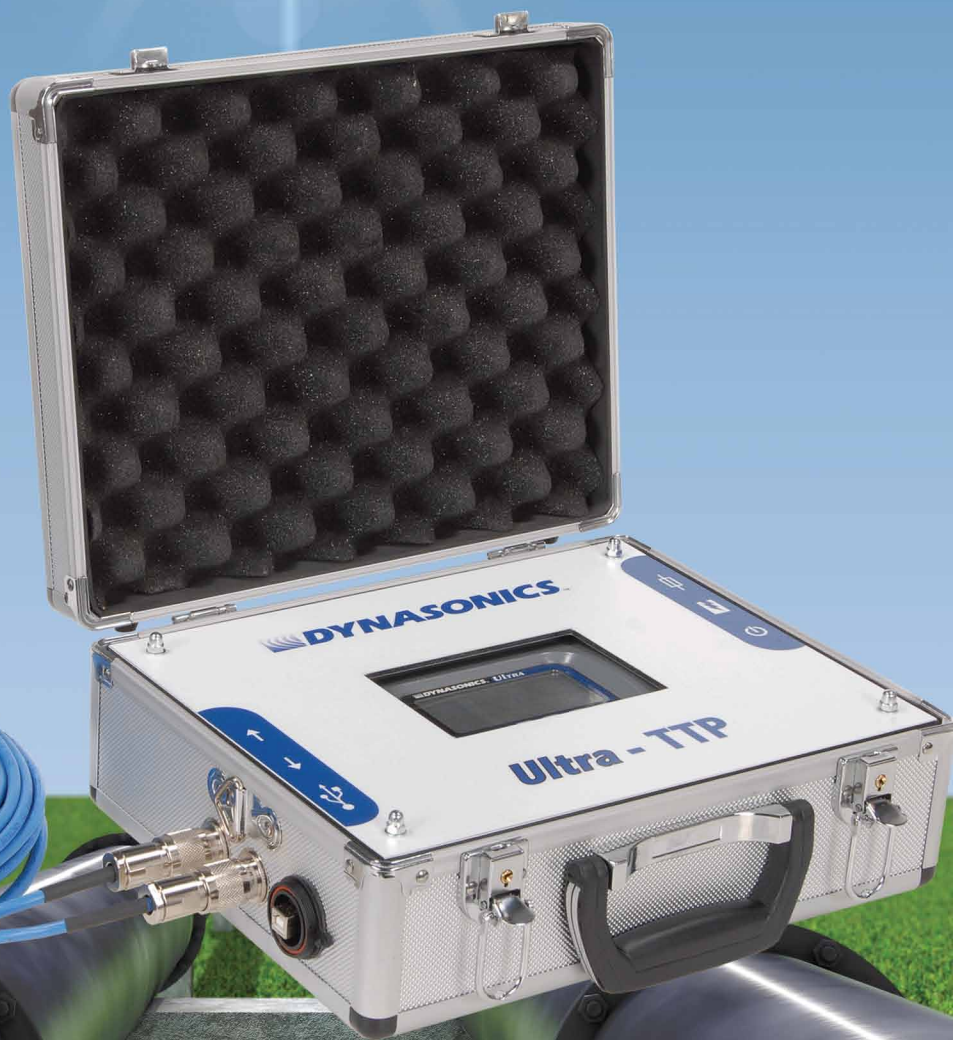


Ultra - TTP

Portable Transit Time Flow and Energy Meters

Featuring **DYNASONICS**



- *Lightweight*
- *Fully Portable*
- *Extended Eight Hour Battery Life*
- *Easily Configured by Keypad or PC*

RFI Europe

www.rfieurope.eu

Ultra TTP Key Features

The TTP from RFI Europe features Dynasonics® technology to provide for a precise, and reliable ultrasonic clamp on flow and energy meter. Ultrasonic technology provides a low cost alternative to measuring flow rates with multiple advantages, most notably is the non-invasive, low costs installation. Furthermore, the technology allows for no pressure head loss, no moving parts to maintain or replace, no fluid compatibility issue, and a bi-directional flow range that provides accurate readings at very low and very high flow rates. The device is ideal for spot-checking and troubleshooting thanks to its portable design. The TTP Flow meter measures eleven flow rates; acre-feet, meters, cubic meters, liters, million liters, kg, feet, gallons, cubic feet, million gallons, lbs. The energy meter measures in units of kWh, BTU, MBTU, Tons, kJ, MWh, and the list mentioned prior.

Application Uses



Retro Fit Chilled Water



Food and Beverage Industry



Pharmaceutical



Municipal Water Lines

- Ideal for spot checking remote area pipes or where verification is needed
- Retro Fit to Chilled Water and Heating Systems for energy use monitoring
- Non-invasive, cost effective and efficient to use
- User configurable rate and totalizer
- Measures liquids with small amounts of suspended solids or aeration
- Data logger option available
- Type 4 (IP 65) rugged internal enclosure
- USB programming port
- Ultralink Software Utility for network monitoring of flow rates
- EnergyLink Software Utility allows network monitoring of energy flows through the use of Microsoft Excel®



System

Liquid Types	Most clean liquids or liquids containing small amounts of suspended solids or gas bubbles
Velocity Range	Bi-directional to greater than 40 FPS (12 MPS)
Flow Accuracy	DTTL/DTTN: 1% of reading at rates > 1 FPS (0.3 MPS); ± 0.01 FPS (0.003 MPS) at rates < 1 FPS (0.3 MPS) DTTS: 1" (25 mm) and larger - 1% of reading from 4-40 FPS (1.2-12 MPS); ± 0.04 FPS (0.012 MPS) at rates < 4 FPS (1.2 MPS) DTTS: 3/4" (19 mm) and smaller - 1% of full scale Refer to Dimensional Specifications page for applicable measuring ranges for each DTTS transducer model
Temperature Accuracy (Energy Meters Only)	Option A: 0-50 °C; Absolute: 0.12 °C; Difference: 0.05 °C Option B: 0-100 °C; Absolute: 0.25 °C; Difference: 0.1 °C Option C: -40-177 °C; Absolute: 0.6 °C; Difference: 0.25 °C
Sensitivity	Flow: 0.001 FPS (0.0003 MPS) Temperature: Option A: 0.012 °C; Option B: 0.025 °C; Option C: 0.06 °C
Repeatability	0.5% of reading

Transmitter

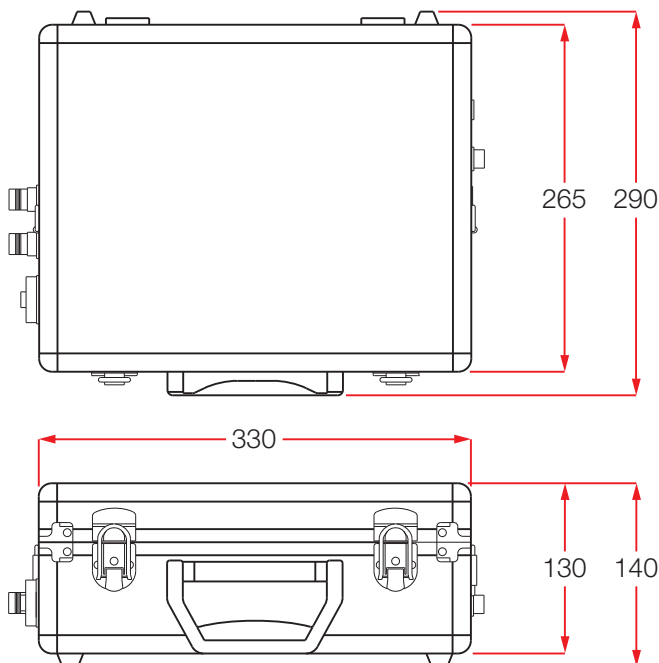
Display	Two line LCD, LED backlit; Top row 18 mm height, 7-segment; Bottom row 9 mm height, 14-segment Icons: RUN, PROGRAM, RELAY1, RELAY2 Flow rate indication: 8-digit positive, 7-digit negative max.; auto decimal, lead zero blanking Flow accumulator (totalizer): 8-digit positive, 7-digit negative max. (reset via keypad press, ULTRALINK, network command or momentary contact closure)
Temperature	-40 °C to +85 °C
Configuration	Via optional keypad or PC running ULTRALINK™ software (Note: not all configuration parameters are available from the keypad - i.e. flow and temperature calibration and advanced filter settings)
Engineering Units	Flow Meter: Feet, gallons, cubic feet, million gallons, barrels (liquor and oil), acre-feet, lbs., meters, cubic meters, liters, million liters, kg Energy Meter: kWh, BTU, MBTU, MMBTU, Tons, kJ, MWh, and the Flow Meter list from above

Transducer

Type	Compression mode propagation, clamp-on
Construction	DTTL/DTTN: NEMA 6 (IP 67), CPVC, Ultem®, Nylon cord grip, PVC cable jacket; -40 to +121 °C DTTS: NEMA 6 (IP 67), PVC, Ultem®, Nylon cord grip, PVC cable jacket; -40 to +85 °C
Frequency	DTTL: 500 KHz DTTN: 1 MHz DTTS: 2 MHz

DIMENSIONAL SPECIFICATIONS

Mechanical Dimensions: mm



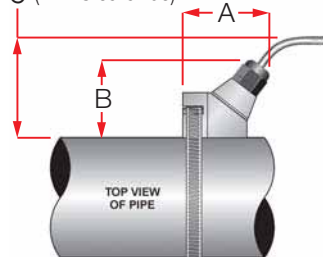
DTTL/DTTN TRANSDUCER DIMENSIONS

	A	B	C
DTTL	86.4	74.7	81.3
DTTN	74.9	69.8	76.2

DTTL/DTTN

Pipes larger than 2" (50 mm)

C (Min Clearance)



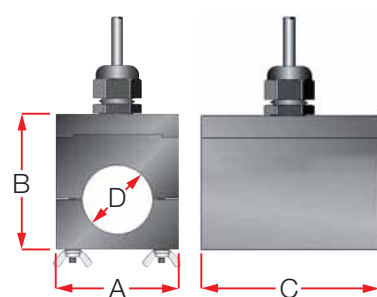
DTTS TRANSDUCER DIMENSIONS

Pipe Size	Pipe Standard	A	B	C	D	Measuring Range
1/2"	ANSI	62.5	59.9	67.6	21.3	8 - 144 LPM
	Copper	62.5	59.9	84.6	15.9	7 - 102 LPM
	Tubing	62.5	57.9	94.5	12.7	6 - 68 LPM
3/4"	ANSI	62.5	65.3	67.6	26.7	10 - 250 LPM
	Copper	62.5	63.5	90.4	22.2	10 - 204 LPM
	Tubing	62.5	63.5	90.4	19.0	10 - 170 LPM
1"	ANSI	62.5	74.2	72.6	33.4	13 - 409 LPM
	Copper	62.5	72.9	96.5	28.6	13 - 360 LPM
	Tubing	62.5	69.9	96.5	25.4	13 - 320 LPM
1 1/4"	ANSI	71.0	80.8	79.8	42.2	19 - 704 LPM
	Copper	62.5	76.2	102.6	34.9	17 - 575 LPM
	Tubing	62.5	76.2	102.6	31.8	15 - 514 LPM
1 1/2"	ANSI	76.7	86.9	84.6	48.3	23 - 946 LPM
	Copper	68.8	72.6	108.7	41.3	19 - 814 LPM
	Tubing	68.8	84.1	108.7	38.1	19 - 757 LPM
2"	ANSI	94.0	86.9*	139.7	60.3*	30 - 1590 LPM
	Copper	94.0	85.9*	139.7	54.0*	30 - 1419 LPM
	Tubing	81.5	98.0	102.7	50.8	30 - 1381 LPM

* Varies due to U-bolt configuration

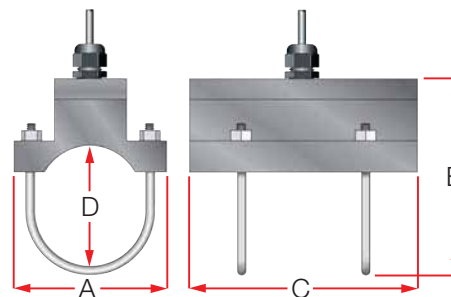
DTTS

Pipes 1/2" to 2" (12 to 50 mm)



DTTS U-Bolt Connections

ANSI & Copper 2" (50 mm Models)



PART NUMBER CONSTRUCTION

Transmitter

U T T P - ☐ ☐ ☐ ☐

Transmitter Type

B) Flow Meter Model
E) Energy Meter Model

Transducer

L) Large
N) Normal
S) Small

Data Logging

L) Logging
N) No Logging

Power Adapter

E) European
U) United Kingdom

Transducer

D T T ☐ ☐ ☐

Construction

L) Large
N) Normal
S) Small

Cable Length

06) 6 m
15) 15 m
30) 30 m

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