

# Rapid Shutdown (RSD) System Installation Best Practices

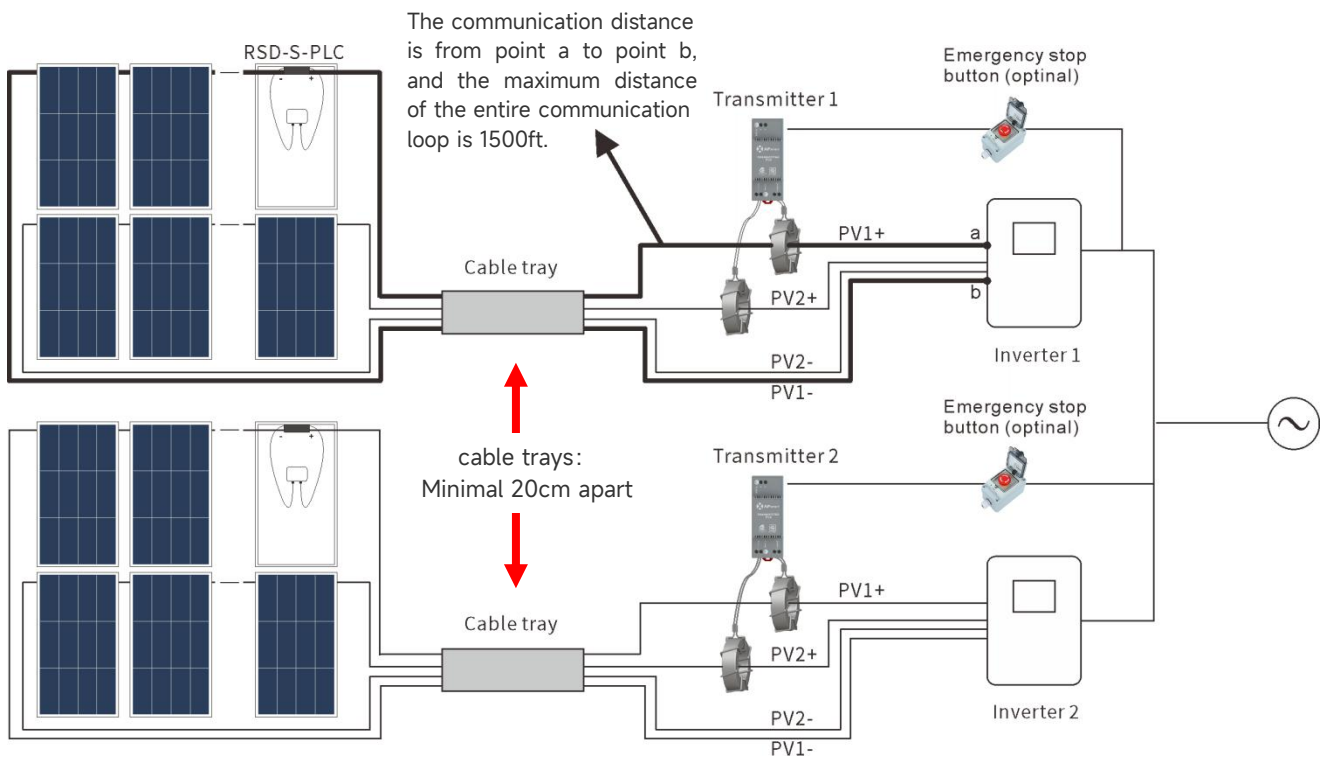
If a system uses 2 or more transmitters, we recommend that you follow the instructions below to ensure a successful installation.

In the system, the maximum communication distance of a single string can reach 700 meters (NOTE: communication distance refers to the length of the PV+ to PV - cable in a single string of the inverter, not the linear distance from the transmitter to RSD).

It is recommended to pass the PV+ cable through the core of the transmitter.

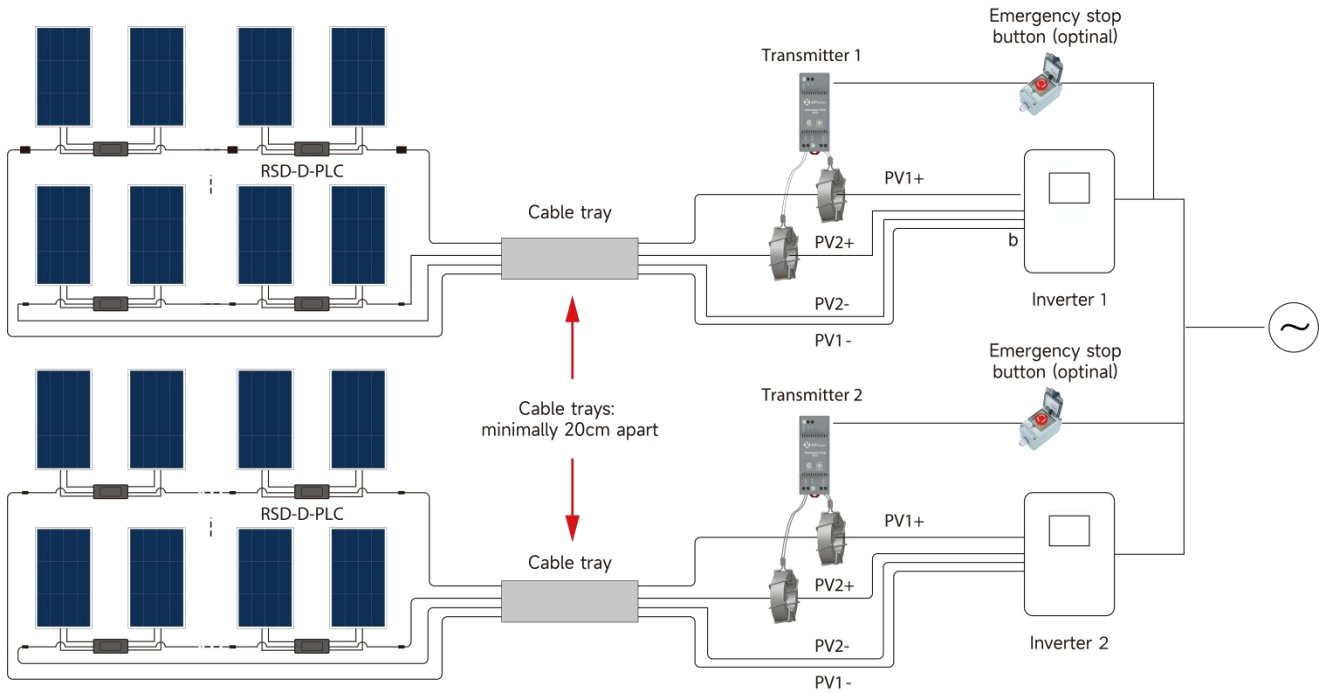
## Cable tray installation method 1: (Recommend)

### RSD-S-PLC



\*The recommended interval between 2 transmitters is more than 1m.

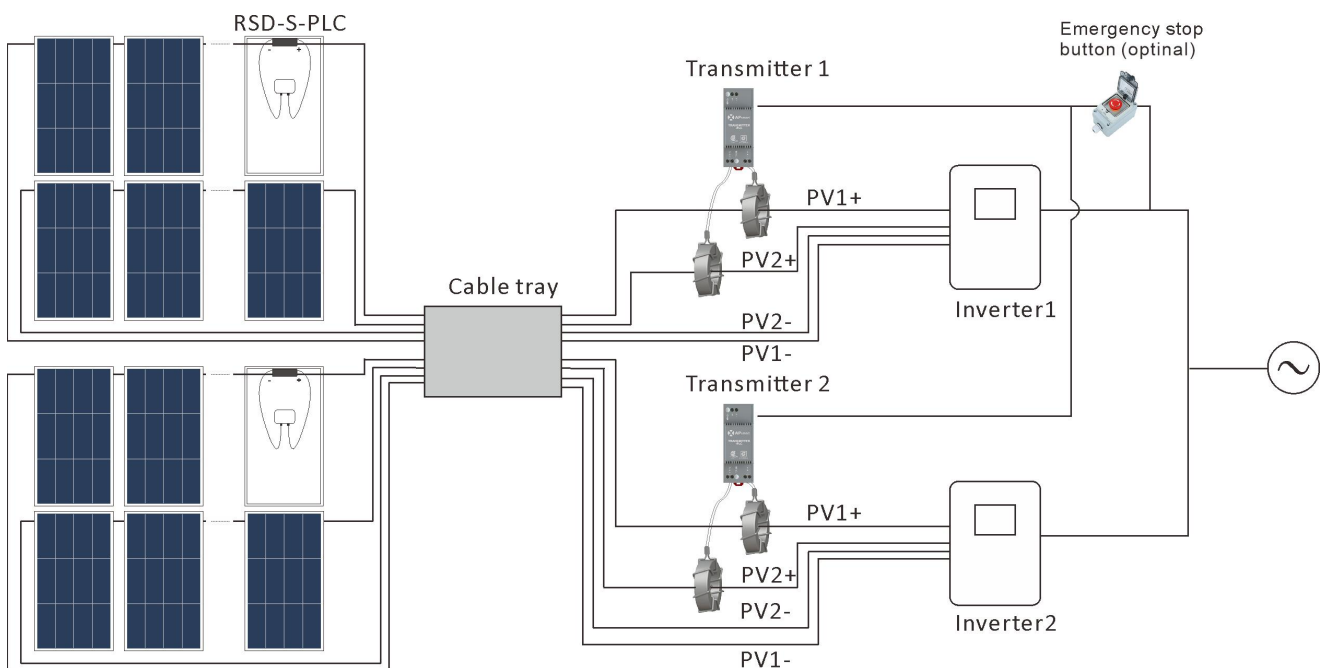
## RSD-D



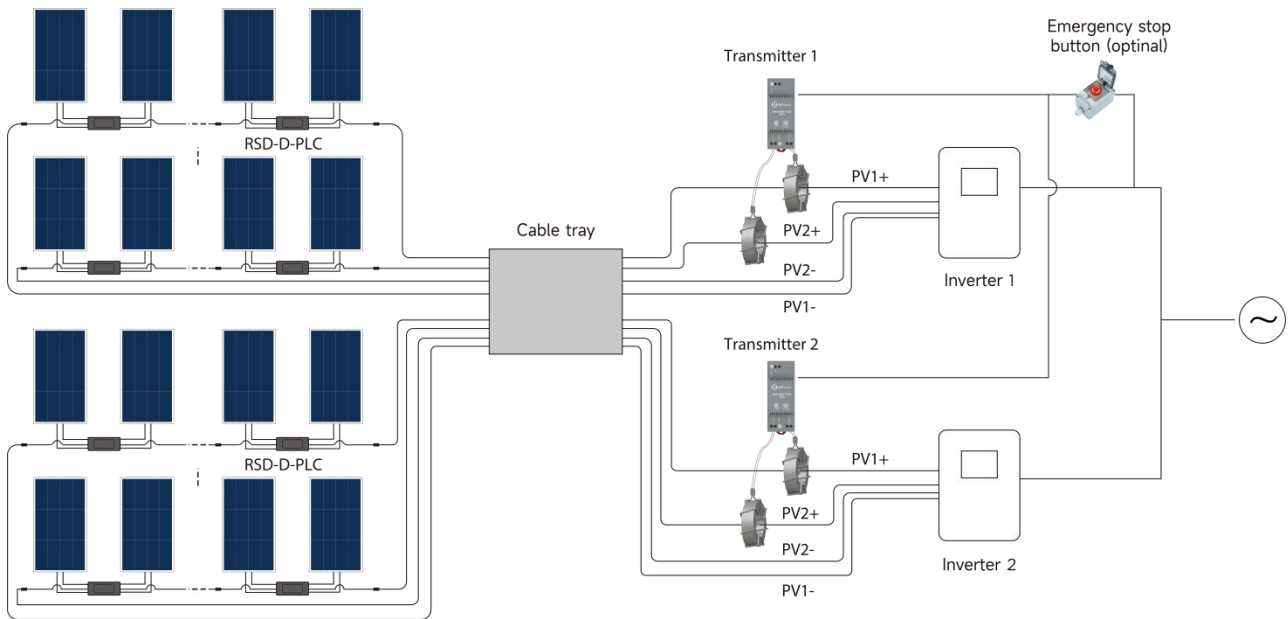
The RSD system must use separate cable trays minimally 20cm apart. This is to allow each inverter system to be turned on and off independently.

## Cable tray installation method 2: (Low cost solution)

### RSD-S-PLC

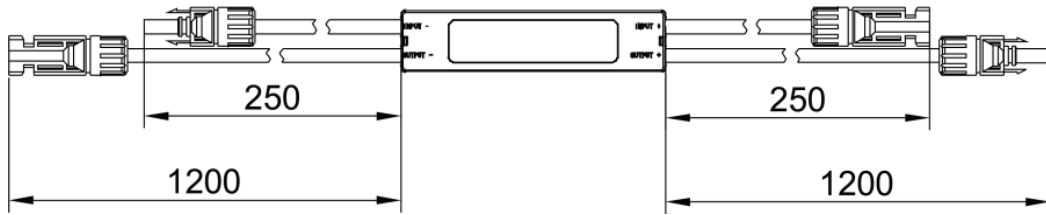


## RSD-D

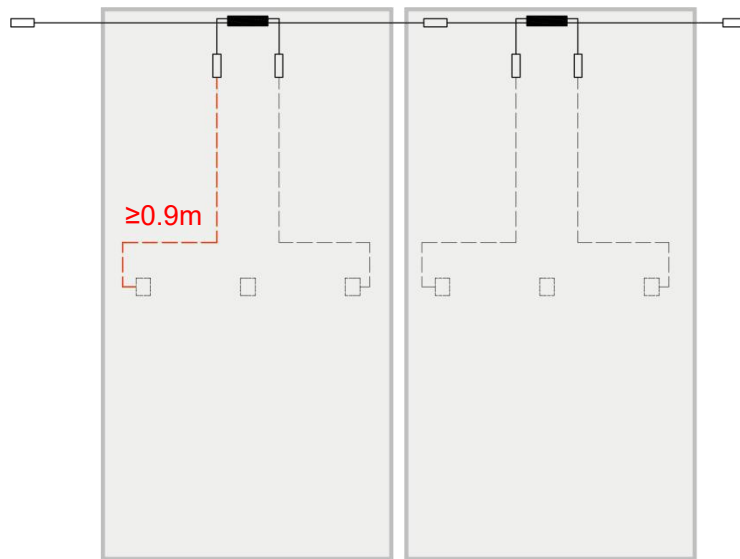


When multiple RSD systems use one cable tray and the transmitter signal of system 1 passes through the powerlines, the electromagnetic induction may occur and may affect the cable of system 2. This might cause some RSD units in system 2 to enter the normal operation mode. If you only require that the whole roof system is turned on or off at the same time, the same cable tray can be used for the installation and the electromagnetic induction will not influence the normal operation and shutdown of multiple systems. If you require each inverter system to be shut down independently, please refer to the Cable tray installation method 1.

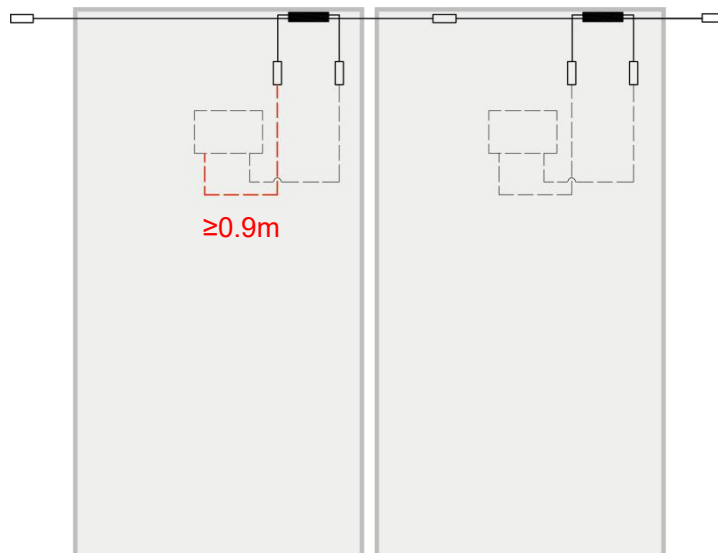
RSD-S-PLC cable length



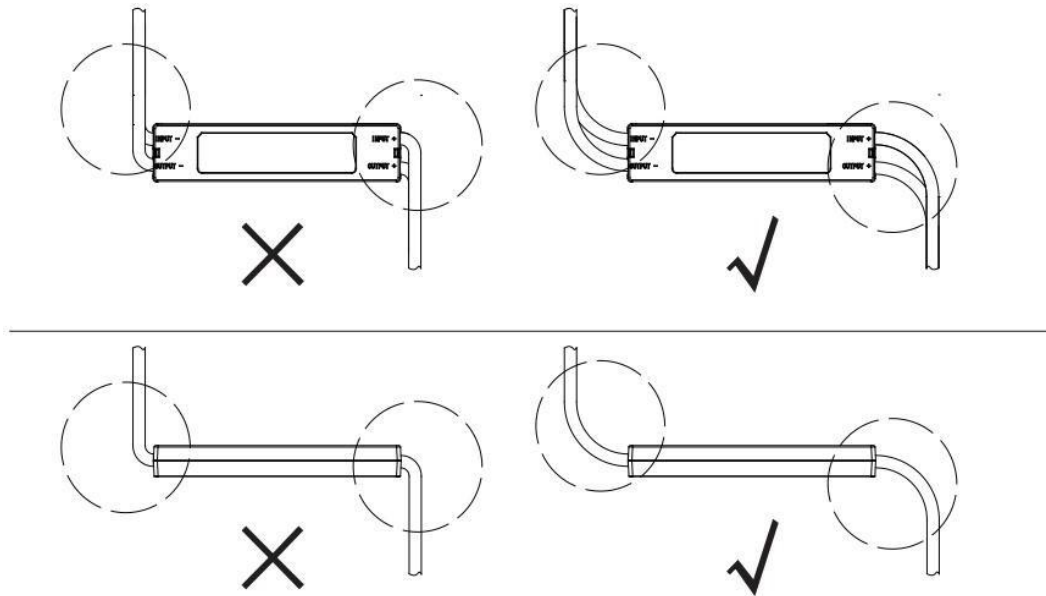
**NOTE:** The output cable length of triad junction box PV module should be no less than 0.9m.



**NOTE:** The output cable length of integrated junction box PV module should be no less than 0.9m.



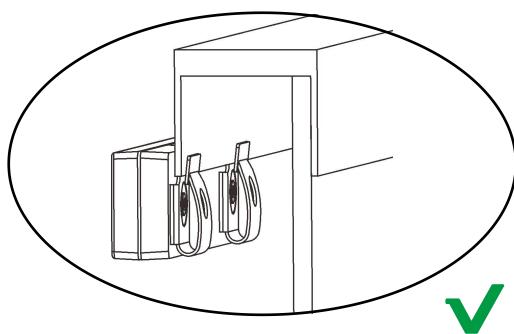
**NOTE:** When installing RSD-S cable, the bending radius of the cable near the casing must be larger than 50mm.



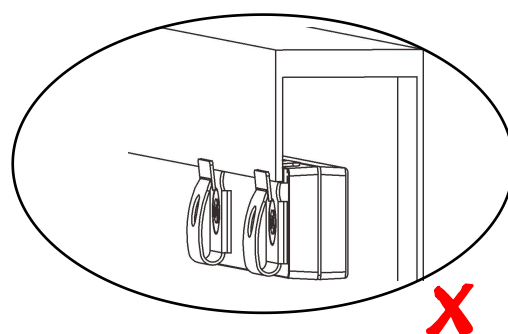
Connect the output ports of the RSD-S-PLC in series, and the output voltage of the DC string is within the range of  $(0.6 \sim 1v) \times \#RSD-S-PLC$ . (This range may vary due to different on-site environments.)

Buckle RSD-S-PLC onto the PV module frame.

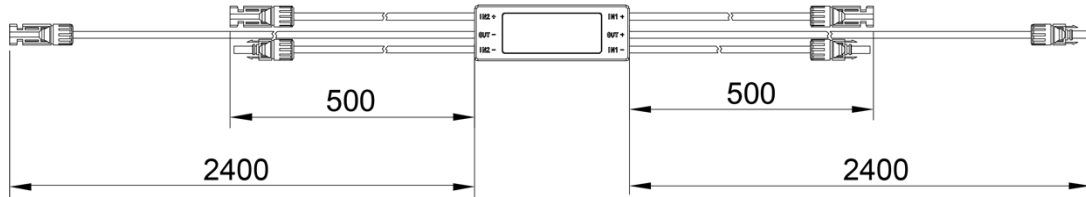
**Front buckle**



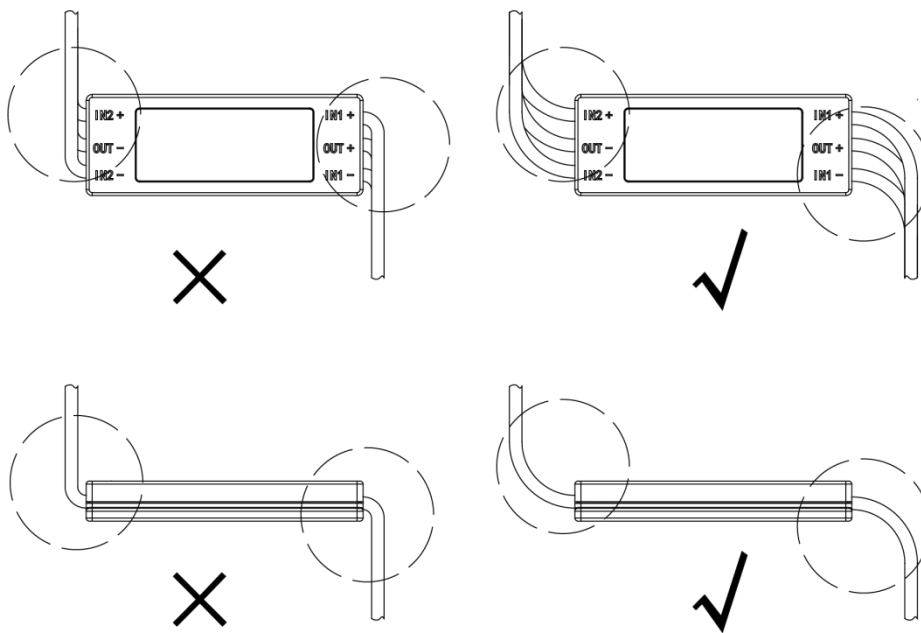
**Back buckle**



### RSD-D cable length



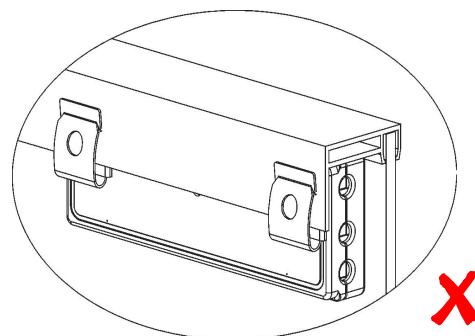
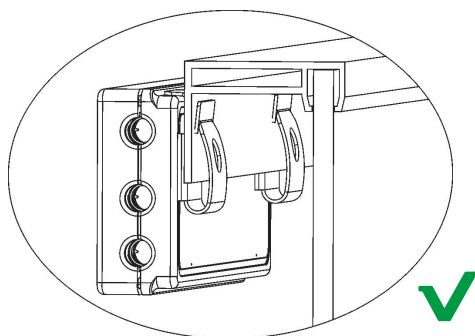
**NOTE:** When installing RSD-D cable, the bending radius of the cable near the casing must be larger than 50mm.



Buckle RSD-D onto the PV module frame.

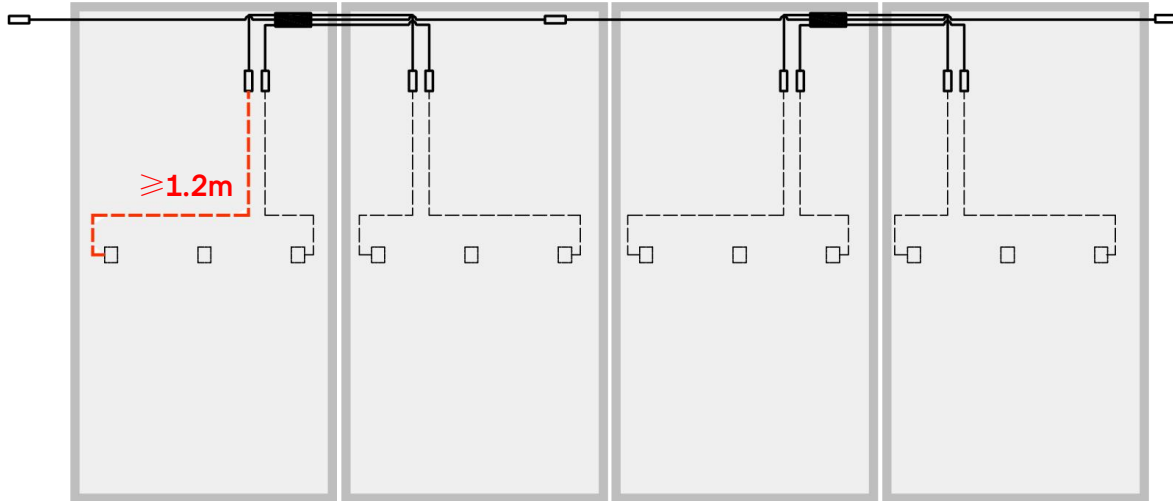
**Front buckle**

**Back buckle**



During the installation, connect the INPUT1 connectors of the RSD-D to the first PV module junction box and connect the INPUT2 connectors to the second PV module.

**NOTE:** The output cable length of the PV module should be no less than 1.2m.



The connectors between RSD-D and PV junction box should be the same brand.

**NOTE:** The connectors of APSmart RSD-D can be customized according to the brand of component connectors.

