

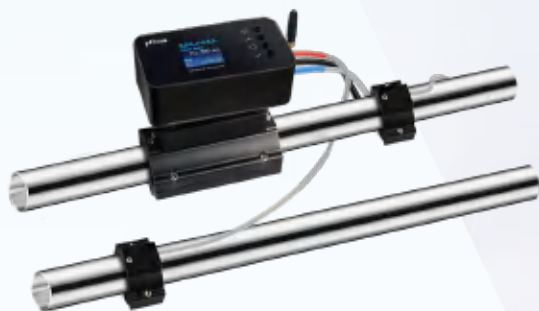
E3R Clip-on Ultrasonic Thermal Energy / BTU Flow Meter

with LoRa communication



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Product Overview



E3R adopts LoRa communication technology and supports the LoRaWAN communication protocol. The advantage of this communication protocol lies in its ability to transmit information at lower frequencies with lower complexity and cost, while possessing characteristics such as ultra-long distance, low power consumption, high availability, and low cost. This allows the device to be used in different regions.

E3R adopts the ultrasonic transit time measurement principle, combined with Gentos patented flow algorithm technology, it realizes accurate measurement of the fluid flow in the pipe. The product is all-in-one and Clamp-on structure design, which is simple and convenient to install. Only four steps are needed all along. The installation process requires no contact with fluid media and no need to shut down the flow.

Product Features

- Easy installation, no pipe damaging
- No adjustment, clip on to measure
- LCD color display
- 360° rotation adjustable display screen
- LoRaWAN communication protocol is available

- Long transmission distance
- Strong penetrating ability
- Low power dissipation
- Strong anti-interference ability
- No wiring

Application and Industry

HVAC, heating, energy-saving monitoring, heat balance regulation, heating regulation, AHU room, thermal energy transformation...

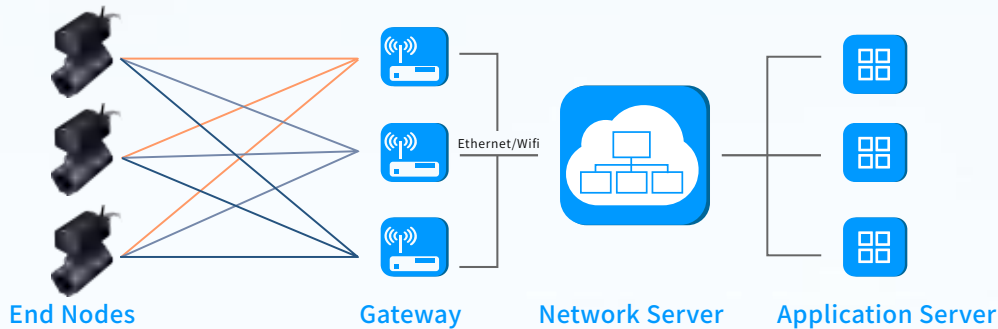


Cloud Server

LoRa (from "long range") is a physical proprietary radio communication technique. LoRaWAN (Wide Area Network) defines the communication protocol and system architecture.

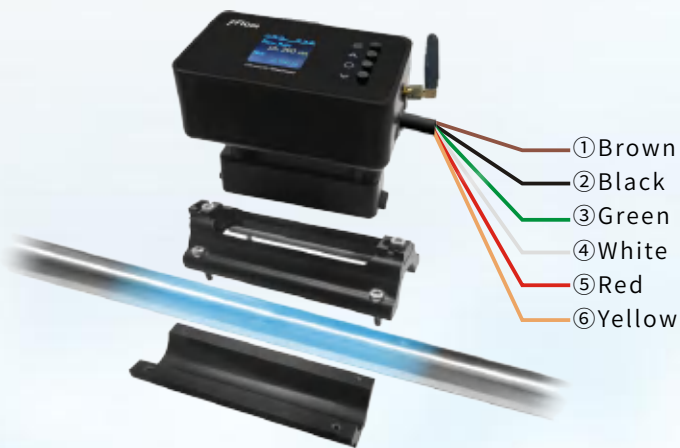
Together, LoRa and LoRaWAN define a Low Power, Wide Area (LPWA) networking protocol designed to wirelessly connect devices to the internet in regional, national or global networks, and targets key Internet of things (IoT) requirements such as bi-directional communication, end-to-end security, mobility and localization services.

The LoRaWAN architecture contains four major components:



In this architecture, you can see how LoRa and LoRaWAN allow wide and dense networks of edge devices to be connected. This allows you to capture and monitor data from thousands of nodes in a manageable way.

Meter Wiring

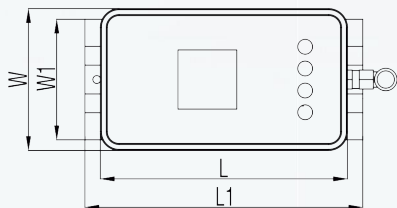
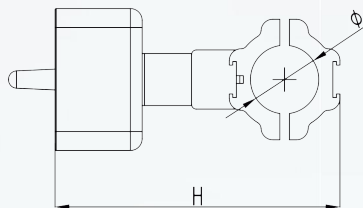


Function	Identifier	Color
Power Supply (10-36VDC)	+	Brown
	-	Black
RS485	A	Green
	B	White
None	/	Red
	/	Yellow

This meter adopts integrated design. It is easy to install and set parameters in a few steps. It can be directly clamped on the pipe section. After connected to the power supply, the meter can realize flow measurement.



Product Specification (Unit: mm)



Nominal Inner Diameter of Pipe	W	W1	L	L1	H	Φ
DN20	60	51	105	118	121	29
DN25	60	56	105	118	128	36
DN32	60	63	105	118	135	43
DN40	60	74	105	118	146	54
DN50	60	89	105	153	159	67
DN65	60	102	105	153	172	80
DN80	60	113	105	153	183	91

Product Model

Format of type selection: E3R; Model: A-B-C

Model	Description
E3R	Flow Velocity: 0.1~16ft/s (0.03~5.0m/s)
	Accuracy: $\pm 2\%$
	IP Rating: IP54
	Measurement Medium: Water
	Inputs Interface: 2*PT1000 Clamp-on temperature sensor
	Outputs: RS485(Standard), FUJI or MODBUS Protocol
	LoRa Communication: Maximum Transmit Power: 22dBm
	Temperature: -40~85°C
	LoRaWAN communication protocol is available
	Temperature Transmitter: -10°C~50°C
	Transducer: 0°C~60°C
	Keyboard: 4 touch keys
	Display Screen: 1.44 " LCD colorful screen, resolution 128 * 128
	Power Supply: 10~36VDC/500mA
	Cable: Ø5 Six-core cable, standard length: 2m
	Humidity: Relative humidity 0~99%, No condensation
	Chassis Material: Engineering Plastic (ABS+PC) + Aluminum Alloy

Specifications

A	Pipe Range(Unit:mm)
Pipe OD Range	Pipe Material(PVC, Carbon Steel, Stainless Steel)
	DN20 (21~29), DN25(28~36), DN32(35~43), DN40(46~54), DN50(59~67), DN65(72~80), DN80(83~91)
	Pipe Material(Copper)
	DN25(21~29), DN32(28~36), DN40(35~43), DN50(46~54), DN65(59~67), DN80(72~80)
B	Pipe Material(Optional)
1	Carbon Steel
2	Stainless Steel
3	Copper
4	PVC
C	LoRa Frequency Selection
1	EU868 Frequency: 863000000~865400000, Unit: Hz
2	US915 Frequency: 902300000~914900000, Unit: Hz
3	CN779 Frequency: 780100000~786500000, Unit: Hz
4	EU433 Frequency: 433775000~434665000, Unit: Hz
5	AU915 Frequency: 915200000~927800000, Unit: Hz
6	CN470 Frequency: 470300000~489300000, Unit: Hz
7	AS923(HK) Frequency: 920000000~925000000, Unit: Hz

Selection Example: Model: E3R; Specification: DN20-1-1

For example: (Model: E3R Clip-on ultrasonic thermal energy/BTU flow meter; DN20, Carbon Steel, EU868 Frequency: 863000000~865400000, Unit: Hz)