

The Insider

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“Before the SmartBobs, we would have to climb up one of the bins and measure/guess how much material was stored.”

Dave Van Den Bosch

Neither snow, rain, nor fire will stop SmartBob from taking a measurement at the John A. Van Den Bosch feed mill



SmartBob2 level sensors measuring grain in outdoor storage silos.

Inside

New e-Bob Version 5.0 Software (page 2)

New Maxima+ Rotary Level Indicator (page 3)

Northeast Nebraska Biodiesel (page 4)

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Five years ago a costly fire ripped through the John A. Van Den Bosch feed mill in Zeeland, Michigan—leaving many local citizens wondering if the firm would survive the devastating loss. The business has not only survived but has thrived, and its rise from the ashes was recognized by the Zeeland City Council when the company and 16 members of the Van Den Bosch family were saluted for being in business for 75 years.

For more than two years the company evaluated designs and studied what could be salvaged from the fire. Thirty SmartBob2 level sensors were one of the items that could be salvaged and moved to the new facility. They were moved, mounted, rewired, and didn't skip a beat. The John A. Van Den Bosch company has been measuring inventory in their bins with SmartBobs for six years. The SmartBobs survived the fire and continue to give reliable measure from all the product bins in their facility. Along with the

SmartBobs they have also purchased 25 BinMaster rotary level indicators and four SmartBob-TS1 level sensors.

The rotaries are used as high/low level indicators. As a high level control the paddle rotates continually when the material is not present. When material reaches the paddle, the resistance causes the motor to rotate and close a switch. This promptly causes a relay to change status and automatically shut-off any process system wired to the relay. As a low level control the paddle is stopped and the motor closes the switch when material is present. When material drops below the paddle the motor energizes and the paddle starts rotating. This causes the relay to change status and automatically start-up any process system wired to the relay.

The SmartBob-TS1 level sensors were purchased after the new facility was built for the micro-bins that set above their scale. These

(continued on page 2)

New e-Bob Version 5.0

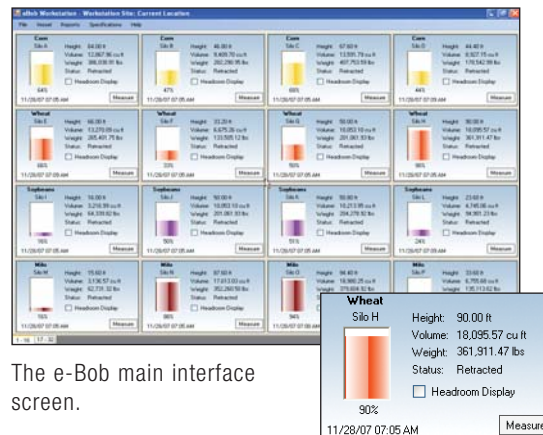
Cutting-edge inventory management software

The BinMaster e-Bob Version 5.0 is a software package for control and data management of the BinMaster SmartBob2 and SmartBob-TS1 level sensors.

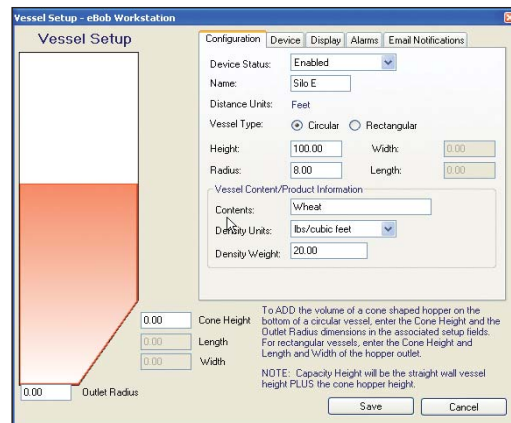
The system is designed to intelligently manage inventory in up to 100 vessels. The main interface screen provides graphical representation of key vessel parameters for measurement and management, advanced control functions are also available to set measurement alarm points, schedule automated measurements, and build common groups of vessels and automatically transfer data to appropriate users.

“With the new computer system and SmartBob level sensors, the computer constantly monitors the material level, telling us what our inventory is of the various materials we use.”

Dave Van Den Bosch



The e-Bob main interface screen.



The e-Bob bin setup screen

Additional detailed interfaces and methods include:

- Overall system and individual SmartBob/vessel setup

- Detailed view of a particular vessel or parameters and status of the SmartBob sensor
- Automatic measurement schedule configuration
- Vessel grouping configuration
- Inventory report table and graph views, printing and export functions
- Measurement history is stored in a SQL database and can be local to the e-Bob PC or on a corporate data server
- Multi SmartBob site data management

The e-Bob Version 5.0 can be used as a direct replacement for those running BinMaster IMS software. ■

Van Den Bosch (continued from page 1)

are smaller bins used for mixing. The SmartBob-TS1 was designed to be compatible with its predecessor the SmartBob2, but for smaller and less active bins. This allowed the John A. Van Den Bosch company the ability to combine the two sensors into one common system.



SmartBob-TS1 level sensors measuring Ingredients in micro-bins.

“Before the SmartBobs, we would have to climb up one of the bins and measure/guess how much material was stored,” said the company’s president, Dave Van Den Bosch. “With the new computer system and SmartBob level sensors, the computer constantly monitors the material level, telling us what our inventory is of the various materials we use,” he explained. The computer system runs the BinMaster e-Bob software that controls the SmartBobs. The measurement information stored in the e-Bob database is harvested and shared with the plant’s HMI control software. ■

Our Turn...

Try the new state-of-the-art Maxima+ Fail-Safe rotary

The Maxima+ is the new state-of-the-art microprocessor based fail-safe rotary level indicator. The distinguishing feature of the

Maxima+ is a supervisory circuit that monitors both shaft and motor mount rotation, which is what you really want to know. This assures the unit's status is constantly being monitored,

and its fail-safe circuitry will change the status of an independent fault relay to the "safe" condition in the event of a mechanical or electrical failure. The supervisory circuit also sends a signal to an external LED, which indicates the sensor's status, giving a quick visual monitoring of paddle rotation, covered condition or fault condition. A pulse status relay is also provided for remote status monitoring.

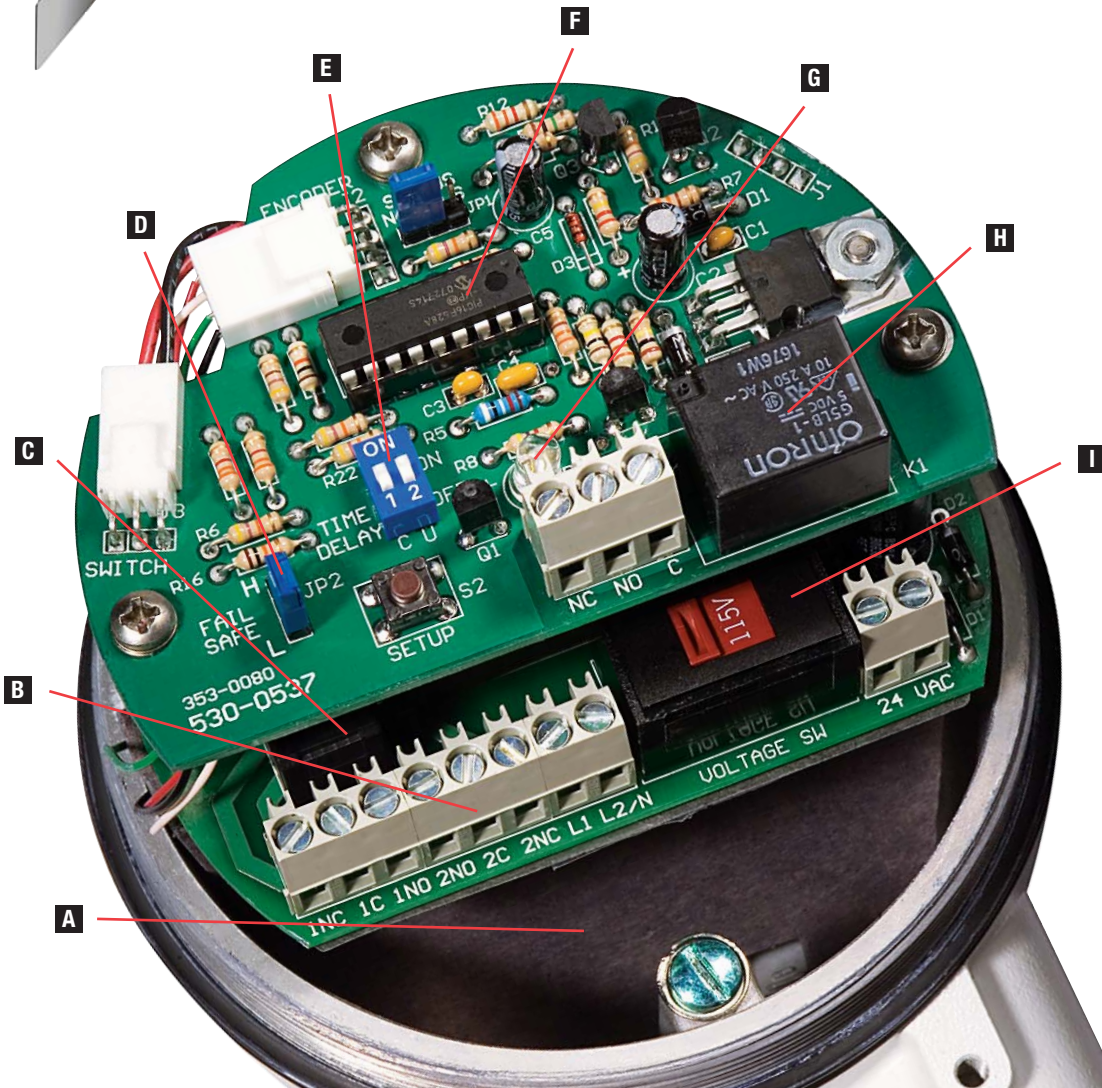
The fault relay is separate from the material status relay, which is responsible for signaling a covered or uncovered paddle condition. Since these two components function independently, the Maxima+ can differentiate between an alarm condition and unit failure. ■



Additional Maxima+ Features:

- A compact round enclosure with a screw on/off lid
- Two conduit entries for ease of wiring
- Selectable time delay for both covered and uncovered conditions
- Motor "de-energizes" when paddle is impeded
- Process temperature up to 400° F
- DPDT 10 Amp material sense relay

Inside the Maxima+



- A** Easy access to motor
- B** Wire terminals for easy wiring
- C** DPDT 10 Amp relay
- D** Switch selectable high/low fail-safe switch
- E** Time delay for both covered & uncovered conditions
- F** Microcontroller-based electronics ensures consistent and reliable operation
- G** LED light provides local visual indication
- H** Supervisory and pulse status relay
- I** Motor voltages include 115 VAC, 230 VAC, 24 VAC, 24 VDC, & 12 VDC

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Insider information

Northeast Nebraska Biodiesel chooses SmartBob2 level sensors

Northeast Nebraska Biodiesel has just started production in its state-of-the-art biodiesel facility in Scribner, Nebraska capable of initially producing two million gallons of biodiesel per year with the infrastructure in place to produce five million gallons per year.

There are 16 oil tanks and three diesel fuel tanks at the NNB facility that have been equipped with BinMaster SmartBob2 level sensor. The SmartBobs are located on the top of each of the tanks and have been outfitted with a 6" stainless steel inverted cones designed for use in liquids.

Information from the 19 SmartBobs at NNB is fed into IBM compatible PC running BinMaster's e-Bob 5.0 software.

As a precaution for overfilling the tanks, BinMaster PROCAP II capacitance probes were installed as a high level alarm on each of the tanks. The PROCAP series capacitance probes read the presence or absence of material in contact with the probe by sensing a change in the capacitance caused by the difference in the dielectric constant of the vessel material and air. The capacitance probes are all connected to a Point Level Alarm panel. When product comes in contact with the high level an audible alarm is activated and indicates when the bin is full with a blinking LED. ■



The SmartBob2 (top) and a high level capacitance probe.

BINMASTER

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It's what's inside that counts.

- Point Level Sensors**
- Inventory Measurement**
- Flow Detection**
- Dust Detection**
- Aeration & Vibration**

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