ICP DAS

iSN-81x series FAQ

FAQ Version 1.20

ICP DAS Co., Ltd.

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Table of Contents

Q6:How to calculate the total number of iSN-81x series modules required for the target measurement area? 3
Q7: If you forgot the iSN-81x-MTCP module password, how can you reset it? 5
Q8: If you want to configure the iSN-81x-MTCP module but have forgotten its IP address, how can you connect to the configuration webpage? 6
Q9: How should the emissivity of common objects be configured across various application scenarios? 7
Q10: How to add iSN-81x series modules to the WISE-2841M module configuration? 8

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Q6:How to calculate the total number of iSN-81x series modules required for the target measurement area?

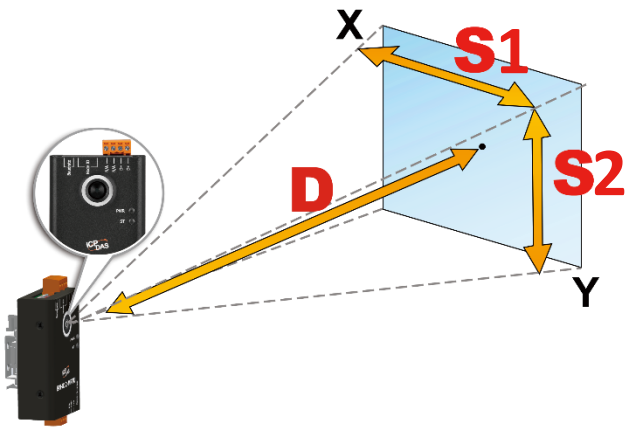
A6:Calculate the measurement area covered by the selected module, then divide the target measurement area by the module's measurement area.

How to calculate the measurement area?

Model	iSN-811C-MTCP	iSN-812-MTCP/MRTU	iSN-813-MTCP
FOV	X: 60° D : S1 =1 : 1.15	X: 110° D : S1 =1 : 2.86	X: 90° D : S1 =1 : 2
	Y: 60° D : S2 =1 : 1.15	Y:75° D : S2 =1 : 1.53	Y: 67° D : S2 =1 : 1.32

Using the iSN-813-MTCP module as an example, when the distance (D) is 3 meters:

- S1 = 3 × 2 = 6 meters
- S2 = 3 × 1.32 = 3.96 meters
- Module measurement area = 6 × 3.96 = 23.76 square meters

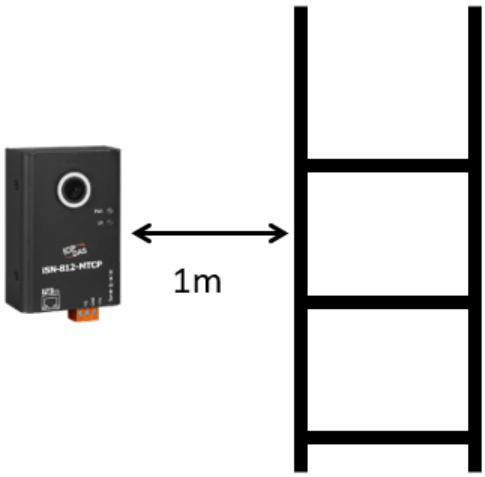


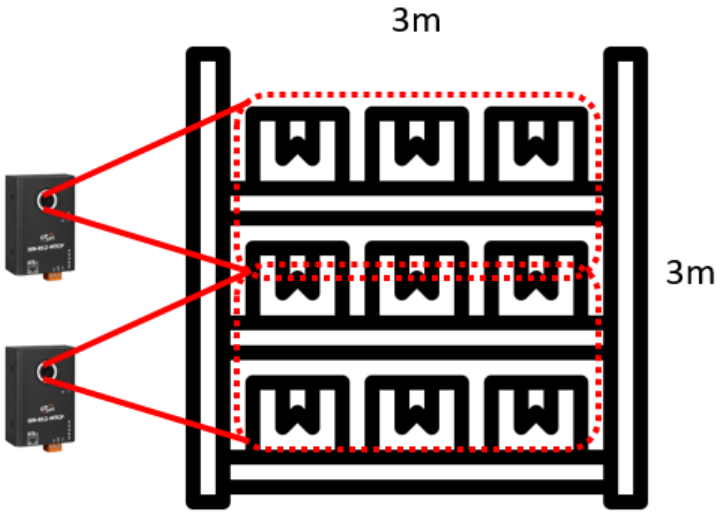
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How to calculate the required number of modules?

Using the iSN-812-MTCP module as an example, when the target object is a shelf with a width of 3 meters and a height of 3 meters, and the module is positioned 1 meter away from the target, two iSN-812-MTCP modules can cover most of the target surface area:

- Target surface area = 3 × 3 = 9 square meters
- iSN-812-MTCP measurement area = 2.86 × 1.53 = 4.3758 square meters





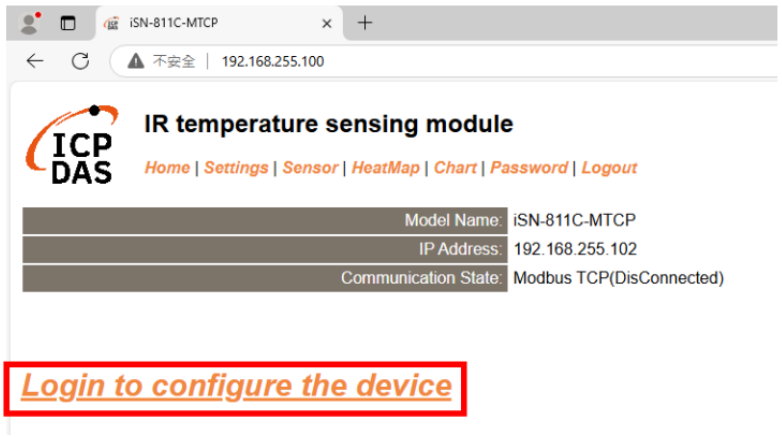
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Q7: If you forgot the iSN-81x-MTCP module password, how can you reset it?

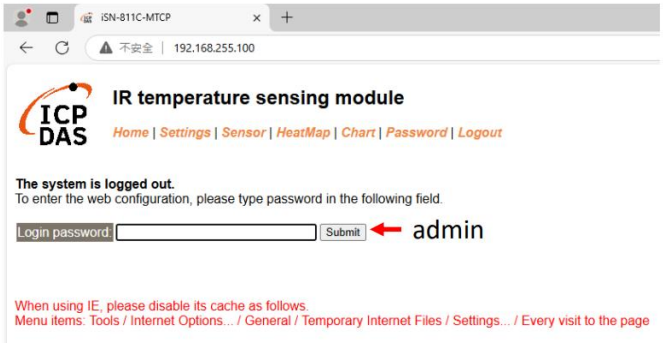
A7:

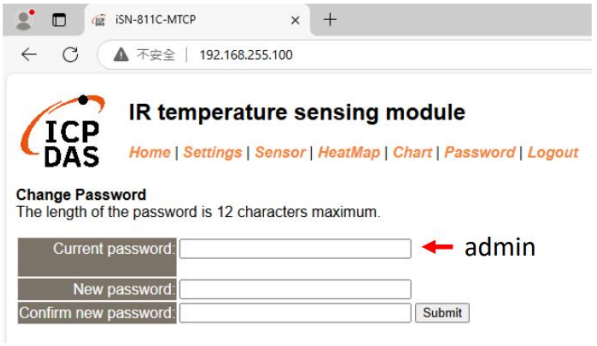
1. When the iSN-81x-MTCP module is operating in normal mode, switch the switch of module to the "init" position, then click Login to access the login page.





2. On the login page, enter the default password: admin, and you will be able to reset the password.



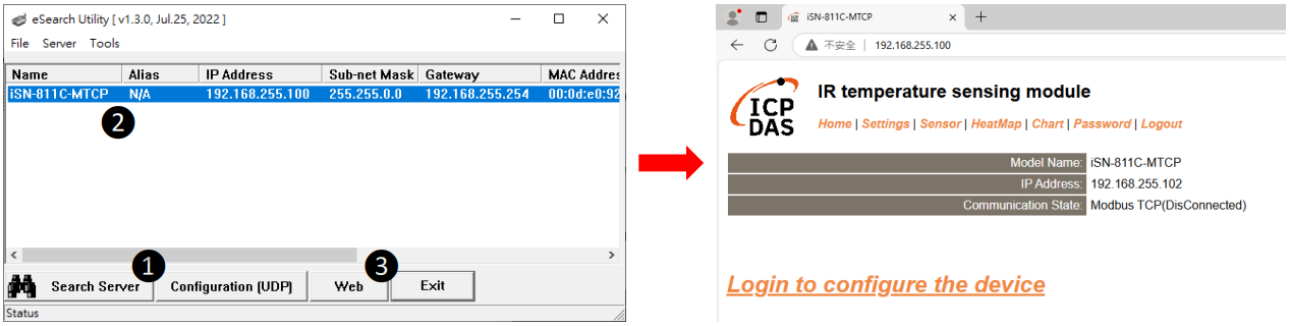


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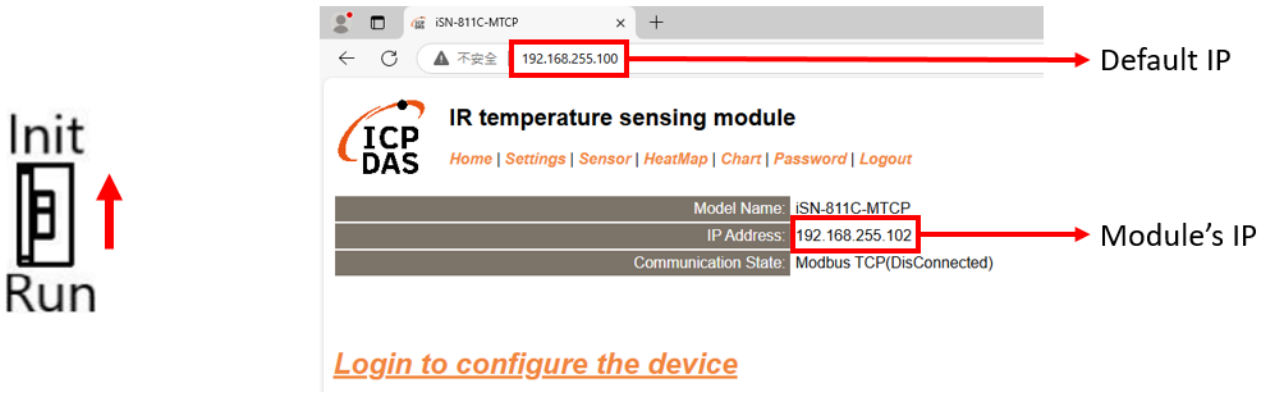
Q8: If you want to configure the iSN-81x-MTCP module but have forgotten its IP address, how can you connect to the configuration webpage?

A8: When the module's IP address is forgotten, there are two methods to connect to the configuration webpage: using eSearch Utility or the default IP address.

1. Download eSearch Utility, open it, and click Search Server. Select the iSN-81x-MTCP module you want to connect to, then click Web to open the configuration webpage.



2. When the iSN-81x-MTCP module is operating in normal mode, switch the switch of module to the "init" position. The module's IP address will revert to the default IP, allowing you to connect to the configuration webpage using the default IP address.



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Q9: How should the emissivity of common objects be configured across various application scenarios?

A9:

Emissivity (ε) is the measure of an object's ability to emit infrared energy, with a value ranging from 0 to 1.

- The higher the emissivity (ε) (approaching 1), the more the surface behaves like an ideal blackbody, resulting in higher measurement accuracy.
- The lower the emissivity (ε) (approaching 0), the higher the reflectivity (similar to polished metal), making measurements highly susceptible to inaccuracy.

A default value of 0.95 is suitable for: painted metal, plastics, wood, cardboard, and general construction materials.

The emissivity values for common target objects in various scenarios are listed in the table below.

Field	Target Object	Recommended Emissivity (ϵ)
Electrical Enclosure / Busbar	Oxidized Copper	0.60 ~ 0.80
	Stainless Steel Plate	0.59
	Painted Metal Casing	0.90 ~ 0.95
Parking Garage	Painted Steel / Aluminum Plate	0.90 ~ 0.95
	Composite Materials	0.85 ~ 0.95
Warehouse	Cardboard	0.90 ~ 0.95
	Wood	0.85 ~ 0.90
Hospital	Human Skin	0.98
Others	Electrical Insulation Tape	0.95
	Matte Paint	0.95

If the material of the target is uncertain or if the object has a shiny metal surface, you can apply electrical tape or matte paint to set the surface emissivity to 0.95, then proceed with the measurement using the default settings.

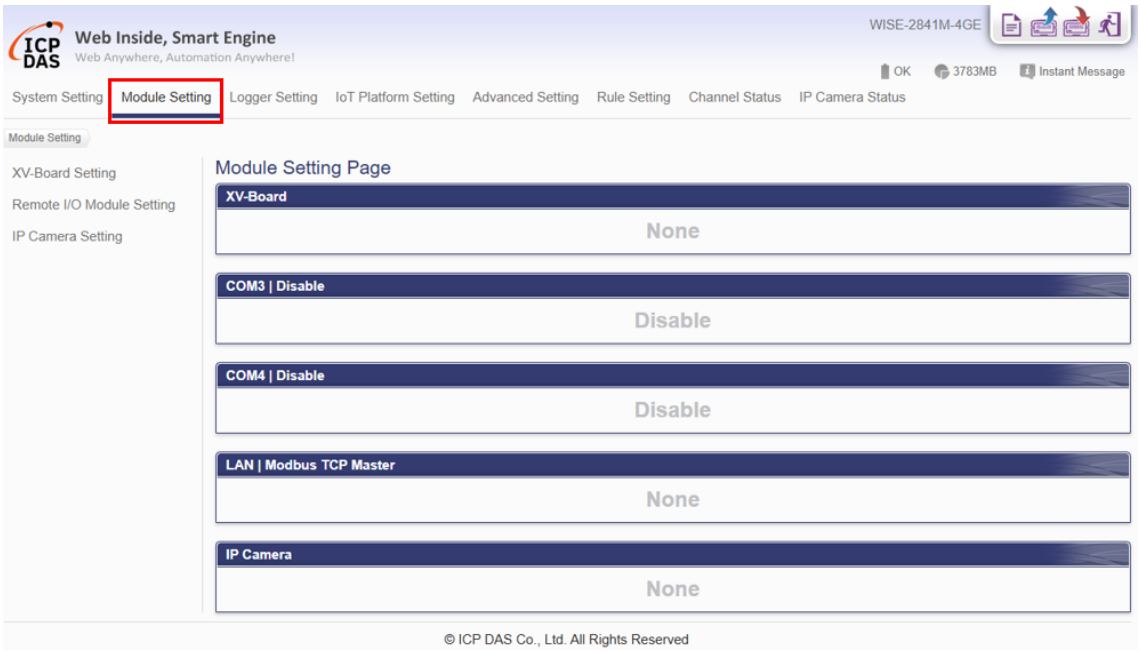
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Q10: How to add iSN-81x series modules to the WISE-2841M module configuration?

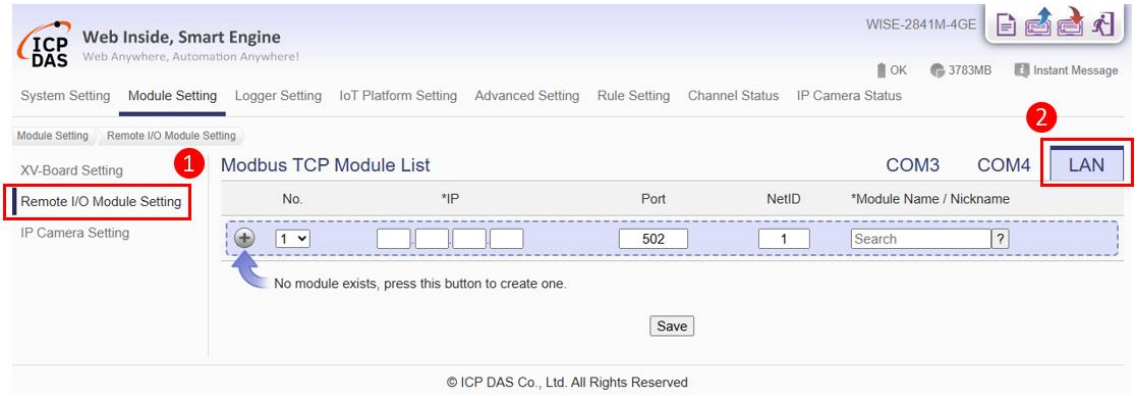
A10:

For preliminary setup, please refer to Chapter 2 of the WISE-284x User Manual.(SUPPORT - ICP DAS)

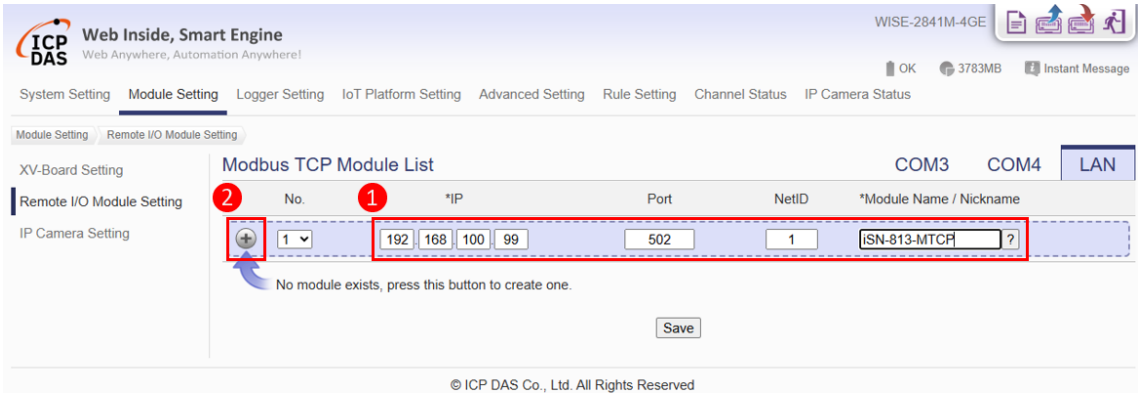
1. Click on the Module Setting tab.



2. Click (1) Remote I/O Module Setting and choose (2) LAN as the communication interface.

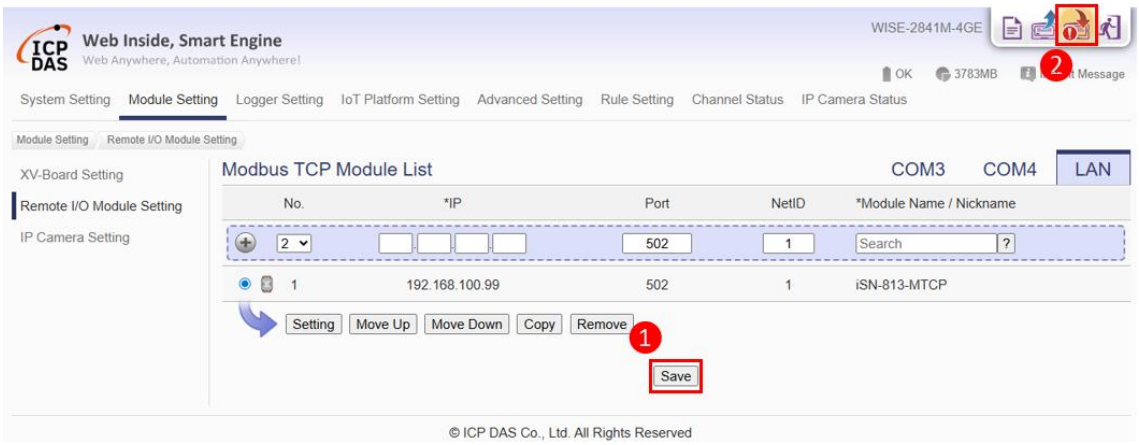


3. Select (1) the iSN-81x module model, enter the module's IP, Port, and NetID, then click the (2) + button to add it to the list.

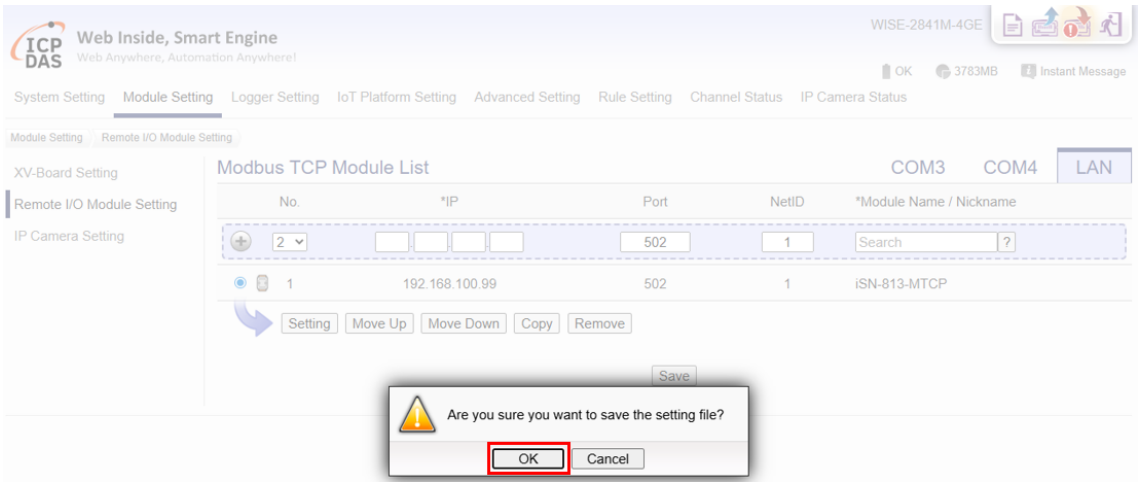


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4. Click the (1) Save button to store the configuration, then click the (2) Write icon in the top right corner to start applying the settings.

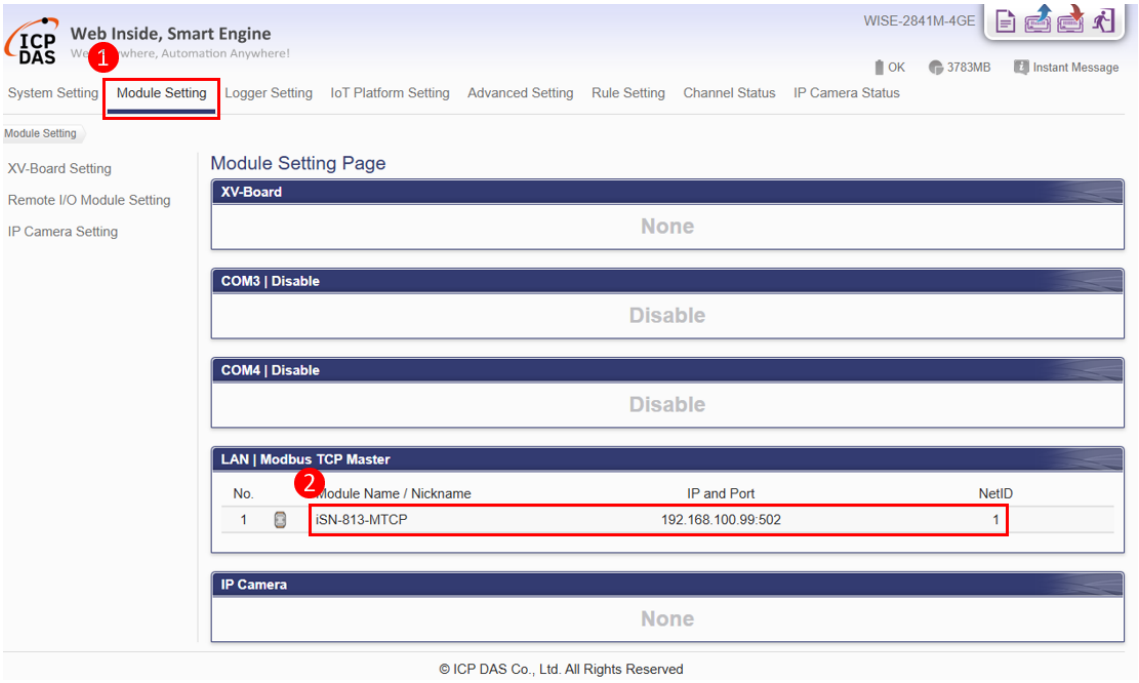


5. Click OK to write the configuration file into the module.



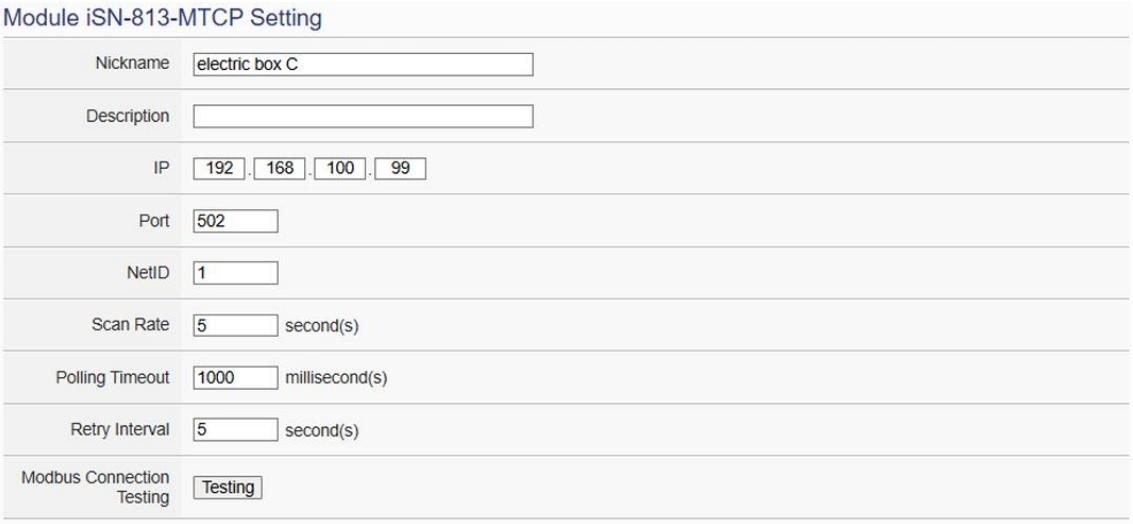
6. Once successful, you will see the newly configured iSN-81x module information displayed on the (1) module settings page.

   Click on the (2) Module in the list to access its specific settings page.

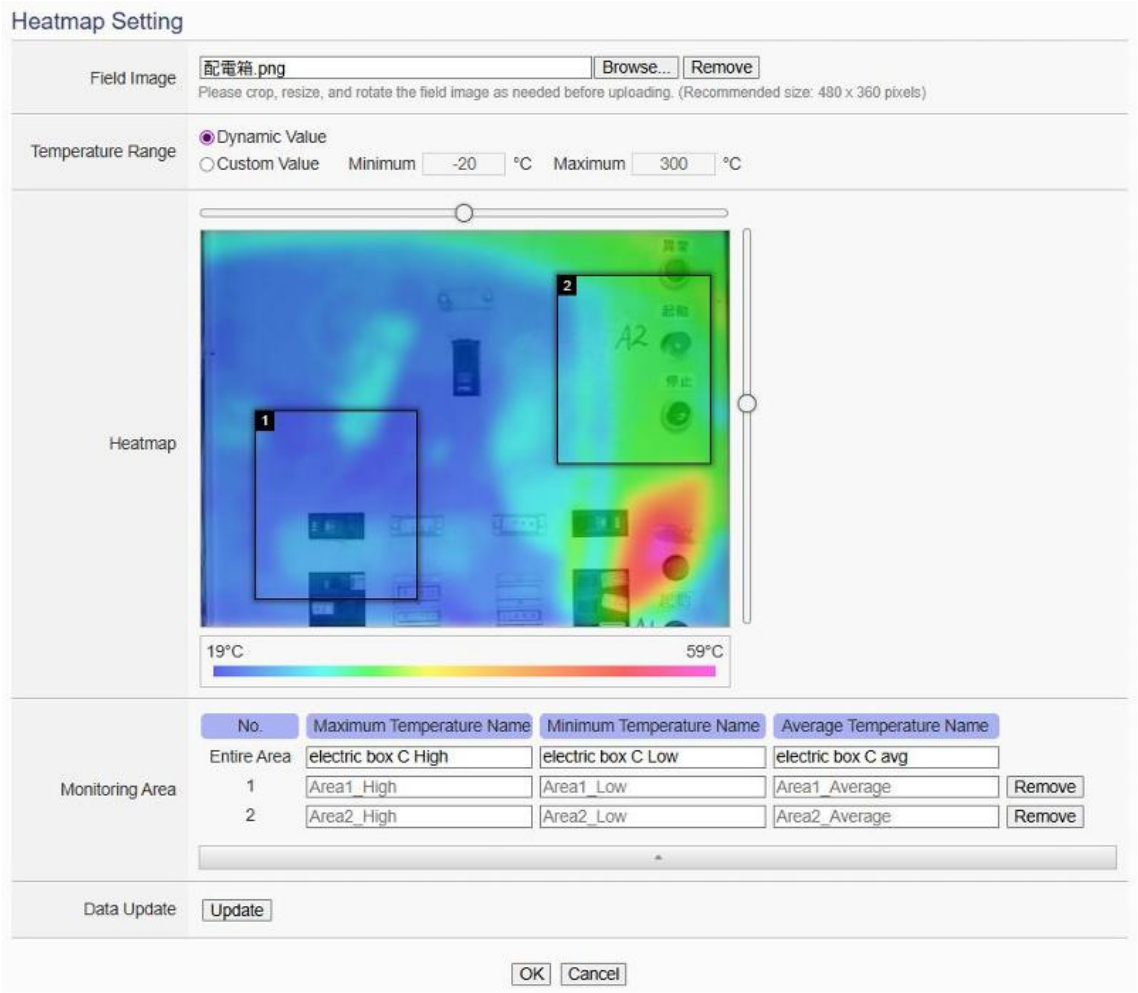


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7. Use this page to set various parameters, ensuring the iSN-81x module correctly transmits data to the WISE-2841M via the Modbus TCP protocol.

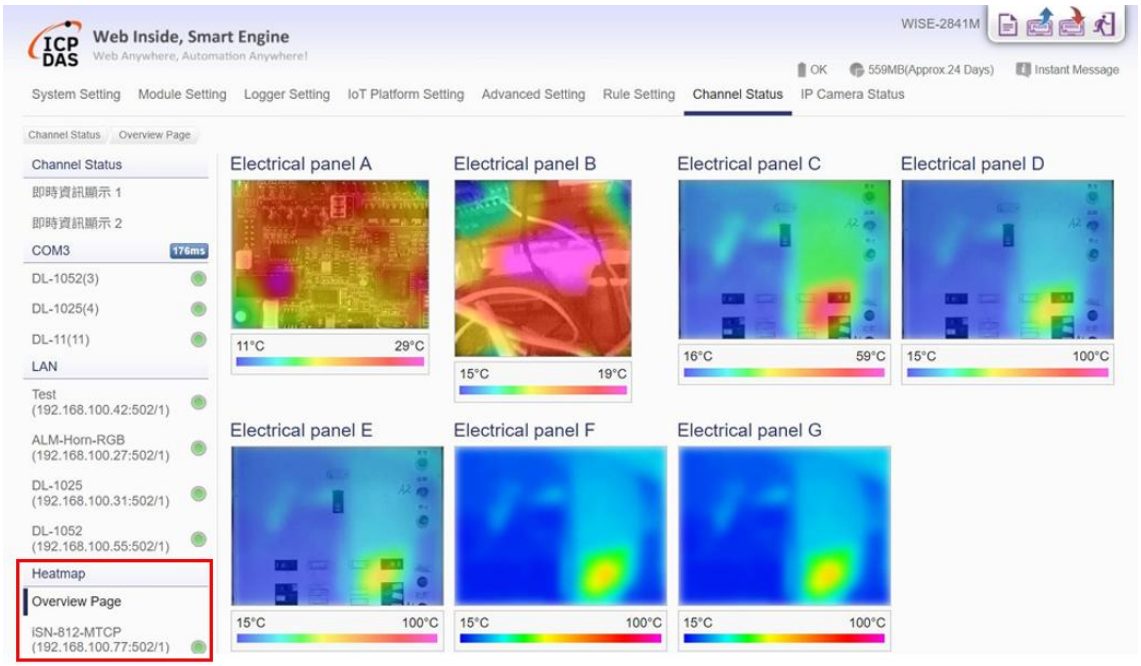


8. Use the intuitive visual interface to establish Regions of Interest (ROI) by dragging the mouse across the thermal image. WISE will automatically calculate the maximum, minimum, and average temperatures for these monitoring zones.

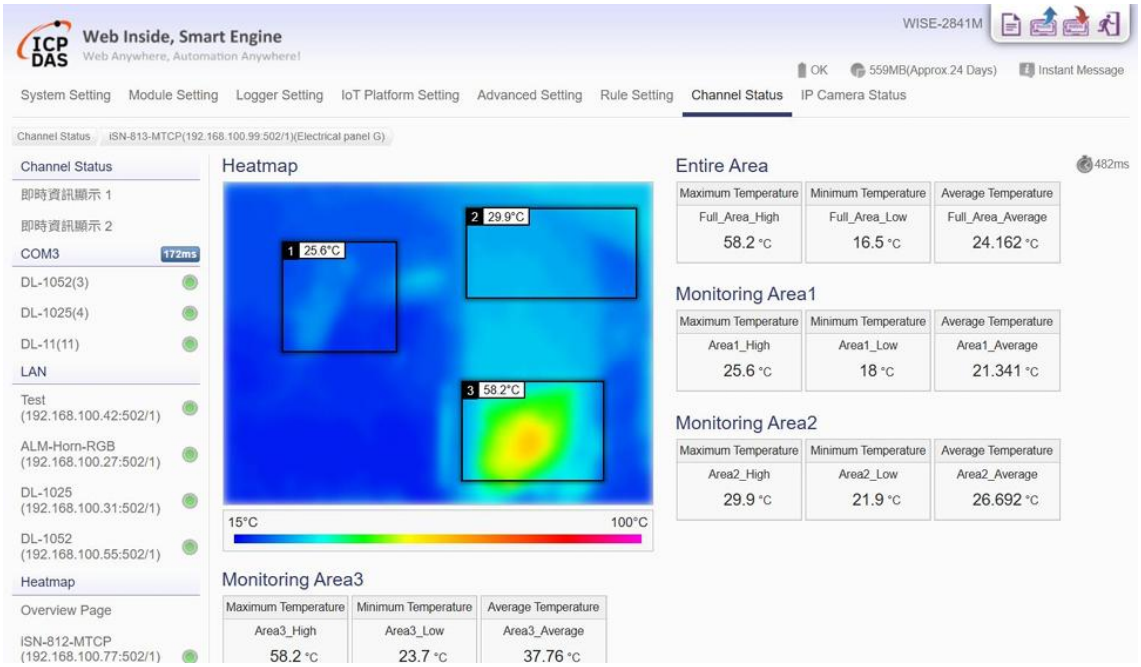


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9. Go to the Real-time Information Display page and select Thermal Overview from the left menu to monitor all iSN-81x module data simultaneously.



10. You can click on a specific iSN-81x module from the overview to drill down into detailed real-time temperature data for that specific unit.



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