Seametrics FT440P

FT440P Loop Powered, Dual Scaled Pulse Output and 4-20 mA Output, Panel Mount

Brand: Seametrics

1. INTRODUCTION

The Seametrics FT440P is a sophisticated, microcontroller-based indicator/transmitter designed for precise flow measurement applications. It interfaces seamlessly with pulse output flow sensors to accurately compute and display flow rate and total flow. This device is engineered to generate multiple output signals representing flow, making it a versatile component in industrial and scientific settings.

Specifically, the FT440P model features two scaled pulse outputs, providing enhanced flexibility for integration into various control systems. It also offers a 4-20 mA output, a standard in industrial automation for analog signal transmission. Galvanic isolation is incorporated for most pulse outputs, ensuring robust and reliable operation by preventing unwanted current paths.

2. SETUP AND INSTALLATION

Proper installation is crucial for the accurate and reliable operation of the FT440P flow computer. Follow these guidelines for setup:

2.1 Mounting

- The FT440P is designed for panel mounting. Ensure the mounting surface is flat and stable.
- Cut an appropriate opening in the panel according to the dimensions provided in the product specifications (refer to Section 6).
- Secure the device using the provided mounting hardware, ensuring a snug fit to prevent vibration.

2.2 Electrical Connections

All wiring should be performed by qualified personnel and in accordance with local electrical codes.

- **Power Supply:** Connect the loop power supply to the designated terminals. The FT440P is loop-powered, meaning it draws power from the 4-20 mA current loop.
- **Sensor Input:** Connect the pulse output from your flow sensor to the FT440P's sensor input terminals. Ensure correct polarity if applicable.
- **Pulse Outputs:** Connect the two scaled pulse outputs to your receiving devices (e.g., PLCs, data loggers).
- **4-20 mA Output:** Connect the 4-20 mA output to your analog input device.
- Ensure all connections are secure and properly insulated to prevent short circuits or interference.

2.3 Initial Configuration

Upon initial power-up, the device may require configuration to match your specific flow sensor and application. Refer to the on-screen prompts and use the navigation buttons (visible below the display in Figure 1) to set parameters such as:

- Flow sensor K-factor (pulses per unit volume)
- Units of measurement (e.g., gallons, liters, cubic meters)
- Scaling for pulse outputs
- Zero and span for 4-20 mA output

3. OPERATING INSTRUCTIONS

The FT440P provides real-time flow data and configurable outputs. Understanding its operation is key to leveraging its full capabilities.

3.1 Display Readings

The digital display shows two primary values:

- **Top Line:** Instantaneous Flow Rate (e.g., GPM, LPM).
- **Bottom Line:** Accumulated Total Flow (e.g., Gallons, Liters).

The display may also show status indicators or error codes if applicable.

3.2 Navigation Buttons

The four buttons below the display are used for menu navigation and parameter adjustment:

- **Left Arrow (◄):** Typically used to move left in menus or decrease values.
- **Up Arrow (▲):** Used to scroll up through menu options or increase values.
- **Down Arrow (▼):** Used to scroll down through menu options or decrease values.
- **Check Mark (✓):** Used to confirm selections or enter sub-menus.

Consult the detailed programming guide (if available from Seametrics) for specific menu structures and parameter settings.

3.3 Output Signals

- **Scaled Pulse Outputs:** The FT440P generates two independent pulse outputs, scaled according to your configuration. These pulses represent discrete units of flow and are suitable for totalizing or batching applications.
- **4-20 mA Output:** This analog output provides a continuous signal proportional to the instantaneous flow rate. 4 mA typically represents zero flow, and 20 mA represents the maximum configured flow rate. This output is ideal for integration with analog control systems or data acquisition systems.

4. MAINTENANCE

The FT440P is designed for long-term, reliable operation with minimal maintenance. However, periodic checks can help ensure optimal performance.

- **Cleaning:** Keep the display and housing clean using a soft, damp cloth. Avoid abrasive cleaners or solvents that could damage the plastic or display.
- **Connections:** Periodically inspect all electrical connections for tightness and signs of corrosion. Re-tighten if necessary.
- **Environmental Conditions:** Ensure the operating environment remains within the specified temperature and humidity ranges to prevent damage to internal components. Protect the device from direct sunlight, excessive dust, and moisture.
- **Calibration Check:** While the FT440P itself is a computing device, the accuracy of the system depends on the connected flow sensor. Periodically verify the accuracy of your flow sensor according to its manufacturer's recommendations.

5. TROUBLESHOOTING

This section provides solutions to common issues encountered with the FT440P. If the problem persists, contact technical support.

Problem	Possible Cause	Solution
No display or power	No power supply; incorrect wiring; blown fuse (if applicable)	Verify power connections and voltage. Check wiring for shorts or breaks. Consult wiring diagram.
Incorrect flow rate/total	Incorrect K-factor setting; sensor malfunction; air in line	Verify K-factor in settings. Check flow sensor for proper operation. Ensure no air bubbles are passing through the sensor.
No pulse output	Incorrect scaling; wiring issue; no flow	Check pulse output scaling settings. Verify wiring to receiving device. Ensure flow is present and sensor is generating pulses.
No 4-20 mA output or incorrect reading	Wiring issue; incorrect span/zero setting; receiving device malfunction	Verify 4-20 mA wiring and loop integrity. Check span and zero settings. Test receiving device.

Problem	Possible Cause	Solution
Buttons unresponsive	Temporary software glitch; physical damage	Try power cycling the device. If problem persists, contact support.

6. SPECIFICATIONS

Key technical specifications for the Seametrics FT440P:

- **Model Number:** FT440P
- **Type:** Loop Powered Flow Computer
- **Inputs:** Compatible with pulse output flow sensors
- **Outputs:**
    - Two Scaled Pulse Outputs
    - One 4-20 mA Output

- **Display:** Digital LCD, showing instantaneous flow rate and total flow
- **Isolation:** Galvanic isolation for most pulse outputs
- **Package Dimensions:** 10.0 H x 10.0 L x 10.0 W (inches)
- **Package Weight:** 10.0 pounds
- **Country of Origin:** United States
- **Manufacturer:** Seameterics
- **First Available:** July 3, 2016

7. WARRANTY INFORMATION

Specific warranty terms and conditions for the Seametrics FT440P are provided by the manufacturer. Please refer to the documentation included with your product or visit the official Seametrics website for detailed warranty information. It is recommended to register your product upon purchase to ensure full warranty coverage.

8. CUSTOMER SUPPORT

For technical assistance, troubleshooting beyond this manual, or inquiries regarding parts and service, please contact Seametrics customer support directly. Contact information can typically be found on the manufacturer's official website or on the product packaging.

When contacting support, please have your product model number (FT440P) and any relevant purchase details ready to facilitate a quicker resolution.

Related Documents - FT440P

[Davis EnviroMonitor Sensor Compatibility Guide](#)

A comprehensive guide detailing sensor compatibility for the Davis EnviroMonitor system, listing supported sensors from Davis Instruments and other manufacturers, including model numbers and specifications.

[SCADAmetrics EtherMeter Compatibility Matrix: Connecting Flow Meters](#)

Comprehensive compatibility guide for SCADAmetrics EtherMeter, Signalizer, and TheMeterDisplay products. Details compatible pulse-type and encoder-type flow meters from various manufacturers for SCADA, telemetry, and building automation systems.

[SCADAmetrics Flow-Meter Compatibility Matrix: EtherMeter, Signalizer, TheMeterDisplay](#)

Detailed compatibility guide for SCADAmetrics EtherMeter, Signalizer, and TheMeterDisplay with a wide range of pulse-type and encoder-type flow meters. Includes technical specifications, wiring details, and manufacturer compatibility.

[Seametrics iMAG 4700 Municipal/Industrial Magmeter Instructions and Specifications](#)

Comprehensive instructions and technical specifications for the Seametrics iMAG 4700 electromagnetic magmeter, covering installation, configuration, operation, troubleshooting, and warranty. Includes details on features, dimensions, accuracy, and output options.

[Davis Instruments EnviroMonitor Sensor Compatibility Guide](#)

Comprehensive guide detailing sensor compatibility for the Davis Instruments EnviroMonitor system, listing supported sensors by type, manufacturer, and model.

[SeaMetrics TX101/201 Insertion Turbine Flow Sensor Instructions and Specifications](#)

Detailed instructions, specifications, installation guide, and troubleshooting for SeaMetrics TX101 and TX201 Insertion Turbine Flow Sensors. Covers features, operation, and repair.