MEASURE. MONITOR. DETECT. DISPLAY.

BINMASTER®

Build a Better Business with BinMaster

ENHANCE SAFETY

Eliminate climbing ladders or onto roofs to check bin levels. Reduce the risk of accidents, OSHA citations, workers compensation, and insurance claims due to falls and injuries. For volatile or dusty materials, many devices are offered with explosion-proof certifications.

1 SAVE TIME

Get more work done with fewer people. Eliminate climbing and manage multiple bins at geographically dispersed sites. Automated alerts and "fail-safe" sensor features help control processes and warn of overfills, outages, or equipment failure.

2 PREVENT PROBLEMS

Over filling bins ruins materials, wastes time, makes a mess, and causes unnecessary downtime. Level controls streamline material monitoring and process control. Automated alerts prevent overflows, empty conditions, clogged chutes, and jammed conveyors.

3 REACT IN REAL-TIME

Know when to place orders and reduce the risk of shutting down operations or delaying shipments. Advanced systems allow users to view multiple bins at a glance, helping to alleviate stress on production and purchasing personnel.

4 INVENTORY ANYWHERE

Access information via a smartphone, tablet, or PC from a control room, office, out in the plant, or when away from the office. Permission-based software lets you access, and share, the information you need to manage your operation efficiently.

5 CONTROL PROCESSES

Use sensors to turn off and on processes, monitor loading on conveyor belts, detect clogged chutes, and track bin filling and emptying. Set text or email alerts to ensure a rapid response by production or procurement personnel.

6 OPTIMIZE CAPACITY

Know – don't guess – when bins are full. With high level detection, storage operations can fill without the risk of overfilling. Arrange to shift production or deliveries to a location with excess capacity. Keep deliveries via trucks, railcars, and ships moving.

7 KEEP IT SIMPLE

Level, flow, and dust detection controls are easy to install and require minimal service. Sensors are designed for long life and are technically uncomplicated. Get immediate technical support with a phone call or live chat.

8 FAST ROI

BinMaster designs scalable systems that use less equipment to monitor more bins. Completely replace a legacy system or tie into existing control systems. Wireless options, low power consumption, and minimal maintenance help reduce operating costs.

Continuous Level Sensors

- Inventory monitoring of powders, solids, or liquids
- Sensors measure repeatedly or at timed intervals
- Real-time reporting for processing and storage operations
- Data sent to a console, desktop computer, smartphone, or cloud
- Output options to a control room, HMI, or PLC

3DLevelScanner

Non-contact, multiple-point measurement across the material surface detects uneven topography, cone up or down, and sidewall buildup. Excelling in high dust, this acoustics-based sensor provides highly accurate volume and a unique 3D visual.

Non-Contact Radar

Reliable and precise in high dust, this powerful 80 GHz non-contact radar measures in a narrowly focused 4° beam angle with a range up to 393 feet. It measures a single point within 0.2 inch accuracy and rapidly updates in less than one second.

SmartBob

This sensor works like an automated tape measure dropping a weighted probe to the material surface, then retracts and converts counted pulses to a distance. Versatile probe and cable options for brine, slurry, or liquid applications in vessels up to 150 feet.

Ultrasonic

These non-contact sensors emit a sound above the human hearing range, then convert it to a distance using time of flight. Ideal for harsh environments where temperatures vary, this sensor is appropriate for liquid levels at ranges from .4 to 60 feet.

Laser

Measuring a single point in a tight 1° beam, laser is suitable for level control in low-dust environments, narrow vessels, or constrained spaces with structure or walls to be avoided. Battery-powered and wired models offer flexible installation.

Guided Wave Radar

A stainless steel cable is suspended into the vessel and utilizes time domain reflectometry to continuously measure the level of material with a dielectric as low as 1.3. Measures distances up to 100 feet with .08 inch accuracy in high dust, humidity, temperatures, or pressure.

SmartBob II

The SmartBob II is the backbone of a proven, reliable level measurement system for solids, powders, liquids, or slurries using cable-based, dust-penetrating sensor technology. It takes measurements at predefined time intervals or on demand. When combined with the Binventory® software program installed on a personal computer, the BinView® web app, or remote push-button control consoles, SmartBob II offers the ability to manage from one up to 120 bins of heights up to 150 feet.

Measuring Principle: Cable
Power: 115/230 VAC 50/60 Hz
Output: RS-485/Modbus/Analog
Ambient Temperature: -40°F to +185°F (-40°C to +85°C)
Process Temperature: Up to 500°F (260°C)
Mounting: 3"- 8" NPT
Approvals: Class II, Groups E, F, & G
Range: Up to 150 ft. (45 m)
Rate: 2 feet per second
Resolution: 0.15" (0.4 cm)
Accuracy: ± 0.25% of distance measured
Enclosure Material: Molded polycarbonate
Enclosure Rating: NEMA 4X, 5, 9 & 12 (IP65)

SmartBob II
Cable-Based Sensor

SmartBob TS1

The SmartBob-TS1 is a cable-based, level measurement sensor for vessels up to 60 feet tall. The compact, rugged device weighs less than 10 pounds and is immune to airborne dust and filling noise. It is compatible with Binventory® software, the BinView® web app, and control consoles supplying level data. The SmartBob-TS1 is designed to reliably measure powders, granules, pellets, plastic resins, and dry bulk solids as well as liquids in smaller bins, tanks, and silos.

Measuring Principle: Cable
Power: 115/230 VAC 50/60 Hz
Output: RS-485/Modbus/Analog
Ambient Temperature: -20°F to +140°F (-29°C to +60°C)
Process Temperature: Up to 140°F (60°C)
Mounting: 3"- 6" NPT or bolt on
Range: Up to 60 ft. (18 m)
Rate: 1 foot per second
Resolution: 0.15" (0.4 cm)
Accuracy: ± 0.25% of distance measured
Enclosure Material: Molded polycarbonate
Enclosure Rating: NEMA 4X, 5, 12 (IP65)

SmartBob TS1
Cable-Based Sensor

3DLevelScanner

BinMaster's 3DLevelScanner is a non-contact, dust-penetrating volume measurement system that uses patented, acoustics-based technology to measure vessel contents at multiple points to determine the volume of material. Its 3DVision software sends detailed data to a personal computer for easy remote monitoring. Advanced models feature optional 3D surface mapping capabilities and multi-scanner systems for very large vessels. It offers very low maintenance and is self-cleaning, making it ideal for high-dust powders and solids.

Measuring Principle: Acoustic
Power: 20 - 32 VDC
Output: 4-wire 4-20mA/HART/RS-485/Modbus
Ambient Temperature: -40°F to 185°F (-40°C to 85°C)
Process Temperature: -40°F to 185°F (-40°C to 85°C)
Mounting: 0°, 5°, 10°, 20°, and 30° mounting plates and assemblies
Approvals: ATEX II 1/2D, 2D, Ex ibD/iaD 20/21 T110˚C, ATEX II 2G Ex ia/ib IIB T4, FM Intrinsically Safe Class I, II, Division I, Groups C, D, E, F, G
Pressure: -0.2 - 1bar (-2.9 to 14.5 psi)
Range: 200 ft. (61 m)
Enclosure Material: Die cast aluminum, powder coated
Enclosure Rating: IP67
Frequency: 3 KHz to 10 KHz

3DLevelScanner
Non-Contact Sensor

NCR-80

The BinMaster NCR-80 non-contact radar level sensor is designed for superior performance in extremely dusty powders and bulk solids. It uses a powerful 80 GHz frequency to focus the signal in a narrow 4° beam angle for precise aiming to avoid the flow stream, internal structures, or sidewall buildup. The NCR-80 is offered with a 10° swiveling, stainless steel flange for precise targeting; a lightweight plastic antenna with an 8° swiveling flange or a mounting strap for adjustable targeting; or a 1-1/2" NPT mounting option for use in an existing process connection.

Measuring Principle: Radar
Power: 90 to 253 V AC, 50/60 Hz (regular voltage version)
Output: 2-wire 4-20 mA/HART, 4-wire 4-20 mA/HART, Modbus RTU
Ambient Temperature: -40°F to 176°F (-40°C to 80°C)
Process Temperature: -40°F to 392°F (-40° to 200°C)
Mounting: 1-1/2" NPT process connection, DN 80 flange, DN 100 flange with swivel holder, mounting strap, DN 100 adapter flange, DN 80 compression flange depending on model
Approvals: CSA / FM Class I, II, III, Div 1, Groups A, B, C, D, E, F, G
Pressure: -14.5 to +43 PSI, -1 to +3 bar (-100 to +300 kPa)
Range: 393 feet (120 m)
Update Rate: < 1 second
Resolution: 0.3uA analog, < 1mm (0.039)
Accuracy: ± 0.2" (5mm)
Enclosure Material: Aluminum or plastic
Enclosure Rating: IP66/IP68 (0.2 bar), IP66/IP67, IP66/IP68 (1 bar)
Frequency: 79 GHz
Beam Angle: 4°

NCR-80
Non-Contact Radar

GWR-2000

BinMaster's GWR-2000 guided microwave level transmitter utilizes time domain reflectometry (TDR) along a cable or rod to continuously measure the distance and level of powders or solids in bins, tanks, and silos. It features a very small upper dead zone and is accurate in low dielectric materials down to 1.3. Virtually maintenance free, it performs in high dust and is immune to condensation. There are 4-20 mA and Modbus RTU communication options, making it compatible with an HMI or PLC, as well as Binventory® PC software or BinView® cloud-based monitoring.

Measuring Principle: Time Domain Reflectometry
Power: 90 to 253 V AC, 50/60 Hz (regular voltage version)
Output: 2-wire 4-20 mA/HART, 4-wire 4-20 mA/HART, Modbus RTU
Ambient Temperature: -40°F to 176°F (-40°C to 80°C)
Process Temperature: -40°F to 392°F (-40° to 200°C)
Mounting: 1-1/2" NPT opening or 3" ANSI flange
Approvals: CSA / FM Class II, Div 2, Groups E, F, G; (other approvals available)
Pressure: -14.5 to 58Ø psig (1 to +40 bar)
Range: 100 feet (30.48 m)
Accuracy: ± 0.08" (2mm)
Enclosure Material: Plastic, aluminum, or stainless steel
Enclosure Rating: IP66/IP67/IP68 (dependent on housing)

GWR-2000
Guided Wave Radar

SPL-100

Mount and power level sensors on silos without the expense of wiring. The SPL-100 visible red laser installs quickly through a 1.5" or 2" NPT connection. Powered by a Lithium battery, it measures solids in silos up to 98 feet tall in low or no-dust environments. It takes interval readings once per hour with a battery life of three to five years. LoRa long range communications send measurements to the BinView® web application or Binventory® software for easy access from your phone, tablet, or desktop PC.

Measuring Principle: Laser
Power: Internal lithium primary cell. 3.0 VDC to 3.6 VDC
Output: Wireless LoRa
Ambient Temperature: -22°F to 149°F (-30°C to 65°C)
Process Temperature: Storage Temperature: -40C to +65C
Mounting: 1.5" or 2" NPT connection
Pressure: Atmospheric
Range: 30 meters
Rate: Typical: 5 readings per day Maximum Recommended: 96 per day
Resolution: 1 mm
Accuracy: +/- 3mm at 30M, 25C
Enclosure Material: Machined aluminum
Enclosure Rating: IP67
Beam Angle: 2.5 x 5 mm @ 3 meter

SPL-100
Laser Level Transmitter

LL-100

The LL-100 laser level measurement sensor measures a single point on the material surface in a tight 1° beam making it suitable for very narrow vessels, vessels with internal structure or corrugation, or constrained spaces such as chutes, hoppers, or crushers. It can be used for level control, plugged chute detection, and monitoring buildup. It features an adjustable mounting flange flexible up to 10° for aiming and a rapid update rate of eight times per second. Best suited for low or no dust environments, it is resistant to reliability issues caused by surface angle, slope, texture, granularity, or material color.

Measuring Principle: Laser
Power: 24 VDC nominal (12-28 VDC)
Output: 4-20 mA self powered and non-isolated
Ambient Temperature: -4°F to 160°F (-20°C to 50°C)
Mounting: NW65, NW80, or NW100 flange
Pressure: Atmospheric
Range: 1 ft. to 160 ft. (.3 m to 50 m)
Rate: 8 readings per second
Resolution: 10mm
Accuracy: 1 standard deviation = 1 inch (2,5 cm)
Enclosure Material: Anodized aluminum
Enclosure Rating: IP66
Beam Angle: <1°

LL-100
Laser

SmartSonic

SmartSonic is an ultrasonic device designed for continuous, non-contact level measuring and monitoring of tanks, bins, and silos or detection of material on conveyors. Its transmitter features high efficiency, narrow beam design technology using a wide frequency bandwidth to enhance operation in difficult applications, varying temperatures, and harsh environments. Level data can be sent to a display console, Binventory® software, or the BinView® web application. Self-cleaning operation assures reliable performance.

Measuring Principle: Ultrasonic
Power: AC units 115 VAC 60 Hz or 230 VAC 50 Hz; DC units 12 to 30 VDC 0.07 Amps
Output: 4-20 mA, RS-485, RS-485 Modbus
Ambient Temperature: -40°F to +140°F (-40°C to +60°C)
Process Temperature: Up to 200°F (93°C)
Mounting: 3" NPT
Pressure: 2 bar
Range: Liquids: 60 ft. (18 m); Solids: 40 ft. (12 m)
Accuracy: ± 0.25%
Enclosure Material: PVC-94VO
Enclosure Rating: NEMA 4X (IP65)
Frequency: 25 to 148 KHz
Beam Angle: 6° - 12° conical at –3dB

SmartSonic
Ultrasonic Transmitter

Point Level Sensors

- Indicate when material levels reach a fixed point
- Used for high-, mid- and low-level detection
- Applied in free-flowing powders and bulk solids
- Mount on side, top, or in cone of vessels
- Alert via a light, horn, or annunciator panel

Rotary

Also called a paddle-wheel level switch, the rotary is a common and versatile device used for inventory monitoring, level alerts, and process control. Standard and fail-safe models can be configured with a wide variety of extensions, paddles, and mounting plates.

Capacitance Probe

PROCAP offers a wide variety of power pacs, types, and lengths of probes for virtually limitless configurations to meet application needs. Hazardous location, sanitary environment, flush mounted, auto calibration, remote electronics, and compact models are built to specification.

Vibrating Rod

These piezoelectric driven switches feature a unique sword-shaped design that resists buildup and prevents false alarms. Adaptable options include flexible and rigid extensions, models for high temperature and sediment detection, and compact mini vibrating rods for tight spaces or small vessels.

Tilt Switch

Rising levels of powders or solids activate an alert when the device is tilted 15 degrees. These mercury-free sensors are available for fixed or hanging mounting and can be used in vessels or chutes, or over conveyors, open pits, or piles.

Pressure Switch

A diaphragm or pressure switch triggers an alarm state when material presses on a sensitive microswitch. Also used for plugged chute detection, it is available for internal or external mounting, various diaphragm materials, and optional hazardous location approvals.

Annunciator Panel

The annunciator panel can be used with any type of point level sensor to alert to high or low status for two to twelve separate vessels. It consolidates information for multiple vessels at one convenient location signaling an alarm state with a light and beeping horn.

BMRX

The BRMX rotary paddle bin level indicator provides reliable point level detection and measurement of dry bulk solids in bins, tanks, silos, hoppers, and material conveyors. Mounted on the top or side of a vessel, the BMRX alerts operators when bins are full or empty—normally using a horn or light. It can be used in powders or solids with a bulk density from 2 to over 100 lb./cu. ft. The BMRX features "de-energized" operation of the motor which shuts the motor down when material is present, saving energy costs and prolonging the motor life.

Measuring Principle: Rotary
Ambient/Operating Temperature: -40°F to +185°F (-40°C to +85°C)
Process Temperature: Up to +400°F (204°C)
Approvals/Certification: CSA/US Class I, Groups C & D and Class II, Groups E, F & G Please see www.binmaster.com for latest ATEX certifications
Conduit Connection/Entry: 3/4" NPT
Enclosure Material: Die cast aluminum, USDA approved powder coat finish
Enclosure Rating: NEMA 4X, 5, 7, 9 & 12
Material Density: From 2 lb. to 100 lb./cu. ft.
Mounting: 1-1/4" NPT
Output: DPDT 10 Amp, 250 VAC
Power: 24/115/230 VAC, 50/60 Hz; 24/ 12 VDC, 60/35 mA
Pressure: 1/2 micron, 30 PSI
Shaft: Stainless steel

BMRX
Standard Rotary

MAXIMA+

Fail-safe operation, self-diagnostics, and immediate and corrective response to failures distinguish the MAXIMA+ as the best rotary for process control. Its red LED light visually alerts to fault, covered, or rotating status conditions. BinMaster's most advanced rotary level indicator alerts to the loss of power, failure of the motor, or failure of the electronics to help eliminate spills and process shortages. Its "de-energizing" motor provides extended operational life, by shutting down the motor when material is present.

Measuring Principle: Rotary
Ambient/Operating Temperature: -40°F to +185°F (-40°C to +85°C)
Process Temperature: Up to +400°F (204°C)
Approvals/Certification: CSA/US Class II, Groups E, F, & G Please see www.binmaster.com for latest ATEX certifications
Conduit Connection/Entry: 3/4" NPT
Enclosure Material: Die cast aluminum, USDA approved powder coat finish
Enclosure Rating: NEMA 4X, 5, 9 &12
Material Density: From 2 lb. to 100 lb./cu. ft.
Mounting: 1-1/4" NPT
Output: DPDT 10 Amp, 250 VAC
Power: 24/115/230 VAC, 50/60 Hz; 12/24 VDC, 60/35 mA
Pressure: 1/2 micron, 30 PSI
Shaft: Stainless steel
Relay/Switch: SPDT 10 Amp, 250 VAC (solid state relays optional)

MAXIMA+
Fail-Safe Rotary

Mini-Rotary

The economical mini-rotary is designed for controlling material levels in smaller bins and hoppers where other types of equipment simply won't fit. Its compact design can be top or side mounted on small bins or hoppers and in tight spaces. Four-vane or bayonet style paddle options are available for light to heavy materials. Adjustable sensitivity and simple ¾" installation make the mini-rotary an affordable choice for small vessel level alerts.

Measuring Principle: Rotary
Ambient/Operating Temperature: -40°F to +185°F (-40°C to +85°C)
Enclosure Material: Polycarbonate
Enclosure Rating: NEMA 1
Material Density: From 2 lb. to 30 lb./cu. ft.
Mounting: 3/4" PF (pipe fitting)
Power: 115/230 VAC, 50/60 Hz, 5A @ 250 VAC
Power Consumption: 1.5 Watts
Relay/Switch: SPDT
Weight: 0.77 lb.
Wiring Cable: 18 AWG, 12 inch cable

Mini Rotary
Compact Rotary

BM45

The BM45 provides simple, low-cost point level control with proven, lasting reliability. It operates by sensing material pressing against the diaphragm switch. When the switch is pressed, it activates a sensitive microswitch wired to an alarm to start or stop a process or alert to high, medium, or low levels in bins. It is available for internal or external mounting for use in bins containing non-hazardous, free-flowing dry materials.

Measuring Principle: Pressure
Ambient/Operating Temperature: -40°F to +300°F (-40°C to +149°C)
Enclosure Material: Die cast aluminum
Material Density: From 20 lb./cu. ft.
Mounting: Internal or external, 16 gauge galvanized mounting plate
Power: 15 Amps @125, 250 or 480 VAC, 1/8 HP @ 125 VAC, ¼ HP @ 250 VAC, 1/2 Amp @ 125 VDC, 1/4 Amp @ 250 VDC

BM45
Diaphragm Switch

BM65

The BM65 diaphragm switch for hazardous locations can be used in environments where there is a risk of combustible dust. It provides automatic point level indication of free-flowing dry materials to detect high, intermediate, and low levels. The BM65 offers both internal and external mounting options and an assortment of diaphragm materials making it adaptable to a variety of solids.

Measuring Principle: Pressure
Ambient/Operating Temperature: -40°F to +300°F (-40°C to +149°C)
Approvals/Certifications: CSA/US Class II, Groups E, F & G
Enclosure Material: Die cast aluminum
Material Density: From 20 lb./cu. ft.
Mounting: Internal or external, 16 gauge galvanized mounting plate
Power: 15 Amps @125 or 250, 1/8 HP @ 125 VAC, ¼ HP @ 250 VAC, 1/2 Amp @ 125 VDC, 1/4 Amp @ 250 VDC

BM 65
Hazloc Diaphragm Switch

PROCAP I & II

The PROCAP I and II standard capacitance probes detect the presence or absence of material in contact with the probe by sensing minute changes (as low as 0.5 pF) in capacitance caused by the difference in the dielectric constant of the material versus the air. A wide assortment of probes and extensions and reliable fail-safe functionality make these point-level sensors appropriate for a variety of solid, liquid, and slurry materials.

Measuring Principle: Capacitance
Ambient/Operating Temperature: PROCAP I: -20 to +145°F (-28 to +62°C), PROCAP II: -40 to +158°F (-40 to +70°C)
Process Temperature: To 250°F Delrin/Bare probe (121°C); to 500°F Teflon probe (260°C)
Approvals/Certification: CSA/US Class II, Groups E, F & G
Enclosure Material: Die cast aluminum, USDA approved powder coat finish
Enclosure Rating: NEMA 4X, 5, 9 & 12
Mounting: 1-1/4" NPT or 3/4" NPT 316 SS standard; 1-1/4" NPT 316 SS & sanitary flange optional
Output: DPDT 10 Amp at 250 VAC
Power: Selectable 115/230 VAC
Pressure: 500 PSI

PROCAP I & II
Capacitance Probe

PROCAP IX & IIX

The PROCAP IX and IIX capacitance sensors for hazardous locations are suitable for challenging environments where there is a risk of explosion. They detect high or low levels in vessels used for volatile material storage. As with all PROCAP models, they feature interference-free operation, simple calibration, and fail-safe functionality and perform accurately even in dusty, sticky, or clinging materials.

Measuring Principle: Capacitance
Ambient/Operating Temperature: PROCAP I: -20 to +145°F (-28 to +62°C), PROCAP II: -40 to +158°F (-40 to +70°C)
Process Temperature: To 250°F Delrin probe (121°C); to 500°F Teflon probe (260°C)
Approvals/Certification: CSA/US Class I, Groups C & D and Class II, Groups E, F & G
Enclosure Material: Die cast aluminum, USDA approved powder coat finish
Enclosure Rating: NEMA 4X, 5 & 12
Mounting: 1-1/4" NPT or 3/4" NPT 316 SS standard; 1-1/4" NPT 316 SS & sanitary flange optional
Output: DPDT 10 Amp at 250 VAC
Power: PROCAP IX Power Requirements: Universal power supply 24 to 240 VAC/VDC PROCAP IIX Power Requirements: Selectable 115/230 VAC
Pressure: 150 PSI

PROCAP IX & IIX
Hazloc Capacitance Probe

PROCAP I & II 3A

The PROCAP I 3-A and II 3-A meet rigorous USDA, FDA, and 3-A material and design standards for sanitary food and dairy processing. They can be used for level detection in vessels used for the storage or manufacture of food or beverages for human or pet consumption. They can be used in sanitary applications when configured with clean-in-place SS mounting ferrules and fittings and shielded or unshielded Delrin 3-A probes.

Measuring Principle: Capacitance
Ambient/Operating Temperature: PROCAP I: -20 to +145°F (-28 to +62°C), PROCAP II: -40 to +158°F (-40 to +70°C)
Process Temperature: To 250°F Delrin probe (121°C); to 500°F Teflon probe (260°C)
Approvals/Certification: CSA/US Class II, Groups E, F & G
Enclosure Material: Die cast aluminum, USDA approved powder coat finish
Enclosure Rating: NEMA 4X, 5, 7, 9 & 12
Mounting: 1" or 2.5" sanitary flange
Output: DPDT 10 Amp at 250 VAC
Power: PROCAP I 3-A Power Requirements: Universal power supply 24 to 240 VAC/VDC, PROCAP II 3-A Power Requirements: Selectable 115/230 VAC
Pressure: 500 PSI

PROCAP I & II 3-A
Sanitary Capacitance Probe

PROCAP I & II FL

The PROCAP I-FL and II FL are designed for "no probe intrusion" in space-constrained areas or applications where material flow or bridging may damage a standard probe. FL models can be mounted on a bin wall, conveyor housing, or a chute. The face of the bottom of the FL serves as the capacitance sensor. The PROCAP I-FL and II-FL have all the same benefits of the PROCAP I and II and are appropriate for use in a wide variety of powders, solids, liquids, or slurries.

Measuring Principle: Capacitance
Ambient/Operating Temperature: PROCAP I: -20 to +145°F (-28 to +62°C), PROCAP II: -40 to +158°F (-40 to +70°C)
Process Temperature: 150°F standard (65°C); 450°F high temp (232°C)
Approvals/Certification: CSA/US Class II, Groups E, F & G. Units also available in Class I, Groups C & D
Enclosure Material: Die cast aluminum, USDA approved powder coat finish
Enclosure Rating: NEMA 4X, 5, 7, 9 & 12
Mounting: Flush
Output: DPDT 10 Amp at 250 VAC
Power: PROCAP I FL Power Requirements: Universal power supply 24 to 240 VAC/VDC, PROCAP II FL Power Requirements: Selectable 115/230 VAC
Pressure: 250 PSI

PROCAP I & II FL
Flush Mount Capacitance Probe

PRO REMOTE

The Pro Remote capacitance probe allows the electronics to be installed up to 75 feet away from the sensing probe and hostile conditions, making it suitable for high vibration and high temperature conditions. The Pro Remote is suitable for tough applications such as chemicals, coal, fly ash, mining, foundries, and wood or paper processing. Like other PROCAP probes, it features simple "Quick-Set" calibration, adjustable sensitivity to less than one picofarad, and an adjustable time delay.

Measuring Principle: Capacitance
Ambient/Operating Temperature: -40°F to +160°F (-40°C to +70°C)
Process Temperature: To 250°F Delrin probe (121°C); to 500°F Teflon probe (260°C)
Approvals/Certification: CSA/US Class II, Groups E, F & G. Units also available in Class I, Groups C & D
Enclosure Material: Die cast aluminum, USDA approved powder coat finish
Enclosure Rating: NEMA 4X, 5, 7, 9 & 12
Mounting: Flush
Output: DPDT 10 Amp at 250 VAC
Power: PROCAP I FL Power Requirements: Universal power supply 24 to 240 VAC/VDC, PROCAP II FL Power Requirements: Selectable 115/230 VAC
Pressure: 500 PSI

PRO REMOTE
Remote Capacitance Probe

PRO AUTO-CAL

Using a special magnet, the Pro Auto-Cal offers simple, automatic calibration and external testing without removing the cover of the unit. With unsurpassed sensitivity and fail-safe performance, the Pro Auto-Cal allows for temperature-stable calibration and an adjustable time delay of up to 10 seconds to allow for settling of material–virtually eliminating false alarms. A variety of sensing probes and solid and flexible extensions make this capacitance probe suitable for many applications.

Measuring Principle: Capacitance
Ambient/Operating Temperature: -40°F to +160°F (-40°C to +70°C)
Process Temperature: To 250°F Delrin/bare probe (121°C); to 500°F Teflon probe (260°C)
Approvals/Certification: CSA/US Class II, Groups E, F & G
Enclosure Material: Die cast aluminum, USDA approved powder coat finish
Enclosure Rating: NEMA 4X, 5, 9 & 12
Mounting: 1-1/4" NPT or 3/4" NPT 316 stainless steel standard; 1-1/4" NPT 316 stainless steel; sanitary flange optional
Output: DPDT 10 Amp at 250 VAC
Power:115/230 VAC, 50/60 Hz ±15%
Power Consumption: 5 VA
Pressure: 500 PSI

PRO AUTO-CAL
Auto-Calibrating Capacitance Probe

PROCAP I & II HD

This heavy duty, stainless steel probe comes in a standard 8" length and is attached to the PROCAP I or II capacitance probe. The solid 1" wide diameter probe provides increased surface area for maximum sensitivity and performance. It is suitable for use in temperatures up to 500°F (260°C), making it appropriate for challenging applications such as fly ash or clinker. It can be used for level detection in heavy materials such as coal, aggregates, grains, or other materials with a high bulk density.

Measuring Principle: Capacitance
Ambient/Operating Temperature: PROCAP I: -20 to +145F (-28 to +62C), PROCAP II: -40 to +158F (-40 to +70C)
Process Temperature: Up to 500°F (260°C)
Approvals/Certification: CSA/US Class II, Groups E, F & G
Enclosure Material: Die cast aluminum, USDA approved powder coat finish
Enclosure Rating: NEMA 4X, 5, 9 & 12
Mounting: 1-1/4" NPT SS process connection
Output: DPDT 10 Amp at 250 VAC
Power: PROCAP I Power Requirements: Universal power supply 24 to 240 VAC/VDC, PROCAP II Power Requirements: Selectable 115/230 VAC
Pressure: 500 PSI

PROCAP I & II HD
Heavy Duty Capacitance Probe

Compact PRO

The Compact Pro is a compact capacitance probe designed for tight spaces. It is used for high or low-level measurement and plugged chute detection for liquids, powders, granules, and pelleted materials. It is appropriate for use in tanks, bins, silos, chutes, conveyors, pipes, or load out hoppers. Its small size makes it easy to install, and a simple "one-time" calibration procedure with sensitivity up to less than one picofarad ensures fast set up. A visual LED on the housing indicates sensor status at-a-glance, showing the presence or absence of material.

Measuring Principle: Capacitance
Power: 115/230 VAC or 24 VDC
Output Relay: SPDT 5 amp at 250 VAC
Ambient Temperature: -40°F to +185°F (-40°C to +85°C)
Process Temperature: To 240°F (116°C)
Pressure: 150 PSI
Enclosure Material: PVC
Enclosure Rating: NEMA 4X, 5 & 12
Probe: CPVC
Mounting: 1" NPS (1-1/4" adapter available)
LED: Indicates material presence or absence

Compact PRO
Mini Capacitance Probe

PRO HTRC-20

The PRO HTRC-20 is a remote capacitance probe for the toughest high temperature applications. It features a rugged 1-1/8" diameter, 9" shielded stainless steel, and ceramic high temperature probe that withstands process temperatures up to 1000ºF. Its remote electronics can be distanced up to 20 feet from the sensor to protect them from harsh conditions. This rugged probe comes with a high temperature cable and a 1-1/4" NPT SS fitting.

Measuring Principle: Capacitance
Ambient Temperature: -40°F to +185°F (-40°C to +85°C)
Probe: 9" stainless steel and ceramic
Enclosure Material: Die cast aluminum, powder coat finish
Enclosure Rating: NEMA 4X, 5, & 12
Output: DPDT 5 amp @ 250 VAC
Power: 115 or 230 VAC 50/60 Hz ±15%
Power Consumption: 3 VA
Pressure: 100 PSI
Process Temperature: Up to 1112°F (600°C)

PRO HTRC-20
Remote Capacitance Probe

VR-21

The VR-21 standard piezoelectric driven vibration point level switch has a unique single-rod probe design with a sword-shaped blade to prevent bridging of material by allowing material to easily flow by, protecting against buildup on the blade. It features three sensitivity adjustments and is suitable for both top and side mount applications. It is ideal for a wide variety of dry powders and solids including light, fluffy, or low dielectric materials.

Measuring Principle: Vibration
Ambient/Operating Temperature: -4°F to +140°F (-20°C to +60°C)
Process Temperature: To 176°F standard (80°C); to 284°F high temp (140°C)
Conduit Connection/Entry: 3/4"
Enclosure Material: Die cast aluminum, USDA approved powder coat finish
Enclosure Rating: NEMA 4, 5 & 12
Approvals: CSA/US Class II, Groups E, F, & G (optional)
Material Density: From 1.25 lb./cu. ft.
Mounting: 1-1/2" NPT
Output: DPDT 5 amp @ 250 VAC
Power: Wide range 20-250V AC/DC
Pressure: 145 psi
Rod: 304 stainless steel, 7.37" insertion length
Relay/Switch: DPDT 5A @ 250 VAC
Time Delay: 1 second from stop of vibration, 2 to 5 seconds for start of vibration

VR-21
Standard Vibrating Rod

VR-31

The vibrating rod for sanitary applications features a 2" stainless steel sanitary fitting for use with a tri-clover style clamp that removes easily for cleaning and sanitation. The rod is ideal for food and pharmaceutical processing or for use with any other materials that require sanitary conditions. It can be installed through a top or side mount for high, mid, or low-level detection in bins, tanks, silos, hoppers, or installed in chutes.

Measuring Principle: Vibration
Ambient/Operating Temperature: -4°F to +140°F (-20°C to +60°C)
Process Temperature: To 176°F standard (80°C); to 284°F high temp (140°C)
Conduit Connection/Entry: 3/4"
Enclosure Material: Die cast aluminum, USDA approved powder coat finish
Enclosure Rating: NEMA 4, 5 & 12
Material Density: From 1.25 lb./cu. ft.
Mounting: 1-1/2" NPT
Fitting: 2" sanitary 316 SS fitting with tri-clamp
Output: DPDT 5 amp @ 250 VAC
Power: Wide range 20-250V AC/DC
Pressure: 145 psi
Rod: 304 stainless steel, 11.81" insertion length
Relay/Switch: DPDT 5A @ 250 VAC
Time Delay: 1 second from stop of vibration, 2 to 5 seconds for start of vibration

VR-31
Sanitary Vibrating Rod

VR-41

The VR-41 rigid extended vibrating rod is intended for top mount locations in custom lengths from 13 inches up to 13 feet. It can be used in heavy, medium, and light materials – including extremely light, fluffy materials with densities as low as 1.25 lb./cu. ft. With its custom-length extension, it is adaptable for high and low-level indication or plugged chute detection.

Measuring Principle: Vibration
Ambient/Operating Temperature: -4°F to +140°F (-20°C to +60°C)
Process Temperature: To 176°F standard (80°C); to 284°F high temp (140°C)
Conduit Connection/Entry: 3/4"
Enclosure Material: Die cast aluminum, USDA approved powder coat finish
Enclosure Rating: NEMA 4, 5 & 12
Approvals: CSA/US Class II, Groups E, F, & G (optional)
Material Density: From 1.25 lb./cu. ft.
Mounting: 1-1/2" NPT
Output: DPDT 5 amp @ 250 VAC
Power: Wide range 20-250V AC/DC
Pressure: 145 psi
Rod: 304 stainless steel, 13" to 13' insertion length
Relay/Switch: DPDT 5A @ 250 VAC
Time Delay: 1 second from stop of vibration, 2 to 5 seconds for start of vibration

VR-41
Rigid Extended Vibrating Rod

VR-51

The top-mounted VR-51 flexible, extended vibrating rod uses a steel-rope reinforced cable and allows for insertion lengths from 19 inches up to 19 feet. This unique point level sensor's flexible extension is custom manufactured to the desired length specification in the BinMaster factory. The VR-51 is intended for top mount applications and can be used to detect materials that are heavy, medium, or light weight including those with a low dielectric constant.

Measuring Principle: Vibration
Ambient/Operating Temperature: -4°F to +140°F (-20°C to +60°C)
Process Temperature: To 176°F standard (80°C); to 284°F high temp (140°C)
Conduit Connection/Entry: 3/4"
Enclosure Material: Die cast aluminum, USDA approved powder coat finish
Enclosure Rating: NEMA 4, 5 & 12
Material Density: From 1.25 lb./cu. ft.
Mounting: 1-1/2" NPT
Output: DPDT 5 amp @ 250 VAC
Power: Wide range 20-250V AC/DC
Pressure: 145 psi
Rod: 19" to 19' insertion length
Relay/Switch: DPDT 5A @ 250 VAC
Time Delay: 1 second from stop of vibration, 2 to 5 seconds for start of vibration

VR-51
Flexible Extended Vibrating Rod

SHT-120/140

The Super High Temperature (SHT) vibrating rod series is built specifically for higher process temperatures up to 482°F (250°C). It features a standard insulation tube that protects the electronics from excessive heat. It has a standard insertion length of 7.24 inches for both top and side mount applications. It can be extended from 13 inches up to 13 feet using a rigid pipe extension for top mount applications.

Measuring Principle: Vibration
Ambient/Operating Temperature: -4°F to +150°F (-40°C to +65°C)
Process Temperature: To 482°F (250°C)
Conduit Connection/Entry: 1/2"
Enclosure Material: Die cast aluminum
Enclosure Rating: NEMA 4, 5 & 12
Material Density: From 1.25 lb./cu. ft.
Power: Wide range 20-250V AC/DC
Power Consumption: 3 VA
Pressure: 145 psi
Rod: 304 stainless steel, (SHT-120 7.37" insertion length, SHT-140 14" to 13 ft. insertion length)
Relay/Switch: SPDT 5A 250 VAC (optional DPDT relay available)
Time Delay: 1 second from stop of vibration, 2 to 5 seconds for start of vibration
Wiring Cable: 1/2"

SHT-120/140
High Temperature Vibrating Rod

CVR-625

The compact CVR-625 mini vibrating rod is ideal for small bins, hoppers, feeders, and other space-constrained applications. The rod's insertion length is just six inches, and it can be conveniently mounted through a 1-1/4" NPT mounting socket on the top or side of a vessel for high, medium, or low-level indication. The CVR-625 features three sensitivity adjustments allowing it to be used in materials with a bulk density as low as 2 lb./cu. ft., as well as heavier materials.

Measuring Principle: Vibration
Ambient/Operating Temperature: -4°F to +150°F (-40°C to +65°C)
Process Temperature: To 176°F standard (80°C); to 300°F high temp (150°C)
Conduit Connection/Entry: 1/2"
Enclosure Material: Die cast aluminum, powder coated
Enclosure Rating: NEMA 4
Material Density: From 2 lb./cu. ft.
Mounting: 1-1/4" NPT
Power: Wide range 20-250V AC/DC
Power Consumption: 3 VA
Pressure: 145 psi
Rod: AISI 302 stainless steel, 6" insertion length
Relay/Switch: SPDT 5A 250 VAC
Time Delay: 1 second from stop of vibration, 2 to 5 seconds for start of vibration
Wiring Cable: 1/2"

CVR-625
Compact Vibrating Rod

CVR-600

The CVR-600 is a compact vibrating rod with a 1" NPT mounting socket that can be used in process temperatures up to 300ºF. It is ideal for small bins, hoppers, and feeders. It is easy to install and mounts on the top or side of a vessel for high, medium, or low-level indication. Three sensitivity adjustments make it adaptable for light to heavy materials. Remote electronics via a point level alarm panel are available to alert bin levels for four up to 24 individual sensors.

Measuring Principle: Vibration
Ambient/Operating Temperature: -4°F to +150°F (-40°C to +65°C)
Process Temperature: To 176°F standard (80°C); to 300°F high temp (150°C)
Conduit Connection/Entry: 1/2"
Enclosure Material: Die cast aluminum, powder coated
Enclosure Rating: NEMA 4
Material Density: From 2 lb./cu. ft.
Mounting: 1-1/4" NPT
Power: Wide range 20-250V AC/DC
Power Consumption: 3 VA
Pressure: 145 psi
Rod: AISI 302 stainless steel, 6" insertion length
Relay/Switch: SPDT 5A 250 VAC
Time Delay: 1 second from stop of vibration, 2 to 5 seconds for start of vibration
Wiring Cable: 1/2"

CVR-600
Compact Vibrating Rod

BM-T

By activating an alert when the device tilts at least 15 degrees, the versatile, cost-effective BM-T tilt switch level indicator can be used to detect high levels of large, heavy materials in bins, tanks, and silos. Alternatively, it can be used to detect plugs or clogs in chutes during process operations or as a load sensor when positioned over open piles or conveyor belts.

Measuring Principle: Tilt
Ambient/Operating Temperature: -40°F to +300°F (-40°C to +149°C)
Process Temperature: To 176°F standard (80°C); to 300°F high temp (150°C)
Conduit Connection/Entry: 1 cable gland M16 (option: 2 cable glands)
Enclosure Material: Diecast aluminum
Material Density: From 2.0 lb./cu. ft.
Mounting: 1" NPT
Power: 20-250V AC/DC
Power Consumption: 3 VA
Pressure: 145 psi
Shaft: 304 stainless steel, 6" insertion length
Relay/Switch: SPDT 5A 250 VAC
Time Delay: 1 second from stop of vibration, 2 to 5 seconds for start of vibration
Weight: 3-3/4 lb. (1.7 kg)

BM-T
Hanging Tilt Switch

BM-TSM

The BM-TSM is a patented, mercury-free tilt switch used for high level detection of powders and bulk solids with a bulk density of at least 15 lb./cu. ft. It mounts on top of the vessel and is outfitted with a custom-made shaft in lengths from one foot up to eight feet in length. The BM-TSM is available with either a paddle or sphere mounted at the end of the shaft.

Measuring Principle: Tilt
Ambient/Operating Temperature: -40°F to +185°F (-40°C to +85°C)
Approvals/Certification: CSA/US Class II, Division I Groups E, F & G; ATEX - see website
Conduit Connection/Entry: 3/4" NPT
Enclosure Material: Diecast aluminum
Enclosure Rating: NEMA 4X, 5, &12; IP 66
Material Density: From 15 lb./cu. ft.
Mounting: 1-1/4" NPT
Power: 115 VAC ± 10%, 50/60 Hz, 3 VA. 230 VAC ± 10%, 50/60 Hz, 3 VA. 24-48 VDC, 2 W maximum
Shaft: 1/4" pipe stainless steel or galvanized, 1' to 8' length
Relay/Switch: SPDT Mechanical Switch, maximum 250 VAC @ 15A

BM-TSM
Mercury-Free Tilt Switch

Point Level Alarm Panel

The point level alarm panel consolidates data from point level sensors at a convenient centralized location. Available with four to 24 vessel level indicator stations, the alarm panel is capable of monitoring high and low status for two to 12 separate vessels from a single panel. It alerts users to vessel level conditions via a blinking LED light and an audible alarm, saving time and eliminating the need to manually inspect vessel levels.

Ambient/Operating Temperature: -40°F to +300°F (-40°C to +149°C)
Enclosure Rating: NEMA 4X
Power: 115 VAC ± 10%, 50/60 Hz, 3 VA. 230 VAC ± 10%, 50/60 Hz, 3 VA. 24-48 VDC, 2 W maximum
Relay/Switch: SPDT, 2 Amp 240 VAC

Annunciator
Point Level Alarm Panel

Data Monitoring

- Remote monitoring of one or many sensors or sites
- Automated alerts to prevent outages or overfills
- Optimize production, purchasing, routing, and deliveries
- Options for WAN, LAN, VPN, or cloud-based monitoring
- Configure output to a control room to an HMI or PLC

Binventory®

This software installs on your local network and provides inventory access via LAN, WAN, or VPN. It is compatible with a variety of BinMaster sensors and vessels of various shapes and size. Secure, simple, real-time monitoring of up to 255 vessels for one or multiple sites.

BinView®

A web-based application that provides remote inventory monitoring for one or more locations via the internet. Graphically displayed data is accessed from a smartphone, tablet, or desktop. Suitable for sensors with 4-20 mA output or Modbus RTU.

MultiVision®

This Windows-based inventory management software provides 3DLevelScanner users convenient access to data from multiple bins in a single view. Get details on minimum, maximum, and average levels as well as a 3D map of bin contents for the MV and MVL models.

Control Console

Get easy-to-access level and volume data for up to 120 sensors at ground level with this push-button controlled data display. Measure product height or headroom, and specify the units of measure in feet, bushels, or tons. Optional Modbus model for use with a variety of sensors.

Digital Panel Meters

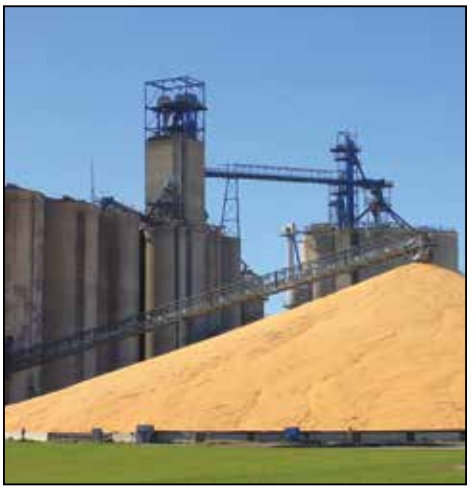
A series of versatile displays for indoor and outdoor applications featuring a bright LED display legible in dust, bright light, or at a distance. Use them in Modbus RTU master, slave, or snooper mode to poll and display up to 16 process variables.

Bargraph Displays

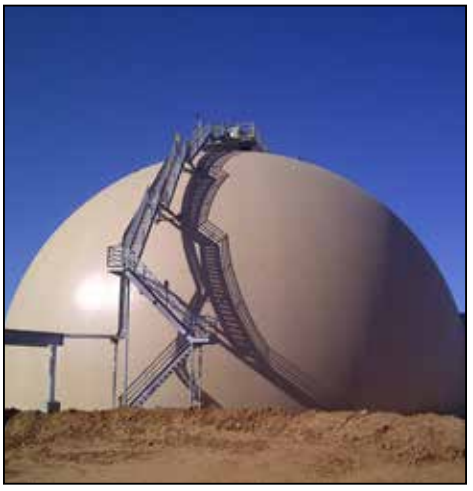
These panel indicators offer at-a-glance monitoring in a red or green, vertical or horizontal bargraph format. Base models are configured with a variety of power, input, output, and relay options. NEMA 4X enclosures can accommodate multiple display modules.

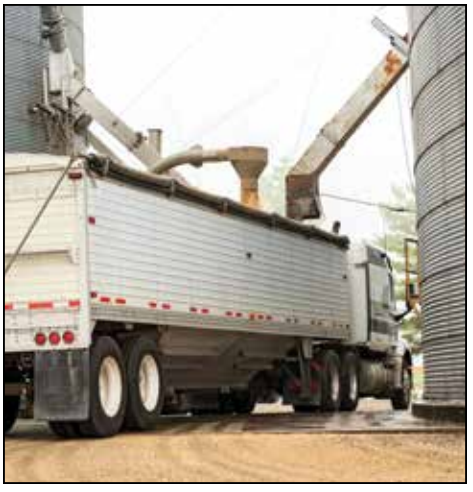
Integrated Monitoring

BinMaster data monitoring solutions are designed to get sensor data where it is needed. For some users, it might mean getting data to a console, PC, or mobile device. For other operations, it's to a PLC or HMI. Some are for a WAN, LAN or VPN where customers want their data to reside locally. Others are cloud-based so there is anytime, anywhere data access via an internet connection. Every operation is a little bit different, which is why BinMaster offers professional consultation and a wide variety of solutions.



BinMaster has an evolving suite of communications devices, display consoles, locally installed software, and web-based applications to build a data monitoring solution to fit individualized needs.





Material Management

- Automated monitoring and measurement
- Improve process flow and operational efficiency
- Ensure compliance with regulatory requirements
- Enhance safety and environmental conditions
- Save time and reduce maintenance

Flow Detection

These non-intrusive, flush-mounted devices are used in gravity chutes, feeders, pipelines, or conveyor belts to detect flow or no flow conditions using Doppler technology. They are used for batch process control or as a preventive control in FSMA, USDA, and FDA compliance.

Dust Detection

Monitor particulate emissions in a filtration system, detect baghouse leaks, or prevent excessive dust buildup in cartridge filters, bin vents, or cyclones. Comply with regulatory standards and reduce employee health risks with automated detection and alerts.

Aeration

Keep solids and powders flowing and prevent material from packing up in hoppers, along bin walls, or in the cone of the vessel. Preventing compaction helps promote material flow to ensure consistent batching while keeping process operations running smoothly.

Airbrator

Using a combination of aeration and vibration, Airbrator helps solve even the most difficult flow applications in dry materials. Its special design creates a vibration as the air flows between the Airbrator pad's boot and the bin wall. Appropriate for use in any type of bin or silo, Airbrator is extremely economical, is quite easy to install, offers durable construction, and is self-cleaning.

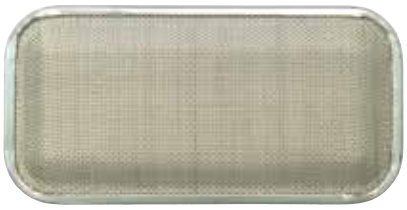
Measuring Principle: Aeration/Vibration
Pad Material: Durable molded silicone or neoprene rubber construction
Shaft: Stainless steel center shaft
Process Temp: Up to 250°F (121°C)
Air Pressure: From 5 PSIG to 60 PSIG
Air Consumption: Dependent on application
Approvals: FDA 21CFR177.2600 (a – e, g, h)

Airbrator
Aeration & Vibration

Air Pad

Air pads are a cost-effective solution to many material flow problems. They are ideal for finely ground dry materials that tend to pack while in storage and then cling to the walls of the bin. Multiple air pads are installed intermittently along the bin wall and low-pressure air is directed along the bin walls to ensure a continuous, even flow of material out of the bin. They are offered in galvanized or stainless steel, making them ideal for a wide variety of applications.

Measuring Principle: Flow Enhancer
Length: 7-1/2" (190.5 mm)
Width: 3-3/4" (95.2 mm)
Pad Height: 1/2" (12.7 mm)
Stem Length: 2" (50.80 mm)
Body: Zinc-plated steel or stainless steel
Diffuser Cloth: Up to 180°F - cotton canvas, up to 600°F - fiberglass
Diffuser Screen: 16 mesh (galvanized steel or stainless steel type 316)
Gasket: Neoprene



Air Pads
Flow Enhancer

DD-3000

BinMaster brings a sense of simplicity to customers seeking basic operation and single-point particulate monitoring. The Dust Alert with integrated electronics and sensing probe utilizes inductive electrification technology to detect and alert—via an alarm relay or 4-20 mA output—when dust emissions exceed a preset point. Designed to save time, reduce maintenance, and prevent downtime, the Dust Alert DD-3000 is ideal for baghouse leak detection or installed in stacks, ducts, or pipes.

Measuring Principle: Charge Induction
Measurement Units: Picoamperes (pA)
Power: Universal 20-250 VAC/VDC, 47-63 Hz 18-60VDC
12-32 VDC Loop Power
Input Power: 3 Watts Max
Resolution: 0.5pA, Range 0 to 5,000pA
5.0pA, Range 0 to 5,000pA
Minimum Detection Level: ~1-5 mg/m^3
~5-10 mg/m^3
Minimum Particle Size: 03 Micron
Ambient Temp: -13°F to +160°F (-25°C to +71°C)
Process Temp: -40°F to +185°F (-40°C to +85C)
Output Relay: Form A (SPST)
250 VAC / 5A (Resistive), 2A (Inductive)
30 VDC / 5A (Resistive), 2A (Inductive)
Output: 4-20mA, 500Ω Max. Loop Impedance @ 24 VDC Loop Power
Enclosure Material: NEMA 4/IP 66 Aluminum, Powder Coated
Approvals: Ordinary/General Purpose Only, CE Approved (CSA/UL Approval Pending)

DD-3000
Dust Alert

BM30-LGX

The BM-30 LGX particulate monitor detects dusts, powders, and liquid particulates such as mists before emissions are visible, determining when emissions fall outside of preset standards and preventing the escape of valuable powders. The BM-30 LGX consists of a control unit, a particulate sensor, and a sensor coaxial cable. Applications include continuous emissions monitoring, baghouse filter leak detection, and process particulate flow monitoring.

Measuring Principle: Particulate Monitor
Power: 115/230 VAC 50/60 Hz, or 24 VDC
Output Relay: Two SPDT, 5A @ 240 VAC
Ranging: Log or linear
Resolution: 5.0 pA
Operating Temp Sensor: Standard 250°F (120°C); optional 450°F (232°C)
Operating Temp Console: -13°F to +160°F (-25°C to + 70°C)
Pressure: Standard 10 PSI; optional 100 PSI
Approvals: Standard Ordinary/General Purpose; optional CSA/US Class I, II & III, Div I & II
Enclosure Material: Cast aluminum
Enclosure Rating: NEMA 4X
Mounting: 1/2" NPT standard; optional ANSI flange & quick-clamp
Sensor Cable: 300' maximum length, 450°F (232°C) maximum temp

BM-30-LGX
Particulate Monitor

Flow Detect 1000

The FD-1000 flow/no flow sensor consists of two components – the remote sensor probe which is mounted in a pneumatic pipeline, gravity chute, or feeder – and the control console which is mounted in an area accessible to users. The system confirms solid or powder materials are flowing and alerts 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.

Measuring Principle: Flow Detector
Power: 115 or 230 VAC 50/60 Hz, 5 VA
Operating Temp Remote: -22°F to +158°F (-30°C to +70°C)
Operating Temp Console: -31°F to +158°F (-35°C to +70°C)
Process Temp: 250°F (121°C) if ambient air temperature is below 150°F (65°C)
Detection Range: Up to 10 feet
Frequency: 24.125 GHz, less than 1mW/cm³ (OSHA limit is 10mW/cm³)
Remote Enclosure: Die cast aluminum
Remote Approvals: Listed for Class II, Groups E, F & G Hazardous Locations
Enclosure Ratings: NEMA 4X, 5, 9 & 12
Output: DPDT dry contacts, 5A @ 240 VAC, or 30 VDC
Time Delay: Single turn 0.1-15 sec

FD-1000
Flow/No Flow Detector

Flow Detect 2000

The single-piece FD-2000 flow detector is a flow/no flow detector that houses both the remote sensor and control console in a single NEMA 4X enclosure. It can help prevent cross contamination and potentially dangerous or expensive FSMA, USDA, or FDA compliance issues at facilities producing food for human or animal consumption. It is ideal for detecting flow conditions of solids and powders in gravity chutes, feeders, pipelines, conveyor belts, or bucket elevators.

Measuring Principle: Flow Detector
Power Requirement: 115 or 230 VAC 50/60 Hz, 5 VA, Power: 1 Watt at 24 VDC +/-10%"
Sensitivity Adjustment: High / low selection switch with potentiometer
Fault Conditions: Doppler sensor failure and excessive temperature
Output: 4-20 mA, No Flow: 4 mA +/-4%, Flow: 20 mA +/-4%, Fault: 22mA +/-4%
Detection Range: 1.5 m (4.9 ft.)
4-20 mA Load: 650 Ohms Maximum
Operating Temperature: -22°F to 140°F (-30°C to 60°C)
Storage Temperature: -40°F to 176°F (-40°C to 80°C)
Emissions: 24.11 GHz, 6.6 mW typical / 9.9 mW maximum
Relay Outputs: 250 VAC / 220 VDC / 2A (N.C. or N.O.)
Output Delay Range: Switchable from 0.1 to 3.1 seconds / 2.3 to 15.1 seconds
Enclosure Material: Die cast aluminum, USDA approved powder coat finish
Enclosure Rating: NEMA 4X
Mounting: 1-1/4" NPS
Conduit Entry: 3/4" NPT
Process Pressure: 80 PSI
Approvals: CSA/US Class II, Division 1 Groups E, F, & G and ATEX Zone 21

FD-2000
Flow/No Flow Detector

Wireless Sensors and Software Simplify Feed Inventory

FeedView is designed for swine and poultry operations to optimize feed delivery schedules and eliminate complex spreadsheets and climbing bins. Battery-powered, wireless sensors are combined with an intuitive, simple software to automatically measure feed inventory. FeedView delivers timely data to a smartphone, tablet, or PC, transforming the way farms schedule feed deliveries.

The FVL-100 laser level sensor measures feed in bins up to 35 feet tall. It takes level measurements at scheduled time intervals to validate bin levels without climbing. The battery-powered sensor requires no wiring and is easy to install. A built-in transceiver sends data to the FeedView software for processing in the cloud via the LG-100 gateway using a cellular or Ethernet connection.

Dashboards provide an overview of each bin monitored and projects the days until it is empty, highlighting bins that are getting low and will need a new delivery. The software calculates the amount of feed and the amount of headspace, or room available, in each bin. This ensures the feed delivered will fit into the bins and reduces the risk of overfilling. Inventory data can be shared among multiple users at multiple locations. Alerts are sent via a text message or email when the next delivery needs to be scheduled.

FeedView Benefits

- Eliminates spreadsheets, guesswork, and endless emails
- No banging on bins, throwing rocks, or climbing to check bin levels
- Centralized location for feed inventory data
- Automated alerts prevent running out of feed
- All users view and base decisions on the same data
- Highly scalable from a single barn to national producers

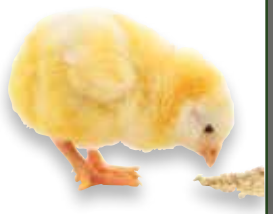


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Photo: John Neukirch

Garner Industries, home of BinMaster, is a diverse manufacturing company located in Lincoln, Nebraska USA. Established in 1953 as a small tool and die company, Garner embarked on development of an automated grain bin level monitoring system in the mid-1960s, giving birth to the BinMaster line of level control technologies.

The company employs more than 130 individuals in its 115,000-square foot facility situated on 32 acres. Its plastic injection molding, mold manufacturing, CNC machining, and BinMaster level sensor products are sold in diverse industries worldwide including agriculture, construction, cement, mining, biofuels, and food processing.

Garner Industries is certified to ISO 9001 quality management systems – requirements.