

Data Sheet

# ULTRAFLO U1000MKII-WM-FM

Flow Meter



Supplied by

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# ULTRAFLO U1000MKII-FM

THE NEW ALTERNATIVE TO CUTTING  
PIPES AND MECHANICAL METERS  
FROM MICRONICS, FOR SIMPLE,  
LOW COST FLOW MEASUREMENT  
FROM OUTSIDE THE PIPE!



## NEW!

Now available in the original pipe-mounted or new wall-mounted, display & keypad format with extended pipe range.



**MADE IN  
BRITAIN**

The U1000MKII-FM is an ultrasonic permanent/fixed clamp-on flow metering solution for measuring flow rate and total flow with a volume pulse output and optional Modbus or 4-20mA flow proportional output, which can be used as a stand alone meter or as part of an integral management system.

**Simple to install** – connect power enter the pipe inside diameter and material, adjust the sensors and clamp-on the pipe – no specialist skills or tools required!

A cost effective alternative to traditional in-line meter installation, plus dry servicing, providing minimum downtime and maximum availability!

Compact, rugged and reliable, the U1000MKII-FM has been designed to provide sustained performance in industrial environments.

Now available with the option of the original pipe-mounted or separate wall-mounted keypad and display plus extended pipe range and a heat/energy meter version.



For further information call us on  
**+44 (0)1628 810456**  
or email [sales@micronicsltd.co.uk](mailto:sales@micronicsltd.co.uk)  
[www.micronicsflowmeters.com](http://www.micronicsflowmeters.com)

  
**micronics**  
Through measurement comes control





## Industries:

- Building Services
- Energy Management
- Water Treatment
- Chemical
- Pharmaceutical
- Petrochemical
- Food

## Recommended for:

- Hot water
- Chilled water
- Potable water
- Demineralised water
- Chilled Water with Glycol

## Application/use:

- Hot water metering and flow measurement
- Flow measurement for heat metering
- Chilled water metering and flow measurement
- Flow measurement for chilled water energy metering
- Potable water metering and flow measurement
- Process water metering and flow measurement
- Ultrapure water measurement

## U1000MKII-FM – Pipe Mounted Fixed Ultrasonic Flow Meter

### SPECIFICATION

**Measurement Technique:** Ultrasonic, cross-correlation transit time method for flow measurement.

**Turn Down Ratio:** 100:1

**Accuracy:**  $\pm 1\%$  –  $3\%$  of flow reading for  $>0.3\text{m/s}$  (1 ft/s).

**Flow Velocity Range:**  $0.1\text{m/s}$  –  $10\text{m/s}$  ( $0.3\text{ft/s}$  –  $32\text{ft/s}$ ).

**Pipe Range:** Available in 2 options. 22mm to 115mm and 125mm to 180mm OD. Note Pipe size is dependent on pipe material and internal diameter.

**Pipe Material:** Steel, Stainless Steel, Plastic and Copper

**Water Temp Range:**  $0^{\circ}\text{C}$  –  $85^{\circ}\text{C}$  ( $32^{\circ}\text{F}$  –  $185^{\circ}\text{F}$ ).

**Pulse Output:** Pulse or Frequency. Pulse for Volume flow and Alarms. Frequency for flow rate. The pulse output can be configured as a loss of signal or low flow alarm. Opto-isolated MOSFET volt free contact (NO/NC).

**4-20mA Output:** Optional 4-20mA flow proportional output. Maximum load  $620\Omega$ .

**Modbus Communication:** Optional Modbus RTU slave, RS485 serial link hardware layer. Modbus connection cable is 1m.

**External Power Supply:** 12V – 24V  $\pm 10\%$  AC/DC at 7 watts per unit. Optional plug in 12V power supply.

**Electronics Enclosure:** IP54.

**Input/Output Cable:** 5m x 6 core for power in, 4-20mA and pulse out.

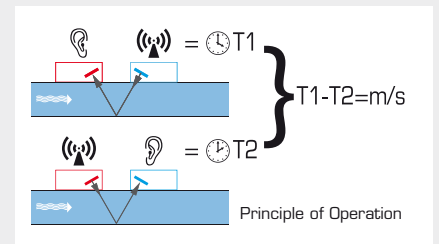
**Dimensions:** 250mm x 48mm x 90mm (10" x 2" x 4") (electronics + guide rail).





## How does it work?

The Ultraflo U1000MKII-FM is a transit time ultrasonic flow meter designed to work with clamp-on transducers, to provide accurate measurement of liquid flowing within a closed pipe, without the need for any mechanical parts to be inserted through the pipe wall or to protrude into the flow system. It takes just a few minutes to install and there is no need to shut down flow or drain the system!



## U1000MKII-FM-WM – Pipe mounted, clamp-on sensors with separate wall mounted keypad and display

### SPECIFICATION

**Measurement Technique:** Ultrasonic, cross-correlation transit time method for flow measurement.

**Turn Down Ratio:** 100:1

**Accuracy:**  $\pm 3\%$  of flow reading for velocity rate  $> 0.3\text{m/s}$  ( $> 1\text{ft/s}$ ).

**Flow Velocity Range:**  $0.1\text{m/s} - 10\text{m/s}$  ( $0.3\text{ft/s} - 32\text{ft/s}$ ).

**Pipe Range:** 25mm – 115mm OD and 125mm to 225mm OD

Note: Pipe size is dependent on pipe material and internal diameter.

**Pipe Material:** Steel, Stainless Steel, Plastic and Copper

**Water Temp Range:**  $0^{\circ}\text{C} - 135^{\circ}\text{C}$  ( $32^{\circ}\text{F} - 275^{\circ}\text{F}$ ).

**Pulse Output:** Pulse or Frequency. Pulse for Volume flow and Alarms. Frequency for flow rate. The pulse output can be configured as a loss of signal or low flow alarm. Opto-isolated MOSFET volt free contact (NO/NC).

**4-20mA Output:** Optional 4-20mA flow proportional output. Resolution 0.1% of full scale. Maximum load  $620\Omega$ .

**Modbus Communication:** Optional Modbus RTU slave, RS485 serial link hardware layer. Physical connection RS485.

**External Power Supply:** 12V – 24V  $\pm 10\%$  AC/DC at 7 watts per unit. Optional plug in 12V power supply.

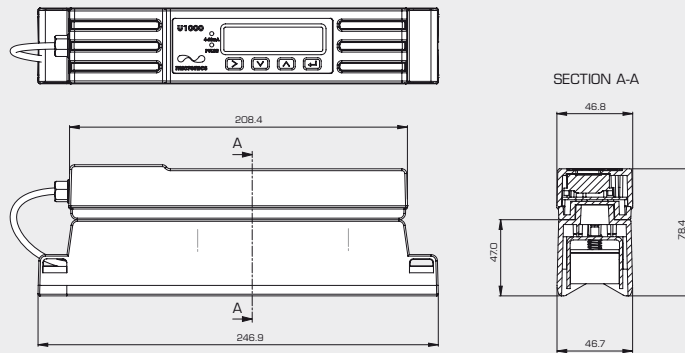
**Electronics Enclosure:** IP68.

**Wall Mounted Keypad and Display Dimensions:** 215mm x 125mm x 90mm (8.46" x 4.92" x 3.54").

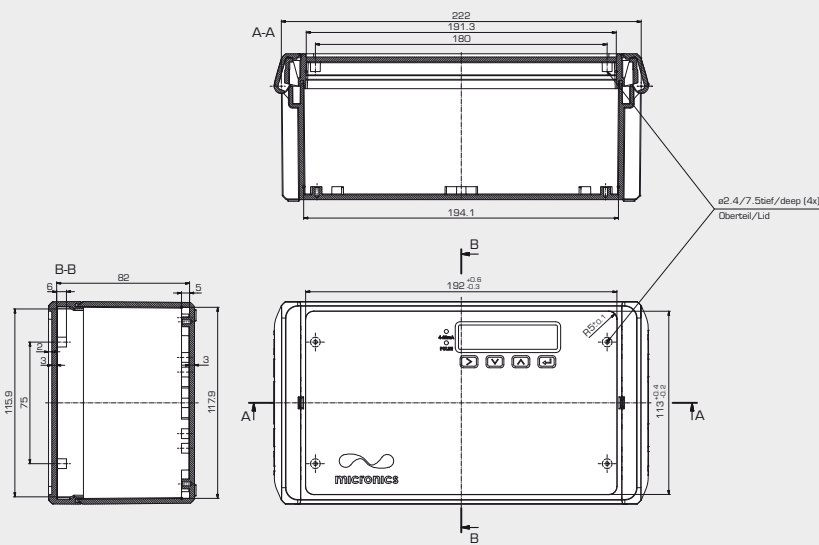
When ultrasound is transmitted between the transducers, its velocity is slightly increased when travelling in the direction of flow, and slightly reduced when travelling against the flow. The resulting transit time difference is directly proportional to the velocity of the flow in the pipe. Having measured the flow velocity and knowing the pipe cross-sectional area, the volumetric flow can be easily calculated.



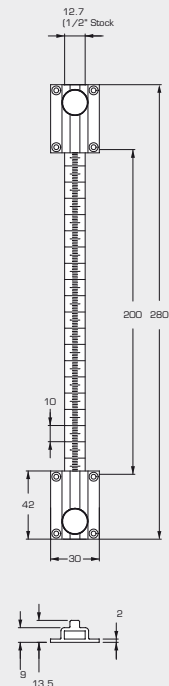
## U1000MKII-FM Pipe Mounted Unit



## U1000MKII-FM-WM Wall Mount Unit



## U1000MKII-FM-WM Guide Rail



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