

# KLINGER ULTRASONIC



## Flow meter

PUFM is a full function hand held transfer time ultrasonic flow meter. No matter you want to quickly verify the flow reading of another meter or to data log flow system values over an extended time period, the PUFM is the suitable tool. The portable meter has the clamp on transducers no tapping or cutting is required, just clamp outside of the pipe.

The meter can be easily moved and installed in different pipe and convenient to carry site to site. Its portability makes it an excellent choice for measuring flows throughout the plumbing infrastructure to verify sensor, pump and valve performance.



## FEATURES

- » Versatility: It can quickly verify the flow readings of other meters and log system values over an extended period.
- » Portability: It is lightweight and easy to move, allowing for installation on different pipes.
- » Non-Invasive: The clamp-on transducers mean no tapping or cutting of the pipe is required, just clamp it outside the pipe.
- » Ease of Installation: It can be easily set up without complex procedures.
- » Suitable for Various Applications: It is excellent for measuring flows throughout plumbing infrastructure to verify the performance of sensors, pumps, and valves.
- » Data Logging Capability: It has the ability to log flow data, facilitating long-term monitoring and analysis.

## TECHNICAL DATA

PERFORMANCE	
<b>FLOW RANGE</b>	$\pm 0.03\text{ft/s} \sim \pm 40\text{ft/s}$ ( $\pm 0.01\text{m/s} \sim \pm 12\text{m/s}$ )
<b>ACCURACY</b>	$\pm 1\%$ of of measured value
<b>PIPE SIZE</b>	Clamp-on: 1/2"~48" (15mm~1200mm)
<b>FLUID</b>	Single medium liquid
<b>PIPE MATERIAL</b>	Carbon steel, stainless steel, PVC and other compact material pipe

PHYSICAL	
<b>TRANSMITTER</b>	NEMA13, IP54.
<b>TRANSDUCER</b>	IP68 Encapsulated design
<b>TRANSDUCER CABLE</b>	Standard cable length: 5m(16ft) for 1MHz and 3m(9ft) for 2MH

FUNCTION	
OUTPUTS	Analog output: 4~20mA, max load 750Ω. Modbus: Rs485
SD CARD	32G
INTERVAL	1~99999 seconds
KEY BROAD	Digital keys
DISPLAY	240*128 back lit LCD
POWER SUPPLY	Rechargeable Lithium Battery Power, 3000mAh (Continuous operation of main battery 16 hours)
TEMPERATURE	Transmitter: -20°C~60°C Transducer: -40°C~80°C (-40°C~80°C is standard; -40°C~130°C is an option)
HUMIDITY	Up to 99% RH, non-condensing

## FLOW METER PRODUCT ACCESSORIES

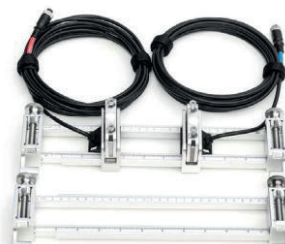


### Accessories

1. Carrying Case\*1pc.
2. Transmitter (Electronic)\*1pc.
3. Transducer (Sensor) \*1 pair.
4. Mounting track\*1 set, (ST or DT or D2 mounting bracket)
5. The chain \*2 pairs.
6. Coupling compound (Grease) \*1pc. Battery charge \*1pc, Output cable \*1pc and Tapeline \*1



Single guide mounting type bracket (Code ST)



Dual guides mounting type bracket (Code DT)



D2 mounting bracket

## FLOW METER PRODUCT ACCESSORIES



Single guide mounting  
type bracket (Code ST)

+



Dual guides mounting  
type bracket (Code DT)

or



D2 mounting bracket



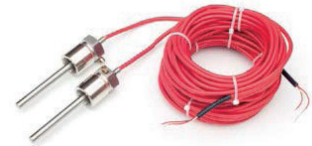
Dual guide rail energy/Btu meter

+



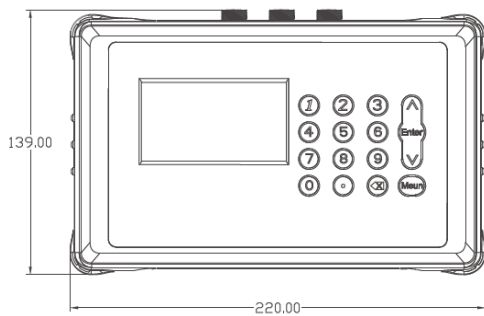
Clamp-on PT1000

or

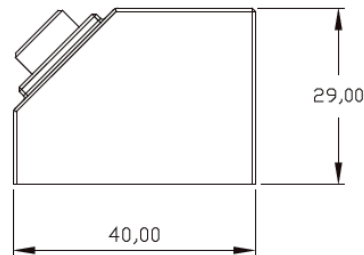
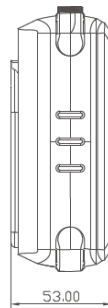


Insertion PT1000

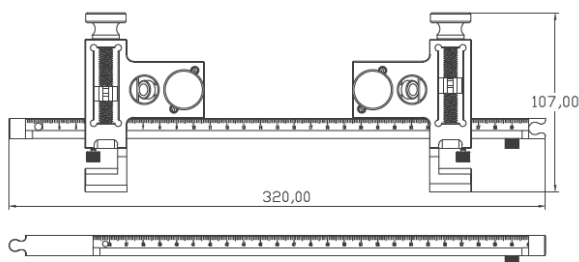
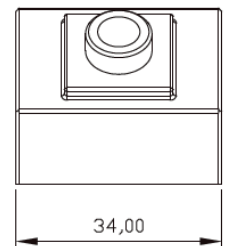
## PRODUCT SIZE



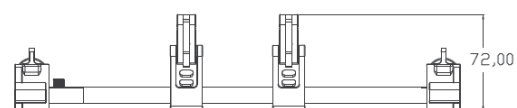
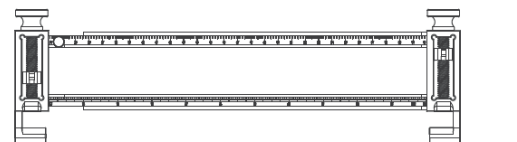
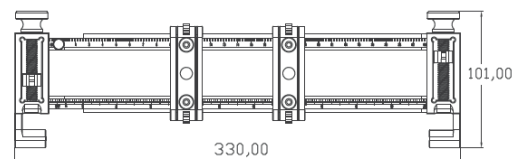
Transmitter size



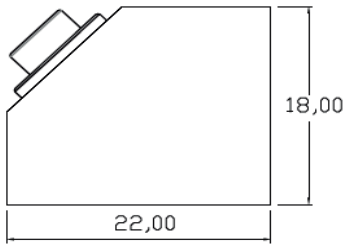
Transducer size



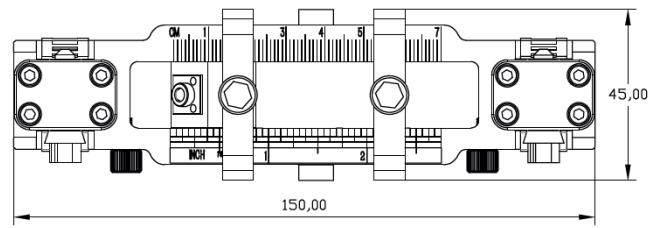
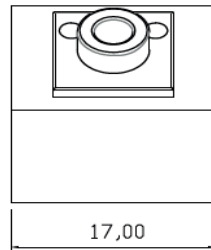
ST mounting kit size



DT mounting kit size



D2 transducer size



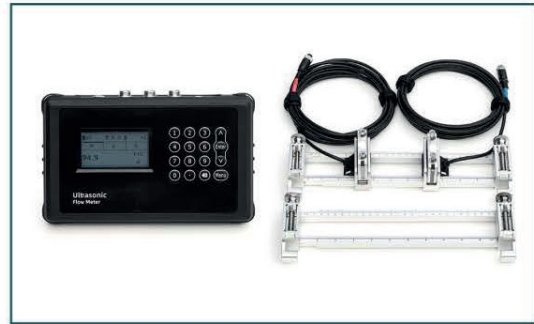
D2 mounting bracket size

## MODEL SELECTION

MODEL	SUFFIX CODE				DESCRIPTION
PUFM					Ultrasonic Flow meter
TRANSMITTER					Portable Ultrasonic Flow Meter
					Installation method: Handheld
					Flow Range: $\pm 0.03$ ft/s ~ $\pm 40$ ft/s ( $\pm 0.01$ m/s ~ $\pm 12$ m/s)
					Accuracy: $\pm 1\%$ of measured value
					Repeatability: 0.2%
					Output: 4-20mA, RS485
					Internal lithium power supply: 3000mAh
					Pipe size range: 1/2" ~ 48" (15mm ~ 1200mm)
					Transducer: IP68, Standard cable length: 5m(16ft) for 1MHz and 3m(9ft) for 2MH.
TRANSMITTER TYPE	1				Ultrasonic flow meter
	2				Ultrasonic energy / btu meter function (rtd)
SENSOR TYPE	P1				Clamp-on, IP68. Operating temperature: $-40^{\circ}\text{C}$ ~ $+80^{\circ}\text{C}$
	P2				Clamp-on, IP68. Operating temperature: $-40^{\circ}\text{C}$ ~ $+130^{\circ}\text{C}$
	Pi1				Insertion, IP68. Operating temperature: $-40^{\circ}\text{C}$ ~ $+130^{\circ}\text{C}$
	P3				Clamp-on, IP68. 2MHz Pipe size DN15 to DN25 only. Operating temperature: $0^{\circ}\text{C}$ ~ $+60^{\circ}\text{C}$
TRANSDUCER CABLE LENGTH	P9				Standard length 9m
	PXX				Max length to 274m
TYPE OF MOUNTING TRACK	S				Single guide mounting type bracket
	D				Dual guides mounting type bracket



±1% Portable ultrasonic flow meter + Transducer: D1 (-40°C ~ +80°C) + ST guide rail



±1% Portable ultrasonic flow meter + Transducer: D1 (-40°C ~ +80°C) + DT guide rail



±1% Portable ultrasonic flow meter + Transducer: D1U (-40°C ~ +130°C) + ST guide rail



±1% Portable ultrasonic flow meter + Transducer: D1U (-40°C ~ +130°C) + DT guide rail



Portable ultrasonic flow meter + Transducer: W1 (-40°C ~ +130°C)



±1% Portable energy/Btu meter + ST guide rail + Clamp on PT1000



±1% Portable energy/Btu meter + Insertion PT1000



±1% Portable energy/Btu meter + DT guide rail + Clamp on PT1000