

# SMA POWER+ INSTALLATION OVERVIEW





## POWER+ PARTS LIST

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SMA Sunny Boy Inverter  
Part # SBx.x-1SP-US-40



Additional Gateway  
Part # 150-00000-50



Shutdown TS4-R-S  
Part # 476-00240-00



Rooftop Communication Kit  
Part # ROOFCOMMKIT-P1-US

Optimization TS4-R-O  
Part # 471-00252-10

TS4 FKT Field Key Tool  
Part # 400-94000-10  
(only required if you intend  
to change a TS4-R cover)



# SMA POWER+ ROOFTOP COMMUNICATION KIT (WHAT'S IN THE BOX)



LABELS and GUIDE



DIN RAIL, SCREWS, and  
ETHERNET CABLE



INSTALLATION  
MANUAL



GATEWAY



POWER SUPPLY



CLOUD CONNECT  
ADVANCE (CCA)  
and ANTENNA



SCREWDRIVER



INSULATING SLEEVE



# SMA POWER+ ROOFTOP COMMUNICATION KIT LABELS NOTE



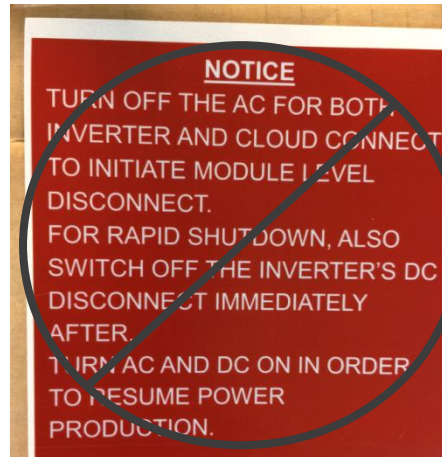
This label is NEC 2014 compliant



LABELS and GUIDE



Do not use this label





# SMA POWER+ ROOFTOP COMMUNICATION KIT LABELS NOTE



Labels for NEC 2017 compliance will have to be obtained separately

For more information pertaining to NEC 2017 labeling requirements please view the poster listed below from HellermanTyton

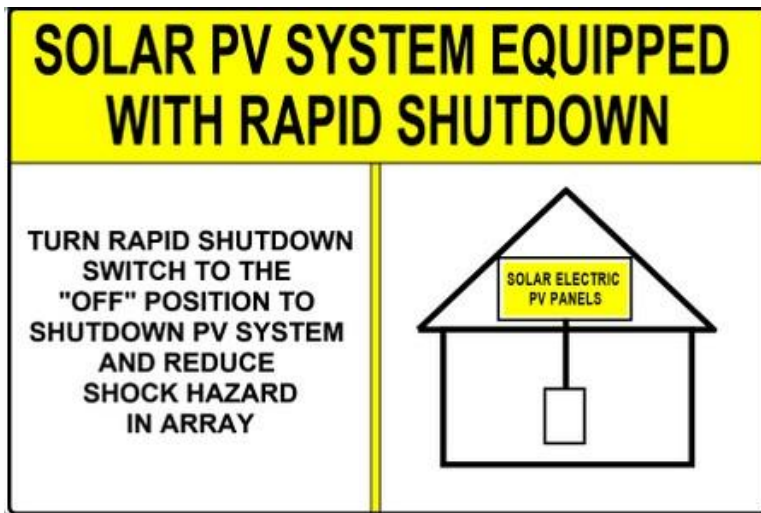


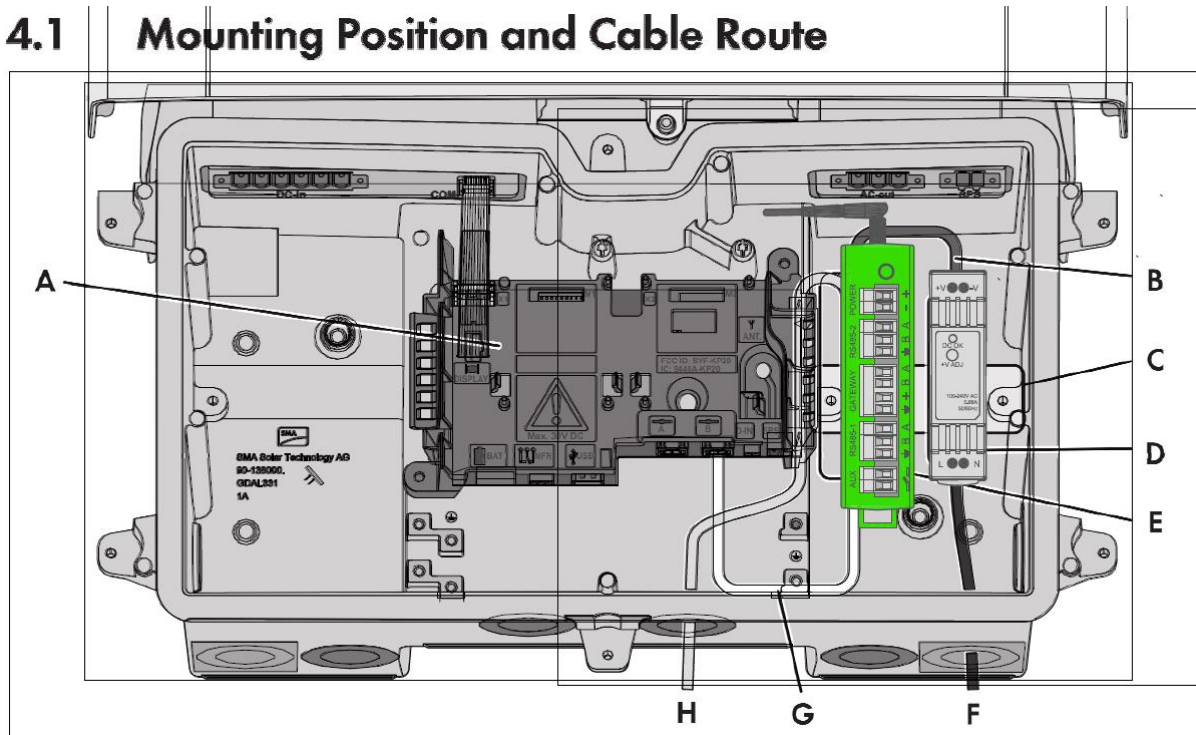
Image Source: [www.HellermanTyton.com](http://www.HellermanTyton.com)





## INSTALLATION OVERVIEW

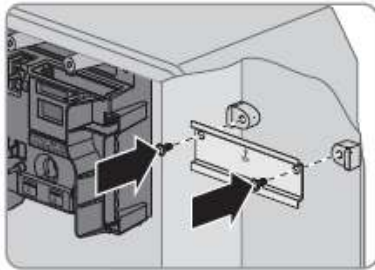
## 4.1 Mounting Position and Cable Route



Position	Designation
A	Communication assembly
B	Cable route for connecting the output of the power supply unit and the <b>POWER</b> connection of the Cloud Connect Advanced.
C	Mounting position of the top-hat rail
D	Position of the power supply unit on the top-hat rail
E	Position of the Cloud Connect Advanced on the top-hat rail
F	Cable route for connecting the power supply at the input of power supply unit
G	Cable route for connecting the network cable
H	Cable route for connecting the gateways to the Cloud Connect Advanced



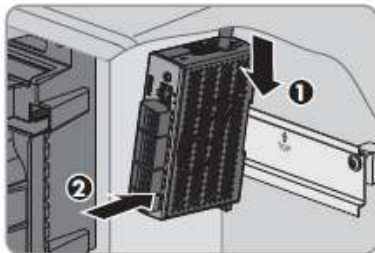
# SMA POWER+ STEPS IN THE INVERTER



Install din rail

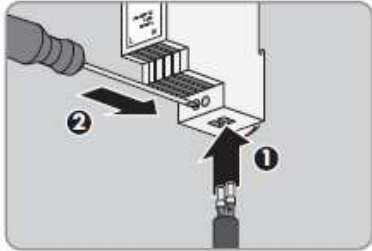


Attach antenna

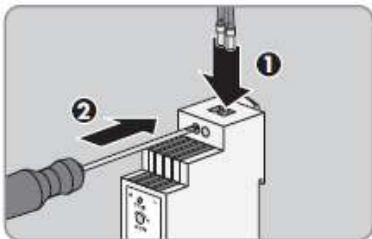


Connect CCA to din rail

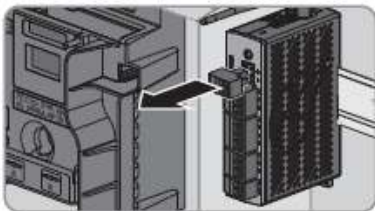
# SMA POWER+ STEPS IN THE INVERTER



Connect the power supply line to the power supply unit

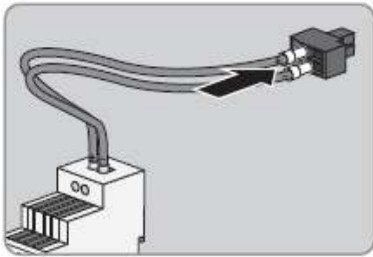


Connect the output of the power supply unit

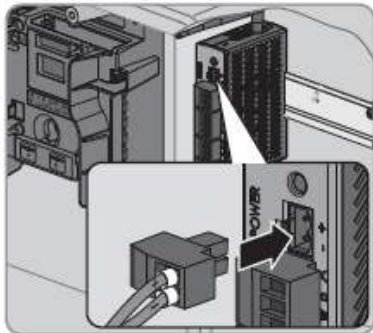


Unplug power supply terminal block from the CCA

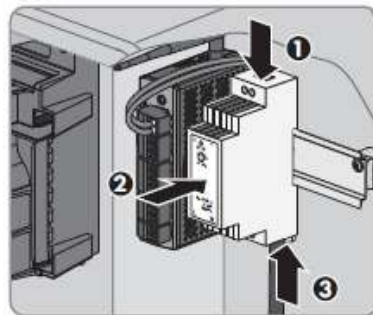
# SMA POWER+ STEPS IN THE INVERTER



Connect the positive and negative conductors to the terminal block



Plug the power supply terminal block into the CCA.

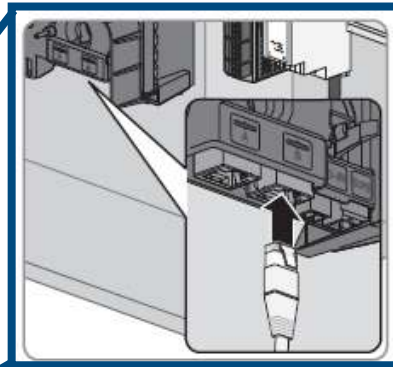
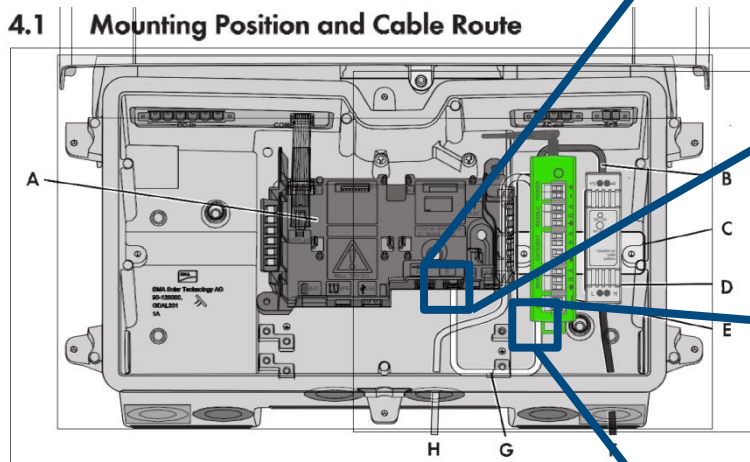


Mount the power supply unit on the din rail.

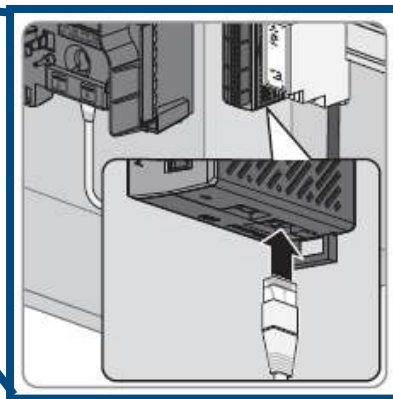
# SMA POWER+ STEPS IN THE INVERTER



## 4.1 Mounting Position and Cable Route

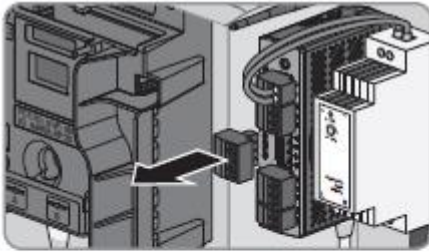


Plug one end of the network cable into the network port **B** of the communication assembly

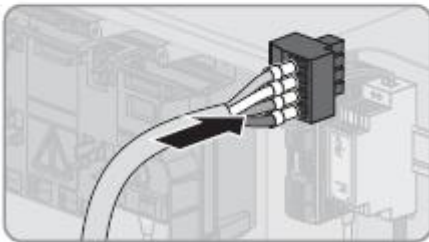


Plug the other end of the network cable into the network port at the bottom of the CCA

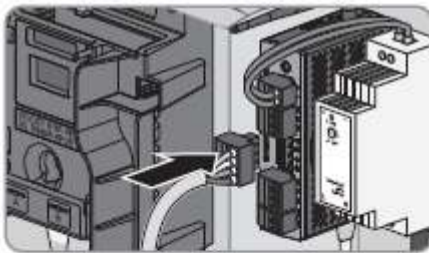
# SMA POWER+ STEPS IN THE INVERTER



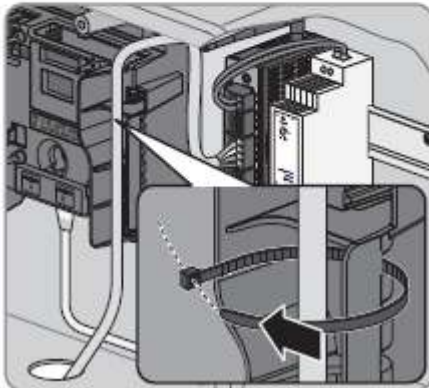
Unplug gateway terminal block from the CCA.



Connect the conductors to the terminal point of the terminal block



Plug the gateway terminal block into the CCA



Attach the conductor to the communication assembly using a zip tie.

# SMA POWER+ INSTALLATION OVERVIEW



## 4.1 Mounting Position and Cable Route

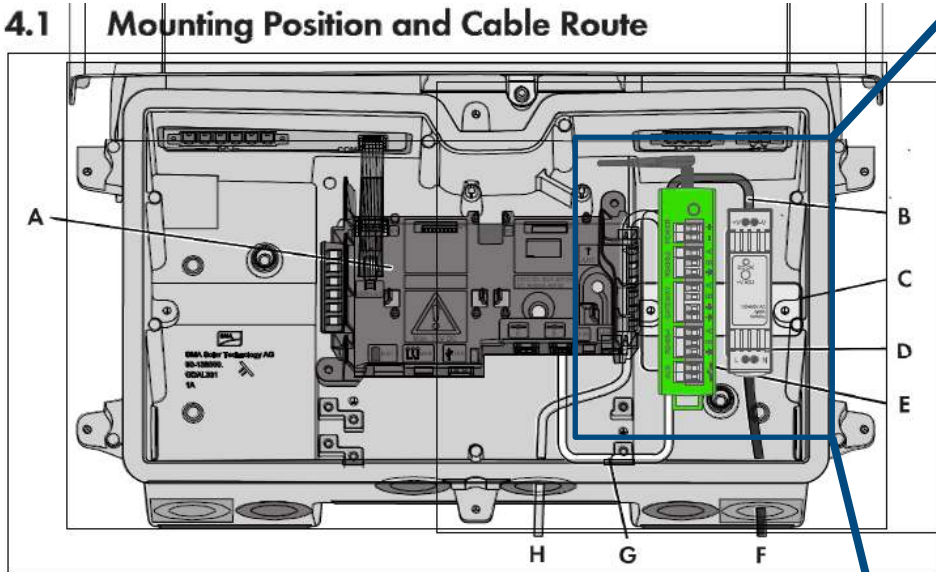
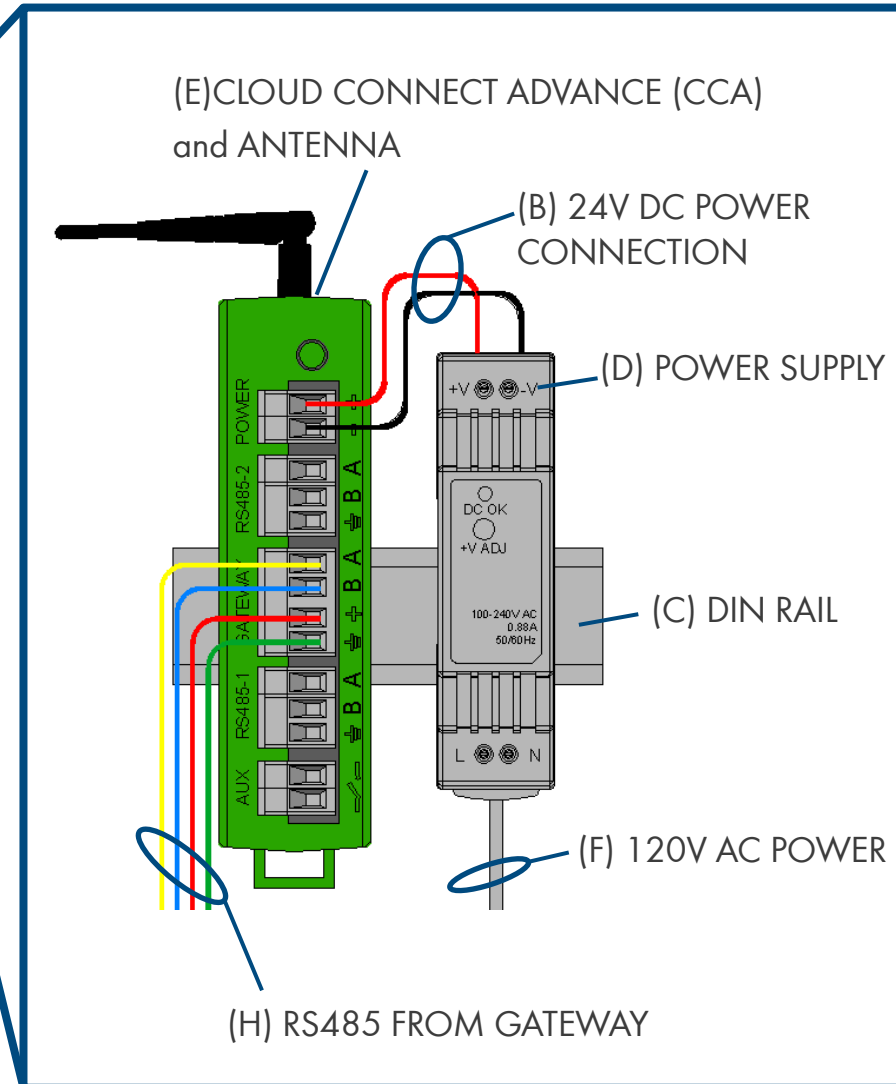


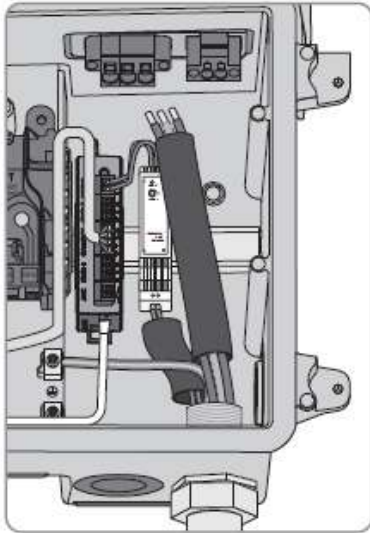
Figure 3 : Interior view of the open enclosure part of the inverter with mounting position and cable route

Position	Designation
A	Communication assembly
B	Cable route for connecting the output of the power supply unit and the <b>POWER</b> connection of the Cloud Connect Advanced.
C	Mounting position of the top-hat rail
D	Position of the power supply unit on the top-hat rail
E	Position of the Cloud Connect Advanced on the top-hat rail
F	Cable route for connecting the power supply at the input of power supply unit
G	Cable route for connecting the network cable
H	Cable route for connecting the gateways to the Cloud Connect Advanced

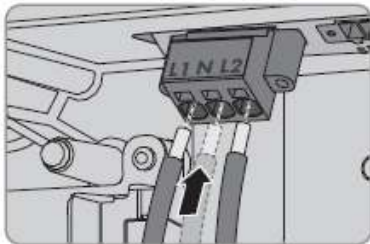




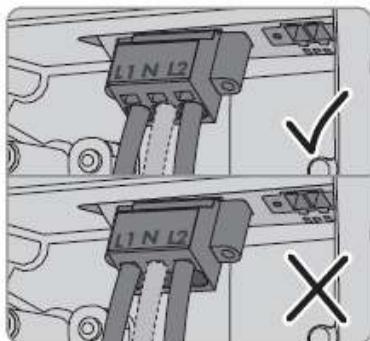
# SMA POWER+ STEPS IN THE INVERTER



Place the insulating hose over the AC conductors.

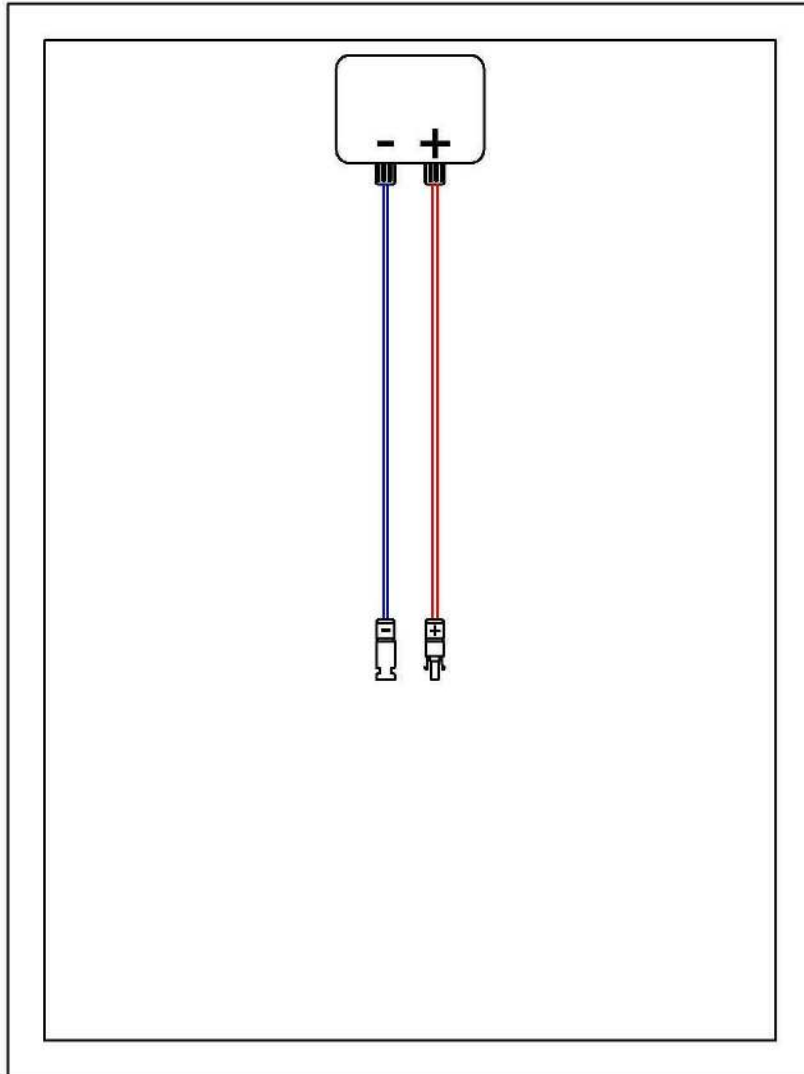


Insert a flat-blade screwdriver into the actuation shaft (rectangular opening), then insert the connector into the terminal point (round openings).

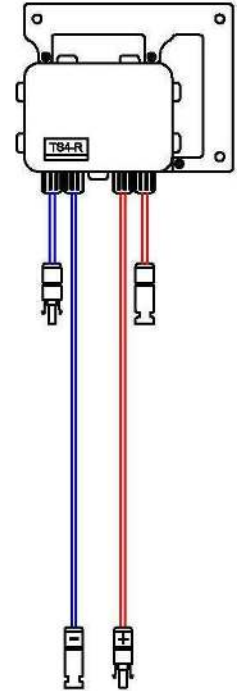


Ensure the conductors are plugged into the terminal points and not the actuation shaft!

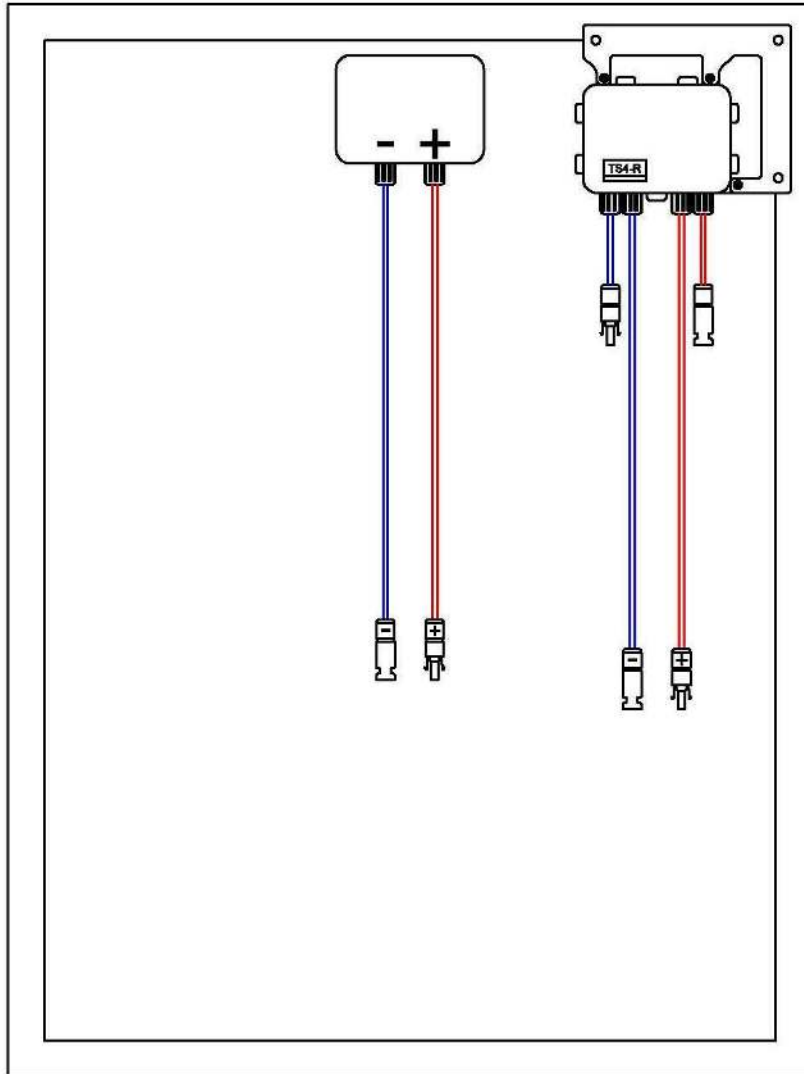
# SMA POWER+ STEPS CONNECTING THE TS4-R DEVICE



Clip the SMA TS4R-S/O to the PV Module

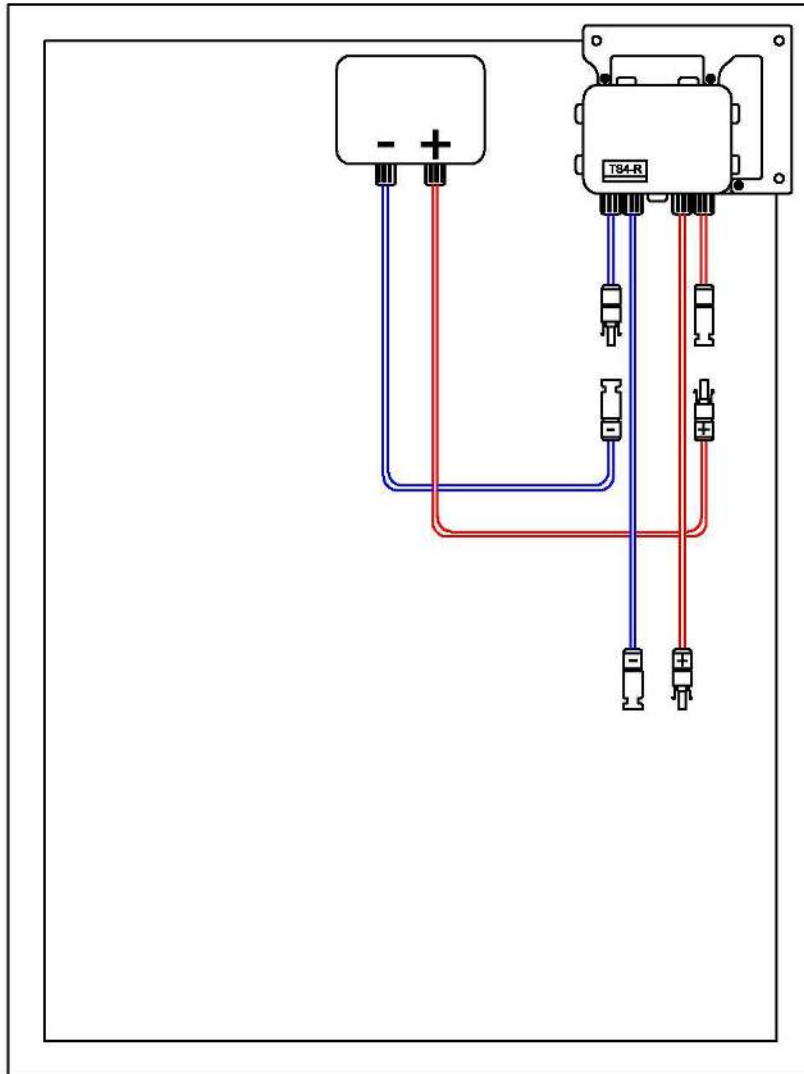


# SMA POWER+ STEPS CONNECTING THE TS4-R DEVICE



Clip the SMA TS4R-S/O  
to the PV Module

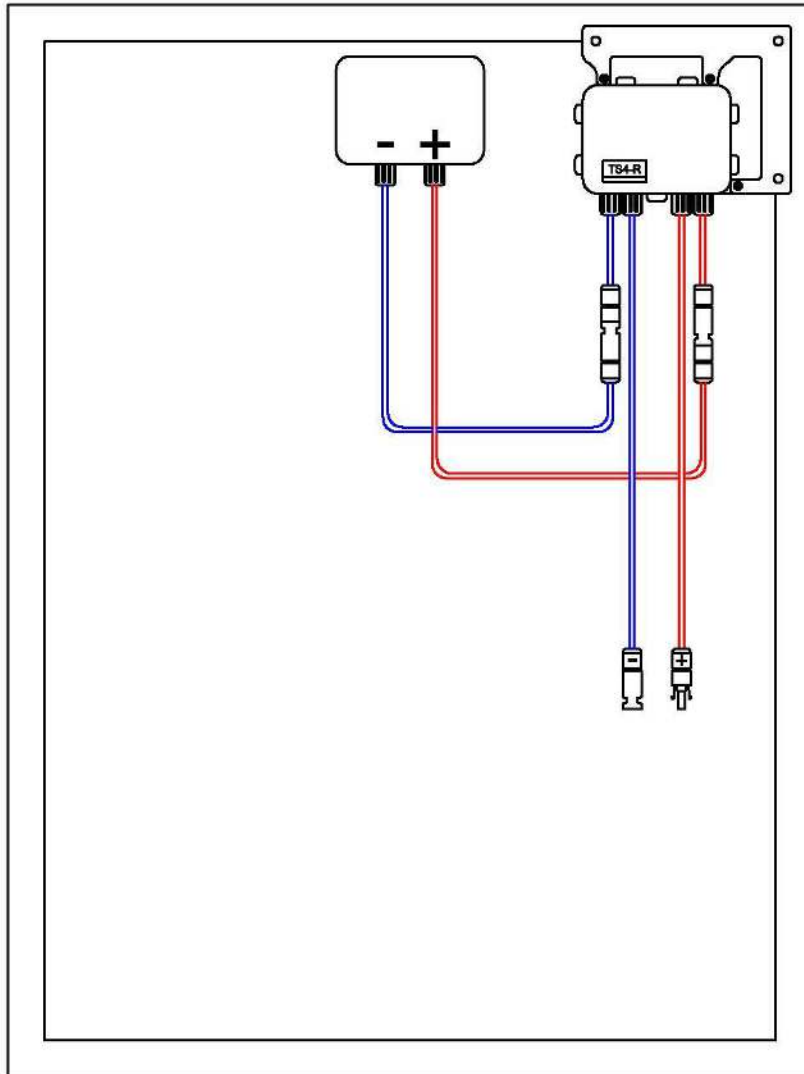
# SMA POWER+ STEPS CONNECTING THE TS4-R DEVICE



Connect the Module leads to the SMA TS4R-S/O

- Connect the Female Negative module lead to the Male input of the SMA TS4R-S/O
- Connect the Male Positive module lead to the Female input of the SMA TS4R-S/O

# SMA POWER+ STEPS CONNECTING THE TS4-R DEVICE



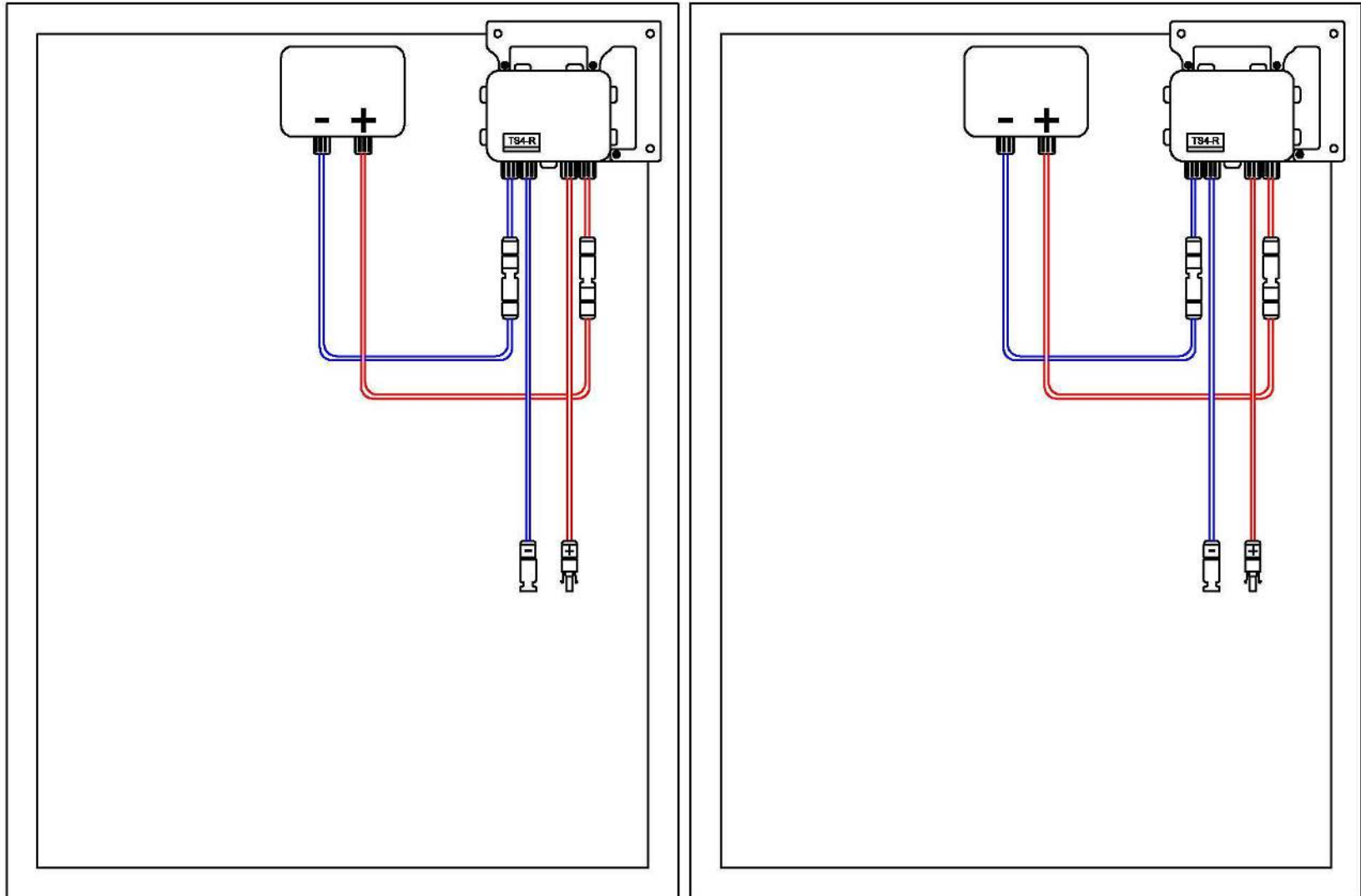
Connect the Module leads to the SMA TS4R-S/O

- Connect the Female Negative module lead to the Male input of the SMA TS4R-S/O
- Connect the Male Positive module lead to the Female input of the SMA TS4R-S/O

# SMA POWER+ STEPS CONNECTING THE TS4-R DEVICE



Then wire in series as normal

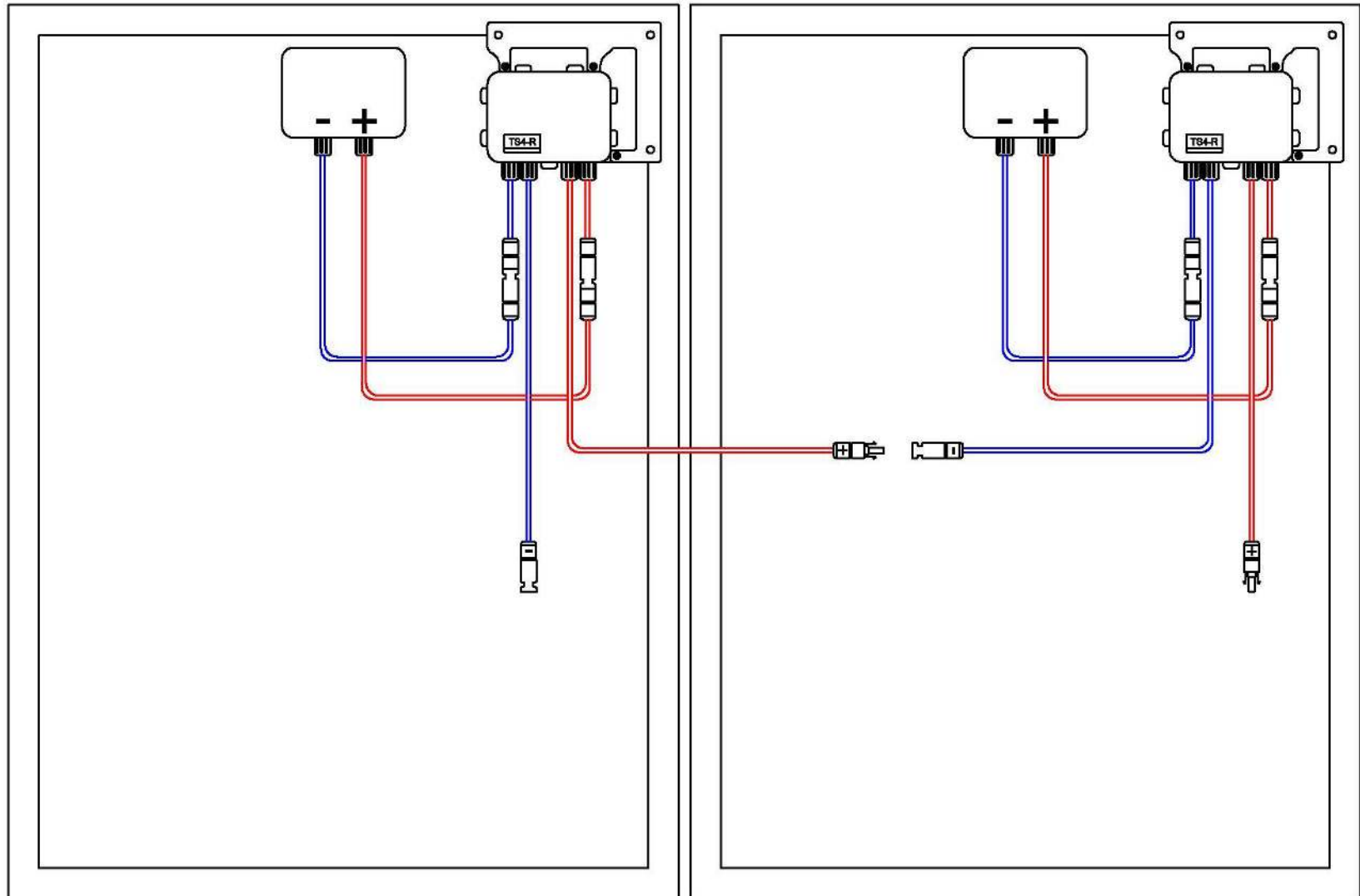




# SMA POWER+ STEPS CONNECTING THE TS4-R DEVICE



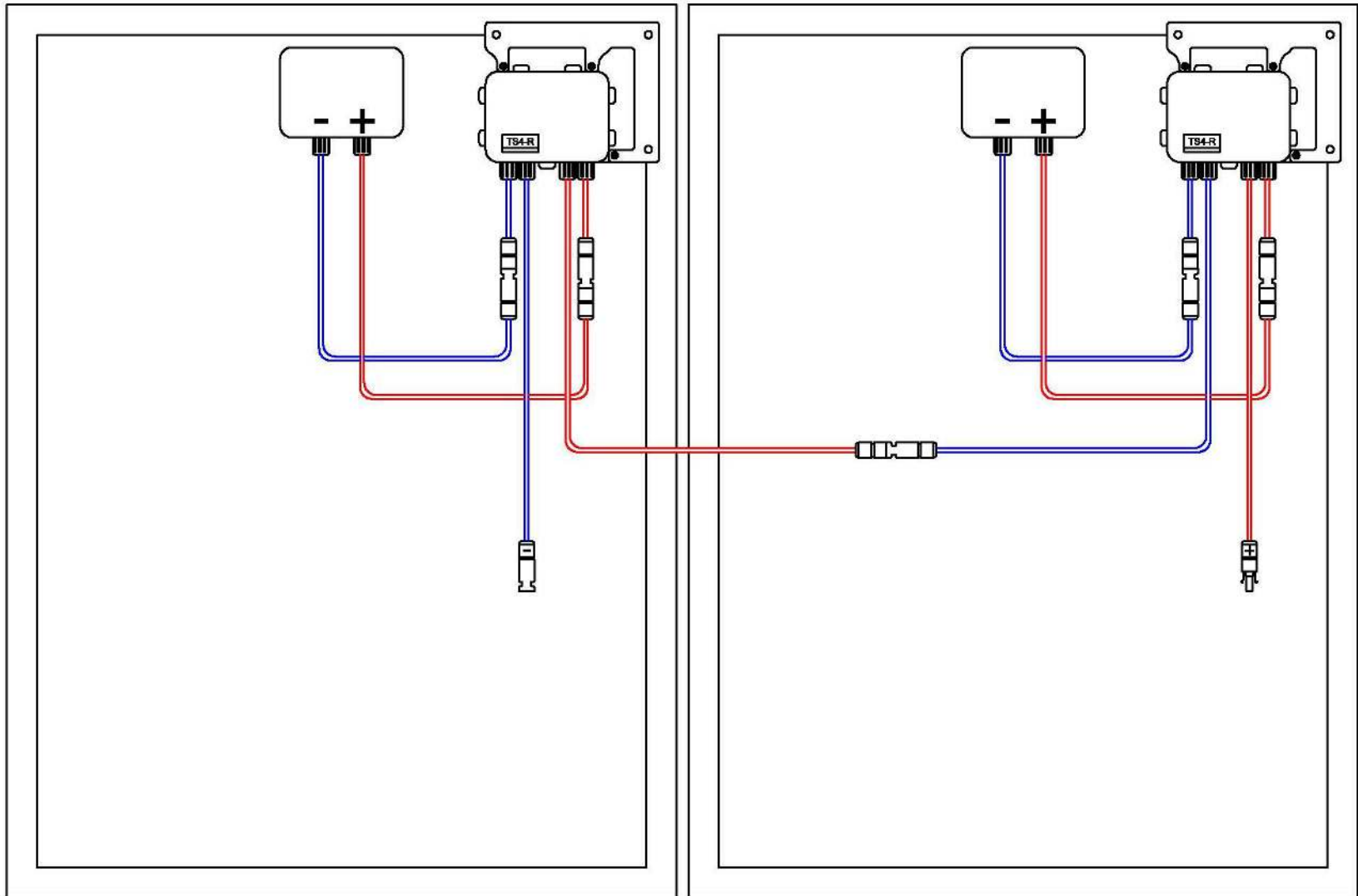
Then wire in series as normal



# SMA POWER+ STEPS CONNECTING THE TS4-R DEVICE



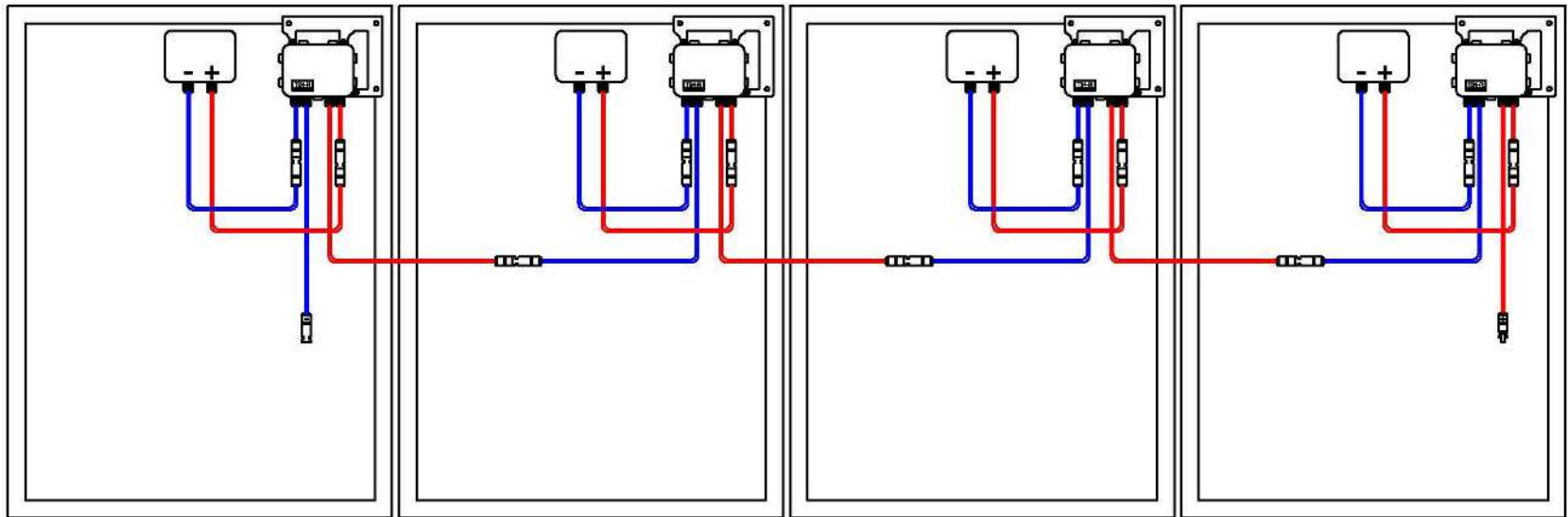
Then wire in series as normal



# SMA POWER+ STEPS CONNECTING THE TS4-R DEVICE



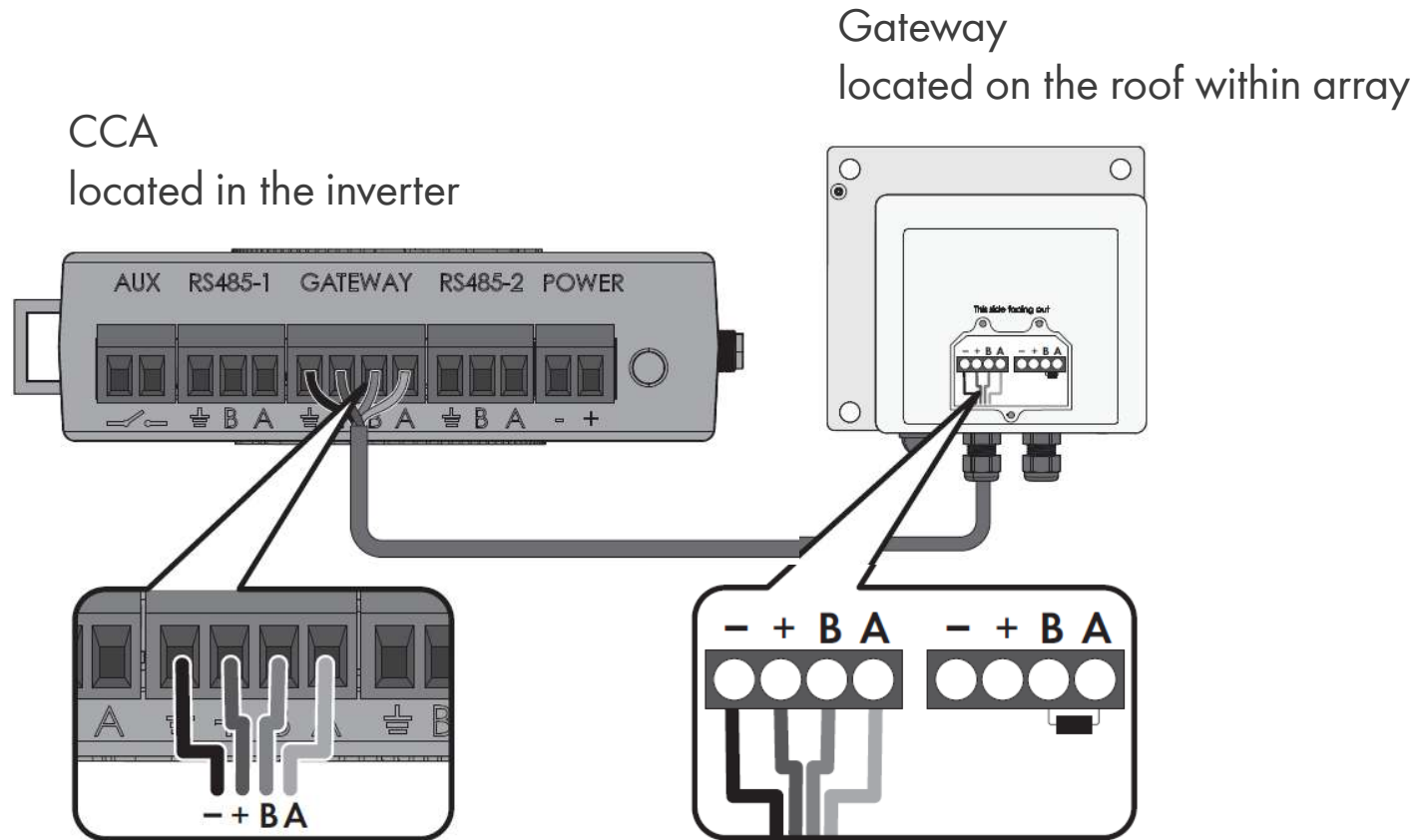
Then wire in series as normal



# SMA POWER+ STEPS GATEWAY TO CCA



One CCA for up to (3) Gateways

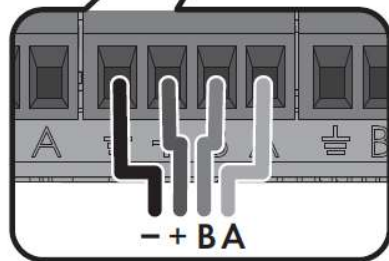
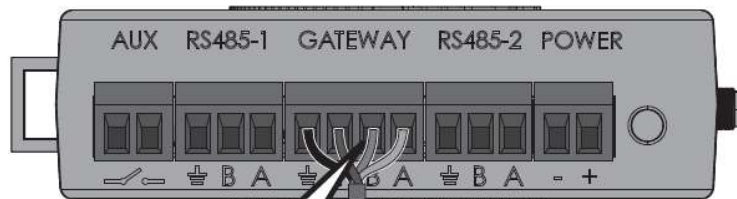


# SMA POWER+ STEPS GATEWAY TO CCA

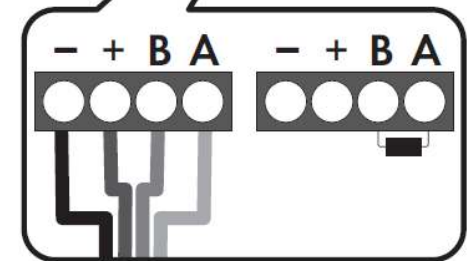
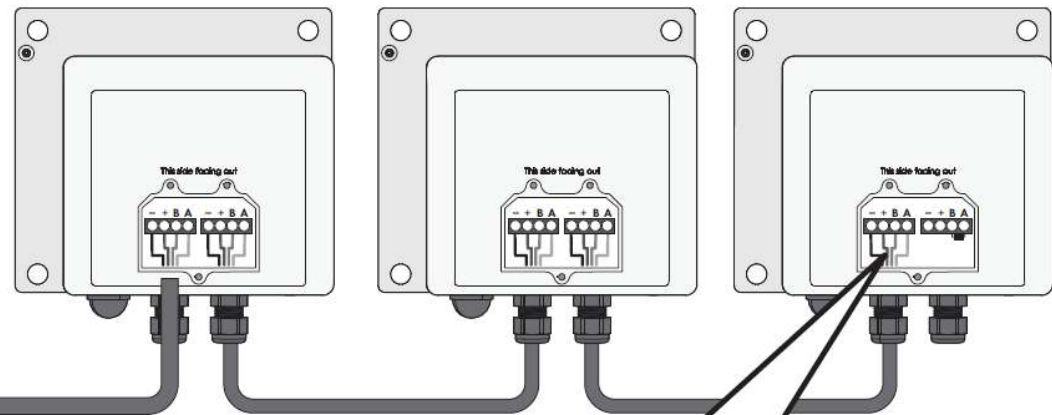


One CCA for up to (3) Gateways

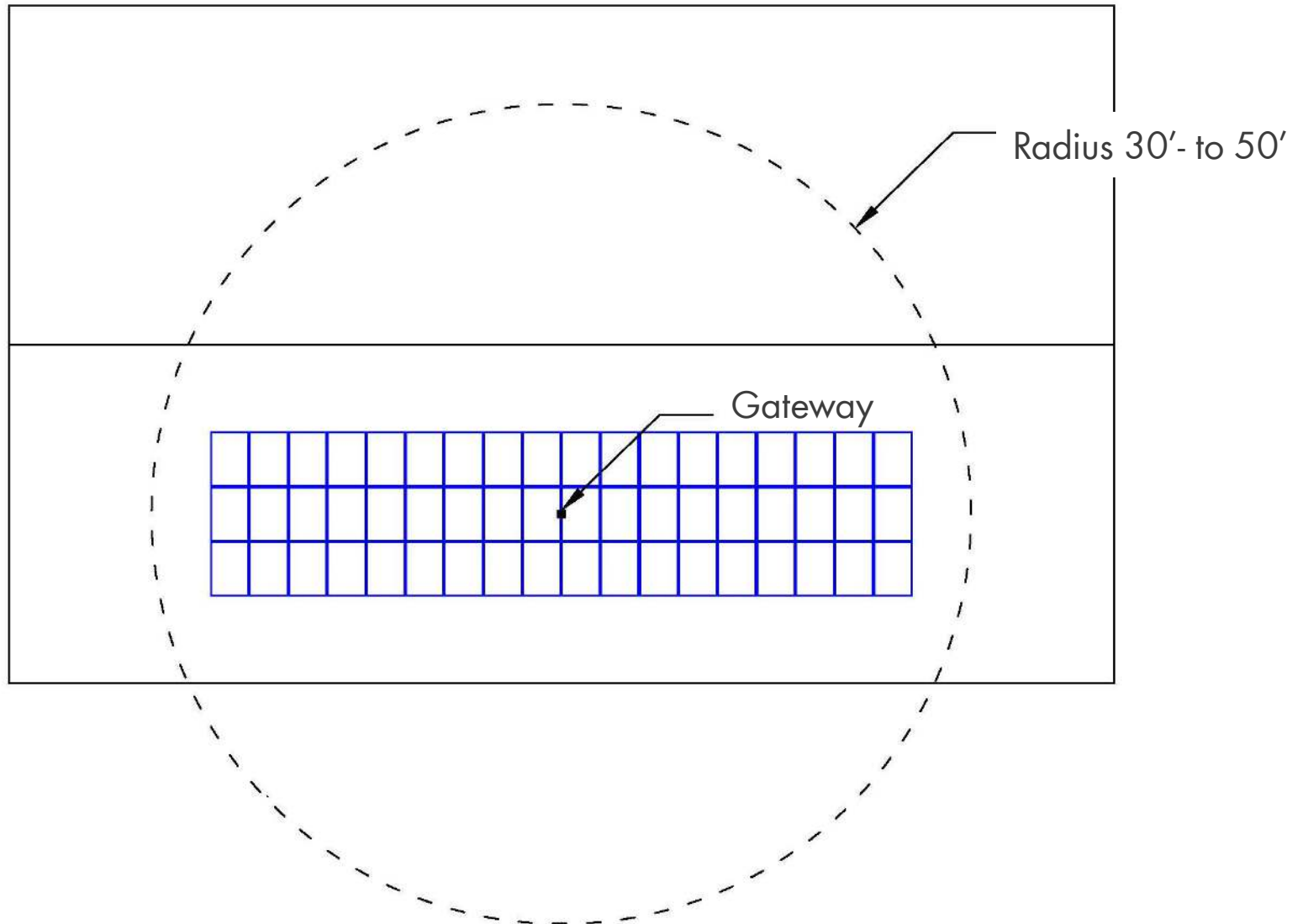
CCA  
located in the inverter



Gateway(s)  
located on the roof within each array



# SMA POWER+ STEPS CONNECTING THE GATEWAY





THANK YOU!

ANY QUESTIONS?

