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Electro-Sentry 16 Hazard Monitor

MONITOR. PROTECT. SAFEGUARD.



The **Electro-Sentry 16** is a Hazard Monitoring System for monitoring bearing temperature and belt alignment on bucket elevators and conveyors used in grain, feed, milling, and other operations.

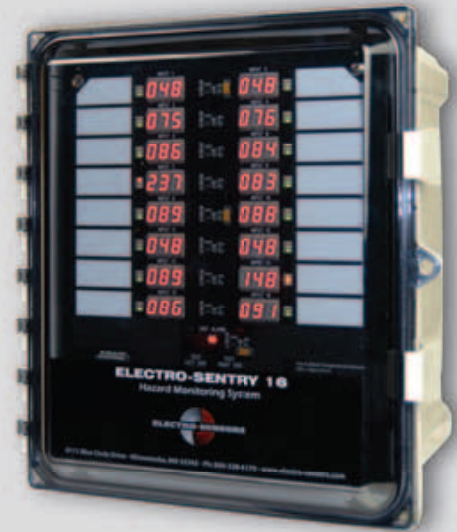


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Key Features

- Instant identification of warning/shutdown alarm source
- At-a-glance sensor readings for quick identification of problems
- Minor variances quickly recognized by plant personnel
- 16 inputs and 8 relay outputs for maximum flexibility
- Easy one-button test for quick system verification
- Pluggable terminal blocks on all inputs and outputs

The Electro-Sentry 16 (ES16) is designed and manufactured for ease of installation, set-up, operation, troubleshooting, and maintenance and to meet the needs of equipment specifiers, installers, programmers, operators, and facility managers. The ES16 has unique features not found in any other hazard monitor.



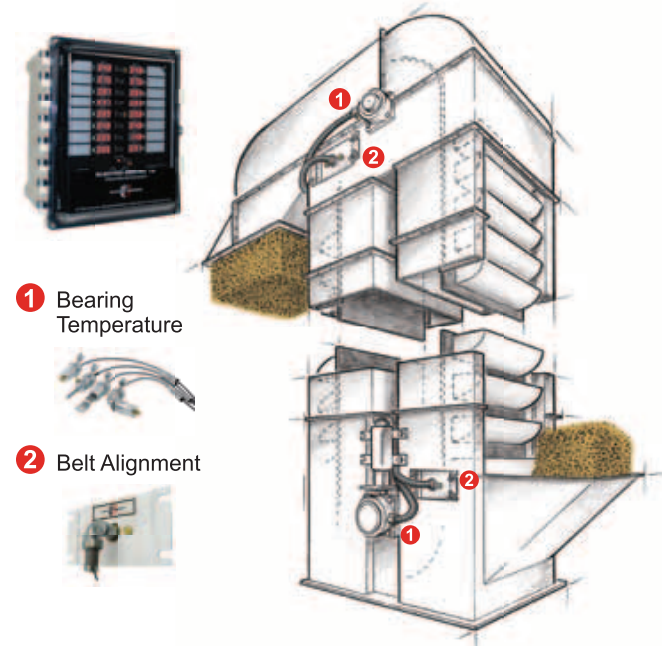
Description

The Electro-Sentry 16 is a rugged, reliable, and easy-to-install Hazard Monitor. There is no software programming, proprietary software, scroll-through user menus, keys to press, or operator intervention necessary to identify the source of any warning/shutdown alarm.

Each sensor value is displayed at all times and has a dedicated LED status: **GREEN**=Normal, **YELLOW**=Warning Alarm, **RED**=Shut Down Alarm. With sensor values and status always shown, operators learn the normal range of sensor readings so minor variances are quickly recognized.

There are sixteen 4-20 mA analog inputs for bearing temperature and belt alignment sensors. All 16 of these inputs can also be programmed to accommodate contact-closure sensors. These 16 analog inputs are divided into two Groups (8 inputs in Group A, 8 inputs in Group B). The temperature/contact-closure warning/shutdown alarm output relays latch until reset. The temperature/contact-closure displays latch and hold the maximum value until reset. This feature provides maintenance personnel with the unique ability to capture and locate intermittent machinery problems. The ES16 features programmable BIAS setpoints for each sensor in a pair of left/right temperature sensors.

When the difference between the left/right sensor pair is greater than the BIAS setpoint, a Yellow warning alarm is generated, thus eliminating the need for an ambient temperature sensor. This feature can be disabled.



Hazard monitoring on a bucket elevator.

Electro-Sentry 16 Hazard Monitor

Principle of Operation

The ES16 features 8 relay outputs to provide maximum flexibility for system designers and installers. Every system includes 1 output relay for a horn, 3 for a light stack, 2 for Group A temperature or contact-closure warning/shutdown alarms, and 2 for Group B temperature or contact-closure warning/shutdown alarms. The horn and light stack output relays can be OR'd to other ES16 systems.

All variables are easily programmed from the front panel without the need for costly external software or programming tools. End-user calibration and set-up can also be done via the front panel.

The easy push-to-test buttons provide a quick and simple, fully functional system test of temperature sensor inputs, warning/shutdown alarm setpoints, and output relays.

Bearing temperature and belt alignment monitoring are tested by internally incrementing the real-time temperature sensor inputs until the warning/shutdown alarm setpoints are reached.

Pluggable terminal blocks are provided for every input and output for quick and easy installation and troubleshooting.

Bearing Temperature Sensor Options

Bearing temperature measurement with the patented TT420Z-LT (Liquid-Tight) family of temperature sensors offers superior performance, ease of installation, and industry standard 4-20 mA outputs. All temperature sensors are factory calibrated and are available with various probe lengths, conduit adapters, and grease fittings. The integrated grease fitting allows the user to grease bearings without disturbing the temperature sensor installation. See TT420Z-LT data sheets and installation manuals for complete details.



TT420Z-LT (Liquid-Tight)

Conveyor Belt Alignment Sensor Options

The patented TT420S-LT (Liquid-Tight) temperature sensors are used to monitor leg and conveyor belt alignment with three versions of rub block doors. All temperature sensors are factory calibrated and come with straight or right angled conduit adapters. These extremely rugged doors are finished with white epoxy to minimize radiant heating effects in outdoor installations.

The hinged doors allow easy inspection of the brass rub blocks. The adjustable version allows close positioning to inside corners of machinery casing. See Rub Block Door Assemblies data sheet and installation manual for complete details.

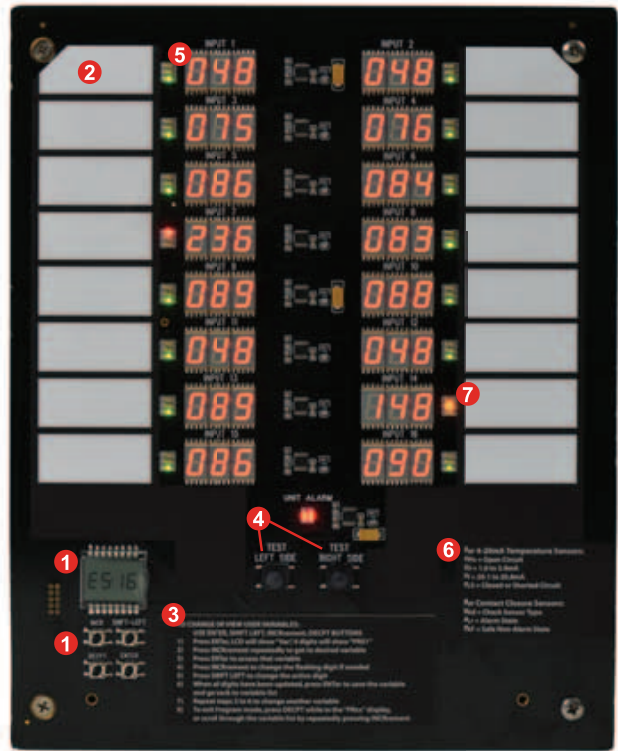


Rub block door models shown with TT420S-LT: Adjustable (Patent Pending), Uni-Strut, and Hinged



TT420Z-LT installed in a pillow-block bearing.

- 1 Quick and easy programming via LCD and push-button switches
- 2 Blank white space provided for user-defined sensor configuration labels
- 3 Programming instructions printed on front panel
- 4 Easy one-button test for temperature inputs (Increments left or right side temperature inputs)
- 5 All sensor values are always displayed
- 6 Error codes printed on front panel for quick and easy troubleshooting
- 7 All sensors have Green, Yellow, and Red LEDs for immediate identification of NORMAL, WARNING ALARM, or SHUTDOWN ALARM status



Electro-Sentry 16 Specifications

Product	
Enclosure Dimensions	13.4" x 12.7" x 7.7"
Shipping Weight	12 pounds
Enclosure Material	Polycarbonate
Storage Temperature	-40° C to +80° C (-40° F to +176° F)
Operating	
Input Power	115/230 VAC
Frequency	50-60 Hz
Operating Temperature	-30° C to +70° C (-22° F to +158° F)

Output Relays	
Relays 1, 2, 3, 4	5 Amp Dual Form C SPDT
Relays 5, 6, 7, 8	5 Amp Single Form A SPST
Relay Contact Rating	5 Amp @ 30 VDC, or 250 VAC Resistive
Setpoint Data	
Temperature	Two (warning, shutdown)
Temperature BIAS	Sixteen (warning only)