



OptioLaser Laser Sensor

The OptioLaser from HAWK for Measuring Mine Muck Passes

Application problem

A customer of Hawk Measurement, at a large mining facility, wanted to verify and account for high-value ore in their muck passes.

The customer's problem was that no one made a device capable of measuring down an 8' x 8' muck pass as deep as 600 ft., measuring through a grizzly with trucks dumping ore that created high amounts of dust.

Solution

The OptioLaser from Hawk Measurement was installed in a test 80 ft. muck pass. The OptioLaser is a powerful laser used to measure level and distance of various liquid and solid materials. The OptioLaser's emitter lens sends out a focused infrared pulse at the speed of light, which is reflected off the surface of a target material. The reflected pulse is processed by the receiver lens. Using the transit time of the infrared pulse, the OptioLaser supplies the end user with a distance/level measurement via RS-232 serial communication, as well as optional 4-20mA / HART outputs.

For the initial test, an 80 ft. muck pass was chosen. The customer provided 120 VAC power for laser power, then attached a 3" flange plate to the ceiling roof, 22 ft. above the muck pass. The HAWK supplied swivel-base was then attached to the 3" flange, along with the OptioLaser. The communication cable was elongated to 50 ft. and run down the mine wall to a convenient connection point.

Using the HAWK provided 120 VAC to 12 VDC adapter, power was supplied to the OptioLaser. Using a laptop, communication was established using the HAWK supplied Utility software.

The initial distance measurement was 22ft. Upon engaging the optional TARGETING laser, we confirmed that our preliminary mounting had the laser hitting the mine floor. We were then able to aim the OptioLaser thru the 1'x1' grizzly openings 22 ft. away and immediately picked up the muck pass bottom at 102 ft. away. Using the OFFSET parameter, set to -22 ft., the customer now has an indication of his muck pass from 0-80 ft.

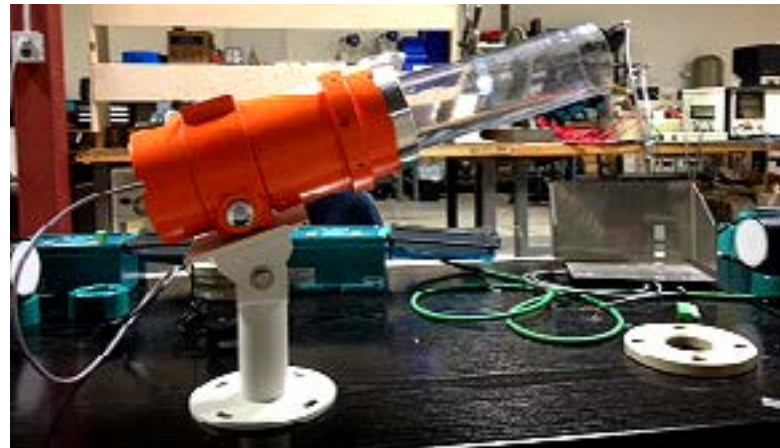
HAWK had three truck dumps into this 80ft. muck pass with low to medium dust generated from each dump. The laser had no issues and the performance of the OptioLaser was very reassuring to its customer.

The customer wanted to test the limits of this new device and decided to move the laser and cabling to an 800 ft. muck pass. They also requested an easier way to aim the laser after installation with a large display so that truck drivers could read it easily.

Hawk Measurement was able to supply a large wall-mounted display that the customer could use to indicate 0-100% level, using the optional 4-20mA provided by the OptioLaser. HAWK was then able to supply a remote-controlled aiming mount, for precise laser adjustment after installation

Result

The OptioLaser was able to be remotely aimed by the new mounting system, the truck drivers could easily see the level of each muck pass before and after each dump, and the OptioLaser was able to measure the full length of the 0-800 ft muck pass, with no issues caused by dust generated by the ore dumps. The customer purchased his first full OptioLaser system and has plans to purchase 12 more system in the future.





OptioLaser Laser Sensor

Laser sensor for blockage detection, barrier detection, machine detection and stock pile monitoring, point and liquid level measurement.



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Additional product warranty and application guarantees upon request.
Technical data subject to change without notice.

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