



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

RoHS

Applications



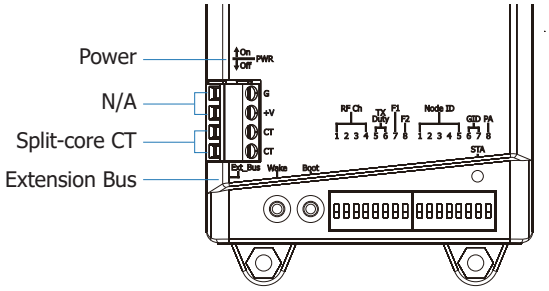
I/O Specifications

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			

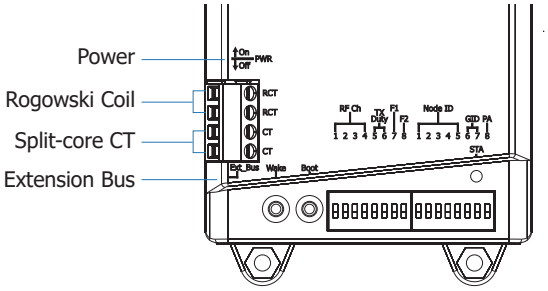
(*1) iWSN-1□□□-160-MEwith Φ16mm (100A), iWSN-1□□□-240-MEwith Φ24mm (200A), iWSN-1□□□-360-MEwith Φ36mm (400A), iWSN-110X-RCT1000P-CT with Φ24mm (200A), iWSN-110X-RCT1000PL-CT with Φ36mm (400A).

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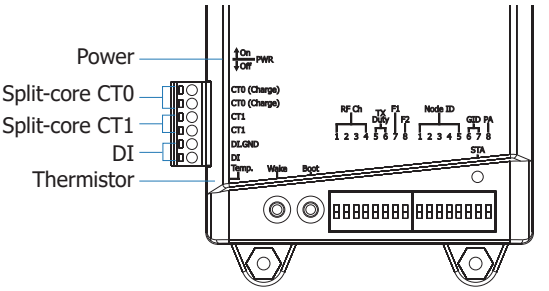
iWSN-110X



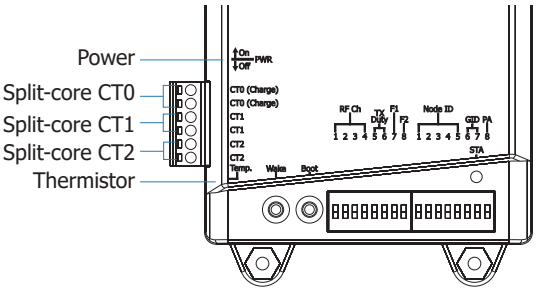
iWSN-110X-RCT



iWSN-121A

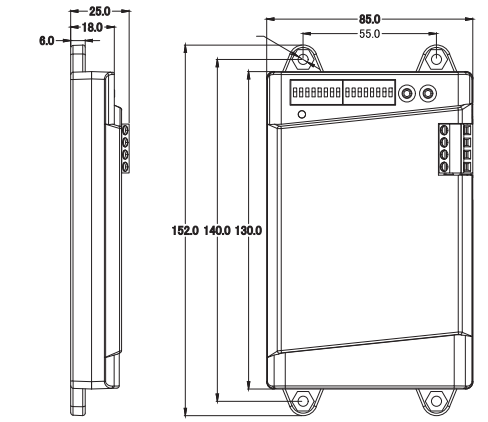


iWSN-1310



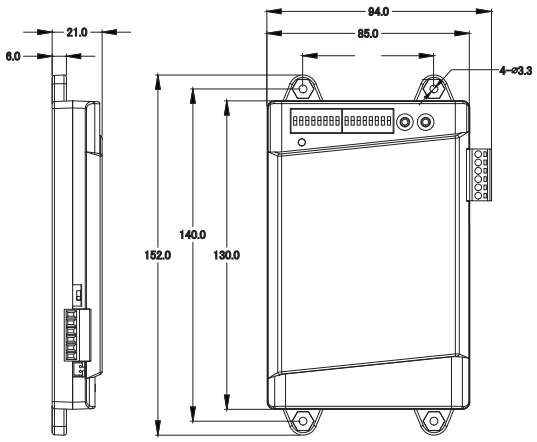
Dimensions (Units: mm)

iWSN-110X/iWSN-110X-RCT



Left Side View | Front View

iWSN-121A/iWSN-1310



Left Side View | Front View

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Ordering Information

iWSN-110X-PCT-ME CR	iWSN wireless sensing module (RoHS)
iWSN-110X-160-ME CR	iWSN wireless sensing module (RoHS);includes 100A Split-Core CT (Inside diameter 16mm; wire lead 8m) x1
iWSN-110X-240-ME CR	iWSN wireless sensing module (RoHS);includes 200A Split-Core CT (Inside diameter 24mm; wire lead 8m) x1
iWSN-110X-360-ME CR	iWSN wireless sensing module (RoHS);includes 400A Split-Core CT (Inside diameter 36mm; wire lead 8m) x1
iWSN-110X-RCT1000P-CT CR	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
iWSN-110X-RCT1000PL-CT CR	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
iWSN-121A-160-ME CR	iWSN wireless sensing module (RoHS);includes 100A Split-Core CT (Inside diameter 16mm; wire lead 8m) x2 (Asia Only)
iWSN-121A-240-ME CR	iWSN wireless sensing module (RoHS);includes 200A Split-Core CT (Inside diameter 24mm; wire lead 8m) x2 (Asia Only)
iWSN-121A-360-ME CR	iWSN wireless sensing module (RoHS);includes 400A Split-Core CT (Inside diameter 36mm; wire lead 8m) x2 (Asia Only)
iWSN-1310-PCT-ME CR	iWSN wireless sensing module (RoHS)(Asia Only)
iWSN-1310-160-ME CR	iWSN wireless sensing module (RoHS);includes 100A Split-Core CT (Inside diameter 16mm; wire lead 8m) x3 (Asia Only)
iWSN-1310-240-ME CR	iWSN wireless sensing module (RoHS);includes 200A Split-Core CT (Inside diameter 24mm; wire lead 8m) x3 (Asia Only)
iWSN-1310-360-ME CR	iWSN wireless sensing module (RoHS);includes 400A Split-Core CT (Inside diameter 36mm; wire lead 8m) x3 (Asia Only)
Important Note: 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

CA-SCT16I-100A-L080 CR	8 m 100A Φ16mm Split-Core CT
CA-SCT24I-200A-L080 CR	8 m 200A Φ24mm Split-Core CT
CA-SCT36I-400A-L080 CR	8 m 400A Φ36mm Split-Core CT
CA-TM-M200-L050P CR	5 m Magnetic plug thermistor
CA-TM-M100-L050P CR	5 m Metal plug thermistor
CA-TM-P100-L020P CR	2 m Black plastic plug thermistor
CA-TM-P100-L050P CR	5 m Black plastic plug thermistor

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