



Data Gateway 1.0

The Hub is a cornerstone in long-range wireless communication for the Internet of Things (IoT). Using the LoRaWAN protocol, which emphasizes long-distance communication with minimal power use, this gateway efficiently aggregates data from multiple LoRa-enabled devices, ranging from remote environmental sensors to urban utility meters. Designed for resilience, it can function effectively in varied environments, from industrial sites to rural landscapes. In addition to collecting data, the gateway supports bidirectional communication, enabling it to relay commands or updates back to connected devices. Its design promotes easy integration, making it a versatile choice for expanding networks or establishing new IoT systems.



Core Features



LORA™ WIRELESS



UP TO 10KM RANGE IN OPEN SPACES



HOSTS UP TO 500 SENSORS PER HUB



REAL-TIME DATA COLLECTION



LOW POWER CONSUMPTION



NORTH AMERICAN LTE SUPPORT (BELL/VERIZON)



CELLULAR INTERFACE

LTE

Cat M1

LTE Bit Rate

375 Kbps (DL), 375 Kbps (UL)

LTT Fdd

B12, B13, B28 (700 MHz), B20 (800 MHz), B5, B18, B19, B26 (850 MHz), B8 (900 MHz), B4 (1700 MHz), B3 (1800 MHz), B2 (1900 MHz), B1 (2100MHz)

LTE TDD

B39 (1900 MHz)

MECHANICS

Dimensions (W x H x D)

150 x 37.5 x 83 mm

Mounting

DIN rail, wall

Weight

500g

Enclosure Rating

IP30

SD Card

1x Micro SD Card Slot
(WISE-6610-XXXC Only)

POWER REQUIREMENTS

Power Input

9 - 36 VDC

Power Connector

4-way Molex mini-fit connector

Power Consumption

8.2W-9W (9-36VDC/1A)

ENVIRONMENT

Operating Temperature

-40 ~ 75°C

Storage Temperature

Storage Temperature -40 ~ 85°C

Operating Humidity

10 ~ 95% RH





REGULATORY APPROVALS

Shock	IEC 60068-2-27
Free Fall	IEC 60068-2-32
Vibration	IEC 60068-2-6
RF	FCC/RED/NCC

ACCESSORIES

Power Supply	BB-RPS-MO4-M (included)
LoRaWAN Antenna	1750008946-01 (included)
LTE Antenna	1750009236-01 (cellular version included)



Data Gateway 2.0

The Hub is a powerful indoor LoRaWAN® gateway designed for reliable long-range communication in industrial settings. With support for a high volume of IoT devices, multiple backhaul connectivity options, and much more, the Hub is built to enable seamless data collection and data management in the industrial environment.



Core Features



LoRa™ Wireless



Up to 2KM Range in Industrial spaces



Multiple Backhaul Connectivity



Water and Dust Resistant



NXP Quad-Core Processor



HARDWARE SYSTEM

CPU

Quad-core 1.5 GHz, 64-bit ARM Cortex-A53

Memory

8 GB eMMC

Flash

8 GB eMMC

LORAWAN®

Antenna

2 × Internal Antennas + 1 × 50 Ω N-Female

Channel

8 (Half/Full-duplex)

Frequency Band

US915

Sensitivity

-140dBm Sensitivity @292bps

Output Power

27dBm Max

PHYSICAL

Ingress Protection

IP65

Weight

548g

Dimensions

180 x 110 x 56.5 mm

Installation

Desktop, Wall, and Pole Mounting

ENVIRONMENT

Operating Temperature

-40°C to +70°C

Storage Temperature

-40°C to +85°C

Ethernet Isolation

1.5 kV RMS

Relative Humidity

0% to 95% (non-condensing) at 25°C



Pulse Counter 1.0

A pulse counter serves as a specialized electronic device engineered to count and record pulses generated by various types of sensors and instruments. These could range from flow meters to electrical consumption sensors. The primary advantage of using a pulse counter lies in its ability to provide accurate, real-time data that is invaluable for both monitoring and control applications within a facility.



Core Features



LoRa™ Wireless



5 min data - 3 year lifespan
hourly data - 10 year lifespan



3-Channel meter pulse counting



Simple and quick installation



Change of state monitoring



Easy configuration & monitoring via usb (Only 5-15min data interval)



Accurate Pulse Counting



Signal, battery, and pulse indicator



ELECTRIC

Input Power	1 x 3.6 V LS33600 D Size lithium battery (3.6 V 17000 mAh/section)
Standby Current	25 uA
Receiving Current (Max)	11 mA @3.3V
Transmitting Current	127 mA/3.3V
Battery Measurement Accuracy	±0.1V
Pulse Resolution	>50 mA

FREQUENCY

Frequency Range	US 902-928 (MHz)
TX Power	US915 20dBm
Receiving Sensitivity	-136 (LoRa, Spreading Factor=12, Bit Rate=293bps)
Antenna Type	Built-in antenna
Range	Up to 10km Unobstructed
Data Transfer Rate	LoRa: 0.3kbps~50kbps
Modulation	LoRa
Supportable LoRaWAN Band	US 902-928 (MHz)

PHYSICAL

Dimensions (LxWxH)	129 x 67 x 41 mm
Weight	200g
Environment Temperature Range	-25°C to 70°C
Environment Humidity Range	<90%RH (No condensation)
Mounting	Screw





Pulse Counter 2.0

A pulse counter serves as a specialized electronic device engineered to count and record pulses generated by various types of sensors and instruments. These could range from flow meters to electrical consumption sensors. The primary advantage of using a pulse counter lies in its ability to provide accurate, real-time data that is invaluable for both monitoring and control applications within a facility.



CORE FEATURES



LoRa™ Wireless



15 min data - 5 year lifespan



Accurate Pulse Counting



Simple and quick installation



Water and Dust Proof



GPIO MEASUREMENT

Port	1 × GPIO Interface, Dry Contact
Work Mode	Pulse Counter
Input Frequency	≤ 2000 Hz
Minimum Pulse Width	10 ms
Applicable Meters	Read any passive pulse meters

WIRELESS TRANSMISSION

Frequency Range	US 915 MHz
TX Power	20dBm
Receiving Sensitivity	-137dBm @300bps

PHYSICAL

Power Supply	2 × 4000 mAh ER18505 Li-SOCL2 Battery
Dimensions (LxWxH)	105.6 × 85.2 × 27 mm
Operating Temperature	-30°C to +70°C
Relative Humidity	≤95% (non-condensing)
Ingress Protection	IP67





Amp Logger

75A, 250A, 630A, 1000A, 3000A

The primary role of these CTs is to detect and quantify the current flowing through a device. By doing so, they can offer invaluable insights into the device's power consumption, operational health, and efficiency. Once the CT detects the current, it transforms this data into a format that can be safely and conveniently sent back to a centralized system, referred to as the "gateway" in this context. The gateway acts as a hub, collecting data from multiple CTs or other sensors.



Core Features



LoRa™ Wireless



5 min data - 5 year lifespan
15 min data - 2 year lifespan



Three Phase Meter



Clamp-On Transformer



Magnetic Base for Easy Attachment

*We offer 5 versions of CT Meters:
75A, 250A, 630A, 1000A, 3000*



ELECTRIC

Input Power	2 x 3.6V ER14505 AA Size lithium batteries (3.6V2400mah/section)
Standby Current	25 uA
Receiving Current (Max)	11 mA @3.3V
Transmitting Current	127 mA/3.3V
Battery Measurement Accuracy	±0.1V
Pulse Resolution	>50 mA
Current Measurement Range	75A CT: 100mA to 75A 250A CT: 1A to 250A 630A CT: 10A to 630A 1000A CT: 10A to 1000A 3000A CT: 150A to 3000A <i>No data will be detected if current is less than the minimum rating.</i>

FREQUENCY

Frequency Range	US 902-928 (MHz)
TX Power	US915 20
Receiving Sensitivity	-136 (LoRa, Spreading Factor=12, Bit Rate=293bps) -121dBm (FSK, Frequency deviation=5kHz, Bit Rate=1.2kbps)
Antenna Type	Built-in antenna
Range	Up to 10km Unobstructed
Data Transfer Rate	LoRa: 0.3kbps ~ 50kbps FSK: 1.2kbps~300kbps
Modulation	LoRa/FSK (You choose one)
Supportable LoRaWAN Band	US 902-928 (MHz)





CURRENT TRANSFORMER PARAMETERS

Rated Primary Current	75A CT: 30A 250A CT: 200A 630A CT: 300A 1000A CT: 1000A 3000A CT: 3000A @ 50Hz - 60Hz
Rated Secondary Current	75A CT: 10mA 250A CT: 66.66mA 630A CT: 50mA 1000A CT: 500mA 3000A CT: 500mA
Transformation Ratio	75A CT: 3000:1 250A CT: 3000:1 630A CT: 6000:1 1000A CT: 2000:1 3000A CT: 6000:1
Load Resistance	75A CT: 10Ω 250A CT: 10 Ω 630A CT: 10 Ω 1000A CT: 0.36Ω 3000A CT: 0.3Ω
Accuracy	1% 1000A: 0.5%
Isolation Withstand Voltage	3000V 1000A CT: 2000V/0.3mA/3s 3000A CT: AC3KV/3mA/3s
Housing Material	Flame Retardant Grade 94-V0 UL Material
Environmental Protection	ROHS compliant 1000A: ROHS Compliant, CE/UL certified 3000A: GB20840, IEC60044-1GB20
Operating Temperature	-40°C – 85°C 1000A CT: -40 °C – 50 °C 3000A CT: -25°C ~ + 50°C





PHYSICAL

Dimensions (LxWxH)

Host body: 112 x 88.19 x 32 mm
 Sensor: 84.8 x 40.8 x 48mm
Sensor dimension varies depending on CT Sizing. 3000A CTs are significantly larger.

Weight

141 g

Sensor Weight

About 365.4 x 3 g
Sensor weight varies depending on CT Sizing. 3000A CTs are significantly heavier.

Sensor External Wiring Length

~900 mm

Environmental Temperature Range

-20°C to 55°C

Storage Temperature Range

-40°C to 85°C

Environmental Humidity Range

<90% RH (No Condensation)

Mounting

Screw / Magnet

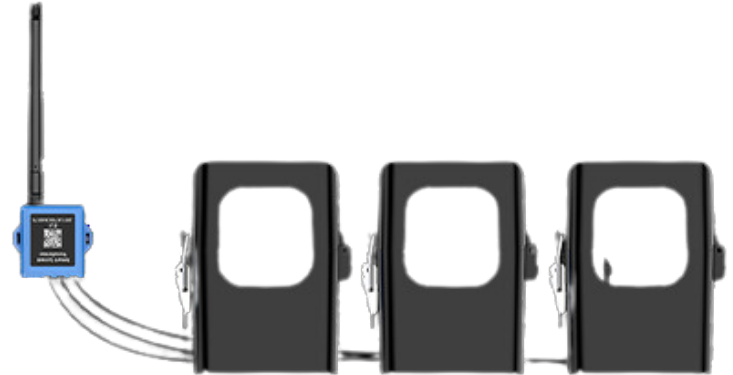




Battery Free Amp Logger

250A, 500A, 1000A

The battery-free amp logger offers remote energy monitoring in a compact design. Unlike the standard Amp Logger, this version is self-powered, eliminating the need for a battery and allowing for a smaller form factor. It also features significantly reduced data sampling interval and tracks cumulative usage.



CORE FEATURES



LoRa™ Wireless



Battery Free Operation



Compact Size



Clamp-On Transformer



3.3 kHz Sampling Frequency



Cumulative Energy Tracking



ELECTRIC

Detection Parameter	RMS Current
Sampling Frequency	3.3 kHz
Working Frequency	50-60 Hz
Rated Primary Current	250A 500A 1000A
Rated Secondary Current	150 mA
Resolution	1 mA
Accuracy	±1 %

WIRELESS TRANSMISSION

Protocol	LoRaWAN®
Antenna Connector	1 × 50 Ω SMA Connector (Center PIN: SMA Female)
Frequency	US915
TX Power	20 dBm (915 MHz)
Sensitivity	-137 dBm
Mode	OTAA





PHYSICAL

Power Supply	Induced current power supply
Insulation Voltage	3kVac(r.m.s)(1mA/1min)
Color/Material	Blue, PBT+PC (UL94 V0)
Cable Length	1m
Operating Temperature	Transceiver: -20°C~70°C (-4°F~158°F) CT Clamp: -40°C~55°C (-40°F~131°F)
Storage Temperature	Transceiver: -25°C~80°C (-13°F~176°F) CT Clamp: -40°C~55°C (-40°F~131°F)
Dimensions	Transceiver: 38 × 39.7 × 16 mm (1.5 × 1.56 × 0.63 in)
Weight	Transceiver: 13.05g
Installation	Transceiver: Cable-tie Mounting

CERTIFICATIONS & REGULATORY APPROVALS





IAQ Sensor

The Internal Air Quality (IAQ) Sensor delivers real-time monitoring of key environmental parameters, including temperature, CO2 levels, humidity, and more. Equipped with a sleek E-Ink display, it provides instant access to live data without the need to log into the portal. Its LoRaWAN connectivity ensures seamless wireless transmission of data to the portal, enabling comprehensive historical tracking and in-depth analysis.



Core Features



LORA™ WIRELESS



E-INK SCREEN



TOOL-SIZED OBJECT PROTECTION



MULTI-YEAR BATTERY OPERATION



MULTI-SENSOR INTEGRATION



FREQUENCY

Frequency Range	US915
TX Power	22dBm;
Sensitivity	-137dBm @300bps
Work Mode	OTAA/ABP Class A

PHYSICAL

Dimension (L x W x H)	100.8 x 114 x 22mm
Power Supply	1. 4 × 2700 mAh ER14505 Li-SOCI2 Replaceable Batteries 2. 5V/1A by Type-C Port
Operating Temperature	-20°C - 60°C (E-Ink Screen: 0°C - 40°C)
Relative Humidity	10% - 90% (non-condensing)
Ingress Protection	IP30

TEMPERATURE SENSOR

Operating Principle	Digital CMOSens® technology (MEMS)
Range	-20°C~60°C
Accuracy	± 0.2°C
Resolution	0.1°C

HUMIDITY SENSOR

Operating Principle	Digital CMOSens® technology (MEMS)
Range	0% ~ 100% RH
Accuracy	± 2% RH
Resolution	0.5% RH





CARBON DIOXIDE (CO₂) SENSOR

Operating Principle

Digital CMOSens® technology (MEMS)

Range

400 ~ 5000 ppm

Accuracy± (30 ppm + 3 % of reading) (0°C~ 50°C,
0% to 85%RH)**Resolution**

1 ppm

