

# pFlow

E3 Ultrasonic Energy Flowmeter with WIFI for HVAC



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## About E3

E3 ultrasonic energy meter is designed for catering to the small pipe size of PVC, carbon steel, stainless steel, copper which can be widely used in saving-energy, air-conditioning, building automation system, data central, energy audit, HVAC, etc. It is very easy to install. The installation only needs 30 seconds. It is simple to use, and very portable because of small size. This would help you save the next sales cost significantly.

Based on the TCT (Time Comb Technology), a kind of technology used to measuring signal flight time, E3 is invented

RS-485

Wi-Fi

4-20  
mA

LCD

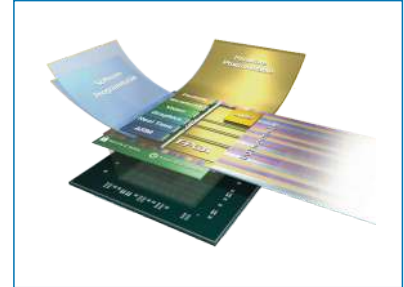
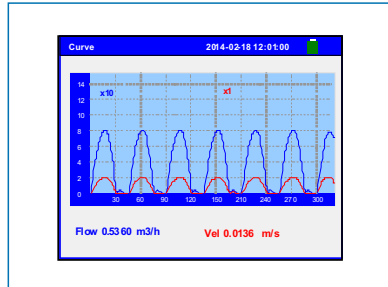
## Main characters:

The product is an integrated structure design, which is easy to install through four screws, and has special insulation on the outside. The jacket reduces the hassle of field installation. Its characteristic is that it can be measured with the buckle. There is no need to cut the pipe, and there is no need to stop. At the same time, it also has rich network functions, supporting Wi-Fi, Bluetooth, etc.. And It can realize icloud data storage and analysis management functions. You can have access to "Gentos iCloud" or your own icloud data center. Data collection can meet different working conditions.

## TCT Technology

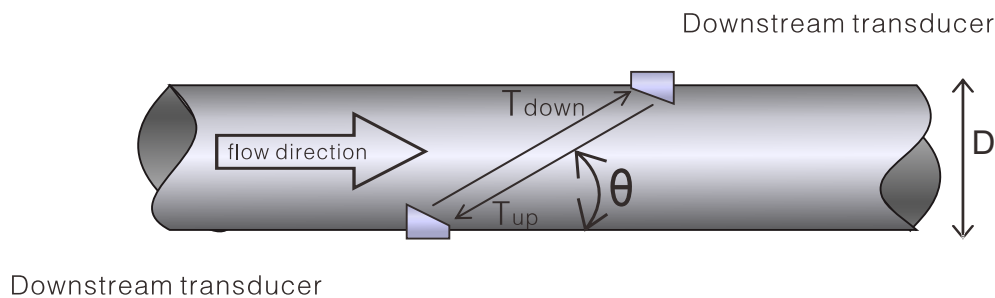
### TCT Technology

The TCT (Time Comb Technology) is a kind of technology used to measure signal flight time. The technology is invented by Gentos Measurement & Control Co., Ltd. in 2019. Since the technology was invented, it has achieved the time measurement accuracy of 50ps (TVT is 130ps), and has outstanding characteristics of high accuracy, high stability and low cost.



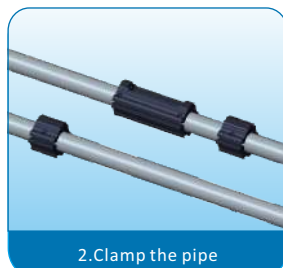
## Working Principle

When the ultrasonic signal is transmitted and received through the moving liquid, there will be a difference between the upstream and downstream transit time, which can be used to calculate flow and velocity.



## Installation Steps

The clip on meter is measured with an integrated design. The installation is very simple. There is no need to break the pipe, stop the pump, and set parameter. E3 is directly clipped on the pipe section, and tightened the screw to turn on the power flow measurement.



Performance specifications	
Flow range	$\pm 0.098\text{ft/s} \sim \pm 16\text{ft/s}$ ( $\pm 0.03\text{m/s} \sim \pm 5\text{m/s}$ )
Accuracy	Class 2
Pipe size	DN20 DN25 DN32 DN40 DN50 DN65 DN80
Fluid	Water
Pipe material	PVC, Carbon Steel, Stainless Steel, Copper
Function specifications	
Outputs	Analog output:4~20mA, max load 750 $\Omega$ .
Communication interface	WIFI(standard), TTF/RS485(optional), Cannot be used at the same time ;Support FUJI protocol and MODBUS protocol
Power supply	10~36VDC/500mA
Temperature	Transmitter:14°F~122°F(-10°C~50°C) Transducer measurement medium:32°F~140°F(0°C~60°C)
Humidity	Up to 99% RH,non-condensing
Physical specifications	
Transmitter	PC/ABS
Keyboard	3 touch Keys
Display	1.44" LCD
Protection Rate	Ip54
Cable Length	Power cable: standard length 2m Temperature cable: 3.0m $\Phi 5$ 6 Core,standard length 2m
Type of Temperature sensor	
PT1000	2*PT1000 Clamp-on or insertion temperature sensor 0~100°C (32~212°F)

Dimensions Unit:mm Pipe material(PVC, Carbon Steel, Stainless Steel)								
Model	$\emptyset$	W	W1	L	L1	H	Flow Range $\text{m}^3/\text{h}$	Weight(kg)
DN20	25~29	60	51	105	115	121	0.04~6	0.88
	21~25	60	51	105	115	121		
DN25	32~36	60	56	105	115	128	0.05~9	0.91
	28~32	60	56	105	115	128		
DN32	39~43	60	63	105	115	135	0.09~15	1.02
	35~39	60	63	105	115	135		
DN40	50~54	60	74	105	115	146	0.13~23	1.16
	46~50	60	74	105	115	146		
DN50	63~67	60	89	105	115	159	0.20~35	1.3
	59~63	60	89	105	115	159		
DN65	76~80	60	102	105	115	172	0.35~60	1.8
	72-76	60	102	105	115	172		
DN80	87~91	60	113	105	115	183	0.55~90	2.2
	83~87	60	113	105	115	183		



Dimensions Unit:mm Pipe material(Copper)								
Model	∅	W	W1	L	L1	H	Flow Range m <sup>3</sup> /h	Weight(kg)
DN20	25~29	60	51	105	115	121	0.04~6	0.88
	21~25	60	51	105	115	121		
DN25	25~29	60	56	105	115	128	0.05~9	0.91
	21~25	60	56	105	115	128		
DN32	32~36	60	63	105	115	135	0.09~15	1.02
	28~32	60	63	105	115	135		
DN40	39~43	60	74	105	115	146	0.13~23	1.16
	35~39	60	74	105	115	146		
DN50	50~54	60	89	105	115	159	0.20~35	1.3
	46~50	60	89	105	115	159		
DN65	63~67	60	102	105	115	172	0.35~60	1.8
	59~63	60	102	105	115	172		
DN80	76~80	60	113	105	115	183	0.55~90	2.2
	72~76	60	113	105	115	183		

## Building Energy Saving

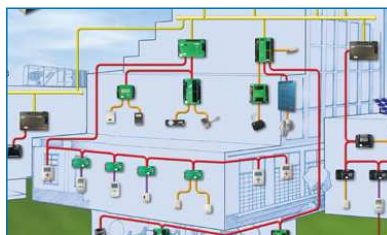


## Applications

It can be widely used in saving-energy, air-conditioning, building automation system, data central, energy audit, HVAC, etc



Energy Saving



Building Automation System



Data Central



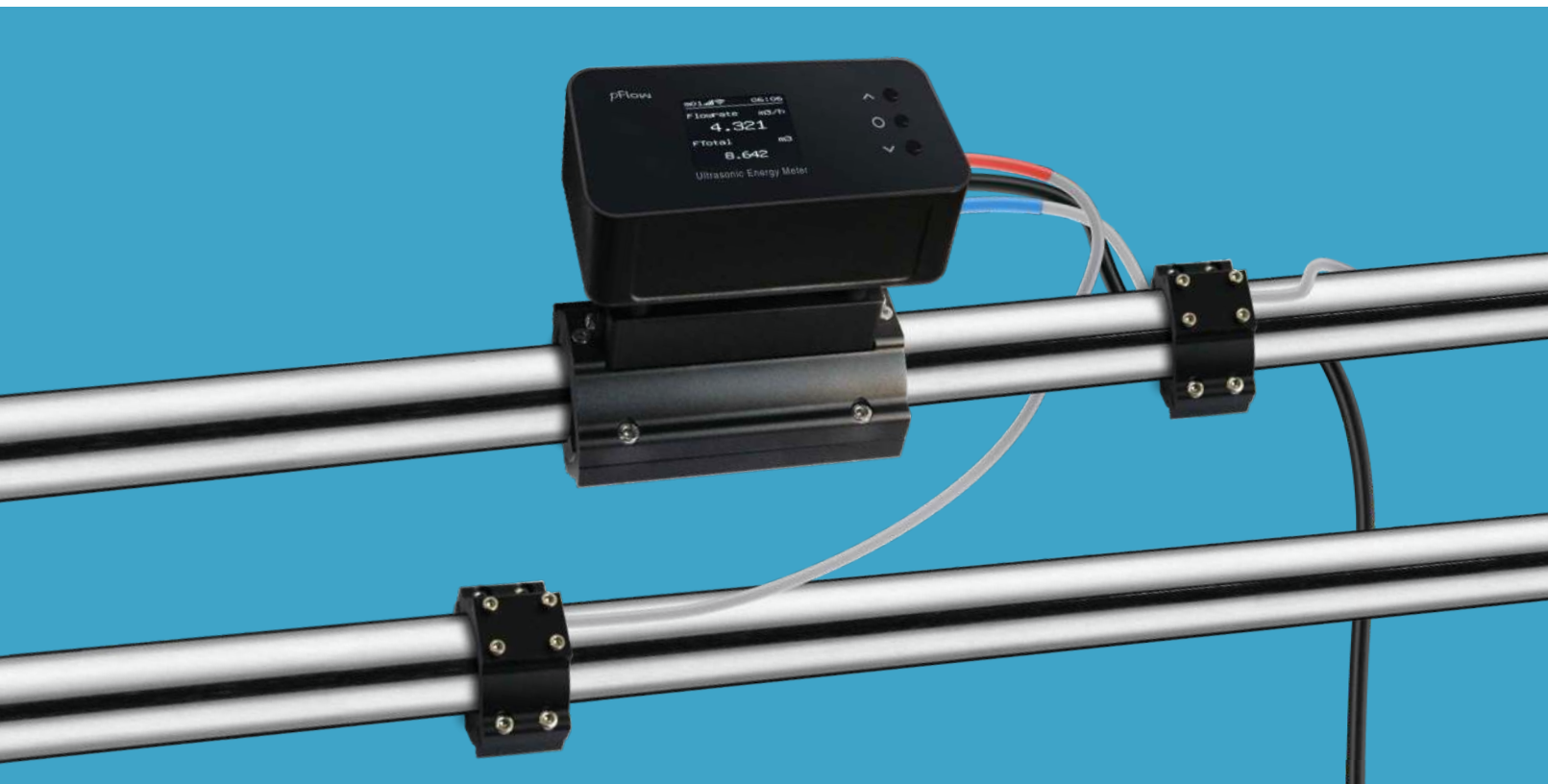
Air-conditioning



Energy Audit

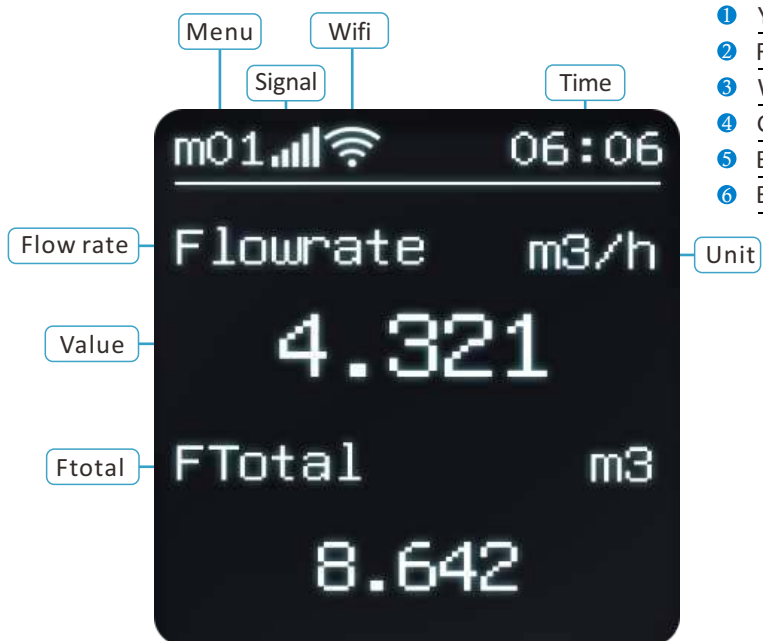
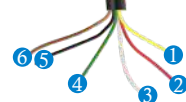


HVAC



Clamp-on type ultrasonic flow meter is for the difficulty of installing a conventional model in an old building. It features with clamp-on PT1000 temperature sensor, no need to cut pipes and to shut down machines.

Easy operation menu Display instantaneous heating energy and accumulated heating energy Display instantaneous cooling energy and accumulated cooling energy Displaying Instantaneous Flow and Selecting Flow Units Optional unit: m3/h, l/m, gpm(UK), cfm, gpm(USA) Display instantaneous energy and select energy units Optional unit: KJ/h, MJ/h, GJ/h, Kcal/h, Mcal/h, KWh, MWh, Kbtu/h



- ① Yellow 4~20mA-
- ② Red 4~20mA+
- ③ White RS485B
- ④ Green RS485A
- ⑤ Black -10V~36V DC
- ⑥ Brown +10V~36V DC



The meter has Gentos icloud energy efficiency monitoring function. Users can log in the account and password that we offer to scan all data on WeChat public number-----SMART METERS and website. Users can inquire directly and clearly all data of each meter, and can observe its corresponding data curve and data report according to related data. Also, E3 can add meter billing system, has independent background management page. It is easy to set cost unit price, cost data and consumption. It can generate monthly cost bill and cost report.

### Air\_Conditioning\_Expense\_Report

House number	Device name	Last reading date	Last reading (kwh)	Now reading date	Now reading (kwh)	Usage amount (kwh)	unit price	cost ( \$ )	Billing mode
1	A	Year-Month-Day	520118	Year-Month-Day	551992	31874	0.8	25499.2	Totalizer Cool
2	B	Year-Month-Day	1634	Year-Month-Day	1782	148	0.8	118.4	Totalizer Cool
3	C	Year-Month-Day	1867	Year-Month-Day	2128	261	0.8	208.8	Totalizer Cool
4	D	Year-Month-Day	3694	Year-Month-Day	4239	545	0.8	436	Totalizer Cool
5	E	Year-Month-Day	33978	2019-11-30	38788	4810	0.8	3848	Totalizer Cool
Total			30110.4						

Central air-conditioning is widely applied in business comprehensive complex, whose energy consumption covers more than 50% of energy consumption of the whole building complex. Thus, China proposes to create green saving-energy building environment. The actual energy consumption of air-conditioning is closely related to the interests and benefits of all users. According to the survey and statistics, because the air-conditioning fee is charged on the basis of accumulation, this phenomenon leads to a great waste of energy. The difficult problem of central air-conditioning billing perplexes property companies all the time. They want to achieve accurate metering and reasonable billing like water meters, electricity meters and gas meters. We follow the law of market economy, and pay as much as you use, which makes all users satisfied, build saving-energy awareness, promoting building saving-energy.



## Ordering Information

Description	
E3	Digital Correlation Transit Time Flowmeter Installation method: Clamp-on Flow Range: $\pm 0.098\text{ft/s} \sim \pm 16\text{ft/s}$ ( $\pm 0.03\text{m/s} \sim \pm 5\text{m/s}$ ) Accuracy: $\pm 2.0\%$ ( $\pm 1.6\text{ft/s} \sim \pm 16\text{ft/s}$ ) ( $\pm 0.5\text{m/s} \sim \pm 5\text{m/s}$ ) Pipe Size Range: DN20 DN25 DN32 DN40 DN50 DN65 DN80 Keyboard: 3 touch Keys Display: 1.44" LCD Power supply: 10~36VDC/500mA Protection Rate: IP54 Output: WIFI, 4~20mA DC, OCT pulse output, relay output Communication: RS-485 terminal Modbus Protocol
Output	
1	WIFI(Standard)
2	4-20mA(optional)
3	RS-485(optional)
4	TTL(optional)
Transmitter enclosure area classification	
1	Ip54, PC/ABS enclosure
Type of transducers	
CP	Clamp on transducer, Operating temperature: $32^{\circ}\text{F} \sim 140^{\circ}\text{F}$ ( $0^{\circ}\text{C} \sim 60^{\circ}\text{C}$ )
Transducer Cable Length	
07	Standard 7ft (2m)
Type of Temperature sensor	
PT1000	PT1000 Temperature sensor
Pipe Size	
DN	DN20 DN25 DN32 DN40 DN50 DN65 DN80
Standard Model: E3-1-1-CP-07-PT1000-DN(pipe size)	
Description: Standard enclosure with Clamp-on transducers, WIFI, 2m cable.	

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