



**iWSN-110X Series**  
**iWSN-121X Series**



**iWSN-110X-RCT Series**  
**iWSN-1310 Series**

### iWSN Series Sensing Module

## Introduction

The iWSN series sensing module is a self-powered module for AC current, digital input and temperature measurement. It can harvest the demand electricity from CT induced current so that there is no necessary to supply the power line for power supply. By means of sub-1G RF communication interface, iWSN series can approach to the real wireless deployment. The diversified IO interface, such as split-core CT, Rogowski coil, NTC thermistor and dry contact DI, provides users more choices for various applications. Considering the maintenance and installation, the iWSN sensing module uses the DIP switch and rotary switch for configuration. Through the flexibility of the expansion interface and good price performance, the iWSN sensing module can be widely used in the application of saving power, big data analysis, and predict maintenance.

## System Specifications

Model	iWSN-110X-PCT-ME iWSN-110X-160-ME iWSN-110X-240-ME iWSN-110X-360-ME	iWSN-110X-RCT1000P-CT iWSN-110X-RCT1000PL-CT	iWSN-121A-160-ME iWSN-121A-240-ME iWSN-121A-360-ME	iWSN-1310-160-ME iWSN-1310-240-ME iWSN-1310-360-ME iWSN-1310-PCT-ME	
RF Interface					
Radio Frequency	433.1000 to 434.6000 MHz				
RF Channel	0 to 15 configured by DIP switch				
Antenna	0 dBi Omni directional PCB antenna				
Transmission Distance (LoS)	100 m				
Group ID	0 to 3 configured by DIP switch				
Node ID	1 to 31 configured by DIP switch				
Working Duty(*1)	1 sec, 10 sec, 30 sec and 60 sec configured by DIP switch				
Button					
Wake	For wake up the sensing module immediately				
Boot	For boot up sensing module quickly				
EMS Protection					
ESD	+/- 4kV Contact				
EFT	+/- 500 V				
Power					
Battery	Li-ion battery (compliant with UL1642) charged by CT induced current				
Power Consumption (*2)	1-sec Tx Duty	11 A	11 A	12 A	19 A
	10-sec Tx Duty	3 A	3 A	5 A	12 A
	30-sec Tx Duty	3 A	3 A	4 A	5 A
	60-sec Tx Duty	3 A	3 A	4 A	5 A
Mechanical					
Flammability	Fire Retardant Materials				
Dimensions (L x W x H)	152 mm x 85 mm x 25 mm			152 mm x 94 mm x 21 mm	
Installation	Wall-mount or magnet adsorption				
Environment					
Operating Temperature	0 °C to +45 °C				
Storage Temperature	-20 °C to +50 °C				
Relative Humidity	10 to 90% RH. Non-condensing				

(\*1) Group transmitters up to 31 units. But if set to 1 second, the number of groups can be up to 5. (\*2) The minimum current required in the AC cable for balancing module's power charging and power consumption.

## Features

- Self-powered by built-in a chargeable Li-ion battery
- Split-core current transformer (CT) for easy installation
- Energy harvest from the CT induced electricity.
- Uses 433 MHz radio frequency for communication.
- 16 RF Channels and 4 Group ID, consist of maximum 64 RF sub-networks
- Supports maximum 400A open-core CT or 1000A Rogowski CT.
- Provides expansion interface for flexibility and expansibility.
- Offers wall-mount mechanism and magnet for installation



## Applications

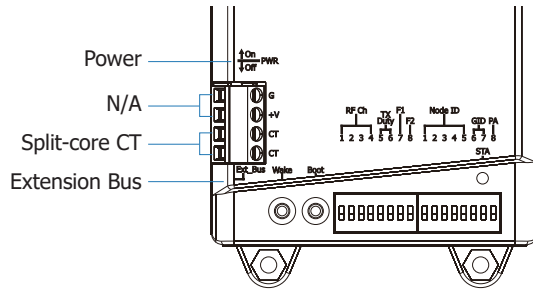


## I/O Specifications

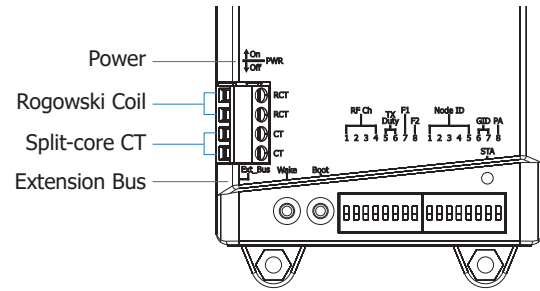
Model	iWSN-110X-PCT-ME iWSN-110X-160-ME iWSN-110X-240-ME iWSN-110X-360-ME	iWSN-110X-RCT1000P-CT iWSN-110X-RCT1000PL-CT	iWSN-121A-160-ME iWSN-121A-240-ME iWSN-121A-360-ME	iWSN-1310-160-ME iWSN-1310-240-ME iWSN-1310-360-ME iWSN-1310-PCT-ME	
	CT				
	Split-core CT Channel Number	1	1 (for charging only)	2	3
	Split-core CT Type(*1)	Φ16mm (100A), Φ24mm (200A), or Φ36mm (400A); 8 m wire			
	Rogowski Coil Channel Number	0	1	0	0
Rogowski Coil Type	-	Φ80mm (1000A); 4 m wire	-	-	
Input Voltage	Maximum 500VAC, 50/60 Hz				
Accuracy	±3% or ±0.3A	±3% or ±2A	±3% or ±0.3A	±3% or ±0.3A	
Thermistor					
Channel Number	0	0	1	1	
Measurement Temperature	0 °C to +80 °C				
Accuracy	±2 °C				
Installation	Wall-mount or magnet adsorption				
DI					
Channel Number	0	0	1	0	
Type	Dry contact only				
Expansion					
Channel Number	1	1	0	0	
Interface	4 pole 3.5mm audio cable with 25 cm wire lead				

(\*1) iWSN-1000-160-ME with Φ16mm (100A), iWSN-1000-240-ME with Φ24mm (200A), iWSN-1000-360-ME with Φ36mm (400A), iWSN-110X-RCT1000P-CT with Φ24mm (200A), iWSN-110X-RCT1000PL-CT with Φ36mm (400A).

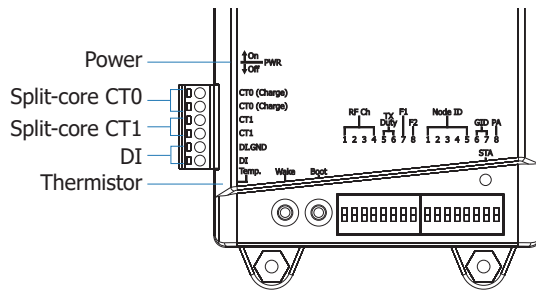
## iWSN-110X



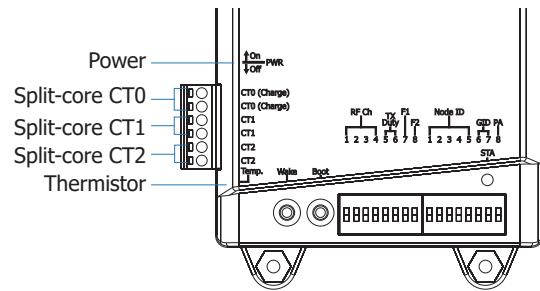
## iWSN-110X-RCT



## iWSN-121A

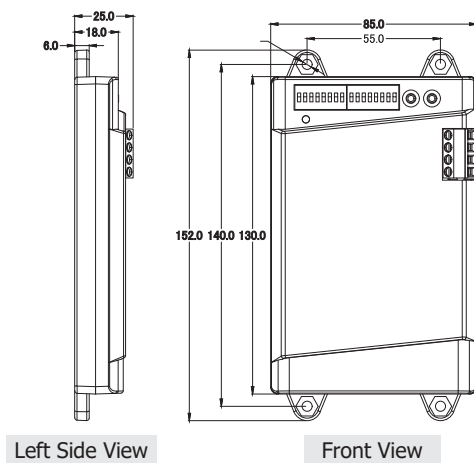


## iWSN-1310

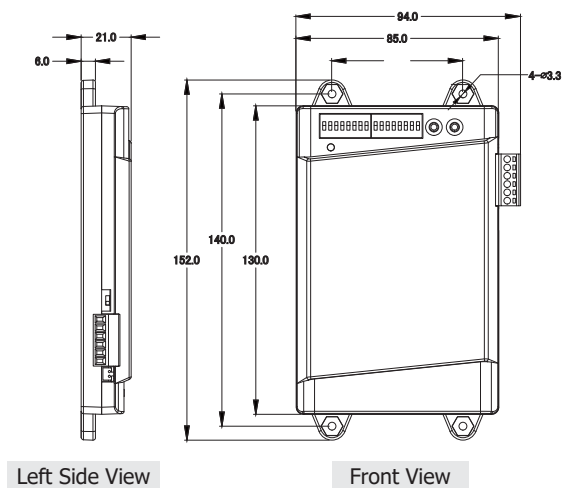


## Dimensions (Units: mm)

### iWSN-110X/iWSN-110X-RCT



### iWSN-121A/iWSN-1310



## Ordering Information

<b>iWSN-110X-PCT-ME CR</b>	iWSN wireless sensing module (RoHS)
<b>iWSN-110X-160-ME CR</b>	iWSN wireless sensing module (RoHS);includes 100A Split-Core CT (Inside diameter 16mm; wire lead 8m) x1
<b>iWSN-110X-240-ME CR</b>	iWSN wireless sensing module (RoHS);includes 200A Split-Core CT (Inside diameter 24mm; wire lead 8m) x1
<b>iWSN-110X-360-ME CR</b>	iWSN wireless sensing module (RoHS);includes 400A Split-Core CT (Inside diameter 36mm; wire lead 8m) x1
<b>iWSN-110X-RCT1000P-CT CR</b>	iWSN wireless sensing module (RoHS);includes 200A Split-Core CT (Inside diameter 24mm; wire lead 8m) x1, 1000A Rogowski Coil (Inside diameter 80mm; wire lead 4m) x1
<b>iWSN-110X-RCT1000PL-CT CR</b>	iWSN wireless sensing module (RoHS);includes 400A Split-Core CT (Inside diameter 36mm; wire lead 8m) x1, 1000A Rogowski Coil (Inside diameter 80mm; wire lead 4m) x1
<b>iWSN-121A-160-ME CR</b>	iWSN wireless sensing module (RoHS);includes 100A Split-Core CT (Inside diameter 16mm; wire lead 8m) x2 (Asia Only)
<b>iWSN-121A-240-ME CR</b>	iWSN wireless sensing module (RoHS);includes 200A Split-Core CT (Inside diameter 24mm; wire lead 8m) x2 (Asia Only)
<b>iWSN-121A-360-ME CR</b>	iWSN wireless sensing module (RoHS);includes 400A Split-Core CT (Inside diameter 36mm; wire lead 8m) x2 (Asia Only)
<b>iWSN-1310-PCT-ME CR</b>	iWSN wireless sensing module (RoHS)(Asia Only)
<b>iWSN-1310-160-ME CR</b>	iWSN wireless sensing module (RoHS);includes 100A Split-Core CT (Inside diameter 16mm; wire lead 8m) x3 (Asia Only)
<b>iWSN-1310-240-ME CR</b>	iWSN wireless sensing module (RoHS);includes 200A Split-Core CT (Inside diameter 24mm; wire lead 8m) x3 (Asia Only)
<b>iWSN-1310-360-ME CR</b>	iWSN wireless sensing module (RoHS);includes 400A Split-Core CT (Inside diameter 36mm; wire lead 8m) x3 (Asia Only)
<b>Important Note:</b> The iWSN sensing module measurement information must be collected through the iWSN receiver. Users can refer to the iWSN-200U or iWSN-200E module according to their needs.	

## Accessories

<b>CA-SCT16I-100A-L080 CR</b>	8 m 100A $\Phi$ 16mm Split-Core CT
<b>CA-SCT24I-200A-L080 CR</b>	8 m 200A $\Phi$ 24mm Split-Core CT
<b>CA-SCT36I-400A-L080 CR</b>	8 m 400A $\Phi$ 36mm Split-Core CT
<b>CA-TM-M200-L050P CR</b>	5 m Magnetic plug thermistor
<b>CA-TM-M100-L050P CR</b>	5 m Metal plug thermistor
<b>CA-TM-P100-L020P CR</b>	2 m Black plastic plug thermistor
<b>CA-TM-P100-L050P CR</b>	5 m Black plastic plug thermistor