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A New Take on Tilt

Mercury-Free Tilt Switch

Offers Affordable High Level Detection

Scene 1

Take 1

This innovative, patent-pending tilt switch is a new take on high level detection for powders and bulk solids. The BM-TSM tilt switch features a non-powered, pendulum-type design that is mounted in a fixed location through a 1-1/4" NPT process connection on the top of the bin. An electrical microswitch activates a high level alert when the material rises and tilts the shaft by 15 degrees. The output can be sent as a direct input to a control system, or activate an external alarm.



Custom-Built in the USA

Designed by BinMaster engineers, each tilt switch is manufactured in BinMaster's Lincoln, Nebraska factory. The shaft is custom made in lengths from one foot up to eight feet in length. You specify the length of the shaft based upon how far down into the bin you want the alert to be activated. The BM-TSM is available with either a paddle or sphere mounted at the end of the shaft and can be used in powders or solids with a bulk density of at least 15 pounds per cubic foot.

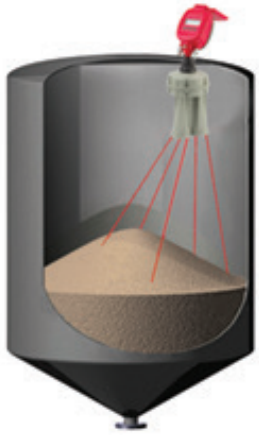
Top Mounting	High level detection
Mercury-Free	Safe and compliant
Non-Electrical	Pendulum-type design
Alarm Activation	When tilted 15 degrees
Custom Lengths	1 foot up to 8 feet
Sensor Selection	Paddle or sphere
Dual Conduit Entries	Simplifies wiring
Easy Installation	1-1/4" NPT process connection
Mounting Options	0°, 10° and 30°
Output	Control system or external alarm

COMING SOON

PG-13

A unique, non-powered design features a patent-pending actuator element assembly that works by moving vertically and angularly to activate an electrical microswitch to send a direct input to a control system, or activate an external alarm.





AUTOMATE FOR BETTER SILO ACCURACY

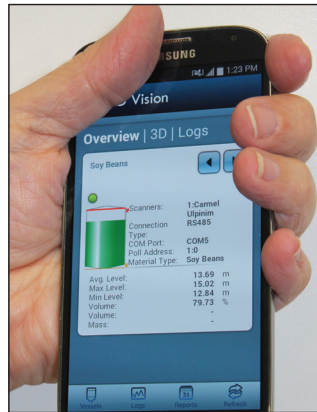
You can eliminate the dangerous and time consuming task of climbing to manually measure silos with an automated level measurement system. The 3DLevelScanner measures and maps silo contents across uneven material surfaces, instead of a single measurement point, to provide a very high level of inventory accuracy.

Q. OUR SILOS ARE REALLY DUSTY AND WE HAVE TROUBLE GETTING RELIABLE READINGS. HOW CAN A SCANNER SYSTEM GIVE ME MORE INVENTORY ACCURACY?

A. Scanners work using acoustic technology at very low frequencies, so they're accurate even when there's excessive dust. Plus, scanners measure in a wide beam angle and take multiple measurements, unlike most sensors that only measure a single point. They can take into account surface irregularities when calculating the volume of material in the silo. Plus, conditions such as cone up or down or sidewall buildup can be detected.

Q. OUR SILOS VARY A LOT IN SIZE AND WHAT'S IN THEM CAN BE ANYTHING FROM GRANULES, TO PELLETS, AND POWDERS. WILL A SCANNER WORK IN ALL OF THEM?

A. Scanners work in all types of solid materials, but there are different models to address variations in silo size. Other factors such as the desired volume accuracy and your budget also come into play. For very reliable level data and outstanding performance in high dust, the RL is the least expensive model. The S is ideal for narrow silos up to 16' in diameter, such as ingredient silos. For larger silos, the M provides very accurate volume and level data for silos up to 45'. The MV works just like the M, but adds graphical visualization of topography for detecting irregular surfaces. An MVL system includes multiple scanners to cover the material surface in silos over 45' in diameter. The more scanners, the more surface measured and the more accurate the volume!



BE ALERT

You can set critical high or low level alerts for each of your silos. It's easy to get alarms sent to your PC or SmartPhone to be sure you don't overfill or run out.

Model RL	Model S	Model M	Model MV	Model MVL
Measures in a narrow beam directly below the scanner	Measures multiple points in a 30 degree beam angle	Measures multiple points in a wider 70 degree beam angle	Measures in a 70 degree beam angle and also creates a visualization of material	Multiple scanners measure and map the material surface in very large silos
Very reliable level data in any size bin	Average level based upon multiple points and a volume estimation	Minimum, maximum and average levels and very accurate volume	All of the capabilities of Model M with mapping and visualization graphics tools	Software combines measurements from multiple scanners for highly accurate volume and 3D visual



MAINTENANCE FREE

Not only do they penetrate dust, but scanners are also resistant to buildup in the sensor horns.

This means that they don't require an air purge to keep them clean. This assures they work accurately and reliably, with only an annual cleaning.

Bin Levels to Your PLC

The SmartBob AO was designed for facilities that prefer using a 4-20 mA analog output for monitoring bin level data. A simple “on board” push-button user interface



lets you configure a simple, 7-step setup that will send your data directly to a PLC. The SmartBob AO eliminates the need for a separate control console or

software to continuously monitor bin levels. It can be used for measuring all types of solids and even submersed solids!



Get to the Point (Level)!

Sometimes you need continuous level measurement and sometimes you just need to know when material in the silo reaches a certain point. Point level indicators are reliable, accurate and very affordable. Whether you need high, low or mid-level detection, there are a variety of devices that can easily meet your needs.



Go with the Flow

If you're looking for affordable, reliable and easy-to-use flow or no flow notification, the new BinMaster FD-2000 flow detector might just be the solution you're looking for. This microwave-based sensor detects flow or no flow conditions in solids and powders at transition points in a variety of applications such as:

- Gravity chutes
- Pipelines
- Ducts
- Feeders
- Bucket elevators
- Gravity spouts
- Gravity feeders
- Distributors
- Mechanical conveyors
- Pneumatic conveyors

Get in the know about

LEVEL & FLOW

Sensor Type	How It Works	Use in	What's Special
Rotary	Paddle stops turning when material reaches it and activates an alert	Dry bulk solids of all types with bulk density of at least 2 lb./cu.ft.	Top and side-mounted models. Extensive selection of paddles, extensions and mounting plates for customization. Fail-safe MAXIMA+ alerts to status of power and motor.
Vibrating Rod	Vibration stops when material reaches its level to alert to silo status	Dry solid materials with bulk density as low as 1.25 lb./cu. ft.	Unique sword-shaped probe resists buildup and prevents false alarms. Rigid and flexible extensions for top mounting. Self-cleaning with no moving parts
Capacitance Probe	Senses presence or absence of material caused by a change in dielectric constant of material versus the air	Wide variety of solid, liquid and slurry materials	Wide variety of probe materials and lengths for custom applications. Simple “quick-set” calibration. PRO-Shield compensates for buildup.
Diaphragm Switch	Pressure from material activates a micro switch when material reaches it	Free flowing granular or pelleted materials	Extremely affordable and long lasting. Variety of diaphragm materials. Internal and external mounting options.
Tilt Switch	Rising material tilts switch to 15° to activate alert	Solids with bulk density of 15 lb./cu. ft. or greater	Use in a silo, pile, pit, conveyor, or chute where conventional level devices cannot be mounted. Very economical and easy to install. Rugged construction and simple design.

Not sure which one is right for you? Call us at 800-278-4241 for a hassle-free, friendly consultation.

SmartBob HM for Horizontal Mounting

Sometimes mounting a SmartBob on top of the bin just won't work. Maybe there's not enough space. Or perhaps, there's no access to the roof. For those instances, BinMaster engineers came up with a new idea. The SmartBob HM is an innovative (yet strange looking) version of BinMaster's proven SmartBob weight-and-cable based level sensor. And, this one can be mounted on the side of the bin, tank or silo.



Do the Horizontal BOB

The SmartBob HM - for horizontal mount - can be used when it is not possible to install the sensor on the top of the bin. The SmartBob HM has a rigid extension that is custom-made from 12" to 36" long to install on the side of the bin through a 4" opening. Precise level measurements are taken at pre-determined time intervals at a location directly below the probe to continuously monitor the inventory of material inside of the bin.

*Say **GOODBYE** to Tape Measures!*

The SmartBob HM continuous level sensor works like an automated tape measure, but eliminates the need to climb bins for manual measurements to reduce the risk of accidents in the workplace. Like all models of SmartBob sensors, it helps save time, money, and keeps employees safe since there's no climbing involved. Instead, it sends level measurement data where it's convenient to access from a control console or eBob software installed on a PC.

It is listed for Class II, Groups E, F & G and enclosure types NEMA 4X, 5 and 12, ensuring the sensor is safe to use in locations where combustible dust may be present. It can be used in a mixed network of SmartBobs that are installed on the top of the bin or are monitoring other materials for a complete inventory management solution.



- Mounts of the side of the bin when top mounting isn't possible
- Rigid extension custom-made in lengths from 12" to 36"
- Installs through a 4" opening
- Automatically takes measurements at scheduled time intervals
- Data is sent to a control console or to eBob software on a PC
- For powders and bulk solids stored in bins, tanks or silos
- Listed for Class II, Groups E, F & G for hazardous locations



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