



Area-Velocity Flow Monitor

TM-MIC-AVFM

Features

For Open Channels and Pipes

Ultrasonic - Measures Velocity + Level to Calculate Flow

Measures Forward and Reverse Flow

3 Isolated 4-20mA Outputs (Flow, Level and Velocity)

Totalizer and 2 Control Relays, Simple 5-key Calibration

Data Logger and Software with USB output to Flash Drives



Monitor flow through open channels, partially full sewer pipes and surcharged pipes without a flume or weir. Ideal for stormwater, combined effluent, raw sewage, irrigation water and streams. Calibration is simple: enter the pipe diameter or channel shape and the TM-MIC-AVFM computes the flow volume and displays the flow rate. Measure forward and reverse flow and calibrate to channels of any shape. The TM-MIC-AVFM uses a submerged ultrasonic sensor to measure both Velocity and Level in the channel. The sensor is completely sealed with no orifices or ports. It mounts inside a pipe or at the bottom of a channel. The ATM-MIC-AVFM is recommended for pipe diameters greater than 6" (150 mm). Maximum pipe diameter or channel width should not exceed 10 ft (3 m) unless flow velocity is evenly distributed across the channel width. Avoid sensor mounting locations where sediment builds up and locations where there is an elevation drop or bend immediately upstream from the sensor. Maximum pipe or channel slope should not exceed 3%

Specifications

| | |
|-----------------------------|---|
| Channel types | Round pipe, Rectangular, trapezoid, egg or custom shapes |
| Enclosure | Watertight and dust tight NEMA4X (IP 66) polycarbonate with clear cover |
| Accuracy | Level: $\pm 0.25\%$ of Range. Velocity: $\pm 2\%$ of Reading. Repeatability and Linearity: $\pm 0.1\%$ |
| Display | White, backlit matrix - displays flow rate, totalizer, relay states, operating mode and calibration menu |
| Programming | built-in 5-key calibrator with English, French or Spanish language selection |
| Power supply | 100-240VAC 50-60Hz (see Options), 5.28 Watts maximum (with standard features) |
| Outputs | 3 Isolated 4-20mA, 1000 ohm, (Flow, Level and Velocity) or 0-5VDC by menu selection |
| Control relays | 2 Relays, form 'C' dry contacts rated 5 amp SPDT; programmable for flow proportional pulse (sampler/totalizer), flow and/or level alarm |
| Electrical surge protection | Sensor, 4-20mA outputs and AC power input |
| Operating temperature | -5° to 140°F (-20° to 60°C) |
| Weight | 10 lbs. (4.5 kg) |

Sensor specifications

| | |
|--------------------------|---|
| Velocity range | 0.1 to 20 ft/sec (0.03 to 6.2 m/sec) and reverse flow to -5 ft/sec (-1.5 m/sec) |
| Level range | Minimum Head: 1 in (25.4 mm). Maximum Head: 15 ft. (4.57 m) |
| Operating temperature | 5 to 150°F (-15 to 65°C) |
| Exposed material | PVC, epoxy resin, polyurethane |
| Sensor mounting | 25 ft. (7.6 m) submersible polyurethane jacket, shielded, 3-coaxial includes MB-QZ stainless steel mounting bracket |
| Temperature compensation | Automatic, continuous |

All specifications are subject to change without notice



TECHMARK

— Industriesteuerungen GmbH — <http://www.techmark.de> — e-mail: info@techmark.de —
Kirschstrasse 20 • D-80999 München • Telefon (+49-89) 89.26.57-0 • Telefax (+49-89) 89.26.57-33



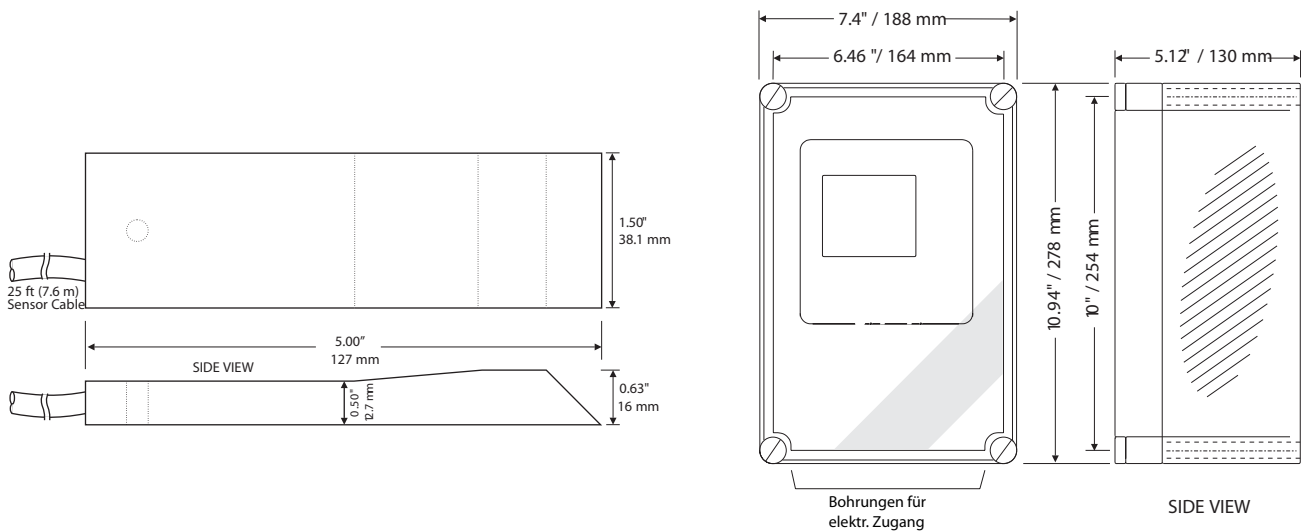
Area-Velocity Flow Monitor

TM-MIC-AVFM

Options

| | |
|--------------------|--|
| Data Logging | Programmable 2-million point data capacity, time and date stamped plus formatted flow reports including Total, Average, Minimum, Maximum and times of occurrence. Includes USB output to Flash Drives and Windows software |
| Sensor cable | 50 ft. (15 m) or 100 ft. (30 m) submersible, continuous from Sensor - or splice up to total of 500 ft (150 m) length |
| Cable Junction box | Watertight NEMA4 steel with connection terminal strip |
| Power input | 9-32VDC (2.5 W min., 6.5 W max.) |
| Enclosure heater | Thermostatically controlled - recommended for temperatures below 32°F (0°C) |

Dimensions



Application sample



All specifications are subject to change without notice



TECHMARK

— Industriesteuerungen GmbH — <http://www.techmark.de> — e-mail: info@techmark.de —
Kirschstrasse 20 • D-80999 München • Telefon (+49-89) 89.26.57-0 • Telefax (+49-89) 89.26.57-33