MicroPulser™ 1000M

Provides 1000 pulses per revolution - 10 times the resolution of a 100 pulse system

Matched Outputs provides pulses to two systems from one pulser

Approved for hazardous locations, Class I, Division 1 Groups C and D

Designed to fit most industrial and commercial gas meters

True Absolute Rate algorithm removes error pulses caused by vibration

Open collector outputs simplify interfacing

Standard 1/2" NPT electrical connection

Environmentally sealed electronics

Hard Anodized aluminum housing for maximum protection

Lubrication free bearings reduce friction to a minimum and eliminate bearing corrosion - failure

MicroPulser is a precision microprocessor based dual channel flow rate transmitter designed to be installed between the meter and the vertical index, or instrument on most industrial/commercial gas meters. MicroPulser provides high resolution flow rate information to RTU's, flow computers or any other device requiring accurate flow rate information. Flow rates can be calculated more frequently using MicroPulser due to the 1000 pulses per revolution output. Pulsers with only 100 pulses per revolution take 10 times longer to produce the same flow rate information as MicroPulser. In some cases, such as sampling systems or flow rate telemetry, quick updates can significantly improve overall performance and accuracy. High speed flow computers with quick sample rates can be significantly improved with the MicroPulser's high resolution.
A primary cause of pulser failure is corrosion of the index shaft and bearings. MicroPulser uses corrosion free engineered plastic bearings and a 316 stainless steel index shaft to minimize loading to the meter movement.

True Absolute Rate™ is determined using direction and position tracking algorithms. At 1000 pulses per revolution even the slightest vibration *(0.36 degrees of rotation per pulse)* in the index shaft can add significant errors to other pulsers. Only MicroPulser uses a dual channel optics system and a microprocessor to remove false rotation pulses and transfer only precision information to the correct output. If vibration or index bounce causes the index shaft to move in the opposite or wrong direction, the error rotation distance is measured. The index must then move in the

Precision 2 Channel Volume Pulser Provides 1000 Pulses Per Revolution with Matched Outputs

forward direction by the same amount before pulses are again produced. Rotating 36 degrees *(100 pulses)* in the same direction reverses the absolute rate rotation direction. This allows for a plus or minus 36 degree window to strip off false pulses caused by vibration or index bounce.

Matched Outputs allow two systems to receive the same pulse/flow rate information from one pulser. The True Absolute Rate filter requires that the index shaft rotate a full 1/10th turn in the same direction before pulses are produced on the two outputs. After the direction is determined, a matched continuous pulse stream is provided on both outputs as long as the index shaft continuous to rotate in the same direction. Reverse flow using the MicroPulser 1000M can produce errors in the calculated flow volume due to the reverse flow pulses. If your system is capable of reverse flow, the MicroPulser 1000 can provide a separate output for clockwise and counterclockwise index rotation.

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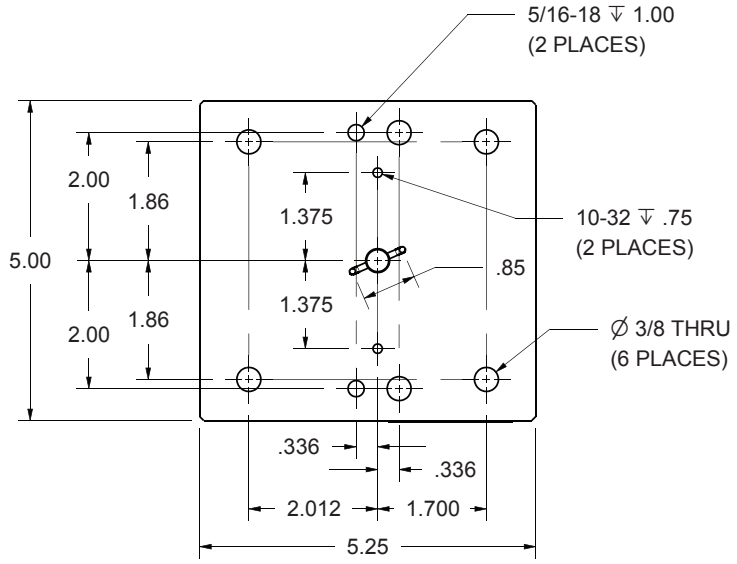
MicroPulser 1000M Specifications

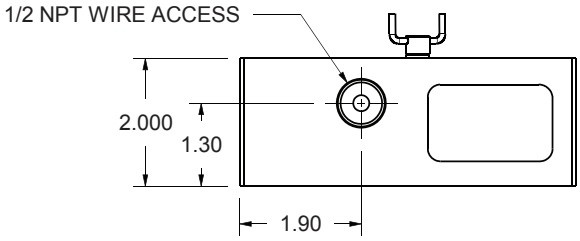
Operating Temperature Range	-40 to 65C
Power Supply	10 to 30Vdc, 15ma Typical
Outputs	Open Collector, 50V @ 50ma MAX
Output Rise Time	200ns Typ
Output Fall Time	200ns Typ
Shaft Speed	0 to 50 RPM
Shaft Axial Play	+/-0.010 in
Rotation Reverse Output Lag	100 pulses (1/10 turn)
Resolution	1000 Pulses/Revolution
Humidity Limits	0 to 100% Relative Humidity
Enclosure Rating	NEMA 3R

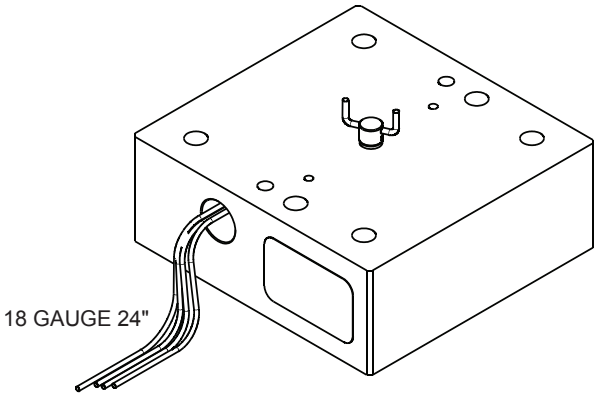


Designed for
Class I, Division 1
Groups C and D Hazardous Locations

Entity Parameters

Voc or Vt ≤ 30V
Isc or It ≤ 100mA
Ca ≥ Ccable + 0μF
La ≥ Lcable + 0mH





RED - 10 to 30Vdc
BLACK - GROUND
BLUE - CW PULES (OUTPUT A)
PURPLE - CCW PULSES (OUTPUT B)