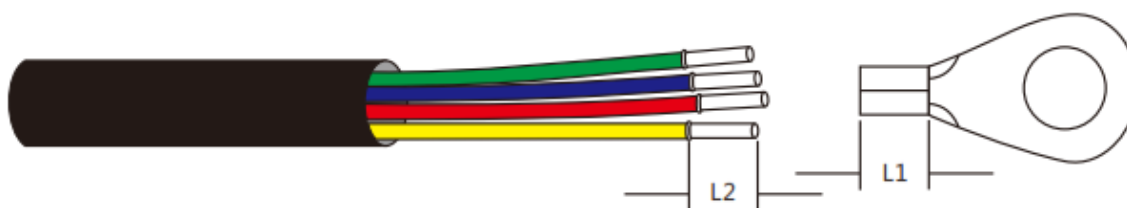
- For all AC connections, **16- 35 mm²** , **105°C** cable is required to be used.
- Please make sure the resistance of cable is lower than **1.5 ohm**.
- If the wire is longer than **20m**, it's recommended to use **25-35 mm² cable**.
- Since the inverter is compatible with IT grid (only 3-line wire) connection. so **N** Neutral connection can be ruled out.
- But if there is tender obligation where neutral cable needs to be connected then customer can connect **N** line in the **N** port of AC connection side.

AC Cable cross section details.

Cable specification		Copper-cored cable	Copper clad aluminum / Aluminum Alloy cable
Traverse cross sectional area (mm ²)	Range	16~35	25~35
	Recommended	25	35
Cable outer diameter (mm)	Range	22~32	
	Recommended	27	

Table 1 Specification of AC Cable Cross-section

Strip the AC Cables.



- Strip the end of AC cable insulating jacket a bout 90mm then strip the end of each wire.
- L2 (Insulation stripping length) is 2mm- 3mm longer than L1 (OT cable terminal crimping area).

AC Termination cable.

Strip the insulation of the wire core, insert into the cable crimping area of the OT terminal, then use a hydraulic crimp tool to crimp it firmly. The wire must be covered with heat shrinkable tube or insulating tape. When using the heat shrinkable tube sleeve the heat shrinkable tube over the wire before crimping the OT terminal.

Remove the 4 screws on the AC terminal cover and remove the cover

Remove the screw under terminal slide and pull out the terminal

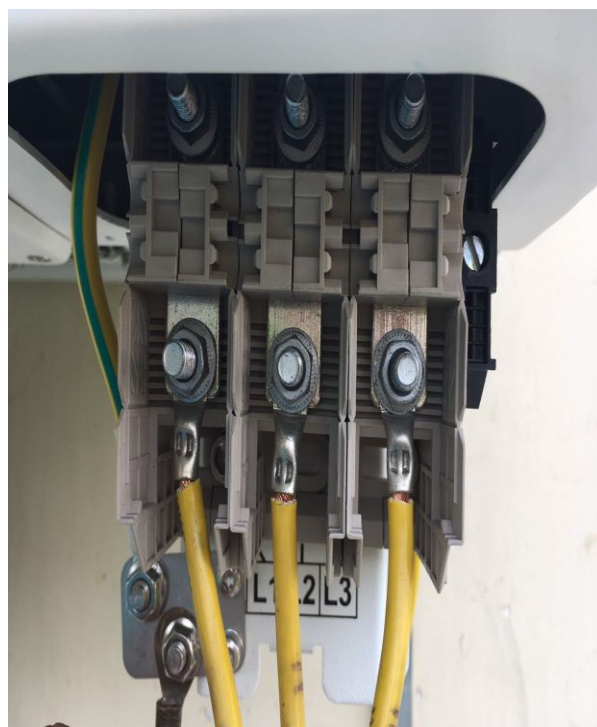


Insert the cable through cap nut, water proof bushing and AC terminal cover into the AC terminal and use a socket wrench to tight the screws. The torque is 4-6Nm

AC Gland plate & Cable Termination Example.



Figure 4 Bottom View of Solis-50K,60K-4G, 60K-HV

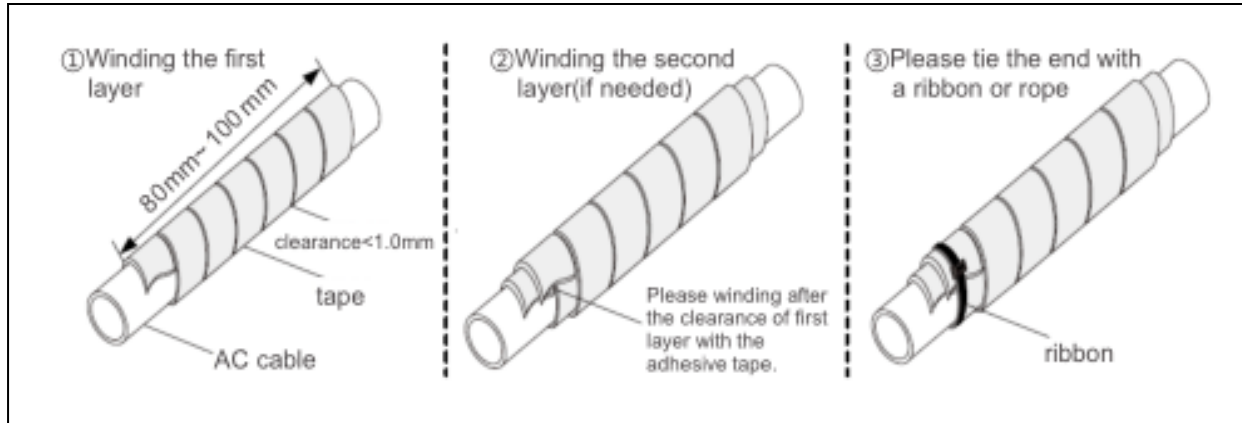


Push the AC terminal, Fix the gland plate and tighten the screws.



Use Adhesive tapes on AC cables for Insulation.

Wind AC Cables with adhesive tape provided in a spiral pattern.



Use the table below for the number of layers of tape needed for a specific cable diameter.

To protect the inverter's AC grid connection conductors, Solis recommends installing breakers that will protect against over-current. The following table defines OCPD ratings for the Solis 50-60kW three phase inverters.

Inverter	Rated voltage(V)	Rated output current (A)	Current for protection device (A)
Solis-40K	400	58	80
Solis-50K	400	72.2	100
Solis-50K-HV	480	60.2	80
Solis-60K-HV	480	72.2	100

Table 2 Rating of Grid OCPD

Three Phase Inverter cable size details (50K,60K-4G,60K-HV)

Serial	Item	Description
A.	Cable Size	16-35 mm ²
B.	Operation phase	3/N/PE
C.	AC Termination Pins	4 output (L1, L2, L3, PE)
D.	Cable Core	3 Core (Body Earthing)/4 core (AC cable earthing)
E.	If more than 20 m	25-35 mm ²
F.	Tools	3.0 mm Allen Key (Gland plates), Hydraulic Crimping tool (AC cables)
G.	AC Termination	OT Lugs, M6
H.	Ground cable cross section	16-35 mm ²
I.	Ground cable Termination	OT Lug
J.	Ground cable Termination Torque	3 Nm
K.	Cable type Recommended	Copper

Tools required



Allen Key 3.0 mm.



Hydraulic crimping tool for AC cable lugs.

Note:

- Bimetallic Lugs can be used if Cable used is Aluminum.



- Never use Pin type of lugs for AC connections which is not recommended.

