

Reliable Level Measurement in High Dust

The BinMaster RL is designed to provide highly reliable level data, even in challenging environments where dust levels are extremely high. The non-contact, continuous level sensor works in powders and solid materials of all types. Unlike some types of non-contact level sensors, the BinMaster RL can be used in very low dielectric materials which historically have not been compatible with non-contact devices.

While similar in appearance to the BinMaster 3DLevelScanner precision volume measurement technology, the RL's narrow beam provides continuous and reliable level information with minimal time lag. It repeatedly measures the level of material in the bin and updates the level information quickly for real-time inventory management of all of the bins that need monitoring at a facility.



Non-Contact, Self-Cleaning

Another unique quality of the BinMaster RL is that it is self-cleaning and requires very little maintenance. Some non-contact technologies require manual cleaning of the sensor which entails frequent



climbing of silos, which can be a safety hazard. Other devices might use an air purge, which necessitates the expense of running air lines to the top of the silo. The acoustics-based BinMaster RL features a self-cleaning, non-stick surface. For the toughest excessively humid or sticky environments, BinMaster also offers a Teflon-coated sensor option.

RL

Acoustic Level Sensor

BINMASTER®

Non-Contact, Continuous Level Measurement

The BinMaster RL performs better in dust compared to other technologies, such as ultrasonic. It uses acoustics-based technology at very low frequencies, which allows it to penetrate dust. The acoustic waves won't reflect off heavy dust or the material surface, which can cause erratic or inaccurate measurements. Plus, it will not "lock up" when the environment gets extremely dusty such as during filling or emptying cycles. Its performance is consistent regardless of the activity going on inside of the silo.

The BinMaster RL is an economical choice when non-contact technology is required to prevent contamination in environments such as food manufacturing, chemical and pharmaceutical processing. It is also ideal when any operation wants to eliminate the risk of a contact device that might break off and damage or get caught in equipment that might be present on the bottom of a silo, such as a sweep or conveyor.



Reliable Level Measurement for Every Industry



- Grain, Seed & Feed
- Ethanol & Bioenergy
- Chemical Processing
- Mining & Metals
- Food Processing
- Pulp, Paper & Wood Pellets
- Cement & Concrete
- Sand & Aggregates
- Plastics Manufacturing
- Coal Power Plants



More Reliable Level Data Made Simple



The BinMaster RL is designed to be easy to program and simple to maintain. A “quick-start” guide allows the RL to be configured directly from a screen on the head of the device or alternatively, from a PC. It can be configured and up and running in just minutes. There’s no special commissioning or start-up needed by an outside technician. It is virtually a plug & play device that allows you to install it, configure it and then walk away.

The BinMaster RL outputs a 4-20 analog signal for simple connection to an existing control system or display module. Users can view measurement data for one bin or all bins at once from a PC when the RL is used with MultiVision software. It allows you to daisy chain multiple silos to help save on wiring and installation costs. The BinMaster RL can be used in a mixed network of BinMaster 3DLevelScanners of any model including the S, M and MV. This provides the flexibility to match each silo with the sensor that is best suited for the data needed from a particular silo.



BinMaster RL for Reliable Level Measurement in Dusty Environments

- Dust-penetrating, non-contact technology
- Acoustics-based, continuous level indicator
- Works in powdered and solid materials
- Performs in low dielectric materials
- Self-cleaning, minimal-maintenance
- Economical and easy to use
- View data for all bins from a PC
- Daisy chain multiple silos to save money
- 4-20 analog output to control system or display module

Technical Data

The BinMaster RL is a new alternative for customers who want reliable, non-contact technology in harsh, dusty environments or in problematic low dielectric materials. It is ideal for facilities that need to prevent contamination in applications such as food manufacturing, chemical and pharmaceutical processing. It is also suitable for any operation that wants to eliminate the risk associated with contact devices that might break off and damage equipment in the bottom of a silo, such as a sweep or conveyor.



BinMaster RL Specifications	
Housing & antenna	Painted aluminum die casting
Inspection window in housing	Polycarbonate
Weight	12.35 lb. (5.6 Kg)
Output Signal	Active 4–20 mA/HART/RS-485/Modbus
Ambient & Process Temperature	
Ambient, storage, transport and process temperature	-40 to +185°F (-40 to 85°C)
Process Conditions	
Vessel pressure	-2.9 to 43.5 PSI (-0.2–3 bar)
Electromechanical Data	
Cable entry/plug	1 x M20x1.5 (cable-Ø 8...12mm), 1 x blind stopper M20x1.5
	Or 2 x cable entry ½" NPT
Display Panel	
LCD	4 lines x 20 characters
Adjustment elements	4 keys
Power Supply – 4-wire instrument (Active) 4–20 mA/HART	
Supply voltage	18–32 VDC
Power consumption	Max 1.5 W @ 24 VDC
Electrical Protective Measures	
Protection	IP67 according to IEC 60529
CE	
EMC- Emission	EN 61326:1997 (class B)
EMC- Susceptibility I	EC / EN 61326:1997 + A1:1998 + A2:2001 + A3:2003
NSR (73/23/EWG)	EN 61010-1:2001
FCC	
Conformity	To part 15 of the FCC regulations
	FCC 47 CFR Part 15:2007, Subpart B, Class A
Measurement Characteristics	
Beam angle	15 degrees
Frequency	4.5 KHz
Reaction / Settling time	<5 seconds (dependent on the parameter adjustment)