

LM80 Laser Level Transmitter Wood Chip Bin Application

Measurement made easy

Wood Chip Bin level applications have historically been implemented with Ultrasonic or Yo-Yo type level measurements. The low dielectric of the chips virtually eliminates radar level sensors.



Problems with Yo-Yo's in Wood Chip Bin applications:

- Frequent movement in the "Plumb Bob" resulting in high maintenance.
- Product build-up on the Yo-Yo causing the cable to break.
- Chips are fed into the bins from conveyors, and through chutes. Falling chips often interfere with the Yo-Yo's measurement.
- The shape of the chip piles makes it difficult to get a good measurement. While loading the bins the chip pile is convex (Peak Up) and becomes concave (Peak Down) during the emptying or transfer process.

Problems with Ultrasonic level transmitters in Wood Chip Bin applications:

- Chips are fed into the bins from conveyors and through chutes. Falling chips often interfere with the ultrasonic measurement.
- The shape of the chip piles made it difficult to get a good measurement because of peak up and peak down conditions.
- Some of the bins are "bumped" with steam to insure a flow of chips, this can cause problems with the ultrasonic level transmitters.



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The solution is an ABB LM80 Laser level transmitter laser pointer.

- The pointer allows the customer to choose the exact point where the level is to be measured.
- The concave/convex problem can be measured to eliminate false levels that are prevalent with Ultrasonic level transmitters and Yo-Yo's.
- The very bottom of the bin can be targeted allowing a reliable "Bin Empty" alarm during shutdowns.
- There are no moving parts.
- The shape of the bins have no impact on laser measurement.

ABB LM80 Lasers level transmitters have been successfully applied to the measurement of Wood Chip levels. Commonly a span of from 1 to 3 meters (2 to 10 feet) is utilized. The feeder is started and stopped on a high and low signal generated in the controls system.

An additional advantage of the LM80 is the ability to locate and mount the units in locations easy to maintain (off to the side and at a distance from the top of the bin). This allows for easy access in the event that adjustments to spans, outputs or checking of target and loop outputs are required or desired.

The LM80 has been tested in both the main and surge bins. Customers often put the first units on Surge Bins where maintaining the level in most critical.

Wood chip bins can be found at Pulp and Paper facilities, wood panel manufacturers and power plants that have been converted to burn Biomass instead of coal.

Should you have any question about wood chip bin applications, please do not hesitate to contact PMU Quebec Team at laserscanner.support@ca.abb.com.

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