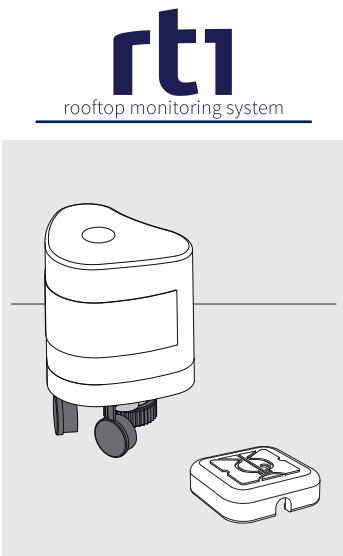


Instruction Sheet

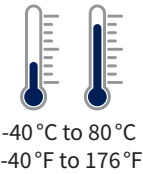


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Looking for the

manual?  
instruction sheet in Chinese?  
declaration of Conformity?  
SmartExplorer software?

kippzonen.com/downloads



IP 67 CE

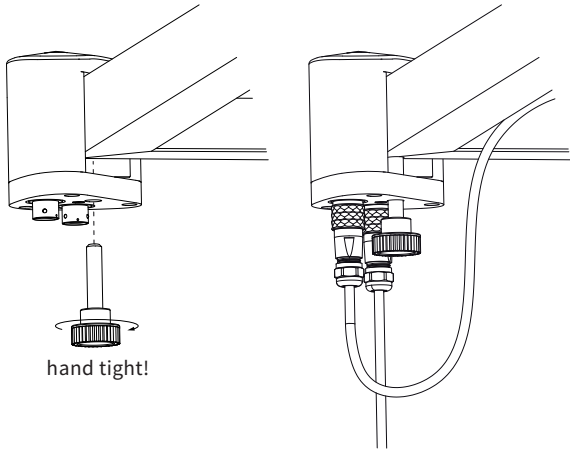
User Information

Read this document carefully before installation

Warranty is 2 years from date of invoice, subject to correct installation and use. Kipp & Zonen accepts no liability for any loss or damages arising from incorrect use of the product. Unauthorised modifications may void the warranty and CE/FCC validity. For the latest product support information please visit our website.

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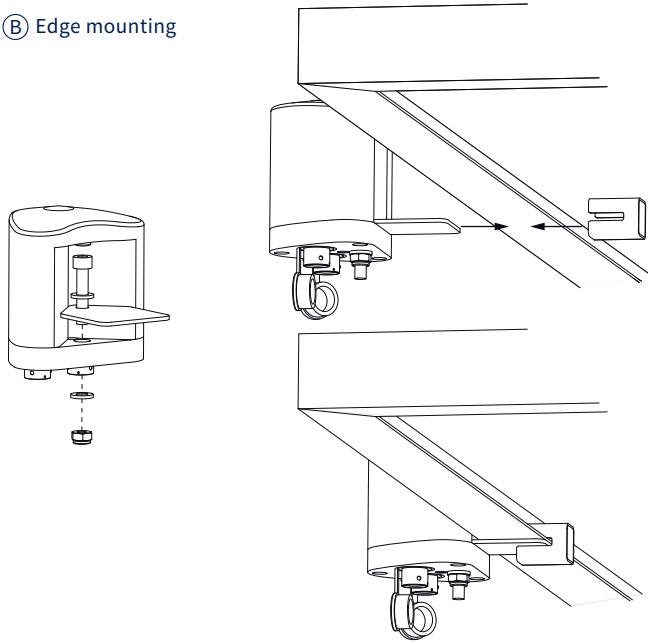
④ A Corner mounting



Electrical Connection

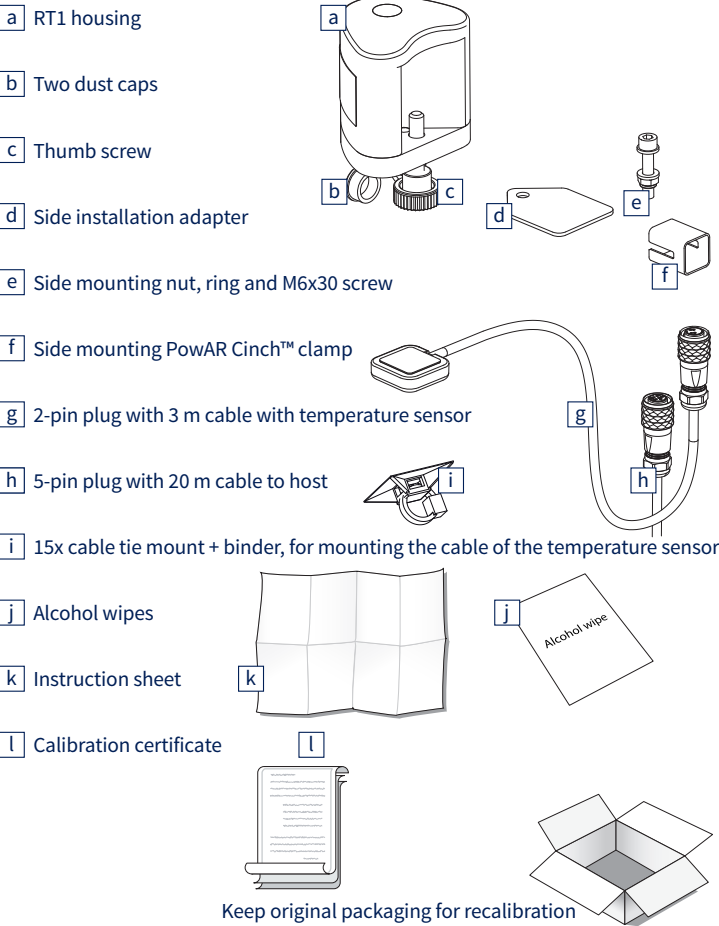
Wire	Function	Connect with
Yellow	Modbus® RS-485	B/ B' / +
Grey	Modbus® RS-485	A/ A' / -
Green	Modbus® common / Ground	
White	Power 5 to 30 VDC (12 V recommended) 60 mW max.	
Black	Power ground	
Shield	Housing	Ground *
* Connect to ground if radiometer not grounded		

④ B Edge mounting

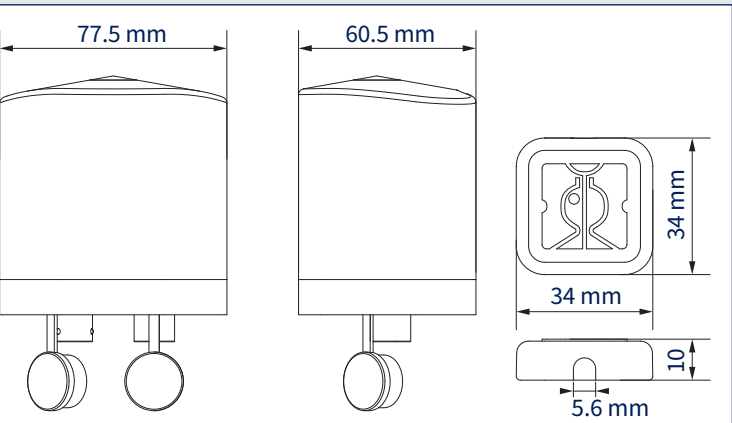
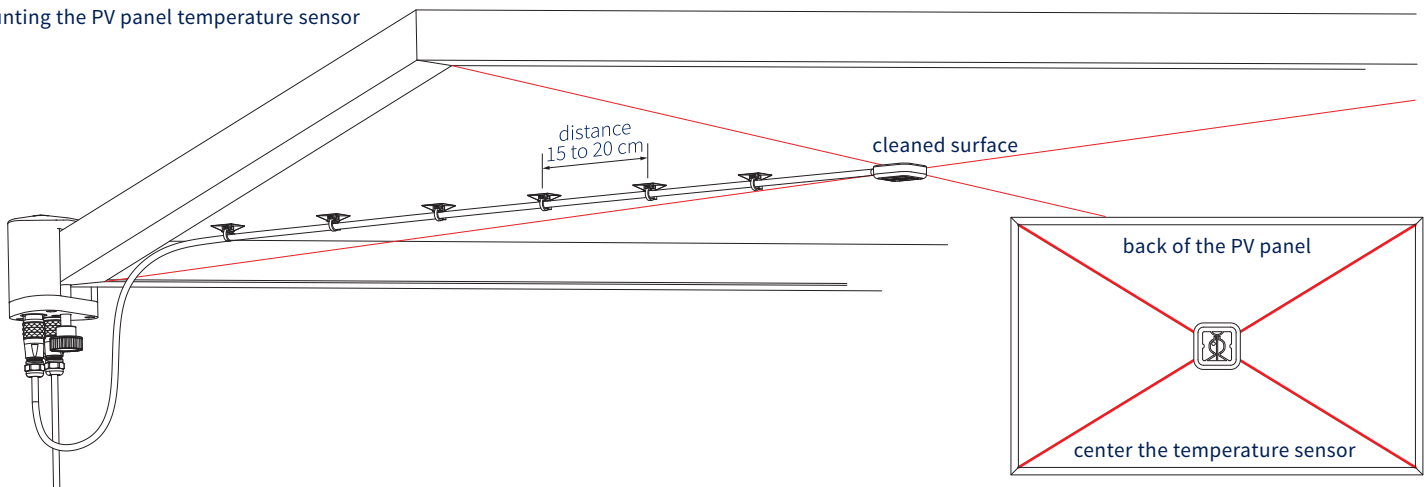


Mechanical Installation

- ① Check delivery contents
- ② Check if the standard RT1 communication parameters match your system<sup>(1)</sup>:  
2-wire RS-485 with Modbus® RTU protocol, 19200 baud, 8 databits, even parity, 1 stopbit (also known as 19200 - 8E1)  
<sup>(1)</sup> If the parameters do not match your system:  
Connect the RT1 to your PC with RS485-USB interface and run the Kipp & Zonen SmartExplorer software to change the parameters.
- ③ Determine a good spot on a solar panel in your solar rooftop park which is a location with the same amount of sun and shade as most of the PV panels
- ④ Mount the RT1 in one of the following ways:
  - A At a corner of a solar panel (preference position)
    - Screw out the thumbscrew just enough for the RT1 to fit over the corner of the PV panel
    - Position the RT1 in such a way that it fits well and snugly to both sides of the PV panel, then turn in the thumb screw until it is hand tight and feels well secured
    - Do not plug in the cable to the host or Modbus® gateway unless the cable is properly installed
  - B Edge (if corner mount is no option) by using the side installation adapter
    - Remove and store the thumb screw
    - Put the adapter plate in the RT1 and secure with the nut and screw
    - Align the RT1 with the side of the PV panel and keep securely in place
    - Position the PowAR Cinch™ in front of the adapter plate
    - Push on the PowAR Cinch™ and make sure that it is fully engaged
- ⑤ Install the PV panel temperature sensor by the following steps:
  - From the RT1 sensor, pull off the black dust cap of the 2-pin connector
  - Insert the 2-pin plug in the 2-pin connector of the RT1 sensor
  - Clean the surfaces of the locations for the cable supports and for the PV panel temperature sensor<sup>(2)</sup> at the back of the PV panel
  - <sup>(2)</sup> The best location for the temperature sensor is the center of the PV panel
  - Stick the temperature sensor to the cleaned surface at back of the PV panel  
*Place with care as the temperature sensor can not be removed once installed*
  - Stick the cable tie mounts to the cleaned surfaces at the back of the PV panel
  - Secure the cable to the cable supports by using tie wraps
- ⑥ Connect the 5-wire cable to your data logger / SCADA / Modbus® gateway
- ⑦ Direct this cable to the RT1
- ⑧ From the RT1 sensor, pull off the black dust cap of the 5-pin connector
- ⑨ Insert the 5-pin plug in the 5-pin connector of the RT1 sensor
- ⑩ Secure the cable
- ⑪ Check the data in the Smart Explorer software or your monitoring software



⑤ Mounting the PV panel temperature sensor



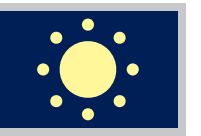
Modbus® address	1 <sup>(*)</sup>
Communication	19200 baud, 8 bits, even parity, 1 stopbit <sup>(*)</sup>
<sup>(*)</sup> default setting, can be adjusted	
For manual and software please visit <a href="http://www.kippzonen.com">www.kippzonen.com</a>	



Fully cloudy  
50 to 120 W/m²



Sunny, partly cloudy  
120 to 500 W/m²



Clear and Sunny  
500 to 1300 W/m²

Delivery Contents

Dimensions

Maintenance

Settings & Typical Values