iWSN-3020-TC-BT-IP65 FAQ

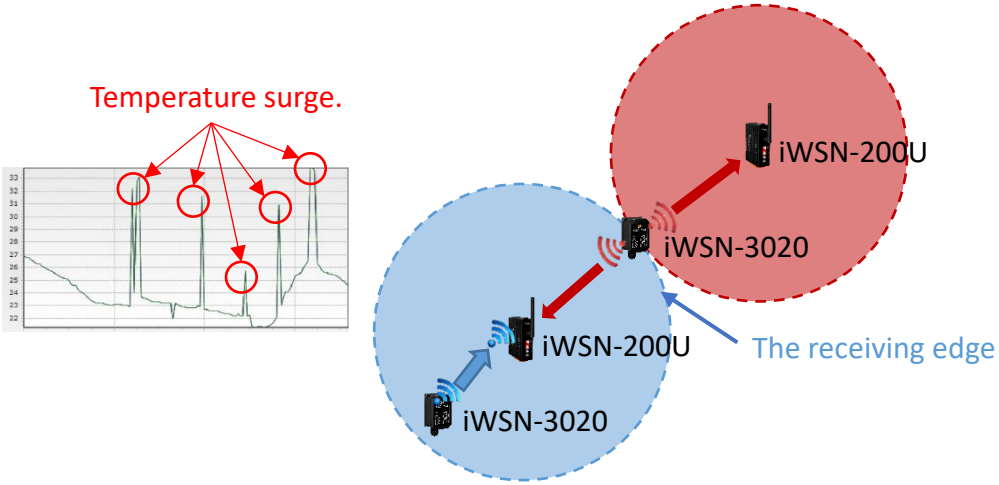
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Q1、Why does the temperature data returned by iWSN-3020-TC-BT-IP65 have surges? (2024/12/10, Bao)

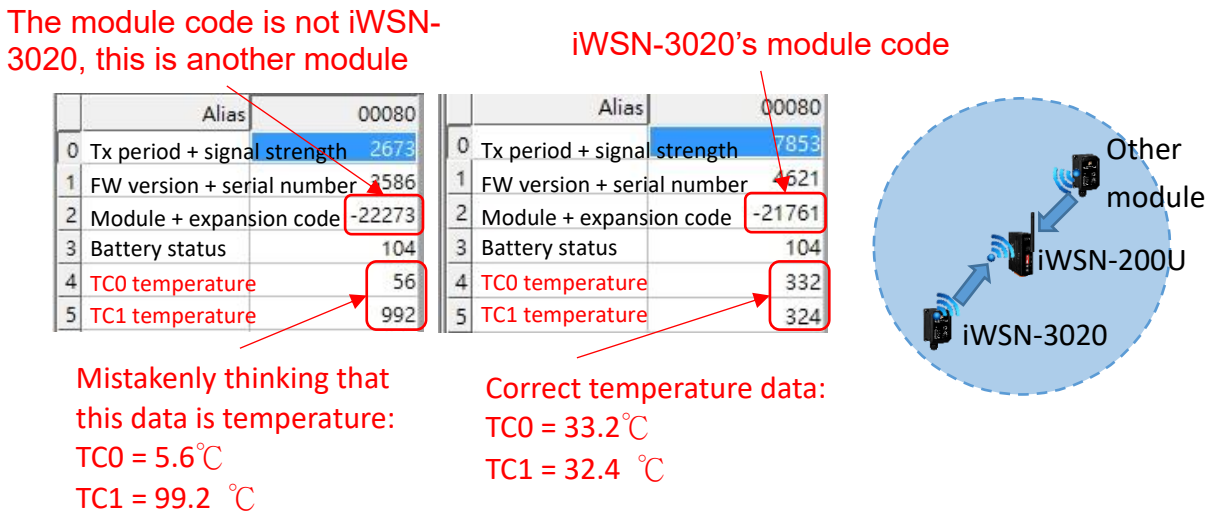
A1: Judging from field experience, it may be due to the following reasons that the data actively returned by the module cover each other, resulting in a sudden rise or fall in temperature, as described below. (2024/12/10, Bao)

- [Possible reason 1]
  There are two iWSN-3020 stations with the same wireless parameters at the case site (such as blue and red in the picture below). Among them, the installation position of the red iWSN-3020 is at the receiving edge of the blue iWSN-200U, causing the blue iWSN-200U to receive occasionally the red iWSN-3020 data and overwrite the blue iWSN-3020's data, and then the host computer just happened to read this data at this moment.



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- [Possible reason 2]
  There are two modules at the site with the same wireless parameters but different measurement types. For example: The data returned by iWSN-3020 is temperature, but the data returned by another set of modules is not temperature. However, because the wireless parameters of the two modules are the same, when iWSN-200U receives the data, it will store at the same Modbus address, therefore, when the stored data is overwritten by each other and is no longer the temperature, the host computer will still think it is the temperature and misjudge it.

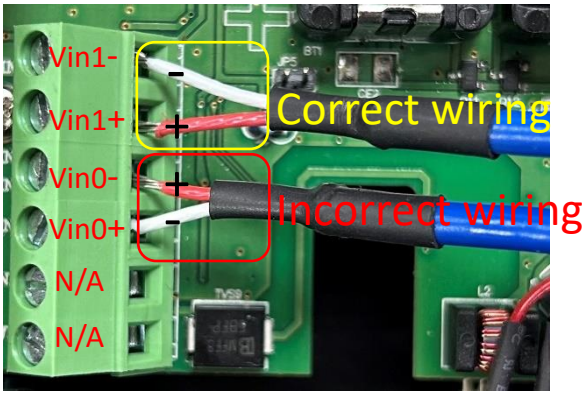


- [Correction method]
  First turn off the power of iWSN-3020 at this module. If you find that the serial number in the data is still updated, it means that iWSN-200U has received other modules with the same wireless parameters. You can adjust the closed iWSN-3020 to another Node ID that has not used and restart the module, or adjust iWSN-3020 and iWSN-200U to other RF channel or group ID to avoid the already used wireless parameters.

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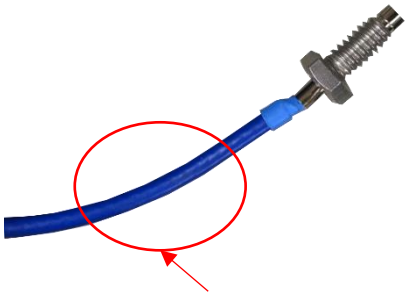
Q2、The higher the temperature measured by iWSN-3020-TC-BT-IP65, why is the temperature data returned lower? (2024/12/10, Bao)

A2: If the wiring of the thermocouple is reversed, the measured temperature will be higher and the temperature data returned will be lower. Please confirm whether the wiring of the thermocouple is correct, as shown in the figure below, the correct wiring is " Vin+" is connected to "+", "Vin-" is connected to "-". (2024/12/10, Bao)



Q3、After using iWSN-3020-TC-BT-IP65 for a period of time, why does the returned temperature data change to 32767? (2024/12/10, Bao)

A3： When the returned temperature becomes 32767, it means that the module detects that the wiring loop of the thermocouple is open. Please confirm whether the thermocouple wiring is loose or whether the thermocouple is broken internally. (2024/12/10, Bao)



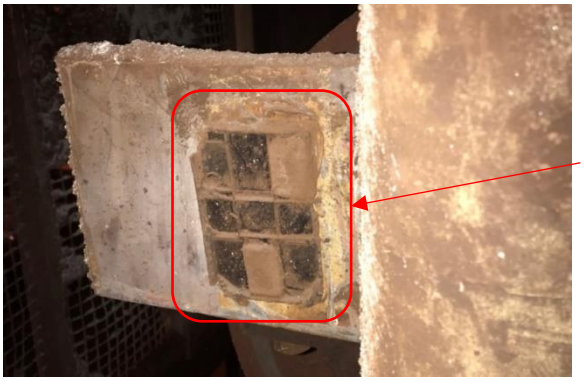
The thermocouple may be broken internally and open circuit.

Q4、Why does the measured temperature of iWSN-3020-TC-BT-IP65 not change for a long time after being used for a period of time? (2024/12/10, Bao)

A4: Judging from field experience, the following reasons may cause iWSN-3020 to not work properly, so iWSN-200U maintains the last temperature data received. (2024/12/10, Bao)

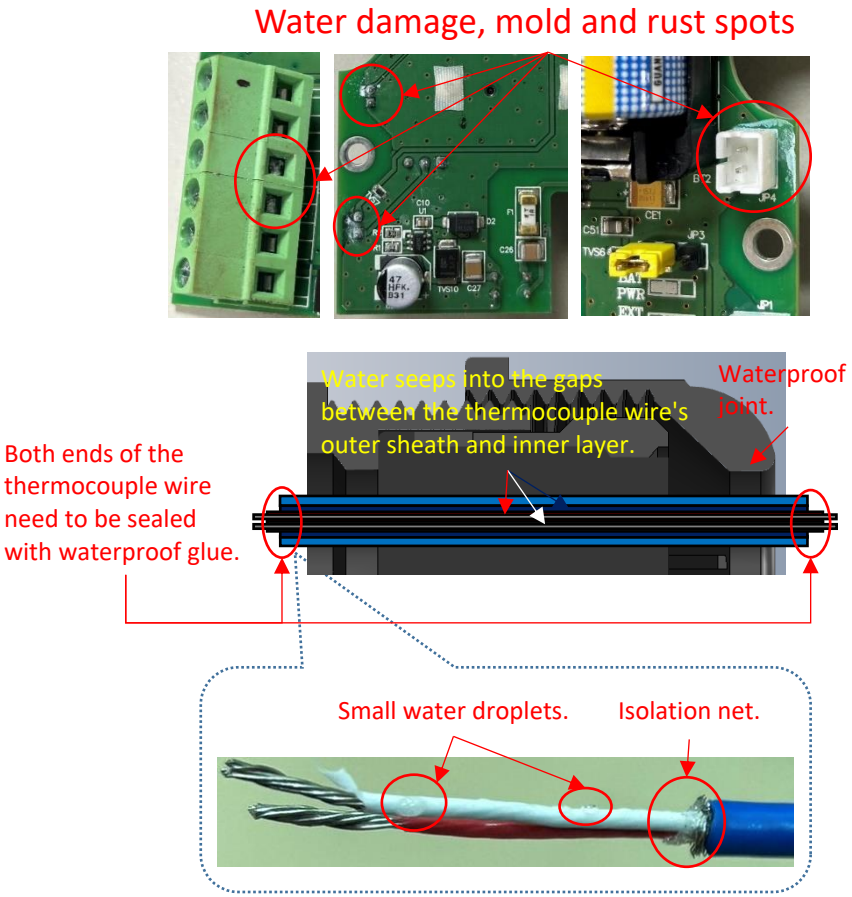
- [Possible reason 1] The battery of the iWSN-3020 at the scene is out of power. Please replace it with a new one.

- [Possible reason 2] The iWSN-3020 at the case site is no longer in its original location. Please reinstall a set of modules.



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- [Possible reason 3] The iWSN-3020 at the case site has been flooded with water, causing damage to the module. It is recommended to seal both ends of the thermocouple wire with waterproof glue or Silicon. When the outer sheath of the wire is damaged, moisture or rain can be avoided into the module. Due to the capillary phenomenon, moisture enters the module along the gaps and isolation nets in the inner layer of the wire, and then forms small water droplets.



Q5、Why does the battery power status of iWSN-3020-TC-BT-IP65 appear to be backtracked? (2024/12/10, Bao)

A5: Because the battery power status is just between the boundaries of 104 (100~41%) and 103 (40~11%), occasionally several pieces of data will alternately appear 104 or 103. However, this is a normal phenomenon and can be judged by the host computer. Whether it has been 103 for more than 1 day. If so, it means that this status has completely entered 103. (2024/12/10, Bao)

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Q6、Why does the wireless signal of the module become worse after iWSN-3020-TC-BT-IP65 has been installed for a period of time? (2024/12/10, Bao)

A6: Judging from field experience, the wireless signal of the module may deteriorate due to the following reasons. (2024/12/10, Bao)

- [Possible reason 1] The environment has changed, for example: adding or moving equipment blocks the module, resulting in the inability to see straight lines between iWSN-3020 and iWSN-200U. It is generally recommended that the RSSI value of wireless signal strength be at least ≥120. If the RSSI drops below 100 due to environmental changes, it is recommended to adjust the module installation position to improve the success rate of wireless packets.

- [Possible reason 2] The magnetic base of iWSN-3020 has adsorbed iron powder, which affects the wireless signal of the module. Please clear the iron powder adsorbed on the magnetic base.



Magnetic base absorbs iron powder.