BINMASTER

Taking Control ...To A

HIGHER LEVEL

"BinMaster puts the needs of our customer at the center of all we do."

BINMASTER

Taking Control...To A Higher Level

SmartBob II Replaces Ultrasonic Sensors At Rose Acres Farms

Rose Acres Farms struggled with getting accurate and reliable measurements from a ultrasonic system on twelve of their bulk storage silos at their feedmill in Knob Noster, Missouri. The feed mill produces feed for their egg farm operation. Ultrasonic sensors generate an acoustic pulse from a transducer mounted at the top of each vessel. The material level is determined by "time of flight" of the acoustic pulse as it travels to the material, reflects off it's surface, and then travels back to the sensor. In harsh environments, usually present in powder and bulk solids applications, non-contact measuring technologies can be unpredictable. Following are a few of the factors that affected the performance of ultrasonic sensors at the Knob Noster facility:

- Difficulty reading through dust
- Noise
- Uneven material surfaces that obscured signal reflection
- Buildup on the sensor face
- Temperature variations

Rose Acre Farms installed SmartBob II remotes in September of 2004 to replace their ultrasonic sensors. "The units have performed flawlessly and we couldn't be happier," said Don Zahringer,
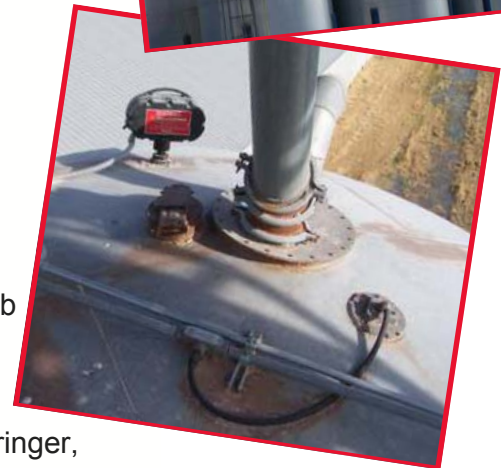
- **Point Level Sensors**
- **Inventory Measurement**
- **Flow Detection**
- **Dust Detection**
- **Aeration & Vibration**

DUST

TEMPERATURE
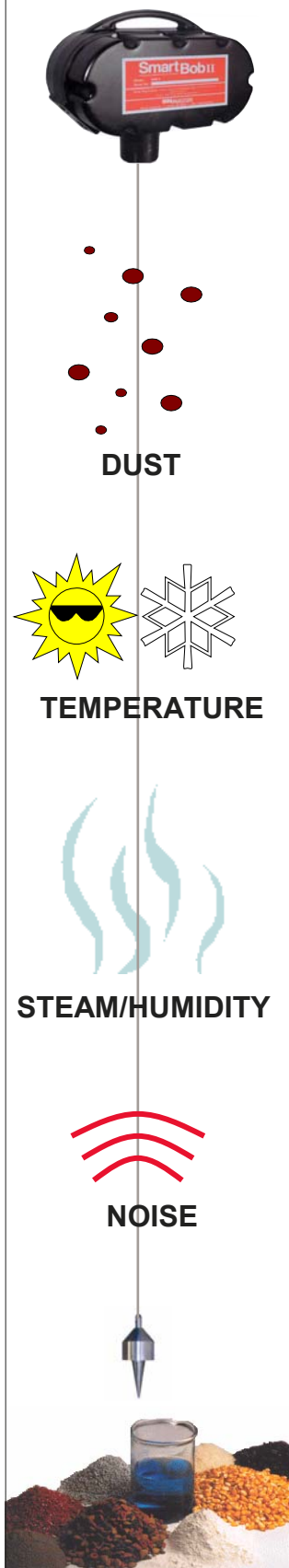
STEAM/HUMIDITY

NOISE

Rose Acre Farms Continued...

feedmill manager at Rose Acre Farms.

The SmartBob II is a new generation cable based inventory system designed around the proven principle of lowering a tape measure to the material surface. It is unaffected by dust, angle of repose, temperature, or other adverse conditions found in bulk solid applications. And, installation and mounting are simple and require no aiming or calibration. SmartBob II is an easy-to-implement solution for maximizing your inventory control.

SmartBob II Remotes measuring finished feed bins at Rose Acre Farms in Knob Noster, Missouri

New SmartBob II MUCM Allows For Easy Serial Interface to PLC, HMI or DCS Systems

The SmartBob II Momentum Universal Communication Module (MUCM) allows a Modbus serial master to gather data from up to 32 BinMaster SmartBob II remotes. The data from each SmartBob II remote is presented as a Modbus Holding Register (4x). Each bob is assigned a unique Modbus slave address. A special Modbus slave address of 247 is provided to initiate a measurement and to give a summary of all the measurements from the SmartBob remotes in the network. The MUCM may be configured as a Modbus RTU or a Modbus ASCII slave. Optional communication adapter "Tophats" are available in a variety of protocols.

The system shown in Diagram 1.1 shows a Modbus Master (HMI,DCS,or PLC), a SmartBob II MUCM, and eight SmartBob II remotes located on vessels. The Modbus RTU Master has an RS-232 port that connects to the MUCM. The SmartBob remotes are connected to the MUCM via a multi-drop RS-485 network. They are set for slave addresses 1 through 8 and are mapped to Modbus slave addresses 1 through 8 respectively.
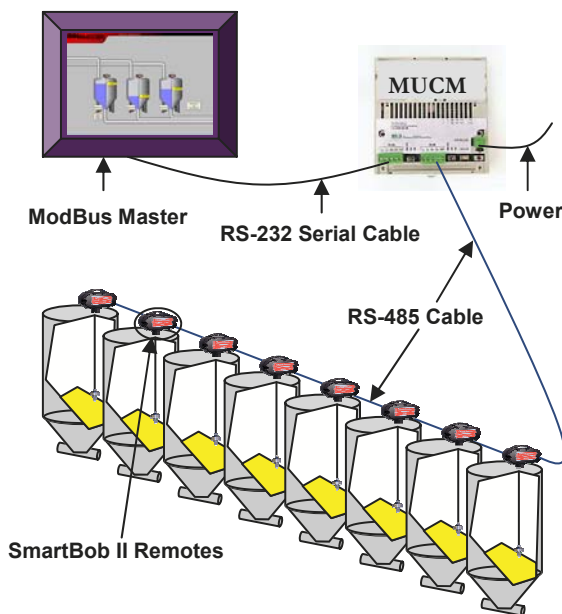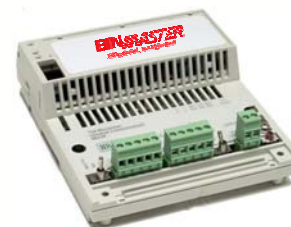
MUCM

ModBus Master

RS-232 Serial Cable

Power

RS-485 Cable

SmartBob II Remotes

Diagram 1.1

MUCM allows Modbus serial masters to gather data from SmartBob II remotes.

New BinMaster Point Level Alarm Panel

The BinMaster light annunciator alarm panel is designed to monitor the level of multiple bins or tanks from one convenient location. Through a number of strategically placed level indicators, the operator can tell when a bin is full, partially full, or empty. The highly dependable alarm panel indicates a level point by means of an eye catching signal light and audible alarm. The modules on the alarm panel also can be interconnected to signal an external common alarm (horn). The BinMaster Point Level Alarm Panel has models available to monitor 4, 8, 12, 16, 20, and 24 points.
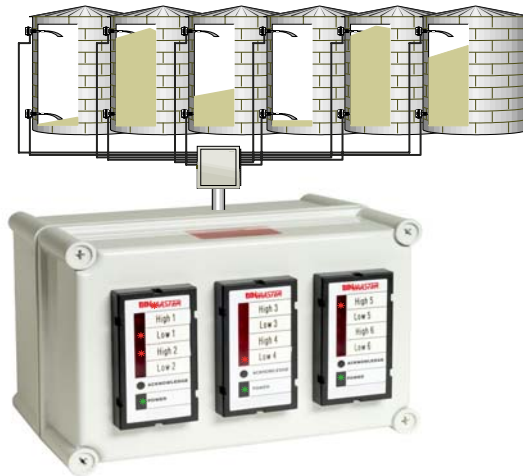
BinMaster 12 Point Level Alarm Panel, models available to monitor 4, 8, 16, 20, and 24 points
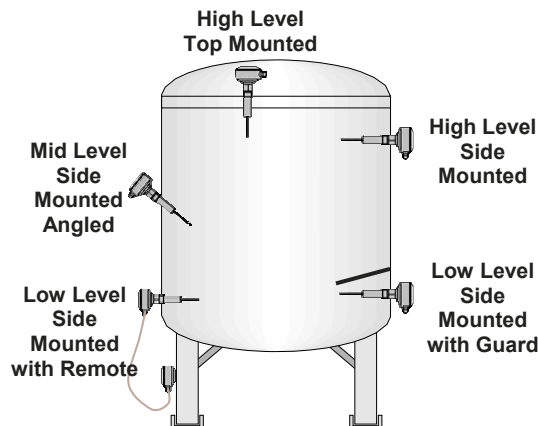
New CVR-600 Compact Vibrating Rod Point Level Control For Dry Solids

The new BinMaster series CVR-600 compact single rod vibrating level switch is the perfect solution for single point level detection in free flowing solids and dry products. Easy to set up, this compact version has a 3" long sensing element designed for smaller hoppers or plugged chute detection. When material covers the rod of the probe, the vibration stops. This is sensed by the electronic circuitry which forces its relay to switch. When the blade gets uncovered, the vibration will restart and the relay will switch back. The self-cleaning CVR-600 series provides a better solution in applications where tuning fork style switches may become blocked or bridged.

CVR-600 Compact Vibrating Rod

High Level Top Mounted

Mid Level Side Mounted Angled

High Level Side Mounted

Low Level Side Mounted with Remote

Low Level Side Mounted with Guard

POINT LEVEL

SOLIDS FLOW

AERATION & VIBRATION

DUST DETECTION

INVENTORY MEASUREMENT

Complete and send-in the enclosed postcard and receive a FREE RainDIAL Rain Gauge!

* Compliments of our parent company Garner Industries