The Leader in Dry Bulk Level Measurement

genuine BINDICATOR®

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MASTER DISTRIBUIDOR

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ORIGINAL, GENUINE

Established in 1934, Bindicator® has built level switches to solve the toughest bulk material handling challenges. We have more history and experience with dry bulk level measurement than any other company. There are over 1,000,000 Bindicator® point level instruments at work every day around the world.

PRODUCTS THAT ARE BUILT TO LAST

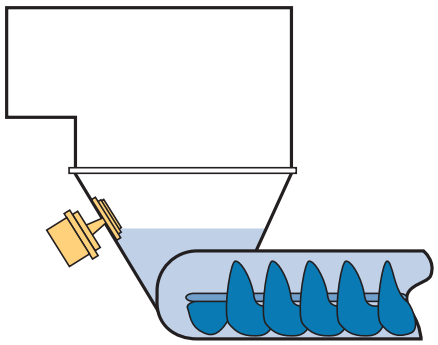
Bindicator® has always emphasized heavy-duty construction. Our designs are rugged. Bindicator® products are built to withstand rough treatment and extreme environmental conditions. Our products are built in an ISO-9001 factory and are endorsed by leading approval agencies including Underwriters Laboratories, CSA, CENELEC, ATEX, and many others.

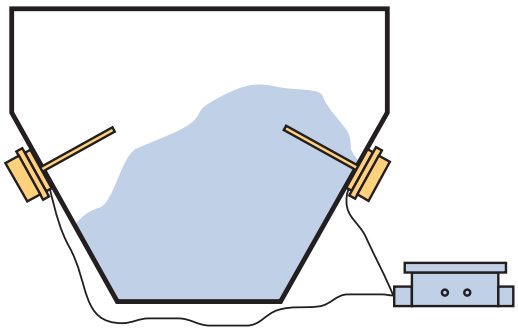
APPLICATION EXPERTISE YOU CAN RELY ON

Bindicator® has more experience with dry bulk applications than any company in the industry. We have more products and accessories designed for dry bulk level measurement. Bindicator® can solve your problem. Our application engineers have probably already solved the same problem for someone else.

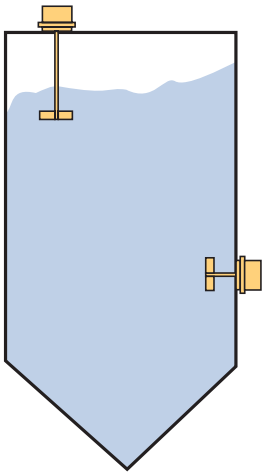
DEDICATED TO YOUR SUCCESS

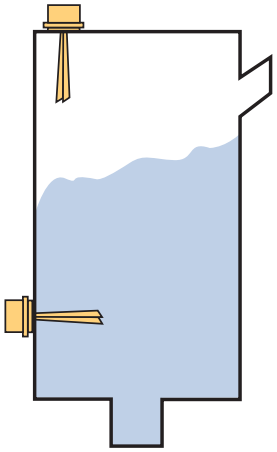
Bindicator® stands behind its products. We have been a leader in the industry for decades because we deliver value.

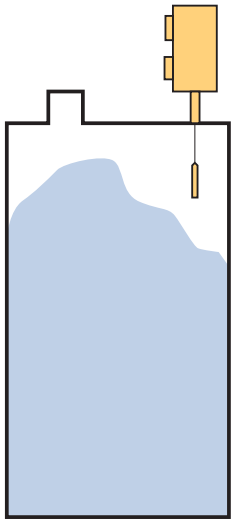




Bindicator® has a product that best fits your application







	POINT LEVEL									CONTINUOUS LEVEL				
	RF-8000	RF-9100/9200, 9000	RF-17000/18000 (remote)	RF-11000/12000 (remote), 10000	Pulse Point™ LP-100	Pulse Point™ LP-200 (remote)	Roto-Bin-Dicator®	Bin-Dicator® Diaphragm	*Liquid Level®	*Phase Tracker™	*Level Data	Yo-Yo® (Mark III, Mark-4, GP, GP II, & GP-4)	*Mach One™	*Cap-Level® II/IIA
Material														
Powder	•	•	•	•	•	•	•	•		•		•		•
Granular	•	•	•	•	•	•	•	•		•		•		•
Slurry	•	•	•	•						•	•		•	•
Liquid	•	•	•	•					•	•	•	•	•	
Material Density														
Low		•		•	•	•				•		•		
High	•	•	•	•	•	•	•	•		•		•		•
Material Moisture														
Low		•		•	•	•	•	•	n/a	•	n/a	•	n/a	•
High	•	•	•	•	•	•	•	•	n/a	•	n/a	•	n/a	•
Temperature														
High [over 200° (93° C)]			•	•		•		•		•		•		•
Pressure														
Atmospheric	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Low	•	•	•	•	•	•	•			•			•	•
Medium	•	•	•	•	•	•				•				
Vibration														
Low	•		•	•	•	•	•	•	•	•		•	•	•
High			•	•		•							•	•
Material Coating														
Minimal	•	•	•	•			•	•	•	•	•	•	•	•
Heavy Build Up	•	•	•	•								•	•	
Corrosive														
Low	•	•	•	•	•	•	•	•		•		•	•	•
High		•		•	•	•							•	•
Installation														
Vert. (top mount)	•	•	•	•	•	•	•		•	•	•	•	•	•
Horiz. (side mount)	•	•	•	•	•	•	•	•						•
Non-Contact													•	
Atmosphere														
Dust	•	•	•	•	•	•	•	•	n/a	•	n/a	•	n/a	•
Steamy					•	•						•		•
Non-Air Vapor	•	•	•	•	•	•	•	•	•	•	•	•		•

***Contact your Bindicator® Representative for more information about these and other products not listed in this brochure.**

Roto-Bin-Dicator®

The Roto-Bin-Dicator® is the most universal of all level sensing technologies and is the most popular level switch used in dry bulk materials. The Roto-Bin-Dicator® is a rotating paddle type, bulk material level sensor offered in a wide variety of paddle options for unequaled application versatility. It is easy to install and requires no special tools or calibration.

FEATURES

- **No Calibration Required**
- **High or Low Level Alarm Switch**
- **Top, Bottom, or Side Mount**
- **1 or 2 SPDT Switches**
- **Explosion Proof & Stainless Steel Enclosures Available**
- **Special Motor Design**
  Allows power to be applied all the time, producing heat and eliminating condensation

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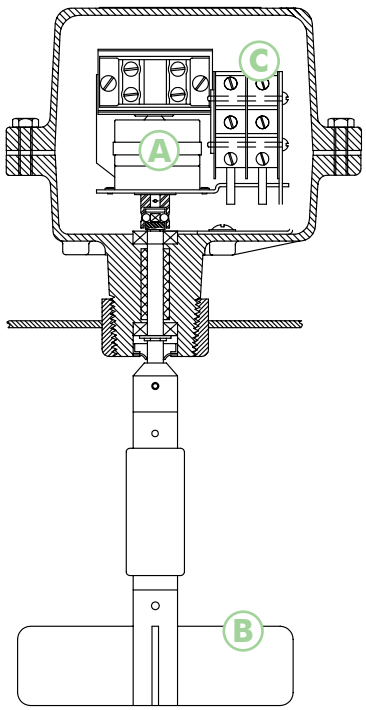
How the Roto-Bin-Dicator® Works

1 The Roto-Bin-Dicator® incorporates a low torque, slow speed synchronous motor [A]. The motor rotates a paddle [B] which is extended into the bin.



2 As the material builds up to the Roto-Bin-Dicator®, the paddle is stopped, which in turn stalls the motor. As the motor stalls, it actuates switches [C].

3 The torque of the motor, while stalled, serves to keep the switches actuated while the paddle rotation is stopped by the presence of bulk material.

4 The switches in the Roto-Bin-Dicator® serve to energize audible and visual signal systems and/or stop and start machinery such as conveyors, elevators, feeders, etc.

Typical Applications

Roto-Bin-Dicator® level switches can be used to eliminate bin overflow, empty bins, clogged conveyors, or choked elevators. Roto-Bin-Dicators® can be used on practically any bulk material such as:

- ore
- coal
- feed
- grain
- powders
- chemicals
- aggregates
- food products
- cement

Super-Safe-Plus Roto-Bin-Dicator®

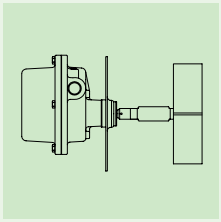
- **Fail-Safe Operation**
  Optical sensor monitors the movement of the shaft. If the shaft stops turning for any reason, the unit will alarm. Provides notification of failure due to power loss, open or shorted motor circuit, component failure, mechanical failure of the motor or clutch in either high or low level applications
- **Lights on Enclosure Cover**
  Green LED indicates power and operation status; red LED indicates alarm and failure status
- **External Function Test**
  Magnetic fob can be used to test the unit without removing the cover while it is installed and operating

Original Roto-Bin-Dicator®

- **Few Parts**
- **Low Level Fail-Safe Protection**
  If power is lost, the unit will indicate a low level condition
- **Low Torque Motor**
  Ensures reliable indication--even on light materials

Mini Roto-Bin-Dicator®

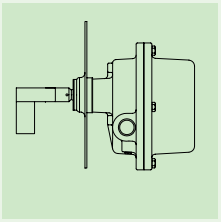
- **Compact Size**
  Fits into tight places
- **Injection Molded Construction**
- **Adjustable Sensitivity**
- **External LED**
  Red light indicates alarm condition up to 50 ft (15 m) away



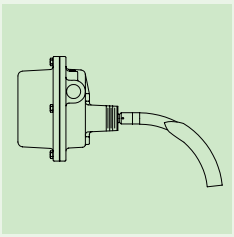
- Two sizes available
- Molded neoprene flexible shaft available

Four Vane Paddle

- For heavy, medium sized materials over 75 lbs/ft^3
- Used where surge pressures are excessive and less paddle drag is necessary



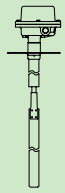
Single Vane Paddle



- Insertable thru 1¼" mounting coupling
- Curved 10" diameter

Insertable Paddle

- Especially suited for aggregates
- For heavy, large lump materials
- Neoprene or stainless steel construction
- Long multi-flex available for heavy and/or sticky materials



Multi-flex Paddle

Pipe Extensions

Bindicator manufactures custom length pipe extensions so that paddles can be vertically extended into silos when side mounting is not an option.

- **High Level Alarm**
- **Liquid/Solid Interface**
  Detect solid level within a liquid-filled tank
- **Available in Galvanized or Stainless Steel**

The UL and CSA list the Explosion Proof Roto-Bin-Dicator® for use in hazardous atmospheres Class I, Groups C and D; and Class II, Groups E, F and G.

Explosion Proof

RF Series

The Bindicator® RF (Radio Frequency) Series is a family of point level switches used to detect the presence or absence of material at a point inside a tank, bin or other vessel. The RF Series is used for high and low level detection in thousands of applications from bulk solids to slurries and liquids. Bindicator®'s unique calibration technology overcomes problems associated with other capacitance probes.

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FEATURES

- **EZ-CAL® Calibration**
  Calibrate to air without removing the cover
- **Test-In-Place™**
  Test by pushing a button, turning a key, or using a magnetic fob without removing the cover
- **Calibration and Alarm Lights**
  Green LED indicates calibration status; red LED indicates alarm status
- **Calibration Indication Output Relay**
  Green LED blinks and special relay switches to notify operator that calibration is necessary
- **Field Selectable Fail-Safe Operation**
- **Pro-Guard™**
  Patented probe design ignores material build-up on probe
- **DPDT Output Relay**

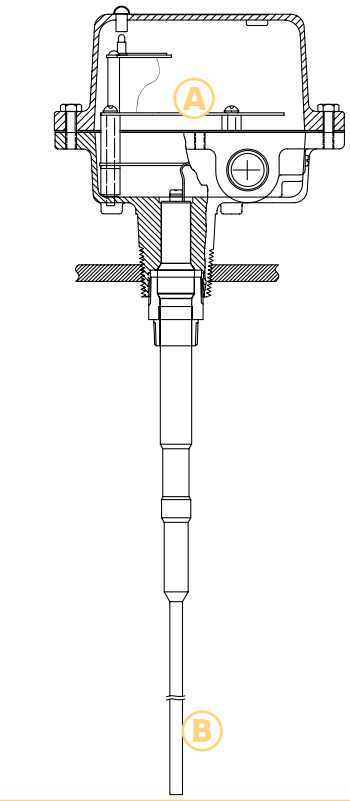
How the RF Series Works

1 The RF Series works on the radio frequency/capacitance principle. The sensing electronics have been designed to detect the difference between the electrical characteristics of air (no material) and the material being detected.

2 The detection circuitry [A] compares this signal with a fixed reference RF signal. The phase difference between these two radio frequency signals causes the output relay to alarm.

3 The electronics sense a change in the electrical characteristics when material covers the probe [B]. The radio frequency signal driving the active sensing section of the probe will change when material is present.

4 EZ-CAL® calibration allows calibrating the unit to air, without removing the cover or moving the material in and out of the vessel.



Typical Applications

The RF Series is well suited for severe applications including high temperatures, high pressures, and corrosives. Specific applications include, but are not limited to:

- coal
- flour
- asphalt
- food products
- pharmaceuticals
- calcium carbonate

Bindicator®'s Premier RF Model

- Calibration and test accomplished with magnetic fob
- Test-In-Place™ and EZ-CAL® calibration without removing the cover
- Standard function test electronics
- Calibration and Alarm LEDs on cover

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RF-9200 integral

RF-12000 remote

- Remote version of RF-9200
- For high temperature applications up to 1000° F
- For high vibration applications
- EZ-CAL® calibration with magnetic fob

Why Remote?

All Bindicator® integral RF units have remote versions. Remote models separate the electronics from the RF probe, where conditions could be harmful.

- **Allows mounting of electronics at ground level for easy access**
- **Remote electronics protect circuitry from excessive vibration and excessive heat**

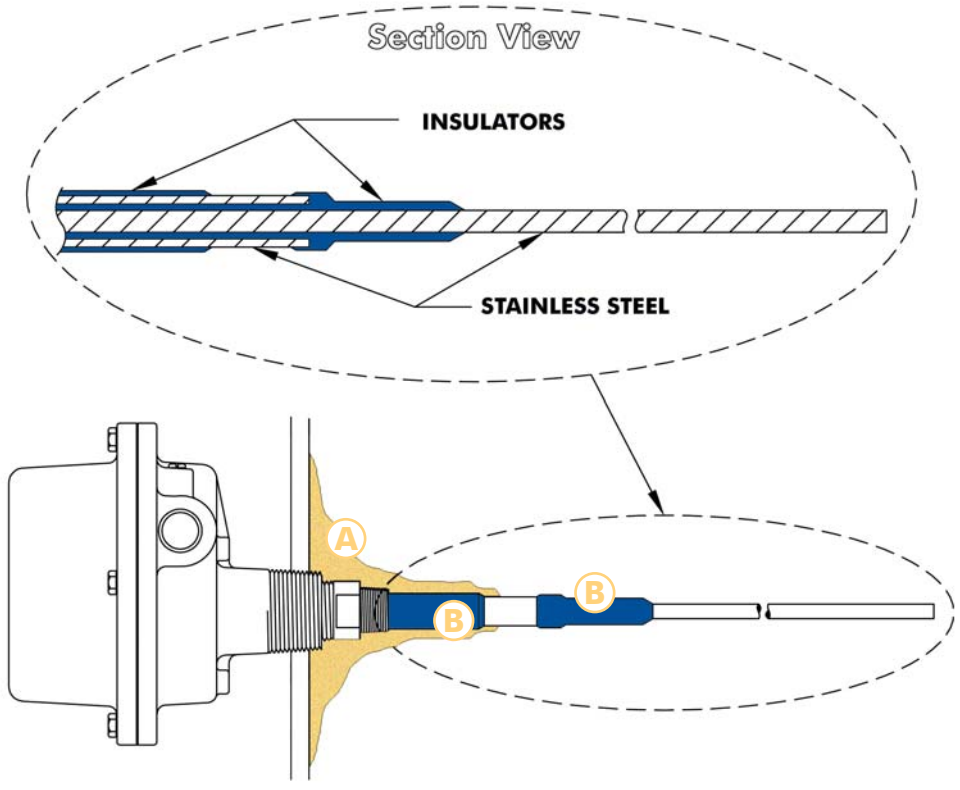
Bindicator manufactures 14 models of RF sensors, each available with many options and accessories. When combined with our large selection of probes, we have an RF sensor for virtually every application. Please consult one of our representatives or call the factory for application assistance.

Many Models Available

Pro-Guard®

Pro-Guard® is a patented probe and circuit design that cancels out the effects of material coating (A) on the probe, preventing false indications.

Two Ryton®, polysulfone, or ceramic insulators (B) keep the probe signal from shorting to ground through the coating. In addition, an electrically active metal band generates a field of electricity that keeps the probe signal from shorting to ground. The combined effects of the insulators and the active guard make the RF Series with Pro-Guard® the most reliable sensor for almost any application.



RF Probes

- **Standard**
  Solids, powders and liquids in tanks and bins
- **Stub**
  Small hoppers and vessels
- **Flush/Dome Flush**
  Plugged chute detection; where bridged material may shear or bend other probes when material shifts; coal applications or where slightly conductive coatings may occur
- **Cable**
  Designed for high, mid, or low level indication when top mounting is necessary
- **Ceramic**
  For extreme temperatures up to 1000° F (538° C). Provides protection because electronics are mounted remotely from probe.

Stub

Flush/Dome Flush

Cable

Ceramic

Other RF Probes

- **Kynar® Coated Standard**
  Corrosive chemicals, powders, liquids or solids, petroleum and organic products
- **Kynar® Coated Heavy Duty**
  Corrosive chemicals, powders, liquids or solids where supplementary tip extensions are required
- **Food Grade**
  Food and pharmaceutical ingredients in storage tanks, production machines and hoppers
- **Armored Food Grade**
  Where material flow is abrasive to insulated portion of probe
- **Heavy Duty**
  Where supplementary tip extensions are required
- **Teflon® Jacketed**
  Corrosive/harsh chemicals and materials which would attack or adhere to the probe
- **Jumbo**
  Corn or grain and other like materials with mid to high moisture and material densities greater than 30 lbs/ft^3
- **Fly Ash**
  Designed specifically for fly ash applications and other hard-to-sense materials up to 450° F (232° C)

Probe Options

Pipe Extensions
This type of probe mounting is used in deep tanks. It may also be used to project probe through thick tank walls or insulation.

Lagged
Remote electronic unit is combined with pipe extension (lagging) for use in double-wall hoppers and bins. Protects electronics from high-temperature environment. Lagging may be sized to fit wall thickness of hopper or bin.

Rigid or Flexible Tip Extension
The rigid extension is used where it is desirable to increase the probe's length. The flexible extensions are used in aggregate, coal or other lump materials that might damage a fixed tip.

Modified Probes
All probes can be bent or cut when used inside hoppers, tanks and vessels where space is limited. Other modified probes are welded tip extensions and Kynar® coated, welded tip extensions to a maximum of 5 feet (1.5m).

Pulse Point™

The Pulse Point™ is an electronic vibratory level control especially effective in lightweight powders and granular solids. Because the Pulse Point™ senses material using a mechanical principle, the dielectric constant of the material is irrelevant.

FEATURES

- **No Calibration Required**
- **1¼" or 1½" NPT Top or Side Mount**
- **Dual-Tine, Self-Cleaning Action**
  Won't "rat hole" like single-tine vibratory units
- **Field Selectable Fail-Safe Operation**
- **Adjustable Time Delay**
- **Ability to Sense Lightweight Materials**
  Down to 2 lbs/ft³
- **Lexan Light Guide**
  Does not crack, leak and is impervious to sunlight
- **Captive Screws**

LP-100

- External function test using fob
- External LED operation and alarm lights
- DPDT output relay

LP-30

- Low cost vibratory switch
- Dual conduit housing
- SPDT output relay

LP-200

- Remote version of LP-100
- High temperature applications up to 248° F (120° C)

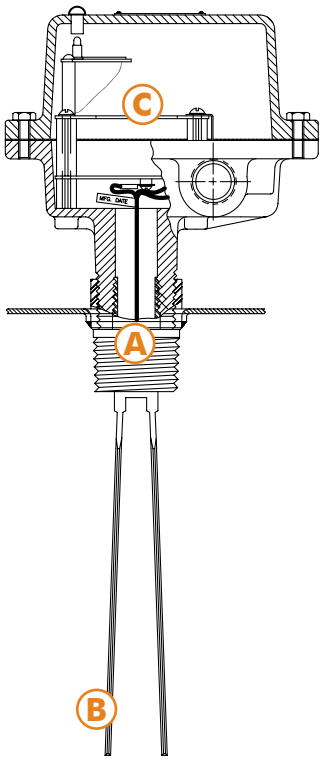
How the Pulse Point™ Works

1 The Pulse Point™ uses a vibrating "tuning fork" to sense the presence of material.

2 Piezoelectric crystals [A] in the base of the fork create and sense movement of the tines [B]. The electronics [C] and transmit crystal drive the oscillation, and when in air the tines vibrate at about 100 Hz.

3 When material contacts the fork tip, the oscillation diminishes because the fork is now dampened by material contact.

4 The receive crystal senses this difference and changes the state of the output relay.



Typical Applications

The Pulse Point products are designed for use in dry materials that are heavily aerated such as:

- plastics
- sawdust
- insulation
- reground plastic film
- carbon black
- light fibers
- tobacco
- paper shavings
- dry cereals
- cement

Yo-Yo®

The Bindicator® Yo-Yo® is a reliable continuous weight and cable level measurement system designed especially for dry bulk materials.

GP-4 and Mark -4

- **Silos up to 100 ft (30.5 m)**
- **1cm (0.39”) Resolution**
- **Reversible 4-20mA Output with Adjustable Span**
- **RS-485 (MODBUS) Communication**
- **Optional Integral Modem for Remote Communication**
- **Remote Display Programmer with Keypad**

GP-4

- NEMA 4
- Enclosure is Minlon frame w/low density polyethethylene cover
- Surface mount components

Mark-4

- NEMA 4/7/9
- Rugged cast aluminum housing
- Surface mount components

Web-based i-level Inventory Management Software Available

- Multiple systems supported; can be connected to a server via direct serial connections and modem connections
- Multiple users can access a server simultaneously using standard browsers

Remote Display

- 4-line x 20 character backlit LCD display
- Monitors and requests readings of up to 99 silos
- Enables/disables sensors
- Programs parameters

Also Still Available: GP, GP II and Mark III

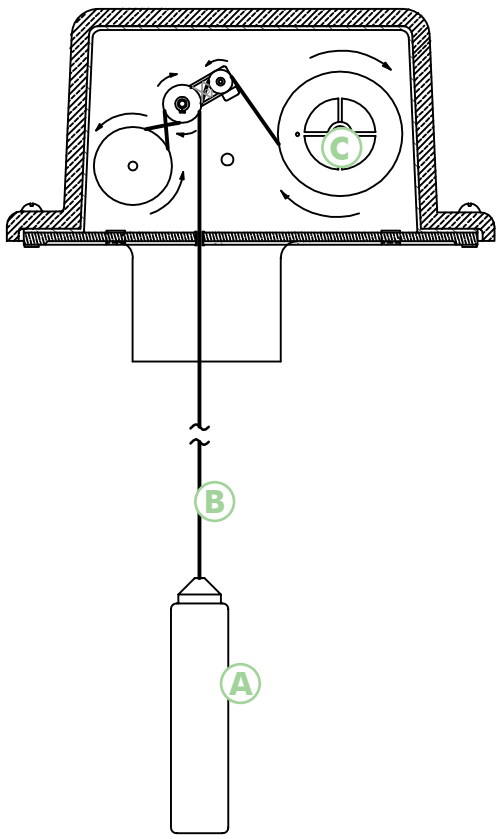
How the Yo-Yo® Works

1 The Bindicator® Yo-Yo® is an electromechanical device consisting of a sensor mounted on the top of a vessel.

2 The sensor contains a weight [A] suspended by a cable [B] with motion provided by a motor drive [C] and associated electronics.

3 The measurement cycle is initiated either on demand or on a timed interval and causes the sensor to lower the weight to the material level. As the weight is being lowered, the length of cable dispensed is measured in 1cm (0.39") increments.

4 When the weight reaches the material level, the unit reverses and the weight is drawn into the stored position in the sensor. The distance measurement can then be transmitted via 4-20mA, voltage pulses, or RS-485 MODBUS.



Typical Applications

- vessels and silos at atmospheric pressure
- aggregates
- plastic resin
- powders
- granules
- pellets
- liquids and liquid/solid interfaces

Bin-Dicator®

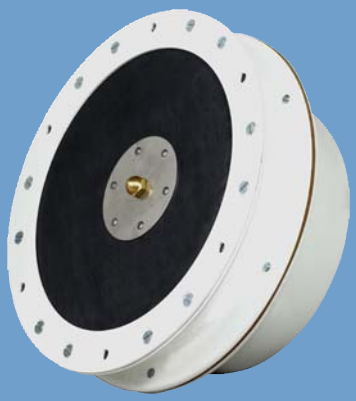
The original electromechanical point level switch, Bin-Dicator® diaphragm-type level controls were the first to enjoy general usage in the industry. Bin-Dicator® controls eliminate bin overflow, empty bins, clogged conveyors, choked elevators and resultant damage and waste.

How the Bin-Dicator® Works

The Bin-Dicator® control is a pressure actuated switch for use with free flowing bulk materials at atmospheric pressures. Actuation of the switch is the result of pressure exerted by the bulk material against the diaphragm assembly. De-actuation or switch release is a result of the bulk material clearing away from the diaphragm.

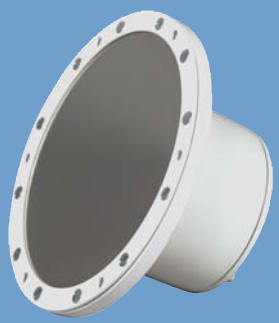
Model "A"

- 10 ¼" Diameter
- Explosion Proof Model Available
- 7 Diaphragm Material Options



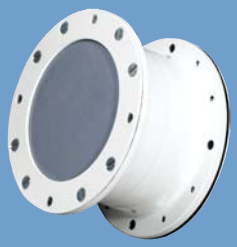
Auto-Bin-Dicator®

- 8" Diameter
- Cast Aluminum Housing
- Stainless Steel or Neoprene Diaphragm Material



Bantam

- 5 ¾" Diameter
- 2 Diaphragm Material Options



Bin-Flo®

The Bin-Flo aerator is a simple and efficient means of introducing low pressure air into any dry finely ground material. The air is equally distributed in controlled quantities to give the material an ability to flow by gravity from bin, hoppers or chutes. Bin-Flo aerators incorporate non-clogging diffusers, integral orifice and construction features which assure long, maintenance-free life.

- **2 Sizes Available**
- **2 Diffuser Materials**
  - Stainless Steel Body and Mesh
  - Zinc Plated Body with Galvanized Mesh
- **Internal or External Mount**

Bindicator®'s Flo-Guard is a stable and reliable Broken Bag Detector and a Flow/No-Flow Switch for dry, powdered, and granular materials. The Flo-Guard® uses a floating alarm point reference and a digital triboelectric microcontroller to eliminate instability common in other flow switches.

- **Fast, Easy Set-up**
  No lengthy calibration procedure
- **Fob Function Test**
  Tests operation without cover removal
- **External Alarm and Power LEDs**
  Verify operation quickly
- **Field Selectable Fail-Safe Operation**
  Alarms on presence or absence of material flow
- **Remote Version Available**
  For ground level access, high vibration areas, or high temperature applications

Flo-Guard®