



Control. Detect. Measure.

- Point Level Indicators
- Inventory Measurement
- Solids Flow Detection
- Dust Detection
- Aeration & VibratiON

BINMASTER

www.binmaster.com

The Most Powerful, Reliable, and Affordable Level, Dry Flow,



SmartBob2 Silo Inventory Management System

Inventory tracking system featuring Web-based reporting capabilities. The robust design of the Remote sensor will provide years of maintenance free service in vessels up to 180 feet. This system is capable of measuring solids, liquids, and slurries. Dust, steam, noise, dielectric, temperature, and vessel shape pose no problem to SmartBob2.



SmartBob-TS1 Silo Inventory Management System

The SmartBob-TS1 sensor is an economical and compact inventory tracking system that has been designed for use in smaller tanks and silos. The small yet rugged design allows you to use SmartBob-TS1 in vessels up to 30 feet tall. The SmartBob-TS1 is compatible with its predecessor the SmartBob2. This allows you to combine the two sensors into one common system.



PROCAP Series Capacitance Probes

The PROCAP Series capacitance sensors provide reliable point level detection and process control for solids, liquids and slurries. PROCAP Series feature a unique design which doesn't emit RF signals. "Quick-Set" calibration provides simple selection of detection sensitivity. PRO-Shield design ignores material build-up on the sensor probe and guards against false readings. A new triple-thread screw off lid and dual conduit entries allow for hassle free installation. Over 50 probe combinations to choose from.



A simple, Low Cost Point Level Control with Lasting Reliability

The Diaphragm Switch provides automatic level indication of free flowing dry materials in high, intermediate, and low level applications. The unit operates by sensing material pressing against the diaphragm.



The Most Reliable Rotary Level Control You Can Buy...Period

A rotary level control is only as reliable as its motor. Our BMRX Series rotaries are built with a specially designed motor that features "de-energized" operation. The motor shuts down when material is present rather than entering a "stalled" condition. This reduces wear and operating temperature. A built in motor slip-clutch protects the drive gears from damage due to over-rotation. A new triple-thread screw off lid and dual conduit entries allow for hassle free installation. Selectable Fail-Safe mode eliminates over spills or process shortages caused by external power failures. The rotary is designed for controlling solid material storage and flow in bins, vessels, chutes, and conveyors.



Single Blade Vibrating Rods

The signal from the electronic circuit excites the single rod of this instrument to vibrate. When material covers the rod, the vibration stops. This is sensed by the electronic circuitry which forces the output relay to switch. When the blade becomes uncovered, the vibration will restart and the relay will switch back.

and Dust Detection Controls



Maintenance Free Continuous Dust Monitoring and Filter Leak Detection

The Particulate Monitor and Transmitter employ a field-proven combination of passive-induction and protective-probe technologies. As particulates flow near and around the probe, minute currents are dynamically induced into the probe by flowing particulates. The DSP processes the signal into an absolute output that is reasonably linear to mass. A protective layer over the probe ensures reliable operation with all types of particulate including moist powders and highly conductive dust.



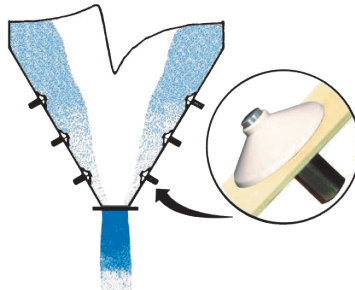
Tilt Switch Level Indicator Used in a Variety of Applications

Tilt switch suspends in a bin, over an open pile or conveyor. When material level rises, the switch tilts and breaks a circuit. Used to detect high level, installed as a plug detector, or suited as a load sensor when positioned over a conveyor belt or open pit.



Ultrasonic and Pulse Radar Continuous Non-Contact Level Measuring

The SmartSonic features a variety of ultrasonic transmitters and the SmartWave features a variety of pulse radar transmitters, both with broad processor capabilities that provide remote display and full communication solutions. Both transmitters can be programmed to simply send a 4-20 mA analog output or send data to a PC running a calibration/data logging program using RS-485 communications.



Airbrator Provides Two-Action Flow Aid Through Aeration and Vibration

Airbrator combines aeration and vibration to solve even the most difficult material flow problems. The special design creates a vibration as the air flows between the pad's boot and the bin wall. This provides a very effective flow aid for all types of dry products. Plus, Airbrator pads do not require specific air pressure for operation.



Microwave Solids Flow/No Flow Detection

The Flow Detect 1000 is a high quality industrial grade instrument which senses flow/no flow conditions of solids and powders in pneumatic pipelines, gravity chutes and feeders. Doppler shift technology is used by the sensor to determine material flow. The sensor probe is completely non-intrusive, avoiding contact with the flow stream.

BINMASTER

Our commitment is to provide our customers with the finest products and very best service possible.

Need to Contact Us?

- ◆ Call our application specialists...
800-278-4241 or 402-434-9102
- ◆ E-mail us...
info@binmaster.com

Need More Information?

- ◆ Visit our Website...
www.binmaster.com
- ◆ Contact us for individual product brochures and specifications...



Point Level Indicators



**BMRX
Rotary Paddle**

**GR-II Maxima
Rotary Paddle**

**Mini-Rotary
Rotary Paddle**

**BM-T
Tilt Switch**

APPLICATIONS

- ◇ Reliable point level detection for bulk solids including powder, pellets, and granular materials
- ◇ Used in bins, silos, chutes and conveyors
- ◇ Material density from 2 lbs./cu. ft. to over 100 lbs./cu. ft.
- ◇ Feed, seed, grain, food, sand, gravel, concrete, aggregate, plastics, chemical, coal, and many other materials

- ◇ Reliable point level detection for bulk solids including powder, pellets, and granular materials
- ◇ Used in bins, silos, chutes and conveyors
- ◇ Material density from 2 lbs./cu. ft. to over 100 lbs./cu. ft.
- ◇ Feed, seed, grain, food, sand, gravel, concrete, aggregate, plastics, chemical, coal, and many other materials

- ◇ Reliable point level detection for bulk solids including powder, pellets, and granular materials
- ◇ Used in small bins, silos, chutes and conveyors
- ◇ Material density from 2 lbs./cu. ft. to over 30 lbs./cu. ft.
- ◇ Feed, seed, grain, food, concrete, plastics, chemical and many other materials

- ◇ Reliable high level detection for dense bulk solids
- ◇ Used in bins, vessels, chutes
- ◇ Silos or over conveyors and open pits where conventional level devices cannot be mounted
- ◇ Material density of 15 lbs./cu. ft. and greater
- ◇ Grain, sand, gravel, concrete, aggregate, coal, and many other materials

FEATURES

- ◇ Rugged construction and simple, dependable design
- ◇ Triple thread screw-off cover
- ◇ Switch selectable high/low fail-safe
- ◇ De-energizing motor for extended operation life
- ◇ Four bearing shaft assembly reduces wear and increases reliability
- ◇ Internal, bi-directional clutch
- ◇ Various voltages available
- ◇ DPDT relay output, 250 VAC, 10A
- ◇ Dual conduit entrance
- ◇ Removable wiring terminals
- ◇ Interchangeable with other rotaries
- ◇ Powder Coated finish
- ◇ Adjustable sensitivity

- ◇ Fail-Safe circuitry eliminates spills and process shortages from power failures, motor or gear failures. Visual LED indicates sensor status: uncovered, covered and fault conditions
- ◇ Normal and fault status contact
- ◇ De-energizing motor for extended operation life
- ◇ Three bearing drive shaft assembly reduces wear and increases reliability
- ◇ Internal, bi-directional clutch
- ◇ Multiple voltages
- ◇ Interchangeable with other rotary units

- ◇ Compact design ideal for small bins, hoppers, and feeders
- ◇ Simple to install
- ◇ No calibration required
- ◇ De-Energizing motor extends motor life
- ◇ Motor slip-clutch prevents gear damage
- ◇ Adjustable sensitivity
- ◇ 3/4" NPS mounting
- ◇ Optional sensing paddles

- ◇ Economical high level point detection
- ◇ Rugged construction and easy installation
- ◇ Simple design with one moving part
- ◇ Switch activated at 15 degrees
- ◇ Float paddle option available

SPECIFICATIONS

Power Requirements: 24/115/230 VAC 50/60 Hz; 24/12 VDC, 60/35 mA

Output Contacts: DPDT 10 Amp 250 VAC

Ambient Operating Temperature: -40°F to +185°F, (-40°C to +85°C)

Process Temperature: to +400°F, (204°C)

Pressure: 1/2 micron, 30 PSI

Approvals & Certifications: listed for Class I, Groups C & D and Class II Groups E, F & G Hazardous Locations. Enclosure Type NEMA 4X, 5, 7, 9 & 12

Enclosure: Die cast aluminum, USDA Approved powder coat finish

Mounting: 1-1/4" NPT

Conduit Connections: 3/4" NPT

Shaft and components: Stainless Steel

Power Requirements: 24/115/230 VAC

Output Relay: DPDT 10 Amp 250 VAC;

SPDT supervisory 10 Amp 250 VAC normal, fault

Ambient Operating Temperature: -40°F to +185°F (-40°C to +85°C)

Process Temperature: to +400°F, (204°C)

Pressure: 1/2 Micron, 30 PSI

Approvals & Certifications: listed for Class II, Groups E, F, & G Hazardous Locations. Enclosure Type NEMA 4X, 5, 9 & 12

Enclosure: Die cast aluminum, USDA Approved powder coat finish

Mounting: 1-1/4" NPT

Conduit Connection: 3/4" NPT

Shaft and components: Stainless Steel

Input Voltage: 115/230/24 VAC 50/60 Hz

Power Consumption: 1.5 Watts

Switch: SPDT

Contact Rating: 3A @ 250 VAC

Rotary Speed: 1 RPM

Temperature Range: -4°F to +140°F (-20°C to +60°C)

Wiring Cable: 18 AWG, 12 inch cable

Mounting: 3/4" NPS

Clutch: Magnetic Slip Clutch prevents damage to motor gears

Enclosure: Polycarbonate, NEMA 1

Weight: .77 lbs.

Switch Ratings: 15 Amps @125, 250

or 480 VAC, 1/8 HP @125 VAC,

1/4 HP @ 250 VAC, 1/2 A @ 125

VDC, 1/4 A @ 250 VDC

Operating Temperature: -40°F to +300°F (-40°C to +149°C)

Housing: Die cast aluminum

Mounting: Suspended by flexible hanger

Point Level Indicators



**VR-21
Vibrating Rod**

- ◇ Suitable for high and low level indication, or plugged chute detection
- ◇ Detects extremely light, fluffy materials and materials with low dielectric constants
- ◇ Materials densities from 1.25lb./cu. ft.
- ◇ Carbon black, plastics, fly ash, feed, seed, grain, food, chemical, and other materials

- ◇ Unique "blade" probe design reduces false alarms caused by buildup
- ◇ No calibration required
- ◇ Wear and maintenance free
- ◇ No moving parts
- ◇ Three sensitivity adjustments
- ◇ Universal Power Supply
- ◇ Self-Cleaning sensor
- ◇ Remote electronics available
- ◇ Switch selectable high/low fail-safe

**VR-41
Vibrating Rod**

- ◇ Suitable for high and low level indication, or plugged chute detection
- ◇ Detects extremely light, fluffy materials and materials with low dielectric constants
- ◇ Materials densities from 1.25lb./cu. ft.
- ◇ Carbon black, plastics, fly ash, feed, seed, grain, food, chemical, and other materials

- ◇ Unique "blade" probe design reduces false alarms caused by buildup
- ◇ No calibration required
- ◇ Wear and maintenance free
- ◇ No moving parts
- ◇ Three sensitivity adjustments
- ◇ Universal Power Supply
- ◇ Self-Cleaning sensor
- ◇ Remote electronics available
- ◇ Insertion length from 13" to 13'
- ◇ Switch selectable high/low fail-safe

**CVR-600
Vibrating Rod**

- ◇ Compact designed for reliable point level sensing in small bins and hoppers that contain plastics, food, seed, chemicals, and many other powder and bulk solid materials
- ◇ Material densities from 3.5 lb./cu. ft.

- ◇ Compact design ideal for small bins, hoppers, and feeders
- ◇ Single rod design
- ◇ No calibration required
- ◇ Wear and maintenance-free
- ◇ No moving parts
- ◇ High and low level fail-safe
- ◇ Three sensitivity adjustments
- ◇ Universal Power Supply
- ◇ Self-Cleaning sensor
- ◇ 1" NPT mounting
- ◇ 6" insertion length
- ◇ Remote electronics available
- ◇ Process temperatures up to 300°F
- ◇ Screw-top enclosure

**SHT-120 & SHT 140
Vibrating Rod**

- ◇ Suitable for high and low level indication, or plugged chute detection
- ◇ The SHT-Series has been built specifically for higher process temperatures up to 482°F (250°C)
- ◇ Detects extremely light, fluffy materials and materials with low dielectric constants
- ◇ Materials densities from less than 1.25 lb./cu. ft.
- ◇ Carbon black, plastics, fly ash, feed, seed, grain, food, chemical, and many other materials

- ◇ Single Stainless Steel rod design
- ◇ No calibration required
- ◇ Wear and maintenance-free
- ◇ No moving parts
- ◇ High and low level fail-safe
- ◇ Three sensitivity adjustments
- ◇ Universal Power Supply
- ◇ Self-Cleaning sensor
- ◇ 1-1/2" NPT mounting
- ◇ Remote electronics available
- ◇ Insertion length from 7.37" to 13'
- ◇ Lagged design to locate electronics away from heat source

Power Requirements: Wide range
20-250V AC/DC

Relay: SPDT relay, 5A @ 250 VAC (optional DPDT relay available)

Time Delay: 1 second from stop of vibration 2 to 5 second for start of vibration

Ambient Temperature: -4°F to +150°F
(-20°C to +65°C)

Process Temperature: to 176°F
standard (80°C); to 284°F high temp
(140°C)

Pressure: 500 psi

Enclosure: Die cast aluminum, NEMA 4X, 5 and I2

Probe: 304 Stainless Steel, 7.37" insertion length

Mounting: 1-1/2" NPT

Materials densities: From 1.25 lb./cu. ft

Power Requirements: Wide range
20-250V AC/DC

Relay: SPDT relay, 5A @ 250 VAC (optional DPDT relay available)

Time Delay: 1 second from stop of vibration 2 to 5 second for start of vibration

Ambient Temperature: -4°F to +150°F
(-20°C to +65°C)

Process Temperature: to 176°F standard
(80°C); to 284°F high temp (140°C)

Pressure: 500 psi

Enclosure: Die cast aluminum, NEMA 4X, 5 and I2

Probe: 304 Stainless Steel, 13" - 13'

Mounting: 1-1/2" NPT

Materials densities: From 1.25 lb./cu. ft

Power Requirements: Wide range
20-250V AC/DC

Power Consumption: 3VA

Relay: SPDT 5A 250 VAC

Time Delay: 1 second from stop of vibration 2 to 5 second for start of vibration

Ambient 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)

Max. Pressure: 145 psi

Wiring Cable: 1/2"

Mounting: 1" NPT

Enclosure: Die cast aluminum, NEMA 4X, 5 and I2

Probe: 304 Stainless Steel, 6" insertion length

Material Density: From 3.5 lbs./cu. ft

Power Requirements: Wide range
20-250V AC/DC

Power Consumption: 3VA

Relay: SPDT 5A 250 VAC

(optional DPDT relay available)

Time Delay: 1 second from stop of vibration 2 to 5 second for start of vibration

Ambient Temperature: -4°F to 150°F
(-40°C to +65°C)

Process Bin Temperature: to 482°F
(250°C)

Max. Pressure: 145 psi

Wiring Cable: 1/2"

Mounting: 1-1/2" NPT

Enclosure: Die cast aluminum, NEMA 4X, 5 and I2

Probe: 304 Stainless Steel, 7.37" insertion length (SHT-140 14" to 13' insertion length)

Material Density: From 3.5 lbs./cu. ft

APPLICATIONS

FEATURES

SPECIFICATIONS

Point Level Indicators



PROCAP I & PROCAP II Capacitance Probe

PROCAP IX & PROCAP IIX Capacitance Probe

PROCAP I & PROCAP II 3-A Capacitance Probe

PROCAP I & PROCAP II FL Capacitance Probe

- ◇ Point level detection and process control for solid, liquid and slurry materials
- ◇ Used in bins, vessels, tanks, chutes and conveyors
- ◇ Plastics, chemicals, coal/fly ash, concrete, food ingredients, pharmaceuticals, feed/grain, mining, foundries, wood/paper processing, many other materials

- ◇ Point level detection and process control for solid, liquid and slurry materials
- ◇ Used in bins, vessels, tanks, chutes and conveyors where explosion rated sensor is necessary
- ◇ Plastics, chemicals, coal/fly ash, concrete, food ingredients, pharmaceuticals, feed/grain, mining, foundries, wood/paper processing, many other materials

- ◇ Point level detection and process control for solid, liquid and slurry materials
- ◇ Used in bins, vessels, tanks, chutes and conveyors where 3-A and/or USDA approvals are necessary
- ◇ Dairy products, food, pharmaceutical, and many other materials needed 3-A/USDA approvals

- ◇ Point level detection and process control for solid, liquid and slurry materials
- ◇ Used in bins, vessels, tanks, chutes and conveyors where non-intrusive flush mounted sensor is necessary
- ◇ Plastics, chemicals, coal/fly ash, concrete, food ingredients, pharmaceuticals, feed/grain, mining, foundries, wood/paper processing, many other materials

- ◇ "Quick-Set" simple calibration
- ◇ Triple thread screw-off cover
- ◇ Dual conduit entrance
- ◇ Unsurpassed sensitivity 0.5 pF
- ◇ PRO-Shield compensates for material build-up
- ◇ Operates below RF range, temperature stable calibration and protection from RF interference
- ◇ Fail-Safe, switch selectable high/low
- ◇ Adjustable time delay to 30 seconds
- ◇ Optional sensing probes: Delrin or Teflon sleeved, bare, food grade, flush mount, solid and flexible extension
- ◇ Visual LED indicates sensor status: uncovered, covered or power failure

- ◇ Explosion proof design for Class I applications
- ◇ "Quick-Set" simple calibration
- ◇ Triple thread screw-off cover
- ◇ Dual conduit entrance
- ◇ Unsurpassed sensitivity 0.5 pF
- ◇ PRO-Shield compensates for material build-up
- ◇ Operates below RF range, temperature stable calibration and protection from RF interference
- ◇ Fail-Safe, switch selectable high/low
- ◇ Adjustable time delay to 30 seconds
- ◇ Optional sensing probes: Delrin or Teflon sleeved, food grade, flush mount, solid and flexible extension

- ◇ 3-A approved, food grade design
- ◇ "Quick-Set" simple calibration
- ◇ Triple thread screw-off cover
- ◇ Dual conduit entrance
- ◇ Unsurpassed sensitivity 0.5 pF
- ◇ PRO-Shield compensates for material build-up
- ◇ Operates below RF range, temperature stable calibration and protection from RF interference
- ◇ Fail-Safe, switch selectable high/low
- ◇ Adjustable time delay to 30 seconds
- ◇ Visual LED indicates sensor status: uncovered, covered or power failure

- ◇ "Quick-Set" simple calibration
- ◇ Triple thread screw-off cover
- ◇ Dual conduit entrance
- ◇ Unsurpassed sensitivity 0.5 pF
- ◇ PRO-Shield compensates for material build-up
- ◇ Optional high-temperature sensing probe
- ◇ Operates below RF range, temperature stable calibration and protection from RF interference
- ◇ Fail-Safe, switch selectable high/low
- ◇ Adjustable time delay to 30 seconds
- ◇ Visual LED indicates sensor status: uncovered, covered or power failure

PROCAP I Power Requirements:

Universal power supply 24 to 240 VAC/VDC

PROCAP II Power Requirements:

Selectable 115/230 VAC

Output Relay: DPDT 10 Amp at 250 VAC
Ambient Temperature: -40°F to +185°F (-40°C to +85°C)

Process Temperature: to 250°F Delrin/Bare (121°C); to 500°F Teflon (260°C)

Pressure: 500 PSI

Approvals & Certifications: listed for Class II Groups E, F & G Hazardous Locations. Enclosure Type NEMA 4X, 5, 9 & 12

Housing Enclosure: Die cast aluminum, USDA approved powder coat finish

Mounting: 1-1/4" NPT or 3/4" NPT 316 SS Standard; 1-1/4" NPT 316 SS & Sanitary Flange Optional

PROCAP IX Power Requirements:

Universal power supply 24 to 240 VAC/VDC

PROCAP IIX Power Requirements:

Selectable 115/230 VAC

Output Relay: DPDT 10 Amp at 250 VAC
Ambient Temp: -40°F to +185°F (-40°C to +85°C)

Int Bin Temp: to 250°F Delrin (121°C); to 500°F Teflon (260°C)

Pressure: 500 PSI

Approvals & Certifications: listed for Class I, Groups C & D and Class II Groups E, F & G Hazardous Locations. Enclosure Type NEMA 4X, 5, 7, 9 & 12

Housing Enclosure: Die cast aluminum, USDA approved powder coat finish

Mounting: 1-1/4" NPT or 3/4" NPT 316 SS Standard; 1-1/4" NPT 316 SS & Sanitary Flange Optional

PROCAP I 3-A Power Requirements:

Universal power supply 24 to 240 VAC/VDC

PROCAP II 3-A Power Requirements:

Selectable 115/230 VAC

Output Relay: DPDT 10 Amp at 250 VAC
Ambient Temp: -40°F to +185°F (-40°C to +85°C)

Int Bin Temp: to 250°F Delrin (121°C); to 500°F Teflon (260°C)

Pressure: 500 PSI

Approvals & Certifications: listed for Class II, Groups E, F, & G Hazardous Locations. Enclosure Type NEMA 4X, 5, 9 & 12

Housing Enclosure: : Die cast aluminum, USDA approved powder coat finish

Mounting: 1" or 2.5" Sanitary Flange

PROCAP I Power Requirements:

Universal power supply 24 to 240 VAC/VDC

PROCAP II Power Requirements:

Selectable 115/230 VAC

Output Relay: DPDT 10 Amp at 250 VAC
Ambient Temperature: -40°F to +185°F (-40°C to +85°C)

Process Temperature: 150°F Standard (65°C); 450°F High Temp (232°C)

Pressure: 250 PSI

Approvals & Certifications: listed and Class II Groups E, F & G Hazardous Locations. Enclosure Type NEMA 4X, 5, 9 & 12. Units also available in Class I, Groups C & D

Housing Enclosure: Die cast aluminum, USDA approved powder coat finish

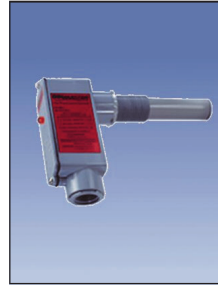
Mounting: Flush

APPLICATIONS

FEATURES

SPECIFICATIONS

Point Level Indicators



PRO Remote Capacitance Probe

- ◇ Point level detection and process control for solid, liquid and slurry materials
- ◇ Used in bins, vessels, tanks, chutes and conveyors with high temperature/high vibration conditions; electronics may be located up to 75' from sensing probe
- ◇ Plastics, chemicals, coal/fly ash, concrete, food ingredients, pharmaceuticals, feed/grain, mining, foundries, wood/paper processing, many other materials

- ◇ "Quick-Set" simple calibration
- ◇ Unsurpassed sensitivity 0.5 pF
- ◇ PRO-Shield compensates for material build-up
- ◇ Operates below RF range, temperature stable calibration and protection from RF interference
- ◇ Fail-Safe, switch selectable high/low
- ◇ Adjustable time delay to 10 seconds
- ◇ Optional sensing probes: Delrin or Teflon sleeved, food grade, flush mount, solid and flexible extension
- ◇ Internal LED indicates material in contact with probe

Power Requirements: 115/230 VAC, 50/60 Hz $\pm 15\%$, 5VA
Output Relay: DPDT 10 Amp at 250 VAC
Ambient Temperature: -40°F to +185°F (-40°C to +85°C)
Process Temperature: to 250°F Delrin (121°C); to 500°F Teflon (260°C)
Pressure: 500 PSI
Approvals & Certifications: CSA Listed Intrinsically Safe, NEMA 4X, 5, & 12
Probe Enclosure: Die cast aluminum, USDA approved powder coat finish
Electronic Enclosure: Polycarbonate or Steel
Mounting: 1-1/4" NPT or 3/4" NPT 316 SS Standard; 1-1/4" NPT 316 SS & Sanitary Flange Optional

PRO AUTO-CAL Capacitance Probe

- ◇ Point level detection and process control for solid, liquid and slurry materials
- ◇ Used in bins, vessels, tanks, chutes and conveyors where low voltage DC power is necessary
- ◇ Plastics, chemicals, coal/fly ash, concrete, food ingredients, pharmaceuticals, feed/grain, mining, foundries, wood/paper processing, many other materials

- ◇ Auto-Calibration and external test
- ◇ Triple thread screw-off cover
- ◇ Dual conduit entrance
- ◇ Unsurpassed sensitivity 0.5 pF
- ◇ PRO-Shield compensates for material build-up
- ◇ Operates below RF range, temperature stable calibration and protection from RF interference
- ◇ Fail-Safe, switch selectable high/low
- ◇ Adjustable time delay to 10 seconds
- ◇ Optional sensing probes: Delrin or Teflon sleeved, bare, food grade, flush mount, solid and flexible extension
- ◇ Visual LED indicates sensor status: uncovered, covered or power failure

Power Requirements: 115/230 VAC, 50/60 Hz $\pm 15\%$, 5VA
Output Relay: DPDT 10 Amp at 250 VAC
Ambient Temperature: -40°F to +185°F (-40°C to +85°C)
Process Temperature: to 250°F Delrin/Bare (121°C); to 500°F Teflon (260°C)
Pressure: 500 PSI
Approvals & Certifications: listed for Class II Groups E, F & G Hazardous Locations. Enclosure Type NEMA 4X, 5, 9 & 12
Housing Enclosure: Die cast aluminum, USDA approved powder coat finish
Mounting: 1-1/4" NPT or 3/4" NPT 316 SS Standard; 1-1/4" NPT 316 SS & Sanitary Flange Optional

CompactPRO Capacitance Probe

- ◇ Point level detection and process control in liquid, powder, granular, and pelletized materials.
- ◇ Used in smaller bins, vessels, tanks, and chutes
- ◇ Plastics, chemicals, concrete, food ingredients, pharmaceuticals, feed/grain, wood/paper processing, many other materials

- ◇ Works where Proximity Switches don't
- ◇ PRO-Shield feature ignores material build-up
- ◇ LED on housing indicates sensor status
- ◇ Easy "One-Time" calibration
- ◇ Compact Design; simple to install
- ◇ For metal, plastic or other non-metallic vessels

Power Requirements: 115, 230 VAC or 24 VDC
Output Relay: SPDT 5 amp at 250 VAC
Ambient Temp: -40°F to +185°F (-40°C to +85°C)
Int Bin Temp: to 240°F (116°C);
Pressure: 150 PSI
Approvals & Certifications: NEMA 4X, 5, and 12
Enclosure: PVC
Probe: CPVC
Mounting: 1" NPS (1-1/4" adapter available)
LED: Indicates material presence or absence

PRO HTRC-20 Capacitance Probe

- ◇ Point level detection and process control for solid, liquid and slurry materials
- ◇ Used in bins, vessels, tanks, chutes and conveyors when process temperature exceed 500°F
- ◇ Plastics, chemicals, coal/fly ash, concrete, food ingredients, pharmaceuticals, feed/grain, mining, foundries, wood/paper processing, many other materials

- ◇ "Quick-Set" simple calibration
- ◇ Unsurpassed sensitivity 0.5 pF
- ◇ PRO-Shield compensates for material build-up
- ◇ Operates below RF range, temperature stable calibration and protection from RF interference
- ◇ Fail-Safe, switch selectable high/low
- ◇ Adjustable time delay to 10 seconds
- ◇ Internal LED indicates material in contact with probe

Power Requirements: 115 or 230 VAC, 50/60 Hz $\pm 15\%$, 5VA
Output Relay: DPDT 5 Amp at 250 VAC
Ambient Temp: -40°F to +185°F (-40°C to +85°C)
Int Bin Temp: to 1112°F (600°C)
Pressure: 100 PSI
Approvals & Certifications: NEMA 4X, 5 and 12
Probe Enclosure: Die cast aluminum, USDA approved powder coat finish
Electronic Enclosure: Metal
Mounting: 1 1/4" NPT

APPLICATIONS

FEATURES

SPECIFICATIONS

Point Level Indicators, Alarm Panel and Aeration



**BM-45
Diaphragm Switch**

**BM-65
Diaphragm Switch**

**BM-12
Point Level Alarm Panel**

**Airbrator
Aeration & Vibration**

- ◇ Reliable point level detection for free flowing dry materials
- ◇ Used in bins, vessels, and some plugged chute applications
- ◇ Material density from 20 lbs./cu. ft.
- ◇ Feed, seed, grain, food, rubber, plastics, light powders, granules and many other materials

- ◇ Reliable point level detection for free flowing dry materials
- ◇ Use in bins, vessels, and some plugged chute applications
- ◇ Material density from 20 lbs./cu. ft.
- ◇ Feed, seed, grain, food, rubber, plastics, light powders, granules and many other materials

- ◇ Designed to monitor the level of multiple bins or tanks from one convenient location.
- ◇ Operator can view when a bin is full, partially full, or empty
- ◇ Indicates a level point by means of an eye catching signal light and audible alarm
- ◇ Operates with a variety of point level indicators

- ◇ Eliminate packing and maintain flowability of finely-ground dry bulk materials
- ◇ Indoor and outdoor applications in bins and storage vessels
- ◇ Use in high temperature, corrosive applications
- ◇ Flour, seeds, grain, flakes, sawdust, cement, PVC resin, fly ash, carbon black, lime, sand, cornstarch, gypsum, sugar and other materials

- ◇ Rugged construction and simple design, very economical point level detection
- ◇ Neoprene, or silicone diaphragm material
- ◇ Internal or external mount
- ◇ Multiple voltages

- ◇ Explosion Proof listed for Class II, Groups E, F & G
- ◇ Rugged construction and simple design, very economical point level detection
- ◇ Neoprene, silicone, or Hypalon diaphragm material
- ◇ Internal or external mount
- ◇ Multiple voltages

- ◇ Available in 4 to 24 Stations
- ◇ NEMA 4X
- ◇ Front Panel LED Alarm & Power Indication
- ◇ Indicates a level point by means of an eye catching signal light and audible alarm
- ◇ Modules on the alarm panel can also be interconnected to signal an external common alarm (horn)

- ◇ Special design provides two action flow aid through aeration and vibration
- ◇ Requires fewer pads than diffuser type because of unique design
- ◇ Uses high or low pressure
- ◇ Not affected by moisture or temperature
- ◇ Self-cleaning
- ◇ Simple to install in any type vessel
- ◇ Suitable for abrasive material
- ◇ Check valve to keep material out of air line

Switch Ratings: 15 Amps @125, 250 or 480 VAC, 1/8 HP @125 VAC, 1/4 HP @250 VAC, 1/2 A @125 VDC, 1/4 A @250 VDC
Operating Temperature: -40°F to +300°F (-40°C to +149°C)
Housing Enclosure: Die cast aluminum
Mounting: Internal or External, 16 ga. galvanized mounting plate

Switch Ratings: 15 Amps @125, 250 or 480 VAC, 1/8 HP @125 VAC, 1/4 HP @250 VAC, 1/2 A @125 VDC, 1/4 A @250 VDC
Operating Temperature: -40°F to +300°F (-40°C to +149°C)
Approvals & Certifications:  Listed for Class II, Groups E, F, & G Hazardous Locations. Enclosure Type NEMA 4X, 5, 9 & 12
Housing Enclosure: Die cast aluminum
Mounting: Internal or External, 16 ga. galvanized mounting plate

Input Voltage: 115 VAC ± 10%, 50/60 Hz, 3 VA, 230 VAC ± 10%, 50/60 Hz, 3 VA, 24-48 VDC, 2 W max.
Relay: SPDT, 2A 240 VAC
Enclosure: Type 4X
Operating Temperature: -4 to 158°F
Warranty: One Year

Pad Material: Durable molded silicone or neoprene rubber construction
Shaft: Stainless Steel center shaft
In Bin Temp: to 250°F (121°C)
Air pressure: From 5 PSIG to 60 PSIG
Air Consumption: Dependent on application

APPLICATIONS

FEATURES

SPECIFICATIONS

Continuous Level Monitors



SmartBob-TS1 Cable-Based Inventory

- ◇ Rugged, simple, and dependable inventory measurement system for solid, liquid, and slurry materials in vessels up to 30 feet
- ◇ Works in dusty and very demanding applications
- ◇ Direct Internet reporting capability
- ◇ Vendor Managed Inventory
- ◇ Plastics, chemicals, coal, concrete, food ingredients, pharmaceuticals, feed/grain, aggregates and many other materials

- ◇ Economical, regardless of size of installation
- ◇ 4th generation Web-Based PC program
- ◇ Output and display accessories
- ◇ Requires no field calibration or adjustment
- ◇ Advanced microprocessor based system with built-in measurement reliability for one to 100 vessels
- ◇ Minimal ongoing operation and maintenance cost
- ◇ RS 485 Network with wiring distance up to 4000 ft
- ◇ Simple daisy chain wiring makes for easy installation
- ◇ Built-in wireless options available

Power Requirements: 115/230 VAC 50/60 Hz
Ambient Temperature: -20°F to +140°F (-29°C to +60°C)
Process Temperature: to 140° F (60° C) braided polyester cable; to 250°F (121° C) Nylon jacketed stainless steel cable
Measurement Range: 30'
Measurement Rate: 1' per second
Accuracy: 0.1%
Mounting: Special bolt on or 3"- 6 NPT
Enclosure: Rotational molded polyethylene
Approvals & Certifications: NEMA 4X (IP65)

SmartBob2 Cable-Based Inventory

- ◇ Rugged, simple, and dependable inventory measurement system for solid liquid, and slurry materials in vessels up to 180 feet
- ◇ Works in dusty and very demanding applications
- ◇ Direct Internet reporting capability
- ◇ Vendor Managed Inventory
- ◇ Plastics, chemicals, coal, concrete, food ingredients, pharmaceuticals, feed/grain, aggregates and many other materials

- ◇ Economical, regardless of size of installation
- ◇ 4th generation Web-Based PC program
- ◇ Output and display accessories
- ◇ Requires no field calibration or adjustment
- ◇ Advanced microprocessor based system with built-in measurement reliability for one to 100 vessels
- ◇ Minimal ongoing operation and maintenance cost
- ◇ Explosion-proof rating standard
- ◇ RS 485 Network with wiring distance up to 4000 ft
- ◇ Simple daisy chain wiring makes for easy installation
- ◇ External wireless options available

Power Requirements: 115/230 VAC 50/60 Hz
Ambient Temp: -40°F to +185°F (-40°C to +85°C)
In Bin Temp: to 500° F (260°C)
Measurement Range: 180'
Measurement Rate: 2' per second
Accuracy: 0.1%
Mounting: 3" - 8 NPT
Enclosure: Molded Polycarbonate
Approvals & Certifications: listed for Class II, Groups E, F, & G Hazardous Locations. Enclosure Type NEMA 4X, 5, 9 & 12

SmartSonic Ultrasonic Transmitter

- ◇ Continuous non-contact level monitoring of tanks, bins, and silos
- ◇ Narrow beam design using a wide frequency bandwidth to enhance operation in difficult applications
- ◇ Smart signal processing to eliminate unwanted echoes
- ◇ Measuring range from 4 inches up to 90 feet
- ◇ Liquids, plastics, grain, sand, aggregate, and many more applications

- ◇ Power control operation in transmitter
- ◇ Easy two point push-button calibration
- ◇ Output 4 to 20 mA signal
- ◇ RS-232 or RS-485 communications with PC Based utility/diagnostic program
- ◇ Built-in temperature compensation
- ◇ Logarithmic receiver with very high dynamic range
- ◇ Uniform polar pattern
- ◇ Self-cleaning operation

Power Requirements: AC units 115 VAC 60 Hz or 230 VAC 50Hz; DC units 12 to 30 VDC 0.07 A
Ambient Temp: -40°F to +140°F (-40°C to +60°C)
In Bin Temp: to 200°F (93°C)
Operation: Ultrasonic
Frequency: 25 to 148 KHz
Measurement Range Liquids: 90' max.
Measurement Rate Solids: 40' max.
Accuracy: ± 0.25%
Beam Angle: 6° - 12° conical at -3dB
Temp Compensation: Continuous in transducer
Output: 4-20 mA and RS-485
Mounting: 3" NPT
Enclosure: PVC-94V0
Approvals & Certifications: NEMA 4X (IP65)

SmartWave Pulse Radar Transmitter

- ◇ Continuous non-contact level monitoring of tanks, bins, and silos
- ◇ Self-adjusting
- ◇ Measuring range up to 100 feet using 6.3 GHz operating frequency
- ◇ Adapts to adverse conditions
- ◇ Food, beverage, water/wastewater, chemicals (with vapor), plastics, sand, grain, aggregate, hot asphalt, and many more applications

- ◇ Low Noise
- ◇ Accurate and Reliable
- ◇ High Sensitivity
- ◇ Self-adjusting amplitude and width of microwave pulse
- ◇ Easy two point push-button calibration
- ◇ Output 4 to 20 mA signal
- ◇ RS-232 or RS-485 communications with PC Based utility/diagnostic program
- ◇ Uniform polar pattern
- ◇ No mounting influence

Power Requirements: AC units 115 VAC 60 Hz or 230 VAC 50Hz; DC units 12 to 30 VDC 0.07 A
Ambient Temp: -40°F to +140°F (-40°C to +60°C)
In Bin Temp: PP rod to 140°F (60°C), PTFE rod to 400°F (204°C)
Operation: Pulse Radar
Frequency: 6.3 GHz
Measurement Range Liquids: 100' max.
Measurement Rate Solids: 50' max.
Accuracy: ± 0.25%
Transmitter Power: 50 uW average
Antenna: Dielectric rod (PP & optional PTFE)
Output: 4-20 mA and RS-485
Mounting: 2" NPT
Enclosure: Aluminum-94V0 (optional SS)
Approvals & Certifications: NEMA 4X (IP65), explosion proof units available

APPLICATIONS

FEATURES

SPECIFICATIONS

Flow and Dust Detection



APPLICATIONS

FEATURES

SPECIFICATIONS

Flow Detect 1000 Microwave Flow Detection

- ◇ The Flow Detect 1000 is a high quality, industrial grade instrument which senses flow/no-flow conditions of solids and powders in pneumatic pipelines, gravity chutes and feeders.
- ◇ It is virtually unaffected by humidity, ambient light, pressure, vacuum, temperature, noise, vibration, electrical signals, non-metallic build-up or dust
- ◇ Used with food processing, plastics, grain, cement/aggregate, paper, mining and many other materials

- ◇ Indicates flow/no flow conditions of solids and powders in pipelines, chutes, and feeders
- ◇ Non-intrusive flush mounting senses through non-metallic surfaces
- ◇ Non-contact operation eliminates flow stream interruption and equipment wear
- ◇ Control settings can be made without accessing the remote sensor probe
- ◇ Fail-safe power protection and loop fault monitor
- ◇ "Quick-Set" selectable, single turn calibration
- ◇ Explosion proof design

Power Requirement: 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 temp. is below 150°F (65°C)
Detection Range: Up to 10'
Frequency: 24.125 GHz, less than 1mW/cm² (OSHA limit is 10mW/cm²)
Remote Enclosure: Die cast Aluminum
Remote Approvals: Listed for Class II, Groups E, F, & G Hazardous Locations. Enclosure Type NEMA 4X, 5, 9 & 12
Output: DPDT dry contacts, 5A @ 240 VAC, or 30 VDC
Sensitivity Adjustment: High/Low selectable
Time Delay: Single turn 0.1-15 sec
Fail-Safe: Alarm for flow/no-flow

BM-30 T-1P Particulate Transmitter

- ◇ Reliable dust collector emissions monitor and leak detector
- ◇ Designed for general maintenance planning and process protection applications for baghouses, cartridge filters, bin vents and cyclones
- ◇ Metals, chemicals, fly-ash, plastics, pharmaceuticals, food, utilities, mining, pulp/paper, and many more applications

- ◇ Comply with US and International EPA regulations
- ◇ Simple absolute output correlate to mg/m³ or gr/cf
- ◇ Performs in tough applications (kilns, smelters, carbon black)
- ◇ Prevents the escape of valuable materials
- ◇ Simple, low cost two-wire installation for PLCs
- ◇ Repeatable in all applications
- ◇ Adjustable linear or logarithmic output scaling enables trending both the baseline emissions and high peak emissions caused by developing leaks

Power Requirements: From 4-20 mA loop
Supply Voltage: 18-28 VDC
Output: 500 Ohms Max at 24 VDC
Output Isolation: 500 VDC Process to Loop
Ambient Temp: -15°F to +160°F (-25°C to +70°C)
Int Bin Temp: to 250°F standard (121°C); to 450°F (232°C) with optional remote electronics
Pressure: 10 PSI standard; 100 PSI with optional remote electronics
Approvals & Certifications: Ordinary/Gen Purpose
Housing Enclosure: Cast aluminum enclosure NEMA 4X
Sensor Rod: 304 SS and Teflon
Mounting: 1/2" NPT standard; flange & quick-clamp optional

BM-30 LGX Particulate Monitor

- ◇ Reliable dust collector emissions monitor and leak detector
- ◇ Designed for general maintenance planning and process protection applications for baghouses, cartridge filters, bin vents and cyclones
- ◇ Metals, chemicals, fly-ash, plastics, pharmaceuticals, food, utilities, mining, pulp/paper, and many more applications

- ◇ Comply with US and International EPA regulations
- ◇ Simple absolute output correlate to mg/m³ or gr/cf
- ◇ Performs in tough applications (kilns, smelters, carbon black)
- ◇ Prevents the escape of valuable materials
- ◇ Convenient split-architecture design
- ◇ Repeatable in all applications
- ◇ Large LED display provides both logarithmic analog bar graph and an absolute digital readout. The log scale enables observation of baseline and peaks

Power Requirements: 115/230 VAC 50/60 Hz, or 24 VDC
Output Relay: Two SPDT, 5A @ 240 VAC
4 -20 mA: Optional
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 & Certifications: Std Ordinary/Gen Purpose; optional Class I, II & III, Div I & II (Intrinsically Safe-CSA)
Housing Enclosure: Cast aluminum enclosure NEMA 4X
Mounting: 1/2" NPT standard; Optional ANSI flange & quick-clamp
Sensor Cable: 300' max length, 450°F max temp

DUST DETECT 1000 Dust Detection

- ◇ Continuous monitoring of emissions through an air filtration system
- ◇ Designed for general maintenance planning and process protection applications for baghouses, cartridge filters, bin vents and cyclones
- ◇ Metals, chemicals, fly-ash, plastics, pharmaceuticals, food, utilities, mining, pulp/paper, and many more applications

- ◇ Comply with US and International EPA regulations
- ◇ Emission readings are averaged, not smoothed, to eliminate false alarms
- ◇ Pre-warning indicator alerts you to potential hazardous situations
- ◇ Instantaneous alarm or one minute averaged readings
- ◇ Easy set-up
- ◇ Two SPDT relay outputs

Power Requirements: 115 VAC, 50/60 Hz ±15%, 5VA, 230 VAC optional
Output Relay: Two SPDT 5A relays (warning & alarm)
Ambient Temperature: -25°F to +160°F (-32°C to +71°C)
Process Temperature: to 250°F (121°C)
Pressure: 500 PSI
Housing Enclosure: Cast aluminum, USDA approved powder coat finish
Mounting: 1-1/4" NPT or 3/4" NPT 316 SS Standard; 1-1/4" NPT 316 SS & Sanitary Flange Optional
Alarm: Dual alarm (alarm is 2x pre-alarm) switch selectable for instantaneous or one minute average
Sensitivity: 1 mg/m (0.0005 gr/SCF)

Product Selection Chart

	Point Level Indicators													Continuous Level			Flow & Dust		
	PROCAP 1 & II Cap Probe	PRO Remote Cap Probe	PROCAP 1 & II FL Cap Probe	PRO HTRC 2D Cap Probe	CompactPRO Cap Probe	BMRX Rotary	GR-II Maxima Rotary	VR-21 Vibrating Rod	VR-41 Vibrating Rod	CVR-60D Vibrating Rod	SHT-12D Vibrating Rod	Diaphragm Switch	Tilt Switch	SmartBob II	SmartSonic	SmartWave	Flow Detect 1000	BM-3D T Part Monitor	BM-3D LEX Part Monitor
Material																			
Powder	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓		✓	✓	*	*	✓	✓	✓
Granular	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	*	*	✓	✓	✓
Slurry	✓	✓	✓	✓	*	*	*							✓	✓	✓			
Liquid	✓	✓	✓	✓	✓			*	*					✓	✓	✓			
Material Density																			
Low	*	*	*	*	*	✓	✓	✓	✓		✓		✓	✓	✓		✓	✓	✓
High	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Material Moisture																			
Low	*	*	*	*	*	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓
High	✓	✓	✓	✓	✓	✓	✓					✓	✓	✓	✓	✓	✓	✓	✓
Temperature																			
High		✓		✓		✓				✓				✓					✓
Pressure																			
Atmospheric	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Low	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓		✓	✓	✓	✓
Medium	✓	✓	✓	✓				✓	✓	✓	✓		✓	✓					
Vibration																			
Low	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				✓	✓
High		✓		✓		✓						✓	✓	✓					
Material Coating																			
Minimal	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓		✓	✓	✓	✓	✓	✓	✓
Heavy Build Up		✓		✓									✓	✓		✓	✓	✓	✓
Corrosive																			
Low	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
High	✓	✓	✓	✓	✓			✓	✓	✓	✓	✓			✓	✓	✓	✓	✓
Installation																			
Top Mounted	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Side Mounted	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓					✓	✓	✓
Atmosphere																			
Dust	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			✓	✓	✓
Steam								✓		✓	✓		✓	✓		✓			
Vapor	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓		✓	✓	✓	✓

✓ - Applicable * - Consult Factory

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Phone: 800-278-4241 or 402-434-9102 / Fax: 402-434-9133

www.binmaster.com / info@binmaster.com

