CALDON®

Ethernet/Internet Capable

LEFM® 880 Flow Meter

The LEFM 880 ultrasonic flow meter system provides extremely accurate and reliable flow measurement for large pipes, hydroelectric penstocks and open channels.

The LEFM 880 flow meter system consists of electronics and transducers. Each LEFM 880 transmitter is designed to operate with up to 8 pairs of transducers, to allow optimized velocity profile integration in various hydraulic conduits.

The LEFM 880 has an integral display and digital and analog output capability. The NEMA 41IP 66 enclosure is designed for rugged or remote applications.

The LEFM 880 flow measurement systems incorporate several state-of-the-art features that offer much improved reliability, accuracy and data management over competitive systems.

Transit-time flow meters rely on accurate timing of ultrasonic signals transmitted between pairs of transducers. The advanced signal processing techniques used in the LEFM 880 greatly extend the operating range of the flow meter in applications with solids, aeration, or ray bending. The LEFM 880 uses a cross-correlation method to improve signal-to-noise ratios. The system also uses an Automatic Gain Control (AC) and Zero-Crossing detection to provide the highest possible timing accuracy.

The LEFM 880 internal processing is optimized to allow measurements up to 50 Hz. This provides dramatically improved signal and data processing.

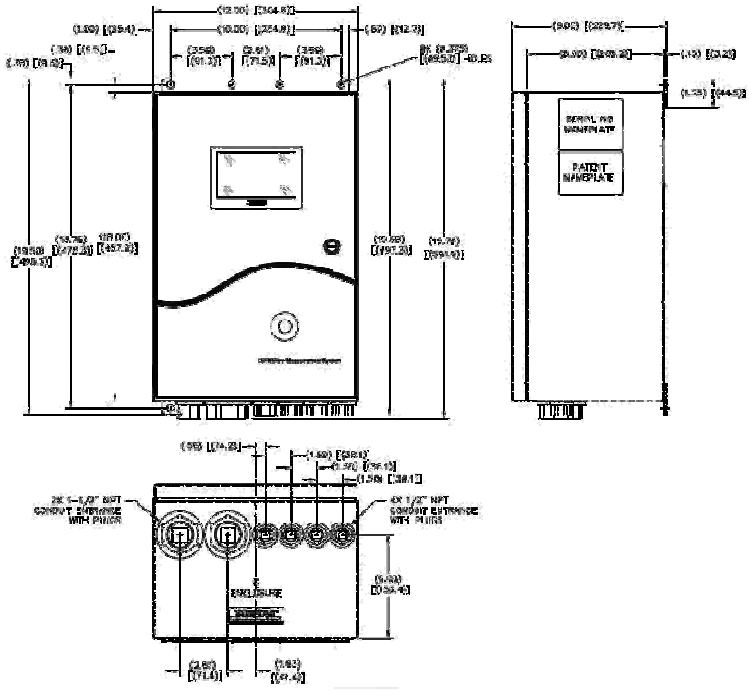
LEFM 880 flow meters utilize deviation and median filters to eliminate data errors and provide smooth outputs. These techniques offer improved performance and faster response to actual flow changes compared to less sophisticated averaging and rate-of-change of velocity or flow filters.

The LEFM 880 utilizes dual oscillators to maintain long term accuracy and reliability. This provides a better assurance of timing accuracy than a simple software-driven self test.

- Up to 8 path capability
- 240 x 128 graphic display
- LEFMLink programming interface
- Watchdog timer
- Freescale/Alterra processors for high reliability
- Dual oscillators for timing assurance
- Advanced signal processing with AGC and cross-correlation
- 50 Hz flow measurement capability
- Digital and analog outputs
- Modbus communications for high speed and reliability
- USB Memory
- Dual pipe capability

General Specifications

Enclosure	NEMA 4/IP 66
Display	240 x 128 Graphic
Digital Outputs	2 x RS-485/RS-422
Analog Outputs	1 x 0/4-20 mA
Modbus Capability	Yes
Analog Inputs	2 x 0/4-20 mA
Totalizer Output	Pulse and digital data
Memory/Data Logging	USB Transportable (4 GB)
Signal Processing	ACG Cross-Correlation Zcd
Measurement Frequency	Up to 50 Hz
Data Processing	Median Filter Deviation Filter
Timing	Dual Oscillators 0.6nS Resolution
Storage Temperature	-50 to 75°C (58 to 167°F)
Ambient Temperature Range	-30 to 60°C (22 to 140°F)
Display Operating Temperature	0 to 50°C (32 to 122°F) Outside this range the display may not be readable. No damage will occur to the display if the temperature does not exceed the storage temperature range.
Humidity	0-99% Non-condensing
Power Requirement	90-240 VAC/47-63 Hz,16-28 VDC,15 Watt
Approximate Shipping Weight	34 lb (15 kg)
Accuracy	±0.5% or better when installed per Cameron specifications in appropriate hydraulic conditions



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