Speed Sensors and Zero Speed Switches

Speed sensors detect speed changes in rotating equipment such as screw conveyors, bucket elevators or belt conveyors. Zero speed switches are very similar to speed sensors but detect the lack of speed or zero speed in rotating equipment.

Speed sensors and zero speed switches are used to protect equipment and processes. When the sensor or switch detects a change in speed or zero speed, a signal is sent to a control panel or an alarm to alert the operator of a malfunction. The process may be halted to prevent damage to other conveying or processing equipment.

Features

Wide Variety of Sensor and Switch Types – Speed sensors are typically proximity type and are non-contacting. The speed sensor detects a rotating target that is attached to the shaft of the rotating equipment. A speed sensor can also detect the flight of a screw conveyor as it rotates. Speed switches are typically mechanical type and directly connected to the shaft of the rotating equipment.

Wide Variety of Mounting Options – Speed sensors and zero speed switches are typically mounted at the tail or drive end of rotating equipment. KWS recommends locating the speed sensor or zero speed switch at the tail end. Speed sensors that detect the screw flight can be mounted on the outside of the screw conveyor trough and located near the tail end of the screw conveyor.

Wide Range of Outputs – Speed sensors and zero speed switches are available with both analog and digital outputs. Some speed sensors can be used as tachometers to measure the actual speed of the rotating equipment. Mechanical zero speed switches have internal switches that open or close when the shaft stops rotating.

Benefits

Protect Equipment from Catastrophic Damage – Speed sensors and zero speed switches send a signal to indicate equipment malfunction. Conveying and process equipment can be shut down before serious damage occurs.

Used in Wide Variety of Applications – Because of the variety of sensor types, speed sensors and zero speed switches can be used in everything from food grade to heavy industrial grade applications. Speed sensors and zero speed switches are also available for wash-down duty or hazardous environments.

Reduce Maintenance and Downtime – Speed sensors and zero speed switches improve process reliability by allowing rotating equipment to be monitored at control panels and through the process programming. Each piece of rotating equipment can be monitored at a common master control panel to ensure process reliability and efficiency.