Laser Level Transmitter
Reliable Measurement in Narrow Vessels

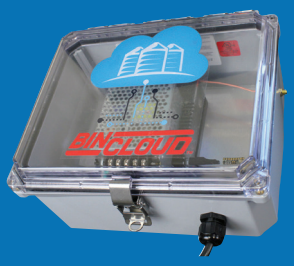
The LL-100 laser level measurement sensor is used for level control, plugged chute detection, and monitoring buildup. This non-contact device can be used in bulk solids, pellets, or granular materials of all material dielectrics in a variety of vessels. Laser can also be used in opaque liquids. It measures in a tight 1° beam, so there is no beam divergence, making it suitable for use in very narrow vessels or constrained spaces. Narrow beam laser measurement technology is resistant to reliability issues caused by surface angle, slope, texture, granularity, or material color.

Highly Accurate with a Rapid Update Rate

The laser level measurement sensor has a measuring range up to 160 feet and is highly accurate up to +/- 1 inch. It offers continuous level monitoring with a rapid update rate of eight times per second. The LL-100 can be aimed with great precision, making it suitable for vessels with interfering structure or with corrugation. It can also be applied in cramped, restrictive process equipment such as chutes or hoppers, or in confined equipment such as crushers. Laser is unaffected by heavy vapors and pressure making it very versatile across a wide variety of industries and materials.

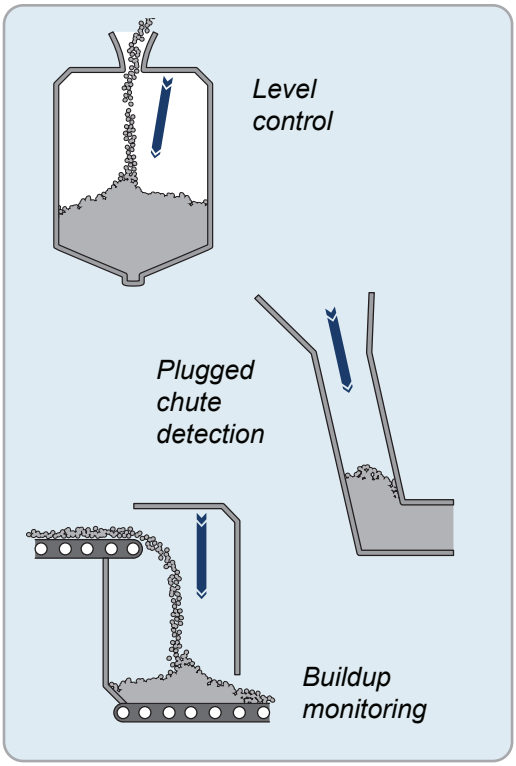
Reliable level or plugged chute detection:

- **Adjustable mounting flange flexible up to 10 degrees**
- **Narrow beam can be directed to the output or bottom of the silo**
- **Compatible with the BinCloud® Gateway and BinView**
- **Easily configured in the field using a USB port**
- **Configuration can be performed without filling or emptying the silo**
- **Integrated still-air barrier prevents dust particles from interfering with the optics**
- **Air purge option to keep lenses free of dust for reliable performance**



Simple Setup & Operation

The LL-100 requires 24 VDC input power and produces a 4-20 mA output. A USB port is used to input configuration parameters and adjust settings. The USB port can also be used to power, configure, and align the sensor in the event power is not available in the field. The status of the device can be viewed on a terminal device using the USB port.



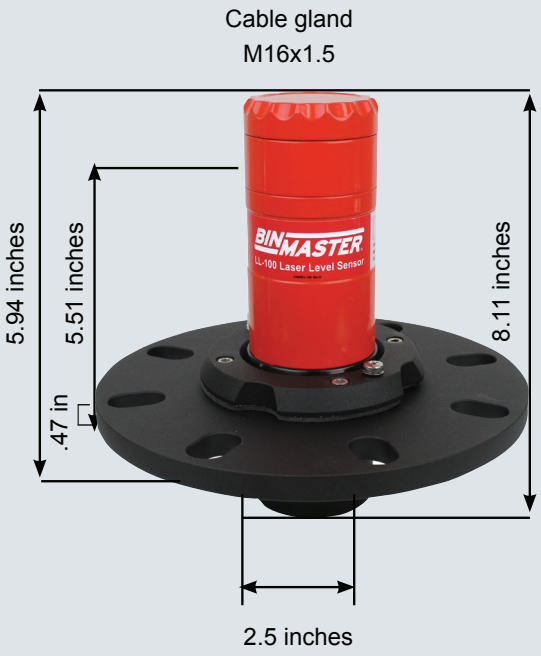
Flexible Mounting up to 10°

The LL-100 installs through a 2.5 inch process connection or a 4 inch flange connection on the roof of the silo, or is mounted inside the silo on a bracket above the material being measured. To point the laser beam at the desired measurement point, simply loosen the clamp ring on the adjustable flange and aim the body of the sensor to the desired angle. Then, tighten the clamp ring to hold the desired position.

The 4-20 mA outputs are used to set the full and empty parameters for the silo. The LL-100 laser sends pulses to the material surface and uses advanced algorithms to convert the timing of the pulses to a very accurate distance measurement. The sensor firmware automatically takes into account when the sensor is mounted at an angle, and adjusts the absolute distance accordingly.

Industrial Applications

- Minerals & mining
- Aggregates
- Ores
- Crushers
- Plastic
- Chemicals
- Fertilizer
- Pulp & paper
- Grains
- Biomass
- Food processing
- Power plants



Specifications

Range: 1 ft. to 160 ft. (.3m to 50m)
Resolution: 10mm
Accuracy: 1 standard deviation = 1 inch (2,5 cm)
Update Rate: 8 readings per second
Output: 4-20 mA NAMUR
Filling Rate: 0,01 to 100m/min
Power Supply: 24 VDC nominal (12-28 VDC)
Communication: USB 115200 baud 8-N-1
Operating Temperature: -4°F to 160°F (-20°C to 50°C)
Electrical Connection: M16 x 1,5
Enclosure Rating: IP66
Air Purge: 1/8" BSP option
Housing Material: Anodized aluminum
Lens Material: Impact-resistant acrylic
Beam Divergence to half power points: <1°
Laser Safety Classification: Class 1M
Caution: Do not view laser directly with optical instruments.

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