# Suntree

## SMC4 Solar Connector

- Simple on-site processing.
- Acomodates PV cable with different insulation diameters.
- Mating safety provided bykeyed housings.
- Multiple plugging and unplugging cycles .
- High current carrying capacity.
- TUV and UL approved.

CE TÜV ROHS

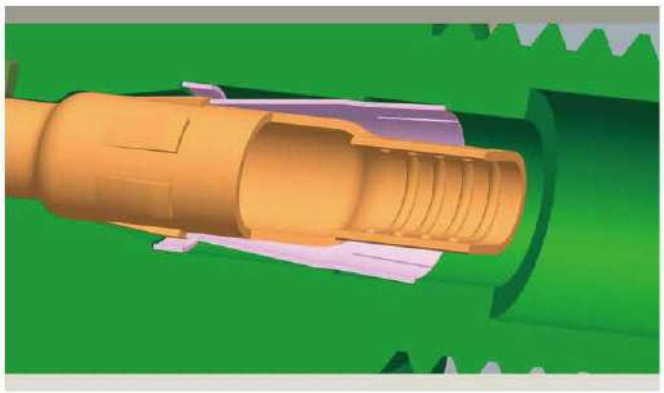
### Specifications

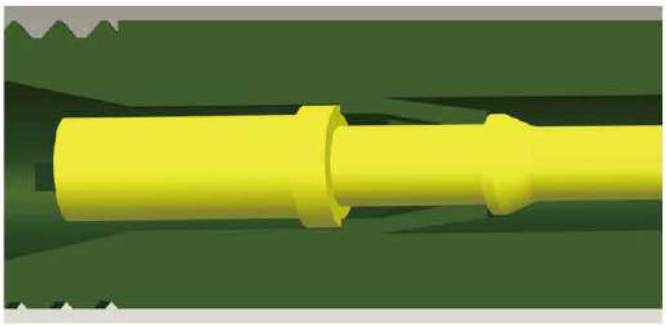
| Order NO. | Part P/N | | Cable | |
|---|---|---|---|---|
| | Connector | Terminal | Conductor size ($mm^2$) | Cable OD (ΦDmm) |
| SMC4-CMMM-14 | SMC4-CMMM-H | SMC4-CM-T14 | AWG 14(2.5 $mm^2$) | Φ4.5-Φ8.5 |
| SMC4-CMMM-12 | | SMC4-CM-T12 | AWG 12(4.0 $mm^2$) | |
| SMC4-CMMM-10 | | SMC4-CM-T10 | AWG 10(6.0 $mm^2$) | |
| Order NO. | Part P/N | | Cable | |
| | Connector | Terminal | Conductor size ($mm^2$) | Cable OD (mm) |
| SMC4-CFPM-14 | SMC4-CFPM-H | SMC4-CF-T14 | AWG 14(2.5 $mm^2$) | Φ4.5-Φ8.5 |
| SMC4-CFPM-12 | | SMC4-CF-T12 | AWG 12(4.0 $mm^2$) | |
| SMC4-CFPM-10 | | SMC4-CF-T10 | AWG 10(6.0 $mm^2$) | |

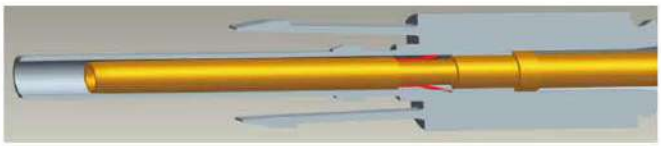
| | |
|---|---|
| Rated current | 30A(2.5-6$mm^2$) |
| Rated voltage | 1000v DC |
| Test voltage | 6000V(50Hz,1min) |
| Overvoltage type/pollution degree | CAT Ⅲ /2 |
| Contact resistance of plug connector | 1mΩ |
| Contact material | Copper,Tin-plated |
| Insulation material | PPO |
| Degree of protection | IP2X/IP67 |
| Flame class | UL94-VO |
| Safety class | Ⅱ |
| Suitable cable | OD 4.5-8.5(2.5-6.0 $mm^2$) |
| Insertion force/withdrawal force | ≤50N/≥50N |
| Connecting system | Crimp connection |
| Temperature range | -40℃～+125℃ |

### comparation for internal structure

Connectors of other companies







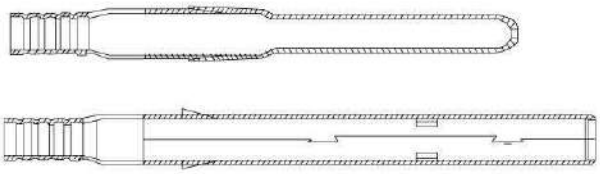
# SMC4 Solar Connector

Structure:

Insulator design by forced demoulding Create a slot (red circle marked) to fix spring by forced demoulding. Using spring to position terminal.

Shortcoming:

- Forced demoulding is not very steady It can't ensure any products with same performance.
- Maintain force will change betwween7~20kgf.
- Must assemble spring . It is to be a risk that sometimes operator will miss the spring.



Process: Stamping , Tin plating

Strongpoint:

- Low cost ,high productive capacity.
- It can be continually rivet because of terminal have strip feeder .

Shortcoming

- Material is thin .
- It's easy to deform.
- It will be heat serious in a long time when using
- It need to solder after riveting to reach pull force 31kgf.

Strongpoint:Simple structure

Shortcoming:

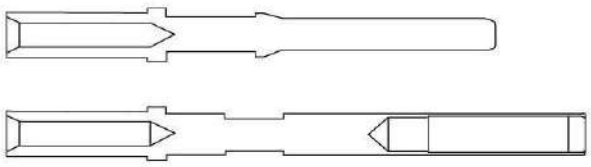
- The thread can't return back when screw open
- Because of first reason , it can't be reuse.
- The screw is easy to get open.

Structure:

Moulding a fixed structure to replace spring (red circle marked) .The fixed structure will be expand when terminal insert into insulator . It will be back to original position when terminal is to correct position and hold to terminal.

Shortcoming:

- All product is with same performance.
- Maintain force is 35kgf Min.
- Cut down the accessories.



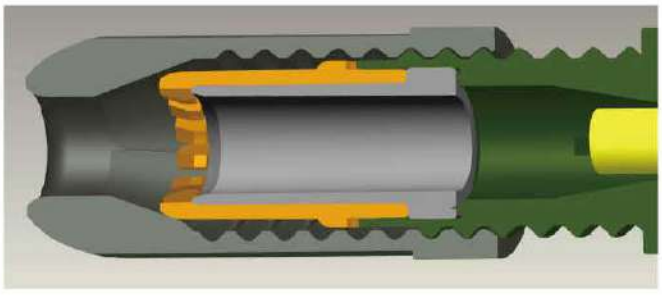
Process: Lathe Machining , Ag plating

Strongpoint:

- High cost ,low productive capacity
- It can't be continually rivet because it's without terminal rail.

Shortcoming

- Material is thin .
- It's easy to deform.
- It will be heat slight in a long time when using.
- Pull force can reach 31kgf after riveting.



Strongpoint:Add a part

Shortcoming:

- The thread can return back when screw open.
- It can be reuse.
- It's with an anti-loosen part ,screw is not easy to get open.