Block Chute Detection for Quarrying Industry.

Quarries use conveyors extensively to feed materials via chutes to stockpiles, screen houses, or crushers, and to transport stone around sites that often extend to several square kilometers. Chutes and transfer points through which the stone is discharged are potential weak points, where a blockage can very quickly cause significant damage to conveyors, creating downtime, expense, and delay.

To avoid this, quarries employ a variety of techniques to both warn of blockages and to automatically shut down conveyors and feeders before damage can be done. The most commonly employed technique is a flap switch, signaling from a proximity unit when the angle of the flap changes beyond certain levels. Because the flap is a mechanical contacting system, regular maintenance is required and the flap switches require periodic replacement. An alternative system makes use of microwaves fired across the chute. These are expensive and careful positioning is required to ensure that the microwave path does not cross the normal flow of stone or spurious alarms may be generated.

The Pulsar solution is to use non-contacting, ultrasonic technology to measure "top-down" into the discharge of the conveyor. A robust dB3 transducer fires an ultrasound pulse into the chute and receives the echo from the stone while the associated Blackbox 130 transceiver, which may be

Quarrying is only one of many industries where the detection of blocked feed chutes is important. However, the sheer size of most stone quarries and the remoteness of many conveyors means that their monitoring becomes critical.

up to 1,000 m (3,281 ft) away from the transducer, analyzes the signal received - calculating the materials distance from the transducer. The system is maintenance-free and extremely reliable.

The Blackbox 130 features two relays that be configured to close or open at a user-programmed level, alerting staff or immediately switching the offending conveyor off before damage can be done.

More Information

Blackbox 130: https://pulsarmeasurement.com/Blackbox.html

Featured Products

Blackbox 130 Controller

Pulsar's dB3 Transducer

Pulsar's Family of Transducers

Delivering the Measure of Possibility

Pulsar Measurement offers worldwide professional support for all of our products, and our network of global partners all offer full support and training. Our facilities in Malvern, UK and Largo, USA are home to technical support teams who are always available to answer your call or attend your site when required. Our global presence, with direct offices in the UK, USA, Canada, and Malaysia allow us to create close relationships with our customers and provide service, support, training, and information throughout the lifetime of your product.

For more information, please visit our website:

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