

# Brass Rub Blocks

BETTER BY DESIGN

## Brass Rub Blocks Belt Misalignment Sensors

### APPLICATION

Detects belt tracking and alignment problems on bucket elevators and conveyors.

### METHOD OF OPERATION

Brass rub blocks monitor for belt misalignment problems on bucket elevators and conveyors by detecting heat generated by the friction of the misaligning belt rubbing against the brass.

A temperature sensor within the brass block provides the temperature reading and the system generates an alarm and a shutdown when a trip point is reached.

The sensors are usually installed in pairs on opposite sides of the machine to detect misalignment on either side. Sensors can be connected directly to a PLC input, or for greater safety, to a central independent monitoring system such as 4B's T500 Elite Hotbus™, Watchdog™ Super Elite or T400N Elite Hotswitch.

### FEATURES

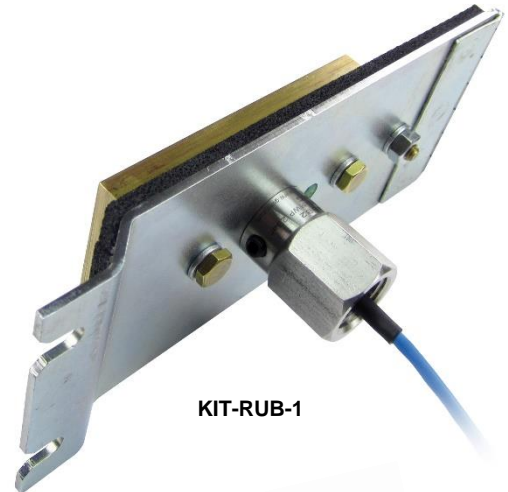
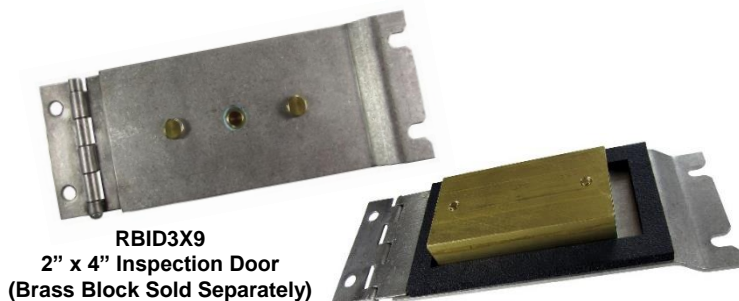
- ▶ Easy Installation
- ▶ No Moving Parts (Solid Brass Block)
- ▶ Temperature Activated (Friction)
- ▶ External Sensor Testing
- ▶ Prevents Unscheduled Downtime

### PART NUMBERS/ACCESSORIES

Sensor Type	2" x 4" Block	2" Round Block
NTC	KIT-RUB-1	KIT-RUB-5
RTD	KIT-RUB-2	KIT-RUB-6
4-20 mA	KIT-RUB-8	KIT-RUB-9

*Kits above include sensor, brass block and inspection door/mount*

- ▶ RB2W4LR2 2" x 4" Brass Block (Brass Block Only)
- ▶ RBID3X9 2" x 4" Stainless Steel Inspection Door (Door Only)
- ▶ RB2D 2" Round Brass Block (Includes Mounting Plate)
- ▶ ADBT4 ADB Temperature Sensor Tester



### ADBT4 ADB Sensor Tester

During planned maintenance or periodic testing, the ADB sensor tester can be used as a diagnostic tool to verify the alarm and shutdown sequences of the control unit are functioning as expected.

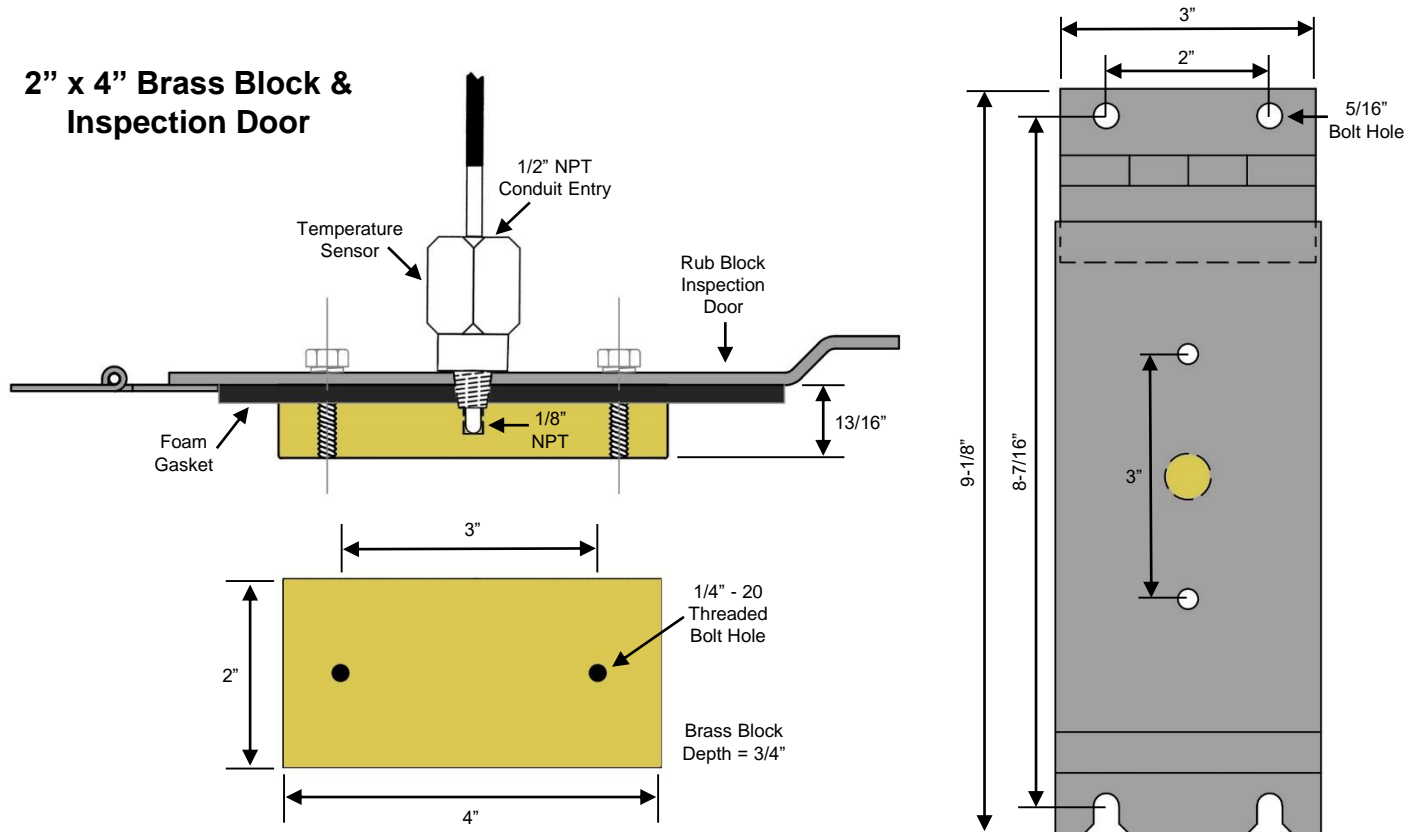


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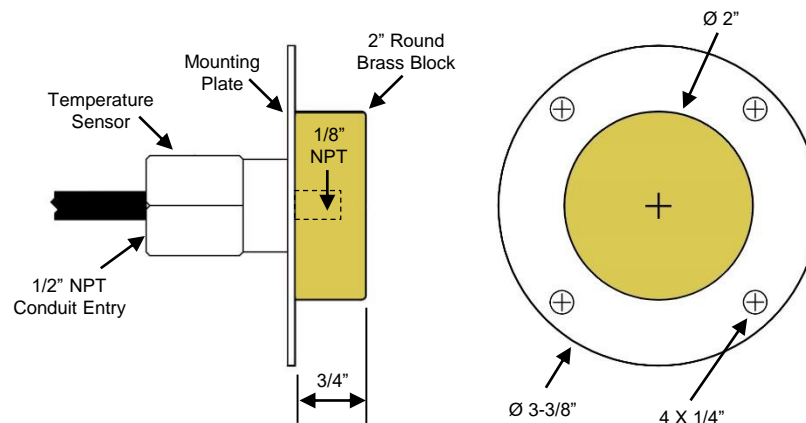
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## DIMENSIONS

### 2" x 4" Brass Block & Inspection Door



### 2" Round Block & Mount



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## TECHNICAL SPECIFICATIONS

### ADB Series - Temperature Sensors

NTC Type	
Resistance at 77°F:	10,000 Ohms
Resistance at 140°F:	3,043 Ohms
Resistance at 194°F:	1,264 Ohms
Sensing Voltage:	5 to 24 VDC
Current Draw:	1 mA
Maximum Power:	120 mW at 77° F (25° C)
Body/Probe Material:	304 Stainless Steel
Cable:	9 ft. (3 m) - 2 Conductor
Operating Temp:	-22° F (-30° C) to 220° F (105° C)
Approvals:	CSA Class II Div 1 (USA & Canada)

PT100 - RTD Type	
Resistance at 77°F:	109.73 Ohms
Resistance at 140°F:	123.24 Ohms
Resistance at 194°F:	134.70 Ohms
Temp. Coefficient:	3850 PPM/K (385)
Sensing Voltage:	5 to 24 VDC
Current Draw:	1 mA
Maximum Power:	1 mW
Body/Probe Material:	304 Stainless Steel
Cable:	9 ft. (3 m) - 4 Conductor
Operating Temp:	-22° F (-30° C) to 220° F (105° C)
Approvals:	CSA Class II Div 1 (USA & Canada)

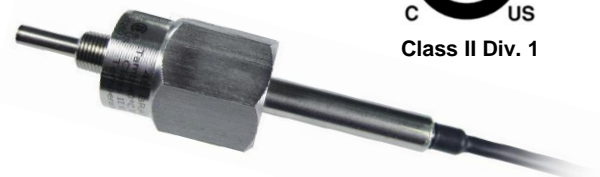
4-20 mA Type	
Supply Voltage -	24 VDC Nominal (15 to 28 VDC)
Overvoltage Rating -	CAT I
Reverse Polarity Protection -	Yes
Current at -40° F (-40° C) -	4 mA
Current at 248° F (120° C) -	20 mA
Temperature Accuracy -	Typical $\pm 1^{\circ}\text{F}$ (0.6°C) Over Entire Range $\pm 5^{\circ}\text{F}$ (2.7°C)
Default Temp. Resolution Over Current Loop -	0.09°F (0.05°C)
Operating Temp. (Probe) -	Min. -40°F (-40°C) Max. 248°F (120°C)
Output Resolution (Typical) -	5 - 10 $\mu\text{A}$
Current Out of Range -	20.5 mA or < 4 mA
Body/Probe Material -	304 Stainless Steel
Cable -	9 ft. (3 m) - 2 Conductor
Approvals -	CSA Class II Div 1 (USA & Canada)



NTC Sensor  
(Blue Cable)



PT100/RTD Sensor  
(Yellow Cable)



4-20 mA Sensor  
(Purple Cable)

