



iWSN-1110X Series
iWSN-1120X Series



iWSN-1121 Series
iWSN-1131 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-1110X iWSN-1110X-160 iWSN-1110X-240 iWSN-1110X-360	iWSN-1120X-240-RCT iWSN-1120X-360-RCT	iWSN-1121-DI-160 iWSN-1121-DI-240 iWSN-1121-DI-360	iWSN-1131-160 iWSN-1131-240 iWSN-1131-360 iWSN-1131P	
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	9 A	12 A	19 A
	10-sec Tx Duty	3 A	3 A	5 A	12 A
	30-sec Tx Duty	3 A	2 A	4 A	5 A
	60-sec Tx Duty	3 A	2 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



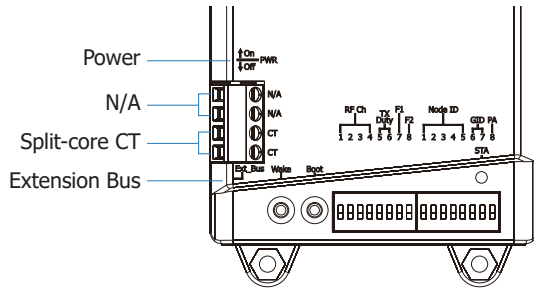
IO Specifications

Model	iWSN-1110X iWSN-1110X-160 iWSN-1110X-240 iWSN-1110X-360	iWSN-1120X-240-RCT iWSN-1120X-360-RCT	iWSN-1121-DI-160 iWSN-1121-DI-240 iWSN-1121-DI-360	iWSN-1131-160 iWSN-1131-240 iWSN-1131-360 iWSN-1131P
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			

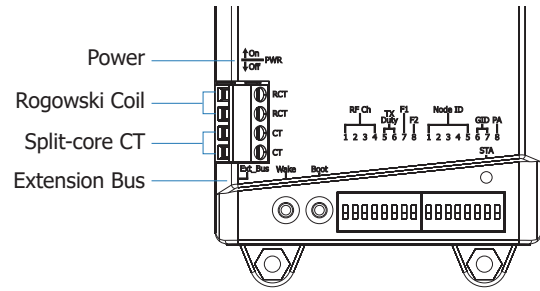
(*1) iWSN-1110X-160 with Φ16mm (100A), iWSN-1110X-240 with Φ24mm (200A), iWSN-1110X-360 with Φ36mm (400A), iWSN-1120X-240-RCT Φ24mm (200A), iWSN-1120X-240-RCT with Φ36mm (400A).

Appearance

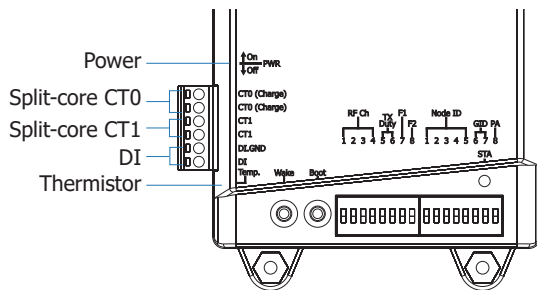
iWSN-1110X



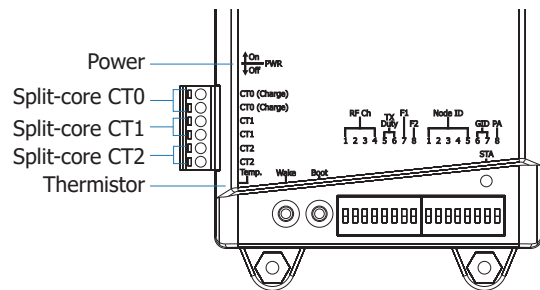
iWSN-1120X



iWSN-1121-DI

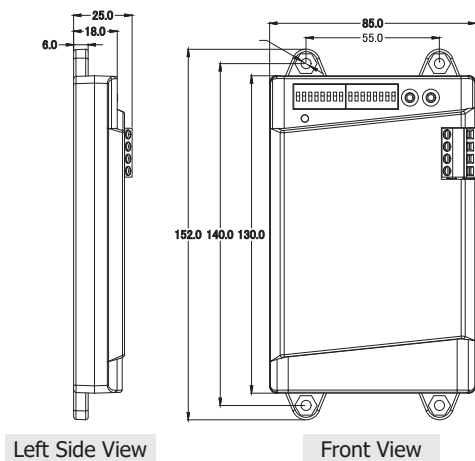


iWSN-1131

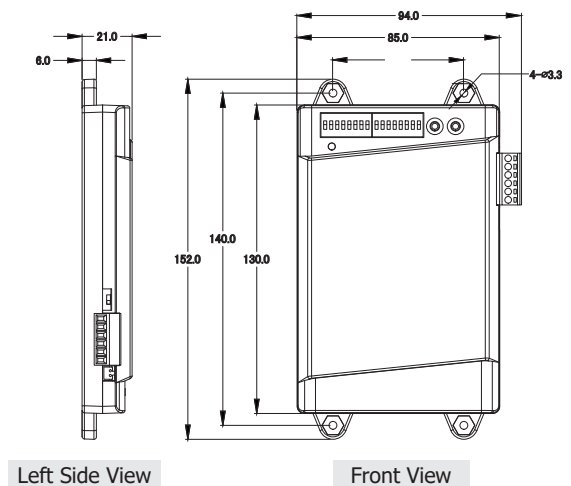


Dimensions (Units: mm)

iWSN-1110X/iWSN-1120X



iWSN-1121-DI/iWSN-1131



Ordering Information

iWSN-1110X	iWSN wireless sensing module (RoHS)
iWSN-1110X-160	iWSN wireless sensing module (RoHS);includes 100A Split-Core CT (Inside diameter 16mm; wire lead 8m) x1
iWSN-1110X-240	iWSN wireless sensing module (RoHS);includes 200A Split-Core CT (Inside diameter 24mm; wire lead 8m) x1
iWSN-1110X-360	iWSN wireless sensing module (RoHS);includes 400A Split-Core CT (Inside diameter 36mm; wire lead 8m) x1
iWSN-1120X-240-RCT1000P	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-1120X-360-RCT1000P	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-1121-DI-160	iWSN wireless sensing module (RoHS);includes 100A Split-Core CT (Inside diameter 16mm; wire lead 8m) x2
iWSN-1121-DI-240	iWSN wireless sensing module (RoHS);includes 200A Split-Core CT (Inside diameter 24mm; wire lead 8m) x2
iWSN-1121-DI-360	iWSN wireless sensing module (RoHS);includes 400A Split-Core CT (Inside diameter 36mm; wire lead 8m) x2
iWSN-1131P	iWSN wireless sensing module (RoHS)
iWSN-1131-160	iWSN wireless sensing module (RoHS);includes 100A Split-Core CT (Inside diameter 16mm; wire lead 8m) x3
iWSN-1131-240	iWSN wireless sensing module (RoHS);includes 200A Split-Core CT (Inside diameter 24mm; wire lead 8m) x3
iWSN-1131-360	iWSN wireless sensing module (RoHS);includes 400A Split-Core CT (Inside diameter 36mm; wire lead 8m) x3
Important Note: The iWSN sensing module measurement information must be collected through the iWSN receiver. Users can refer to the iWSN-2200 or iWSN-2200-E module according to their needs.	

Accessories

iWSN-2200	iWSN data concentrator with RS-232/RS-485 serial port (RoHS)
iWSN-2200-E	iWSN data concentrator with Ethernet port (RoHS)
CA-SCT16I-100A-L080	8 m 100A Φ 16mm Split-Core CT
CA-SCT24I-200A-L080	8 m 200A Φ 24mm Split-Core CT
CA-SCT36I-400A-L080	8 m 400A Φ 36mm Split-Core CT
CA-TM-M200-L050P	5 m Magnetic plug thermistor
CA-TM-M100-L050P	5 m Metal plug thermistor
CA-TM-P100-L020P	2 m Black plastic plug thermistor
CA-TM-P100-L050P	5 m Black plastic plug thermistor