ELECTRO-SENTRY™

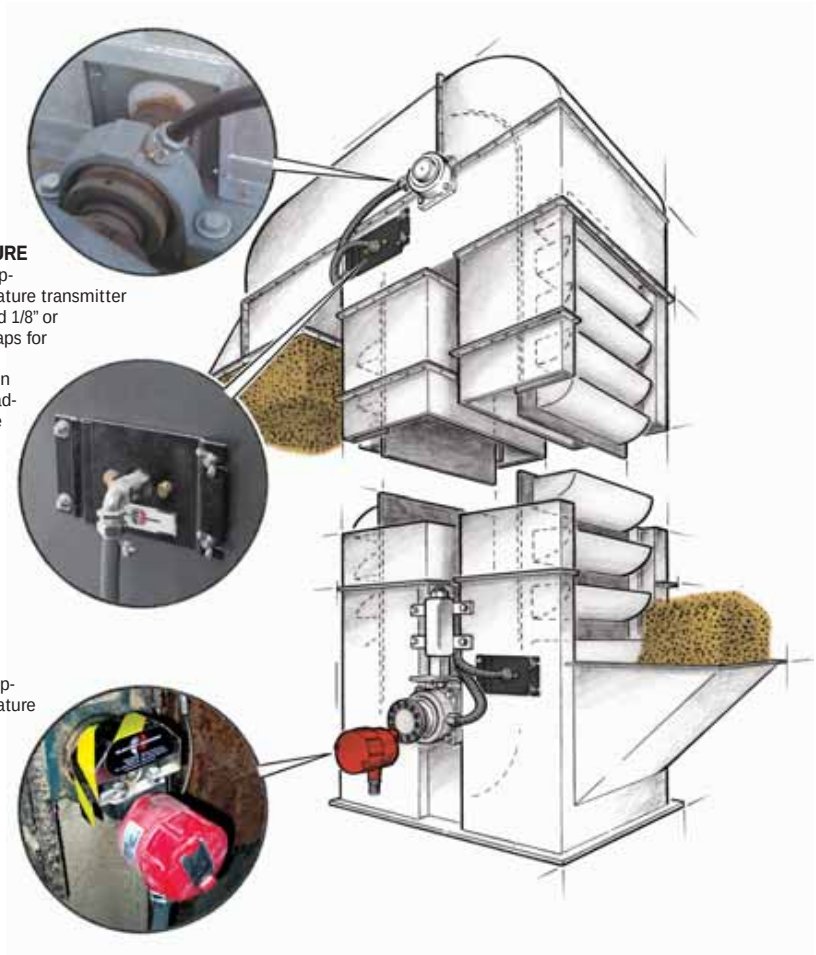
Multi-Leg Hazard Monitoring System

Combines the key elements of shaft speed, belt alignment and bearing temperature into a turnkey system, with the Command Center™ for visual monitoring and fast alarm identification.

- **Diagnose alarm location and condition in under 10 seconds**
- **Sensors designed for hazardous locations (CL II, Div. 1, Groups E, F & G)**
- **4-20mA sensors connect directly to PLC or data acquisition inputs**
- **Real time trending of sensor data can be downloaded to external network**
- **No calibration — all sensors ready to use and simple to retrofit**
- **Easy to troubleshoot — no special training required**
- **No proprietary "Black Box" or custom software required**
- **Versatile system can take plugged chute, drag conveyor and other sensor inputs**
- **System can be expanded and will not become obsolete**

c UL us

FM APPROVED



TT420Z-LT
BEARING TEMPERATURE
The TT420Z is a 2-wire loop-powered 4-20mA temperature transmitter that mounts into standard 1/8" or 1/4" grease fitting (Zerk) taps for bearing temperature measurement. This design also allows probe depth adjustment for a wide range of bearing sizes.

TT420S-LT
BELT ALIGNMENT
The TT420S is a 2-wire loop-powered 4-20mA temperature transmitter that screws into the rear of any brass rub-block with a 3/8" - 16 tap.

FB420
SHAFT SPEED
The FB420 is a feedback sensor that mounts onto the elevator tail pulley to measure shaft speed. Housed in a rugged, XP enclosure the FB420 outputs a 4-20mA signal across the RPM range of the shaft, and has programmable setpoint relay functions.

Command Center™ Touch Screen for Easy Visual Monitoring and Fast Alarm Identification

Open-architecture design allows the system to scale up or down very easily. Monitor points can be added or subtracted from the standard system at the Command Center — up to 12 legs can be accommodated. 4-20mA loop-powered sensors provide immunity to electrical noise, require no calibration, and enable easy PLC set-up. The Command Center was designed for ease of use by the operator; in under 10 seconds a problem can be identified and pinpointed with 2 or 3 simple steps using the touch screen display shown above.

Jamieson Equipment Company
www.jamiesonequipment.com
toll free 800.875.0280

Interlock with Existing Plant Control System or Stand Alone for Fault Condition Alarm and Shutdown.

Specifications • Command Center

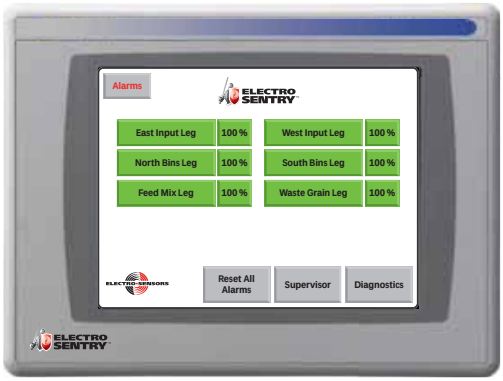
System Input Power ..... 115 Vac Standard
24 Vdc, 230 Vac Optional

Standard System Includes:

- **Touchscreen Panel Operator Interface**
- **Micrologix 1500 PLC**
- **Inputs for Analog Sensors**
- **Digital I/O to Interface with Plant Control System**
- **USB Port for Downloading Trend Data**
- **DH-485, DeviceNet, EtherNet/IP Connectivity Modules Available for Micrologix PLC**

Enclosure ..... NEMA 12 / NEMA 4

Contact Factory for Other Options



Specifications • FB420 Shaft Speed Feedback Sensor

Input Power
Isolated +24 VDC ..... 55 mA with 20 mA signal, and relay energized
External Fuse ..... 0.1A slo-blo

Input Signal
Type ..... Magnetic Alternating
Range of Operation (w/8 PPR) ..... 0.75 RPM to 9999 RPM
Input Frequency Range ..... 0.1 Hz to 9999 Hz

Gap Distance ..... 1/16" to 1/4"

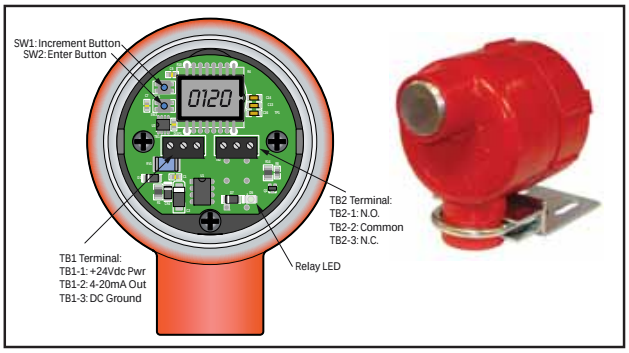
Analog Output Signal
Type of Output ..... 4-20 mA
4 mA at min rpm
20 mA at max rpm.

Relay Output
Form C SPDT ..... 30 VDC 5 amps
250 VAC 5 amps
Overspeed/underspeed "fail safe" alarm state is relay de-energized

Physical Environment
Operating Temp ..... -40° C→+ 65° C (-40°F →+149°F)
Housing & Cover ..... Cast aluminum.
Class 1, Groups C & D
Class II, Groups E, F, & G

Maximum Signal Distance ..... with 3-conductor cable
Using Relay ..... 2300 Ft.
Not Using Relay ..... 3800 Ft.

	Part Number
FB420 Shaft Speed Sensor	800-045000



Specifications • ST420-DI Shaft Tachometer

Specifications
Sensor Gap ..... 1/4" ± 1/8"
Vin (min→max) ..... 8-30 Vdc (nominal loop power: 24 Vdc)
Operating Temp ..... -20°C→+85°C (-4°F →+185°F)
Accuracy ..... Max error at 25°C ± 0.25%
Max error over operating temperature ± 0.50%
Output Response Time ..... < 9mS

Cable(24 AWG)
Color Code ..... Brown (V+)
Black (V-)
Length ..... 10 feet

Dimensions
Length ..... 95mm (3.74")
Diameter ..... 18mm (0.71")

Protection
Class II (E, F, G) Div. 1 Intrinsically Safe design for use in Intrinsically Safe circuits. Reverse-wiring protected. NEMA 4X

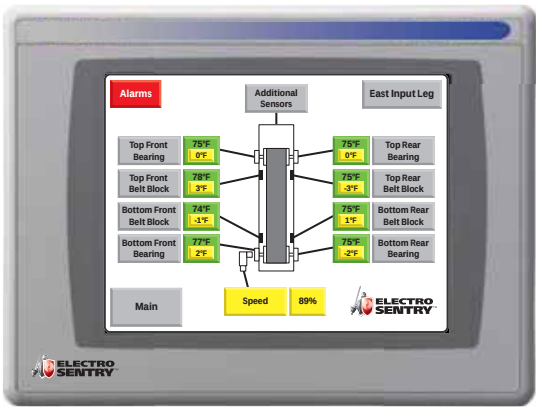
Diagnose Alarm Condition AND Location In Under 10 Seconds!
Simplify Maintenance and Diagnostic Procedures

Normal Operation
"Home" Screen View — No Alarms

East Input Leg Changes Due To Alarm Condition

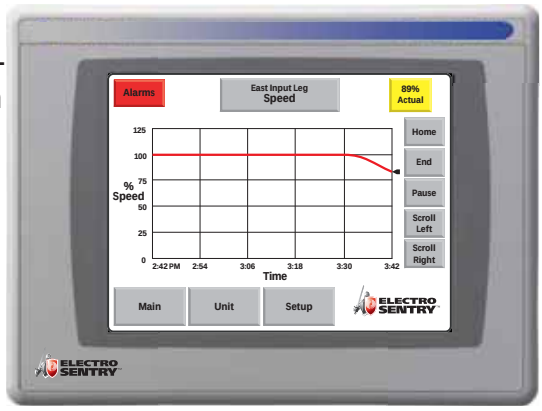
Alarm Condition on East Input Leg
Plant Location Alarm View

Touch Flashing Leg Location Button



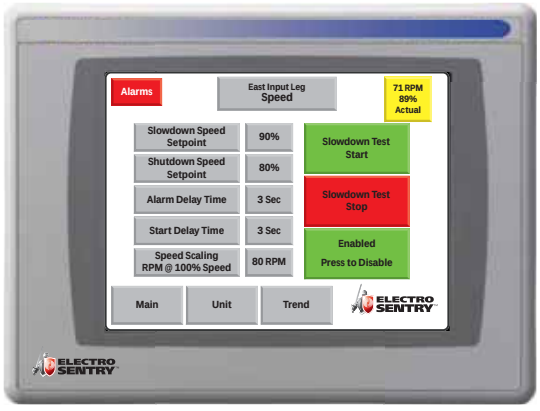
Alarm Condition — Shaft Speed Slowdown on East Input Leg
Tail Pulley

Touch Flashing Sensor Location Button to View Sensor Trend View



Trend View Shows Shaft Speed Slowdown on East Input Leg
Tail Pulley

Touch SetUp Button to View Setpoints



Setpoint Entry View Shows Shaft Speed Setpoints

Touch Main Button to Return to "Home" Screen View Then Touch Reset All Alarms After Speed Is Above 90%

Normal Operation

Jamieson Equipment Company
www.jamiesonequipment.com
toll free 800.875.0280

Specifications • TT420Z-LT Bearing Temp (1/2" Conduit)
• TT420S-LT Belt Alignment (1/2" Conduit)

Specifications

Vin (min→max) . . . . . 8→ 30 Vdc
Operating Temp . . . . . .
-40°C →+120°C (-40°F →+248°F) (measurement probe)
-20°C →+80°C (-4°F →+176°F) (ambient)
Accuracy . . . . . ± 1°C (at 25°C) ± 3°C (at -40°C, 120°C)

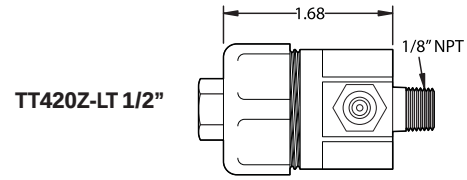
Cable (24 AWG)

Color Code . . . . . Brown (V+)
Black (V-)
Length . . . . . 10 ft.

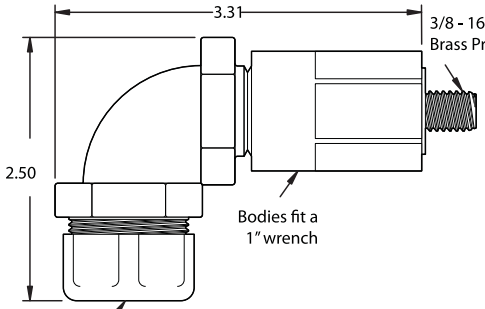
Certification/Ratings

Dust Ignition-proof for use in Class II and III, Div 1 and 2, Group E, F, G, when installed using Class II rated 1/2" flexible liquid-tight conduit.
T5 Ta ≤ 80° C Enclosure Type 4.

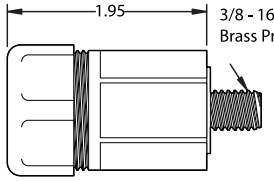
Models	Part No.
TT420Z-LT 4" Probe (1/2" Conduit 1/8" NPT)	800-001514
TT420Z-LT 6" Probe (1/2" Conduit 1/8" NPT)	800-001516
TT420Z-LT 8" Probe (1/2" Conduit 1/8" NPT)	800-001570
TT420Z-LT 12" Probe (1/2" Conduit 1/8" NPT)	800-001528
1/8" - 1/4" NPT Adapter	300-004100
1/8" - 1/2" NPT Adapter	300-004101
TT420S-LT 1/2" Conduit Right-Angle	800-001527
TT420S-LT 1/2" Conduit Straight	800-001524
Lug Mount Adapter (TT420S-LT)	776-001300



TT420Z-LT 1/2"



TT420S-LT 1/2"
Right-Angle



TT420S-LT 1/2"
Straight

FM APPROVED


TT420Z-LT

TT420S-LT
Right-Angle


TT420S-LT

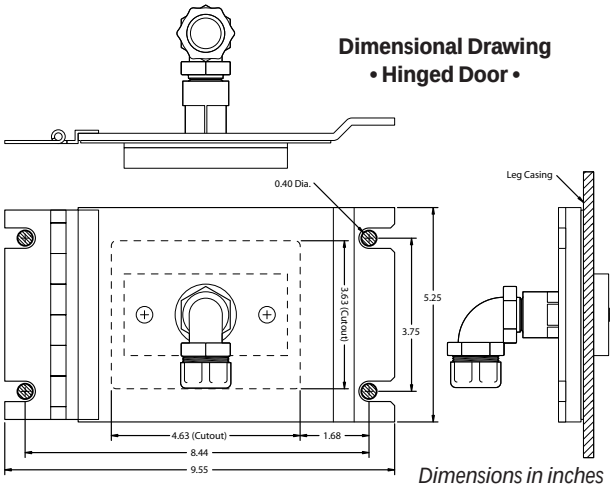

Brass Rub Block

Models	Part No.
Hinged Door Only	776-000900
Brass Rub Block 2"x4"x1/2"	301-000101
Rub Block Spacer (0.18" thick)	776-001000
Uni-Strut Door Assembly	800-002900
Complete Door Assembly Incl. Rub-Block	800-002800



Hinged Rub Block Doors for Easy Installation and Maintenance

Dimensional Drawing
• Hinged Door •



Dimensions in inches

Specifications subject to change without notice.

ES-700 Rev G