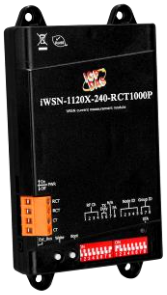
# iWSN-1120X Series Quick Start

v1.30, Apr 2019

## What's in box

Without "Quick Start", The package includes the following items:



**iWSN-1120X Series Module**

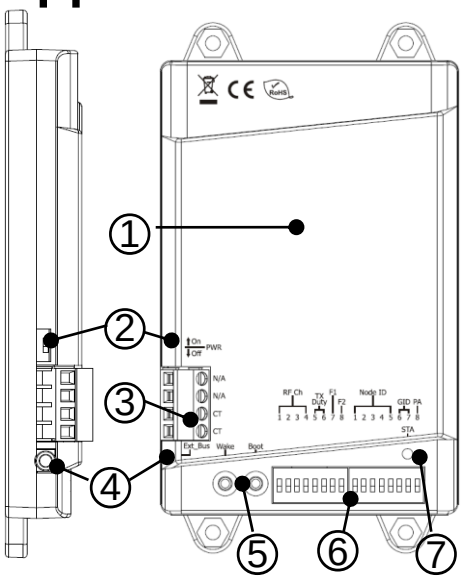
**Split-core CT**

**Rogowski Coil (RCT)**

**Screw Driver (1C016)**

| Module Name | Split-core CT | Rogowski Coil (RCT) |
|---|---|---|
| iWSN-1120X-240-RCT1000P | 8m, Φ24mm (200A), 1 pcs | 4m, Φ80mm (1000A), 1 pcs |
| iWSN-1120X-360-RCT1000P | 8m, Φ36mm (400A), 1 pcs | |

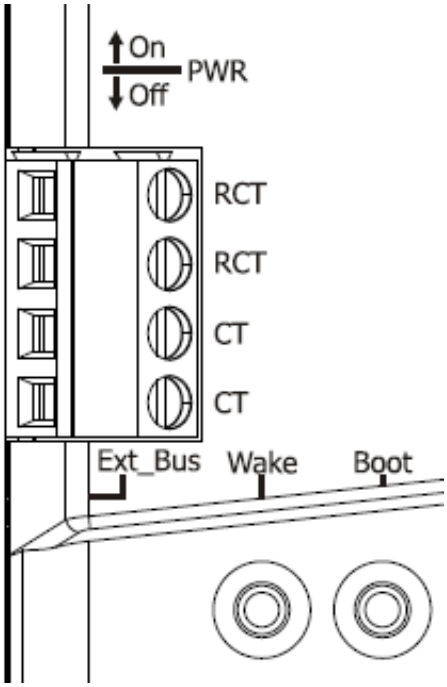
## 1 Appearance




| Number | Instructions |
|---|---|
| 1 | Build in PCB antenna |
| 2 | DIP switch of power |
| 3 | CT connection terminal |
| 4 | Extension port |
| 5 | Boot and wake button |
| 6 | DIP switch of parameter setting |
| 7 | LED indicators |

# 2 Pin and button

| Switch | Instructions | |
|---|---|---|
| PWR | ON | Power on |
| | OFF | Power off |

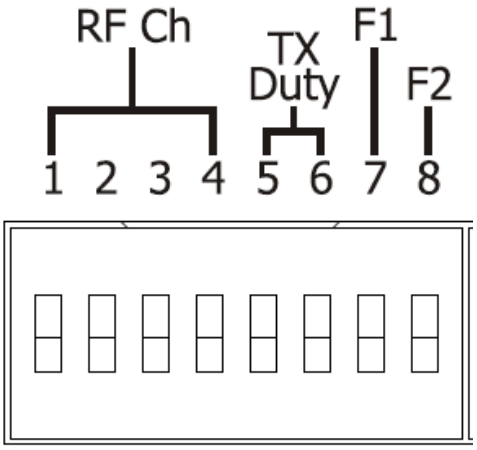



| Pin | Name | Instructions |
|---|---|---|
| 4 | RCT | Rogowski Coil (RCT) pin, no directionality, support measuring function |
| 3 | RCT | |
| 2 | CT | Split-core CT pin，no directionality，support charging function |
| 1 | CT | |

| Extension bus | Instructions |
|---|---|
| Ext_Bus | Empty or connect extension module |

| Button | Instructions |
|---|---|
| Wake | Manual wake up |
| Boot | After pressing for 1~3 seconds, the LED light will be on for 1 second and then off. This mean boot complete. |

# 3 Communication parameter




<table>
<tr><th>Name</th><th>Instructions</th></tr>
<tr><td>F2</td><td rowspan="2">Reserved</td></tr>
<tr><td>F1</td></tr>
<tr><td>TX Duty<br>( RF transmit duty )<br><br>■ : ON<br>□ : OFF</td><td>
<table>
<tr><th rowspan="2">Period</th><th colspan="2">Pin</th></tr>
<tr><th>5</th><th>6</th></tr>
<tr><td>1 sec</td><td>□</td><td>□</td></tr>
<tr><td>10 sec</td><td>■</td><td>□</td></tr>
<tr><td>30 sec</td><td>□</td><td>■</td></tr>
<tr><td>60 sec</td><td>■</td><td>■</td></tr>
</table>
</td></tr>
<tr><td>RF Ch<br>(RF Channel)<br><br>■ : ON<br>□ : OFF</td><td>
<table>
<tr><th rowspan="2">Ch</th><th colspan="4">Pin</th><th rowspan="2">Ch</th><th colspan="4">Pin</th></tr>
<tr><th>1</th><th>2</th><th>3</th><th>4</th><th>1</th><th>2</th><th>3</th><th>4</th></tr>
<tr><td>0</td><td>□</td><td>□</td><td>□</td><td>□</td><td>8</td><td>□</td><td>□</td><td>□</td><td>■</td></tr>
<tr><td>1</td><td>■</td><td>□</td><td>□</td><td>□</td><td>9</td><td>■</td><td>□</td><td>□</td><td>■</td></tr>
<tr><td>2</td><td>□</td><td>■</td><td>□</td><td>□</td><td>A</td><td>□</td><td>■</td><td>□</td><td>■</td></tr>
<tr><td>3</td><td>■</td><td>■</td><td>□</td><td>□</td><td>B</td><td>■</td><td>■</td><td>□</td><td>■</td></tr>
<tr><td>4</td><td>□</td><td>□</td><td>■</td><td>□</td><td>C</td><td>□</td><td>□</td><td>■</td><td>■</td></tr>
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<tr><td>6</td><td>□</td><td>■</td><td>■</td><td>□</td><td>E</td><td>□</td><td>■</td><td>■</td><td>■</td></tr>
<tr><td>7</td><td>■</td><td>■</td><td>■</td><td>□</td><td>F</td><td>■</td><td>■</td><td>■</td><td>■</td></tr>
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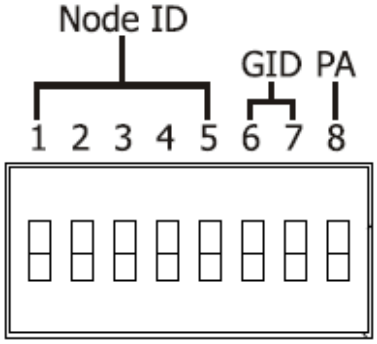


<table>
<tr><th>Name</th><th>Instructions</th></tr>
<tr><td>PA</td><td>Factory Only</td></tr>
<tr><td>GID<br>(Group ID)<br><br>■ : ON<br>□ : OFF</td><td>
<table>
<tr><th rowspan="2">Group</th><th colspan="2">Pin</th></tr>
<tr><th>6</th><th>7</th></tr>
<tr><td>0</td><td>□</td><td>□</td></tr>
<tr><td>1</td><td>■</td><td>□</td></tr>
<tr><td>2</td><td>□</td><td>■</td></tr>
<tr><td>3</td><td>■</td><td>■</td></tr>
</table>
</td></tr>
<tr><td>Node ID<br><br>■ : ON<br>□ : OFF</td><td>
<table>
<tr><th rowspan="2">Node</th><th colspan="5">Pin</th><th rowspan="2">Node</th><th colspan="5">Pin</th></tr>
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<tr><td>3</td><td>■</td><td>■</td><td>□</td><td>□</td><td>□</td><td>19</td><td>■</td><td>■</td><td>□</td><td>□</td><td>■</td></tr>
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</td></tr>
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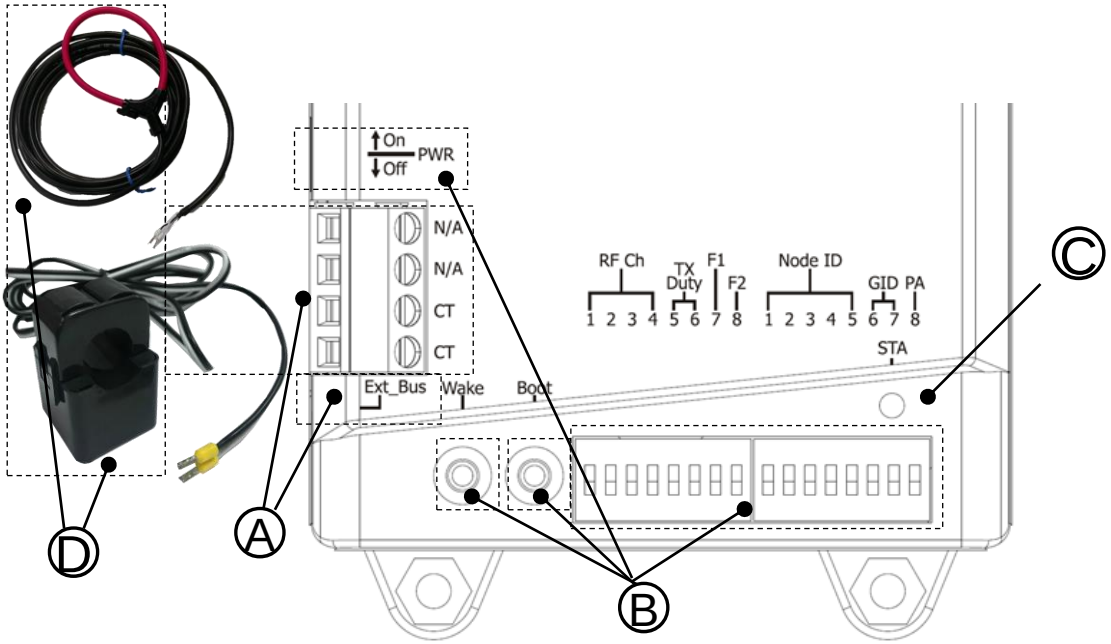
# 4 LED indicators

The module provides one LED indicator. The table below will show the LED status.

| Indicators | Status | Instructions |
|---|---|---|
| STA | 500ms Blink continuous | Illegal Node ID, please set the Node ID to 1~31, and then power on. |
| | Blink once | Low battery power.<br>1. Please confirm whether the CT is lock into the “CT” pin of the module and bucked to the wire for charging.<br>1. If have any questions, please contact technology support. |
| | Blink twice | Component status is abnormal.<br>1. Please confirm whether the audio line of “Ext_Bus” is fully inserted and the module is power off. And power on after press “Wake” and “Boot” buttons for 5 seconds.<br>1. If have any questions, please contact technology support. |
| | Blink three times | Unable to confirm sensor type.<br>1. Please confirm whether the audio line of “Ext_Bus” is fully inserted and the module is power off. And power on after press “Wake” and “Boot” buttons for 5 seconds.<br>1. If have any questions, please contact technology support. |

# 5 Boot steps




A. Please confirm the CT and Rogowski Coil (RCT) are locked into the module, and “Ext_Bus” is connected an extension module by audio line. (If there is no extension module, the “Ext_Bus” don’t be connected.)

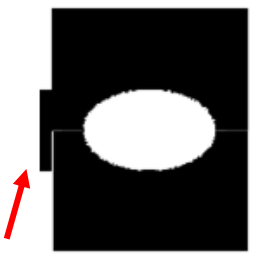
B. Adjusting DIP switch and set the parameter of communication, and switch “PWR” to OFF. And then switch “PWR” to ON after press “Wake” and “Boot” buttons for 5 seconds.

C. When power on, if “STA” will light on for 1 second and off, this mean boot complete. If “STA” do not be lighted, please press “Boot” for 1~3 seconds, and confirm “STA” will light on for 1 second and off. Finally, press “Wake” once, confirm “STA” blink once to complete the boot.

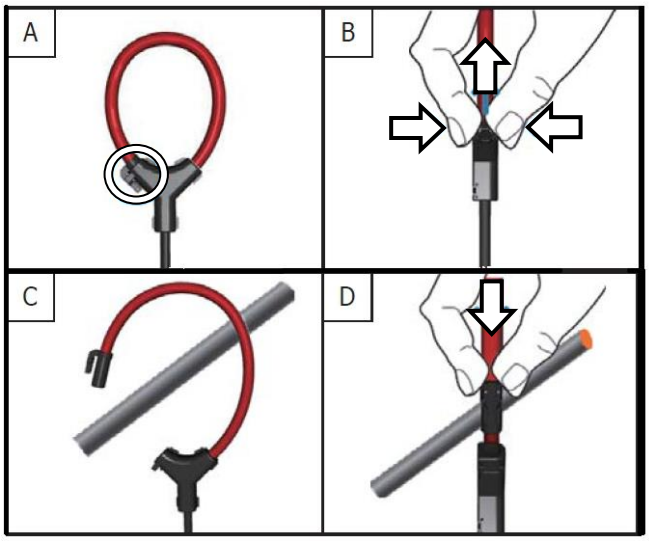
D. Connect the CT to the cable to be measured. The buckle has no directionality, but after the buckle, you must confirm that the opening is completely closed.

Before the CT be buckled

After the CT be buckled



Confirm the opening is completely closed

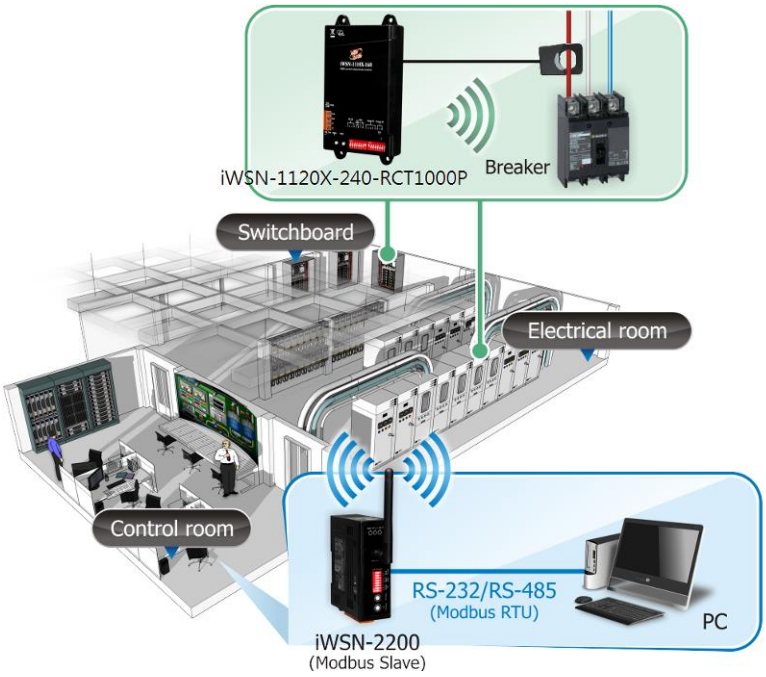


**Note：**

1. if you need to remove the terminal lines, always detach the CT before removing the CT terminal lines. Otherwise the CT may develop open-circuit secondary voltages which may be hazardous to personnel or damaging to the CT or equipment connected in the secondary circuit.
2. The external CT's are fragile, please handle with care.
3. The current input of the iWSN-1120X series only supports the factory-attached CT.
4. To install CT's correctly, please ensure the CT lines sequences is right before clip the CT's onto the power cable of the monitoring equipment.
5. Please select the appropriate size CT for different size monitoring equipment cables: power line diameter <Φ24 using 200A CT, Φ36 using 400A CT.
6. The maximum current value cannot exceed the CT rating.

# 6 Application example

The module will measure the current data and transmit automatically to iWSN-2200 by wireless. The user can use computer to read the data in iWSN-2200 by Modbus RTU protocol.



**Warning**

ICP DAS assumes no liability for any damage resulting from the use of this product. ICP DAS reserves the right to change this manual at any time without notice. The information furnished by ICP DAS is believed to be accurate and reliable. However, no responsibility is assumed by ICP DAS for its use, not for any infringements of patents or other rights of third parties resulting from its use.

**Limitation of Warranty**

This warranty does not apply to defects resulting from unauthorized modification, misuse, or use for reason other than electrical power monitoring. The supplied meter is not a user-serviceable product.

**Product Warranty & Customer Support**

ICP DAS warrants all products free from defects in material and workmanship for a period of one year from the date of shipping. During the warranty period, we will, at our position, either repair or replace any product that proves to be defective. To report any defect, please contact us. Please have the model, serial number and a detailed problem description available when you call. If the problem concerns a particular reading, please have all meter readings available. When returning any merchandise to ICP DAS, a return SN. Is required.