



# Flow / No Flow Detection for Solids & Powders

The BinMaster flow detect system consists of two components - the FDS 1000 Remote Sensor Probe which is mounted in a pneumatic pipeline, gravity chute or feeder - and the FDC 1000 Control Console which is mounted in an area accessible for users to read the console during operations. The system promotes continuous and efficient operations by informing users that solid or powder materials are flowing and alerts them if the flow status has changed, power has been lost, or if communication between the Remote Sensor Probe and the Control Console has been interrupted.

## Reliable Doppler Technology

The FDS 1000 Remote Sensor Probe is a high quality, industrial grade instrument that senses flow / no-flow conditions using Doppler technology (microwave) to provide highly reliable and sensitive motion detection. It works by transmitting a low energy signal through a Teflon process seal into the material flow stream. A portion of the signal is reflected back to the sensor, with the movement of material causing a frequency shift - called the Doppler shift - which is used by the sensor to detect material flow.



## Convenient LED Readout

The FDC 1000 Control Console offers a user-friendly, four LED readout indicating flow, power, loop fault, and alarm status ... plus separate time delay adjustments for both flow and no flow conditions. It is equipped with self-monitoring features including a switch selectable, fail-safe alert that will indicate an alarm condition if the unit loses power. The loop fault indicator notifies the user to a loss of communication

between the Remote Sensor Probe and Control Console, preventing false or incorrect readings. For added convenience, all control settings are made from the Control Console, not the Remote Sensor Probe - with a single-turn potentiometer allowing for quick and easy sensitivity calibration.

# Flow Detect 1000

# Flow Detect 1000 for Efficient Operations

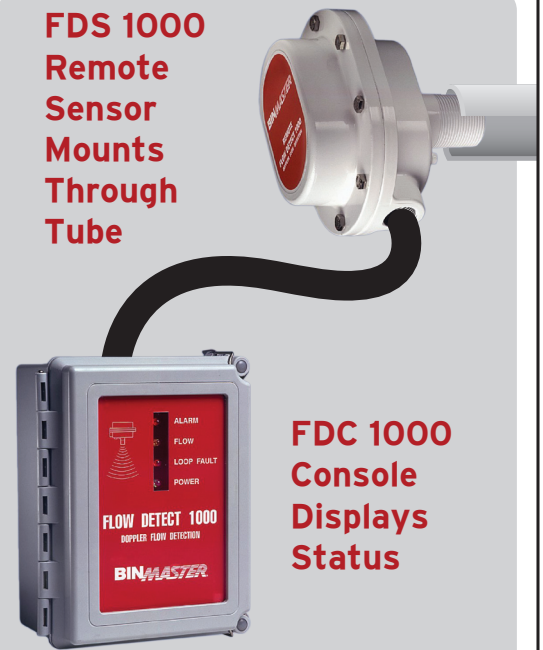
- Solid state Remote Sensor Probe is virtually unaffected by humidity, ambient light, pressure, vacuum, temperature, noise, electrical signals, non-metallic build-up or dust
- Intrinsically safe, explosion-proof design enhances safety and is suitable for a wide variety of industries, materials and operating environments
- Reliable Doppler technology provides highly accurate and dependable readings compared to mechanical, triboelectric or ultrasonic methods
- Senses material flow in challenging industrial environments and through non-metallic surfaces such as plastic, wood and glass

- Non-intrusive flush mounting and non-contact operation avoids contact with the flow stream, eliminating flow stream interference and equipment wear that can occur with other flow detection technologies
- LED readouts on the Control Console are easily accessible to users, providing flow, loop fault and power information as well as an alarm alerting to loss of power
- Single-turn sensitivity calibration and other control settings are done from the Control Console without needing to access the Remote Sensor Probe

## FDS 1000 Remote Sensor Probe Specifications

Enclosure	Aluminum, urethane powder coat, NEMA 4X
Power Requirement	Provided by FDC 1000 Control Console, low voltage
Operating Temperature	-22° to +158°F (-30° to +70°C)
Maximum Process Temperature	+250°F (+121°C) if ambient air temperature is below +150°F (+65°C)
Process Seal	TFE Teflon
Process Connection	1¼" NPT (flush mount with half coupling)
Conduit Connection	¾" NPT
Detection Range	Up to 10', depending on target
Interconnect Wiring	5 conductor cable to FDC 1000 Control Console
Indicators	Green LED - Power, Red LED - Loop Current
Emission	24.125 GHz, less than 1mW/cm <sup>2</sup> (OSHA limit is 10mW/cm <sup>2</sup> )
Approvals	Intrinsically safe when connected to FDC 1000 Control Console - Class II Groups E, F & G, FCC Part 15 Certification

**FDS 1000 Remote Sensor Mounts Through Tube**



**FDC 1000 Console Displays Status**

## FDC 1000 Control Console Specifications

Enclosure	8" x 6" x 4" fiberglass, NEMA 4X, 12, 13 flange mount
Power Requirement	115 VAC, 60/50 Hz, 5VA (230 VAC available)
Operating Temperature	-31° to +158°F (-35° to +70°C)
Output	DPDT dry contacts, 5A @ 240 VAC, or 30 VDC
Indicators	Green LED - Power, Red LED - Loop Fault Yellow LED - Sense Flow, Red LED - Alarm
Interconnect Wiring	5 conductor cable to FDS 1000 Sensor Probe, intrinsically safe
Alarm Fail-Safe	Switch selectable FLOW or NO FLOW
Time Delay	FLOW delay, single turn, 0.1 - 15 seconds NO FLOW delay, single turn, 0.1 - 15 seconds
Sensitivity Adjustment	High / low selectable, single-turn adjustment
Approvals	Ordinary locations, industrial control equipment, intrinsically safe output to FDS 1000 Sensor Probe

**BINMASTER**

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