FLOWLINK™ DIGITAL FLOW SENSOR

HOW TO SPECIFY - TECHNICAL PRODUCT SPECIFICATION

1. GENERAL

1.1 Summary

The flow sensor shall be a digital, paddle-wheel type flow sensor designed for irrigation monitoring applications. The sensor shall be compatible with the LEITLINK® central irrigation controller and shall provide real-time flow measurement for detection of high-flow and low-flow conditions.

1.2 Application

The flow sensor shall be suitable for use in: - Landscape irrigation monitoring - Fertigation systems.

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2. COMPATIBILITY AND SYSTEM INTEGRATION

2.1 Controller Integration

The flow sensor shall interface directly with the LEITLINK® controller by electrical connection in parallel with a LEMA 1700S solenoid actuator.

The sensor shall operate without the need for additional dedicated field wiring beyond the solenoid wiring.

2.2 Valve Association

Each operational valve, including master valves, shall be capable of being equipped with an individual flow sensor.

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3. CONSTRUCTION AND DESIGN

3.1 Sensor Design

The flow sensor shall utilize a rotating paddle-wheel impeller design with low-friction, engineering-grade bearings to provide consistent measurement accuracy over time.

The paddle-wheel design shall minimize intrusion into the flow path to reduce pressure loss and susceptibility to debris.

3.2 Housing

The sensor housing shall consist of a Schedule 40 PVC molded tee assembly with slip connections for inline installation.

The sensor shall be suitable for below-grade installation within a valve box.

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4. PERFORMANCE REQUIREMENTS

4.1 Pipe Sizes

The flow sensor shall be available in the following nominal pipe sizes: - ¾ inch - 1 inch - 1½ inch - 2 inch

4.2 Operating Conditions

The flow sensor shall meet the following minimum performance requirements: - Operating pressure: 10 to 150 PSI - Flow range: 0.40 to 200 GPM (model dependent) - Velocity range: Up to 20 ft/sec - Accuracy: ±5% - Operating temperature range: 38°F to +150°F (3°C to +65°C)

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5. ELECTRICAL CHARACTERISTICS

5.1 Power and Signal

The flow sensor shall operate using a pulse signal generated during valve operation.

Electrical characteristics shall include: - Pulse duration: 10–12 milliseconds - Signal voltage: 0 to 5 VDC - Output type: Pulse output

5.2 Wiring

The flow sensor shall be provided with a factory-installed cable length of twelve (12) inches consisting of red and white conductors.

Cable type shall be UL-listed and suitable for irrigation control applications.

Cable extension shall be permitted up to ten (10) feet.

6. INSTALLATION REQUIREMENTS

6.1 Location

The flow sensor shall be installed inline downstream of the associated control valve.

Installation shall be below grade within a valve box or equivalent enclosure suitable for irrigation systems.

6.2 Pipe Configuration

To ensure accurate measurement, the following minimum straight-pipe requirements shall be provided: - Upstream: Minimum of five (5) times the nominal pipe diameter - Downstream: Minimum of three (3) times the nominal pipe diameter

6.3 Orientation

The flow sensor shall be installed with the direction of flow oriented upward through the sensor body.

The piping system shall remain fully pressurized during operation to prevent air pockets and turbulent flow.

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7. MATERIALS

Material composition of internal and external components shall be as manufactured.

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8. ENVIRONMENTAL AND DURABILITY

The flow sensor shall be resistant to chemicals and fertilizers commonly used in irrigation systems.

The sensor shall be waterproof and suitable for continuous exposure to moisture and soil conditions.

Environmental rating shall be IP68.

9. IDENTIFICATION

The flow sensor shall be specified as the **FLOWLINK™ Digital Flow Sensor,** compatible with LEITLINK® irrigation controllers.

The flow sensor shall be available in the following station configurations:
- ¾ inch - 1 inch - 1½ inch - 2 inch

Model numbers shall be designated as – FST-075 – FST-100 – FST-150 – FST-200

Available sizes shall be scheduled per drawings and irrigation plans.