

Packing List

In addition to this guide, the package includes the following items:



iWSN-3020-TC-BT-IP65

Resources

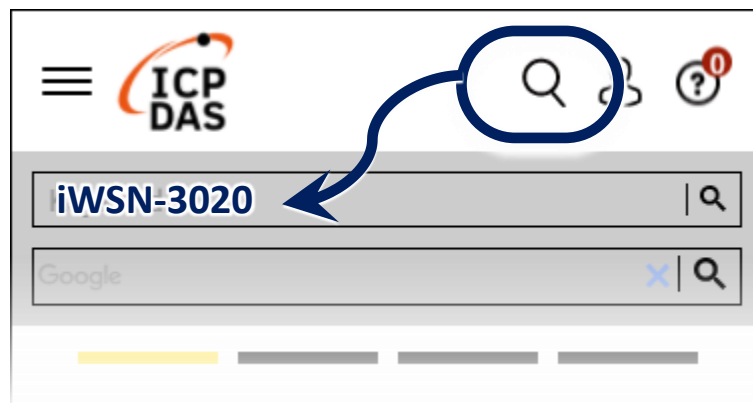
Technical Support

service@icpdas.com

www.icpdas.com

How to search for drivers, manuals and spec information on ICP DAS website.

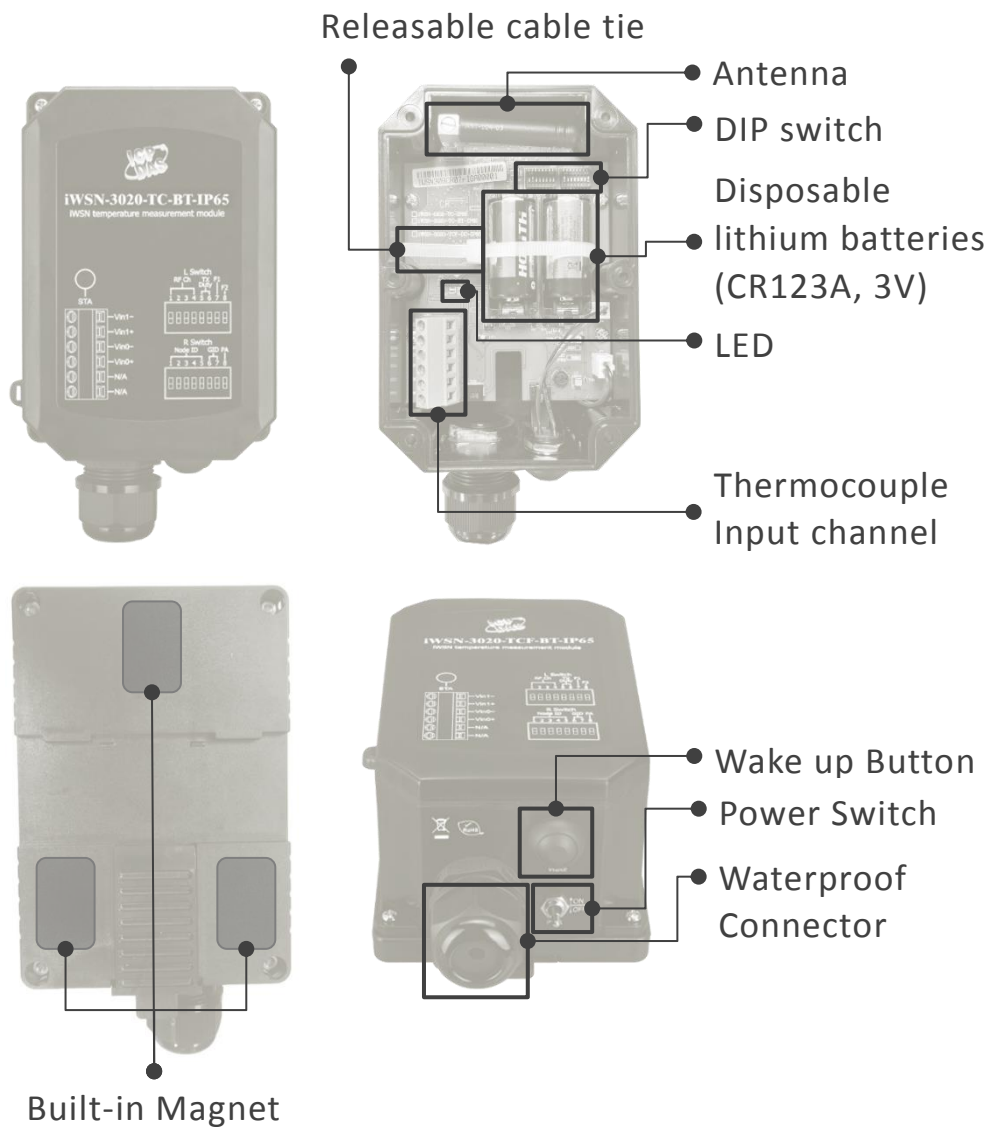
- For Mobile Web



- For Desktop Web



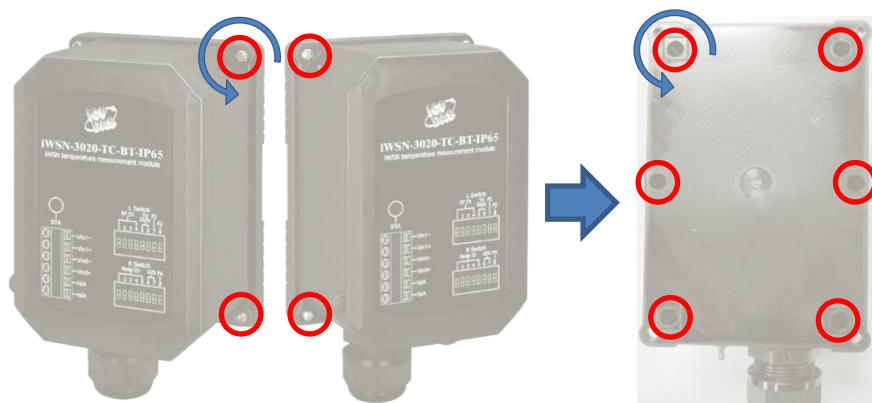
1. Appearance



2. Wiring and Setting

2.1. Casing disassembly and assembly

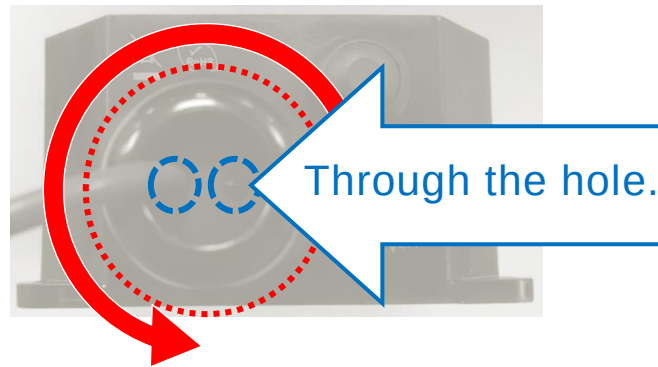
- A. Loosen 10 screws counterclockwise to remove the magnetic base and transparent cover. Conversely, tighten them clockwise to reassemble.



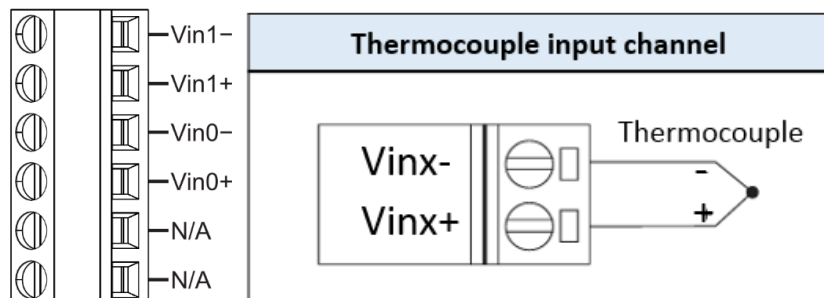
2.2. Install thermocouple

- A. After loosening the waterproof connector counterclockwise, insert the thermocouple through the hole of the waterproof connector.

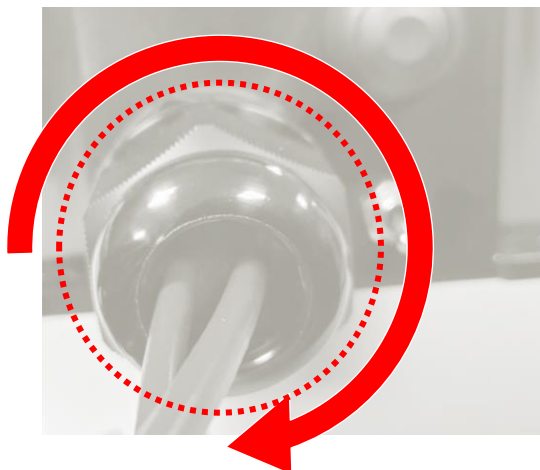
Note: The allowable wire diameter range of the waterproof connector is 2.5 ~ 3.5mm.



- B. Lock the thermocouple into the terminal block as shown in the figure below.

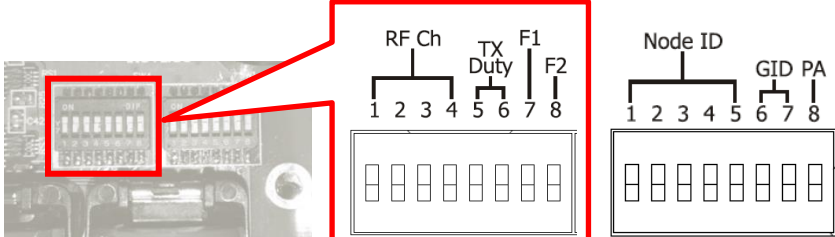


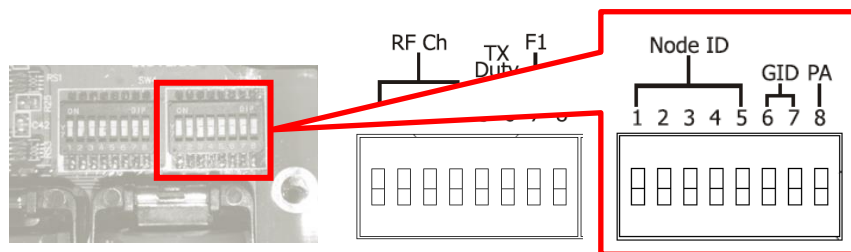
- C. Tighten the waterproof connector clockwise.



2.3. Communication parameters

Please adjust the dip switch according to the table below, and after the adjustment is completed, power on the module again to enable the new setting parameters.

										
DIP Switch (left)										
Name	Instructions									
F1 and F2 (Thermocouple type) ■: ON □: OFF		Pin								
		7				8				
	K type	□				□				
	R type	■				□				
	S type	□				■				
	Software setting by iWSN Utility	■				■				
The default is C type, and a total of thermocouple types such as C, B, N, T, and E can be set.										
TX Duty ■: ON □: OFF		Pin								
		5				6				
	1 sec	□				□				
	10 sec	■				□				
	30 sec	□				■				
	1 min	■				■				
RF Ch ■: ON □: OFF		Pin					Pin			
		1	2	3	4		1	2	3	4
	0	□	□	□	□	8	□	□	□	■
	1	■	□	□	□	9	■	□	□	■
	2	□	■	□	□	A	□	■	□	■
	3	■	■	□	□	B	■	■	□	■
	4	□	□	■	□	C	□	□	■	■
	5	■	□	■	□	D	■	□	■	■
	6	□	■	■	□	E	□	■	■	■
	7	■	■	■	□	F	■	■	■	■

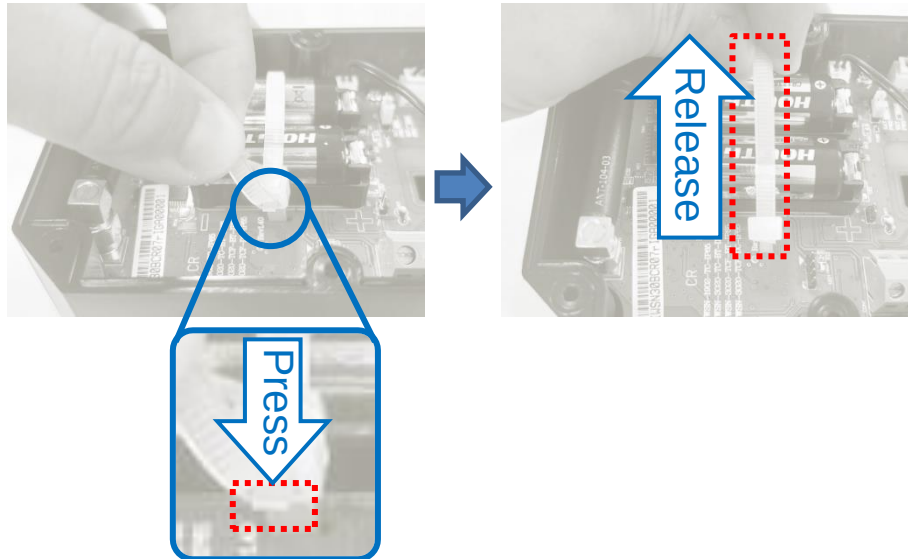


DIP Switch (right)												
Name	Instructions											
PA	RF power of wireless output, OFF: Normal, ON: Maximum.											
GID ■: ON □: OFF		Pin										
		6					7					
	0	□					□					
	1	■					□					
	2	□					■					
	3	■					■					
Node ID ■: ON □: OFF		Pin						Pin				
		1	2	3	4	5		1	2	3	4	5
	0	□	□	□	□	□	16	□	□	□	□	■
	1	■	□	□	□	□	17	■	□	□	□	■
	2	□	■	□	□	□	18	□	■	□	□	■
	3	■	■	□	□	□	19	■	■	□	□	■
	4	□	□	■	□	□	20	□	□	■	□	■
	5	■	□	■	□	□	21	■	□	■	□	■
	6	□	■	■	□	□	22	□	■	■	□	■
	7	■	■	■	□	□	23	■	■	■	□	■
	8	□	□	□	■	□	24	□	□	□	■	■
	9	■	□	□	■	□	25	■	□	□	■	■
	10	□	■	□	■	□	26	□	■	□	■	■
	11	■	■	□	■	□	27	■	■	□	■	■
	12	□	□	■	■	□	28	□	□	■	■	■
	13	■	□	■	■	□	29	■	□	■	■	■
	14	□	■	■	■	□	30	□	■	■	■	■
	15	■	■	■	■	□	31	■	■	■	■	■

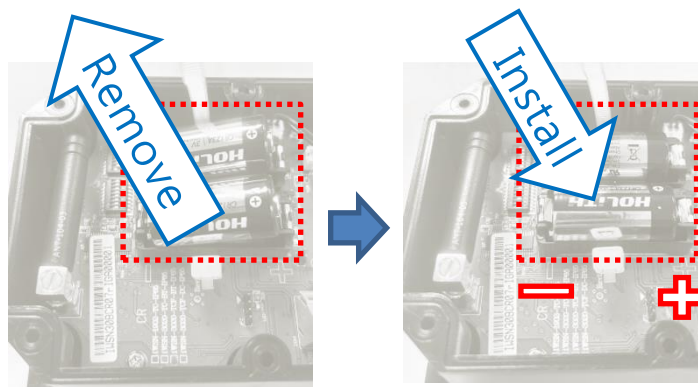
Note: Node ID = 0 is reserved. If the DIP switch is switched to Node ID = 0, it can't work and will blink the LED 500ms every once.

2.4. Replacement battery

A. Press the latch on the head of the ties and release the ties.

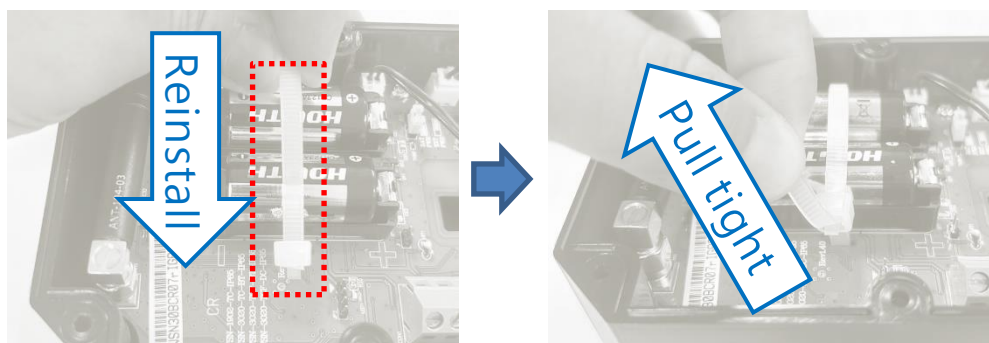


B. Remove the old batteries and install new batteries.



Batteries specifications
CR123A (3.0V)

C. Reinstalling and pulling the cable tie tight.



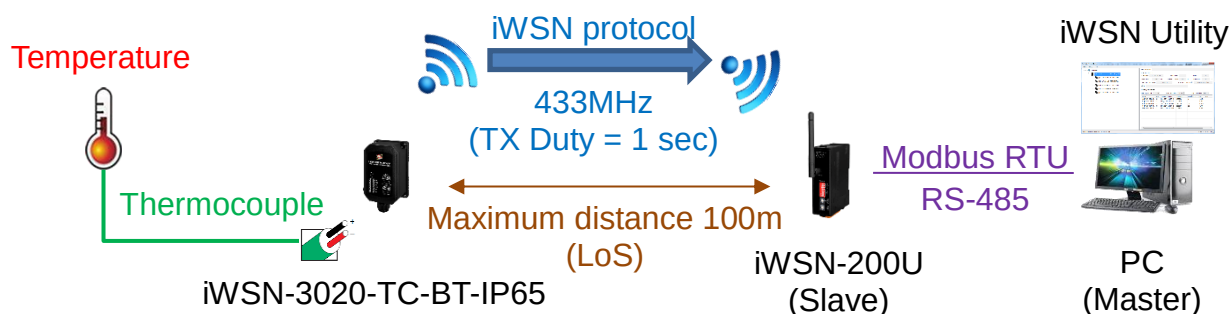
3. LED indicator

The module provides one LED indicator, and the table below will show the LED's status.

Indicator	Status	Instructions
STA	500ms continuous blinking	Illegal Node ID (Node ID = 0), please set the Node ID to 1~31, and then power on again.
	Blinking once	The battery power is less than 40%, please replace the battery with a new one as needed.
	Blinking twice	The component status is abnormal. Please power off the module and press the wake-up button for 5 seconds, then power on again. If there is still a problem, please contact technical support. °

4. Testing example

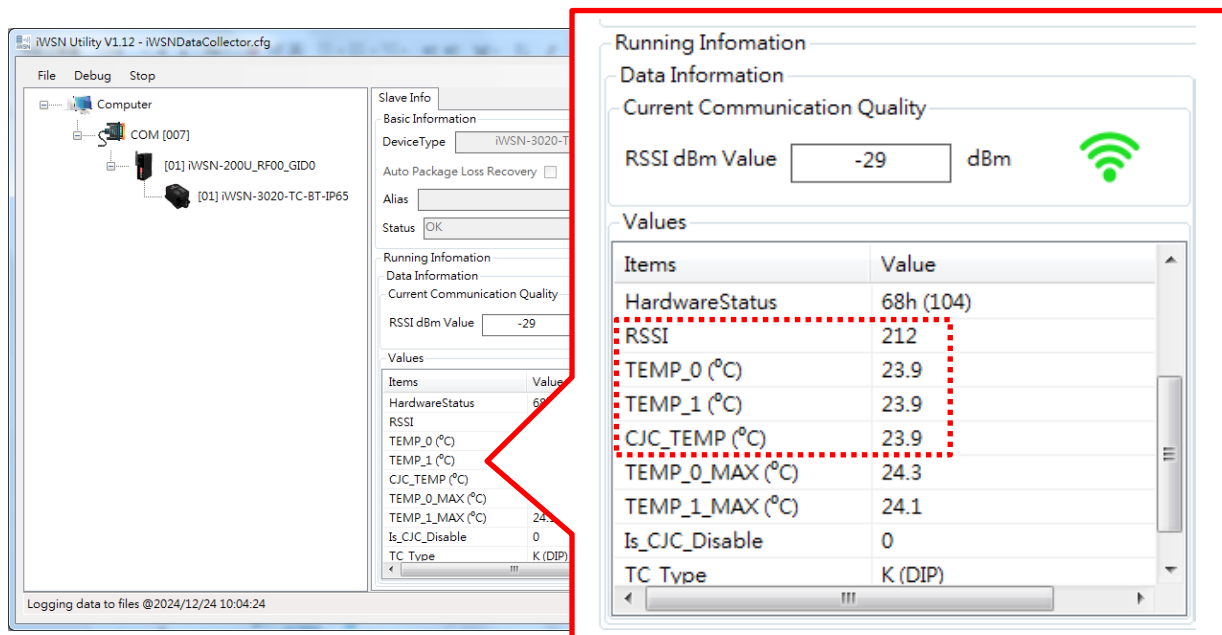
iWSN-200U supports Modbus RTU communication protocol. Users can use iWSN Utility on the computer or refer to the Modbus table to read the data sent by iWSN-3020-TC-BT-IP65. Among them, **the RF Channel and Group ID of the two modules must be the same for wireless communication.**



iWSN-3020-TC-BT-IP65			iWSN-200U		
1	RF Channel	0x00	1	RF Channel	0x00
2	Group ID	0x00	2	Group ID	0x00
3	TX Duty	0x00 (1 秒)	3	COM0 Baud Rate	0x00 (115200, n, 8, 1)
4	Node ID	0x01	4	Node ID	0x01 (Modbus node 1)
5	F1	0x00	-	-	-
6	F2	(K type thermocouple)	-	-	-

4.1. Using iWSN Utility to read RSSI and temperature

After iWSN-200U receives the wireless data of iWSN-3020-TC-BT-IP65, the user can view the data content through iWSN Utility.



4.2. Reading the RSSI and temperature by Modbus table

Users can refer to the Modbus table to read the data sent by iWSN-3020-TC-BT-IP65 from iWSN-200U. The table is briefly described as follows, please refer to the Modbus table of the module for detailed instructions.

Address (Base 1)	Data type	iWSN Utility item	Instructions
40332	UInt16	DutyCycle	[High byte] Automatic response time period.
		RSSI	[Low byte] Wireless signal strength, the larger the value, the better the signal, and it is recommended to be at least 120 (0x78) or more.
40336	Int16	TEMP_0 (°C)	The measured temperature of channel 0's thermocouple, unit: 0.1°C.
40337	Int16	TEMP_1 (°C)	The measured temperature of channel 1's thermocouple, unit: 0.1°C.
40338	Int16	CJC (°C)	The measured temperature of the cold junction, which represents the ambient temperature at the module installation location, unit: 0.1°C.