

Transit Time Flow Meters

TT-TDS-100H-HS



ECEFast offers amazing prices on Transit Time Flow Meter portable kits. We are buying from the manufacturer who supplies 60% of the Chinese market and the majority of portable kits sold elsewhere. In the world.

APPLICATION GUARANTEE— IF WE RECOMMEND IT AND IT DOES NOT WORK TO YOUR SATISFACTION WE WILL TAKE IT BACK

WARRANTY—We extend our normal 12month warranty conditions to TWO YEARS on TTFM kits

PORTABLE FLOW METER KITS

TDS-100H



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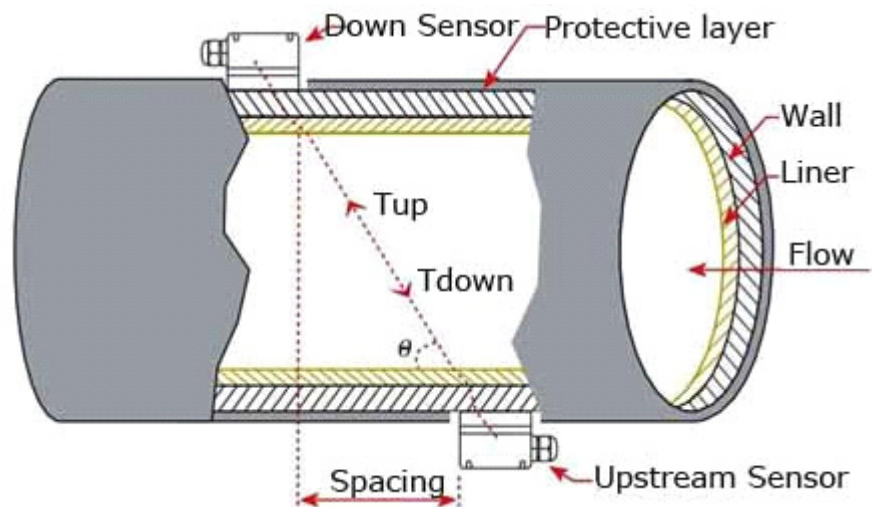
MEASUREMENT PRINCIPLE

Our ultrasonic flow meter is designed by the principle of transit time method. The transit time type ultrasonic flow meter is equipped with two transducers that are clamped on the outside of a closed pipe at a specific distance.

The two transducers whose function as both ultrasonic transmitters and receivers. The flow meters operate by alternately transmitting and receiving a frequency modulated burst of sound energy between the two transducers. The burst is first transmitted in the direction of fluid flow and then against fluid flow. Since sound energy in a moving liquid is carried faster when it travels in the direction of fluid flow (downstream) than it does when it travels against fluid flow (upstream), a differential in the times of flight (ΔT) will occur.

The difference in the transit time measured is directly and exactly related to the velocity of the liquid in the pipe, as shown following,

$$V = \frac{MD}{\sin 2\theta} \times \frac{\Delta T}{T_{up} \cdot T_{down}}$$



Where

θ is the include angle to the flow direction

M is the travel time of the ultrasonic beam

D is the pipe diameter

Tup is the time for the beam from upstream transducer to the downstream one

Tdown is the time for the beam from downstream transducer to the upstream one

$\Delta T = T_{up} - T_{down}$

HAND HELD/PORTABLE ULTRASONIC FLOW METER

The hand held/portable ultrasonic flow meter is the most popular flow measurement instruments for low cost, high portability, high accuracy and non-intrusive flow measurement. The compact, light-weight design makes the handheld flowmeter truly portable. The main unit weighs about 1.2 lbs only.



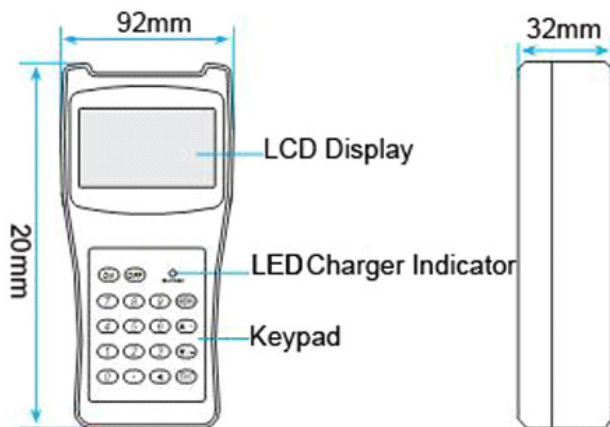
Main Unit



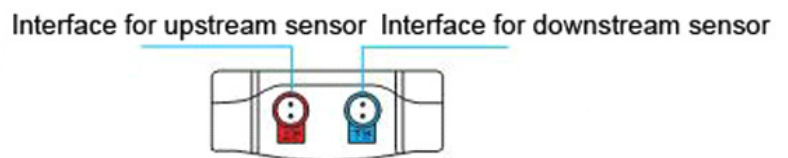
Standard Packing

DIMENSION

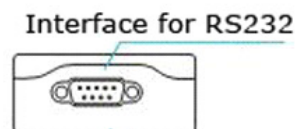
Front View



Top View



Bottom View



FEATURES

- * Offered with LCD local display
- * Compact and light weight--Only 1.2lbs
- * Built-in data logger+software--Data transfer to PC via RS232
- * Bi-direction measurement for flow rate and totalizer
- * Clamp on transducers- No pipe cutting, no intrusive and no shut down.

SPECIFICATIONS

Linearity	0.5%
Repeatability	0.2%
Accuracy	±1% of reading at rates>0.6 ft/s. ±0.5% with on-site calibration
Response Time	0-999 seconds, user-configurable
Velocity	±0.03 ~ ±105 ft/s (±0.01 ~ ±30 m/s), bi-directional
Pipe Size	1/2" ~ 240" (DN15 ~ 6,000mm)
Rate Units	Meter, Feet, Cubic Meter, Liter, Cubic Feet, USA Gallon, Imperial Gallon, Oil Barrel, USA Liquid Barrel, Imperial Liquid Barrel, Million USA Gallons. User configurable.
Totaliser	7-digit totals for net, positive and negative flow
Liquid Types	Virtually all liquids
Security	Setup lockout. Access code needed for unlocking
Display	4x16 English letters
Communication Interface	RS-232C, baud-rate: from 75 to 115,200 bps. Protocol made by the manufacturer. User protocols can be made on enquiry.
Transducers	Model HM for standard, other models for optional
Transducer Cable	Standard 5mx2, optional 2x1,500' (500m)
Power Supply	3 AAA Ni-MH built-in batteries. When fully charged it will last over 12 hours of operation. 90-230VAC for the charger
Data Logger	Built-in data logger can store over 2,000 lines of data
Manual Totalizer	7-digit press-key-to-go totalizer for calibration
Housing Material	ABS. Aluminum alloy protective case
Case Size	3.9"x2.6"x0.8" (100x66x20mm)
Handset Weight	1.2 lbs with batteries

COMPLETE SETS

1. Main Unit

2. Pair of clamp on transducers

S1 type transducer: for pipe size DN15-100mm; temperature -40~160C

M1 type transducer: for pipe size DN50-700mm; temperature -40~160C

L1 type transducer: for pipe size DN300-6000mm; temperature -40~160C

HS type transducer: for pipe size DN15-100mm; temperature -40~160C

HM type transducer: for pipe size DN50-700mm; temperature -40~160C

3. Shielded Transducer Cable (5Mx2)

4. Couplant

5. Clamping Fixture

6. RS232 Cable

7. Battery Charger

8. Tape Ruler

9. Wall Thickness Gauge (Optional)

10. User Manual

11. Aluminium Alloy Carrying Case



WORKING DRAWING



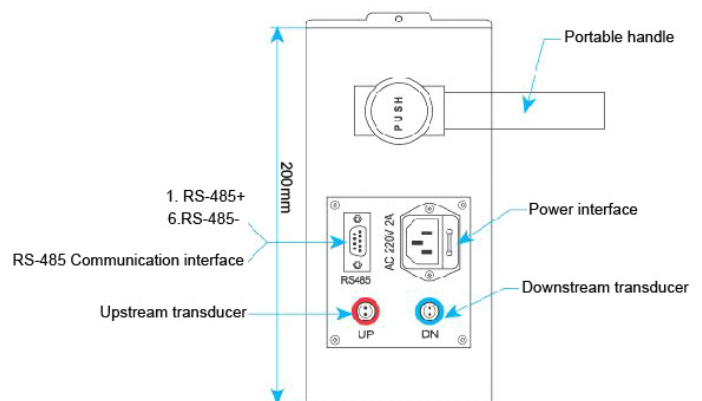
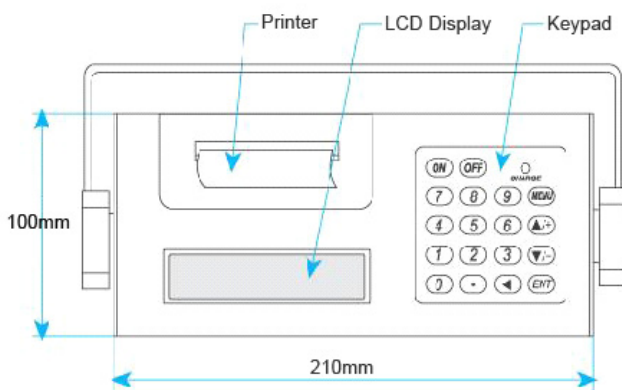
PORTABLE ULTRASONIC FLOW METER WITH PRINTER



The portable ultrasonic flow meter is powered by Ni-MH battery. It can work continuously for more than 24 hours without recharger.

Is equipped with a built-in printer. Which makes the real time printing and fixed time printing easy

DIMENSION



FEATURES

- * Offered with LCD local display
- * light weight--Main unit 2.5KG
- * Built-in printer
- * flow rate, flow velocity, flow totalization functions
- * Thermal flow rate (BTU) function with a pair of temperature sensors(If requested)

SPECIFICATIONS

Accuracy	Better than 1.0%
Repeatability	Better than 0.2%
Powered	220VAC or 110VAC
Measurement period	500mS, (Twice per second, take 128 group data each period.)
Battery	Built-in Ni-MH battery. It can work continuously for more than 24 hours without re-charged
Sensor	Clamp on type
Display	2 lines display.
Output	RS485
Protocol	MODBUS, FUJI, and other extended protocol
Printer	Built-in printer.
Others	self-diagnosis function that showing the working condition

COMPLETE SETS

1. Main Unit
2. Pair of clamp on transducers
S1 type transducer: for pipe size DN15-100mm; temperature -40~160C
M1 type transducer: for pipe size DN50-700mm; temperature -40~160C
L1 type transducer: for pipe size DN300-6000mm; temperature -40~160C
3. Shielded Transducer Cable (5Mx2)
4. Couplant & Clamping Fixture
6. 220VAC Power Cable
7. Printer Paper
8. User Manual
9. Aluminium Alloy Case

