

# The Insider

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...because it's what's inside that counts

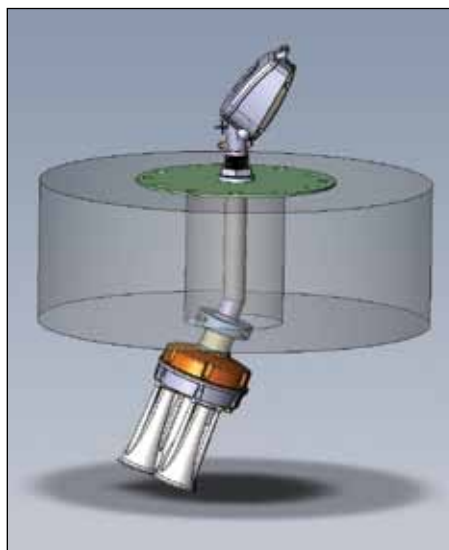
## 3DLevelScanner

With almost 1,000 3DLevelScanner installations in the United States and Canada, BinMaster is always creating new ways to address issues that arise as each bin has its unique challenges. Upgrades in hardware, software and firmware are part of the continuous improvement process as BinMaster remains the sales leader and technical specialist in North America for this highly accurate, non-contact volume measuring device.

### A New Angle on Mounting

Mounting the 3DLevelScanner in an optimal location on the top of the bin is essential to getting the best accuracy results from the sensor. However, sometimes installation in the desired location just isn't possible. To help the sensor "see" the contents of the bin and map the entire material surface, BinMaster now offers an angled neck extension that allows the transducers to be pointed in a more desirable direction that results in improved coverage of the material surface.

The angled neck extension can be used in instances where existing holes are too close to the vessel wall for the scanner to optimally scan the material surface. It can support angles of either 10° or 20° and should be used only when mounting of the scanner in the most desirable location is not possible.



*The angled neck extension allows for optimal scanning of the material surface.*

### Long Necks

The 3DLevelScanner optional neck extensions are used when it's necessary to lower the transducer assembly below obstructions such as beams or rafters that may interfere with the performance of the scanner or when the scanner is mounted on a thick roof or on a raised socket. BinMaster custom manufactures the extension kits in 2', 4', 6' and 10' lengths to allow the 3DLevelScanner to be effectively installed without any degradation in performance or the need for special structural alterations or adapters.



### Out-of-Body Experience

The head body separation kit allows the transducers to be installed inside the bin while allowing the head to be located in an easy-to-reach location outside of the bin. This optional kit is available in three lengths – 3 feet (1 meter), 8 feet (2.5 meters) and 33 feet (10 meters). This kit can be used with any model of the 3DLevelScanner.

### Major Dust? Minor Problem!

BinMaster Level Controls has introduced a 3DLevelScanner with a Teflon-coated transducer for use in harsh, challenging environments. The Teflon coating resists buildup of material on the device, ensuring the scanner performs optimally in challenging materials such as powders or solids that become sticky

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**The Teflon-coated transducer resists buildup and requires minimal maintenance.**

when the bin is filling or active. This special finish also extends the maintenance cycle by significantly reducing the need to clean the device after prolonged periods of use.

For example, a soybean meal processing facility found that the transducers were becoming blocked and needed to be cleaned every week. After install-

ing the Teflon-coated transducers, the antenna has not been blocked and the slick, self-cleaning surface requires minimal maintenance.

Some common applications for the Teflon-coated transducer include soybean meal, flour, sugar, alumina powder, fly ash and other similar materials that are prone to cling to surfaces. It is especially appropriate for food processors in industries such as baking, pasta, and sugar where non-contact technology is a requirement for food safety. Grain millers producing meals and flours will find measuring ground soybeans, wheat, rice or corn less troublesome when using the 3DLevelScanner. Mining, metals, cement and coal mining or coal-fired power plants that produce or process materials prone to dusty buildup may also find the Teflon transducer helpful to their operations.

“The 3DLevelScanner is proven to work reliably in high levels of dust, unlike most other non-contact level sensors,” stated Mike Mottage, 3D product manager for BinMaster’s 3DLevelScanner. “Since the scanner is most often applied

in the most challenging powders and bulk solids, minimizing the need for maintenance is a real time-saver for customers. Our first test site for the Teflon-coated scanner in a very sticky powder significantly increased the maintenance cycle, saving the customer valuable time and reducing the need to climb the very tall silo.”

## Multiple-Point Accuracy

The 3DLevelScanner provides highly accurate level and volume measurement in challenging materials contained in bins, tanks, silos and domes. The sensor sends pulses in a 70° beam angle, taking multiple measurements from the material surface and continually mapping the material surface to detect changes in level and account for uneven surface topography. The 3DLevelManager software reports the lowest and highest points detected and the average level based upon a weighted average of all of the measurements detected in the bin. For the MV and the MVL models, a colorful graphical representation indicates where high and low spots exist in the silo.

## BinView Goes Mobile!

BinMaster’s BinView Web-based monitoring solution is now available for your mobile device. You can now browse to your BinView data using your Smartphone. Getting to your bin data is now even easier – anytime and anywhere! The new mobile interface provides access to current readings and the ability to initiate readings.

BinView is a remote wireless inventory management system for monitoring bulk solids or liquids in bins, tanks and silos. SmartBob2, SmartBob-TS1, SmartSonic ultrasonic or SmartWave radar sensors are mounted on the bins and using a gateway are connected to a wireless or wired data communications network provided by a cell phone provider. BinView data can be

viewed using a personal computer ... or now, your Smartphone!

The mobile interface is targeted to work on the iOS 3 and newer, Android 3 and newer, Windows Phone 8 and Windows 8



RT and Pro tablets platforms. The look and user experience have been specifically tested on these devices. However, the mobile interface is designed to work on any device with an HTML5 capable browser.

This solution provides real-time control as data streams instantaneously from BinMaster sensors providing accurate, reliable bin level information. BinView offers 24/7 monitoring and is live 24 hours a day, seven days a week, streaming the most current inventory data or historical data to authorized users. Automated alerts immediately send email and cell phone alerts when bin conditions meet user-defined thresholds.

# Extended Flexible Rotary for Top Mounting

BinMaster's standard BMRX and fail-safe MAXIMA+ rotary level indicators are now available with a flexible shaft extension. This extension can be used when the rotary is mounted on the top of the vessel and used for high level detection. This type of rotary extension may be desirable in conditions where a rigid extension may be damaged or bent by heavy material.

The single, flexible 8 mm cable attached to the power pac shaft must be a minimum of four inches and a maximum of 14 feet long. An 8" counterweight at the end of the cable includes a coupler for attaching the paddle.

To configure the rotary, the length of the counterweight,

coupler and paddle must be added to the length of the cable. A flexible, extended rotary is very easy to install using any standard 1-1/4" coupler and is easier to

install than a rigid extension that has a risk of bending.

Both the BMRX and MAXIMA+ rotary level indicators feature rugged construction and a simple, dependable design, including a triple thread screw-off cover for easy access to internal components and dual conduit entrances to simplify wiring. Standard features include a switch selectable, high/low fail-safe to alert to power loss and a de-energizing motor for extended operational life.

BinMaster's advanced MAXIMA+ rotary level indicator features a complete fail-safe system that alerts to the loss of power, failure of the motor, or failure of the electronics. A red LED indicator light on the top of the unit indicates its status, providing for quick visual monitoring of the unit. In applications where the status and performance of the rotary is critical, the MAXIMA+ provides peace of mind.



# Vibrating Rod for Sanitary Applications

BinMaster now offers a vibrating rod that is designed for use in sanitary applications such as food or pharmaceutical processing.

It can be utilized for high, mid and low level detection in bins, silos, tanks, hoppers, chutes and other vessels used for the storage or manufacture of food ingredients or other materials that require sanitary conditions.

The VR-31 point level switch utilizes BinMaster's unique piezoelectric driven vibration technology and has a standard insertion length of 11.81" inches. There is a two-inch stainless steel sanitary fitting for use with the tri-clover style clamp that removes easily for cleaning and sanitation. If a longer length is needed, a rigid extension can be added in custom lengths up to 72". Remote electronics that can be distanced up to 20 feet away are also available if excessive vibration or heat is present at the tank.

It features a single-rod probe design with a sword-shaped blade to prevent bridging of material, making it superior to typical "tuning fork" designs by allowing material to easily flow by. This ensures there is no buildup on the blade which could cause a false signal. The VR-31 sanitary vi-

brating rod is suitable for both top and side mount applications and is ideal for a wide variety of dry and bulk powder materials including extremely light, fluffy materials.



# **BINMASTER** 3DLevelScanner

## Accurate, Non-Contact Volume Measurement

- True volume measurement of bin contents
- Works reliably in high levels of dust
- Accurate, multiple-point measurement
- Measures and maps bin topography
- Eliminates climbing for employee safety



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## **BINMASTER LEVEL CONTROLS**

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# **BINMASTER** Level Measurement for Silos and Bins



## Automated Inventory Management Systems

## Bin Level Indicators

SmartBob



Guided  
Wave  
Radar



3DLevel-  
Scanner



Rotary



Pressure Switch



Vibrating Rod



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