

MDB Series

Bearing Temperature Sensors

APPLICATION

For use on any application where bearing temperature monitoring is desired or required.

METHOD OF OPERATION

The MDB series is a range of bearing sensors manufactured to screw directly into a bearing housing through the existing 1/4" BSPT threaded grease zerk (can be installed in 1/8" NPT grease zerk fitting with an adapter). Each sensor is fitted with a grease zerk to allow lubrication of the bearing without the need for removal of the sensor. The sensor is fitted with a M12 connector for use with a separately supplied cable and socket assembly which can be attached connected directly to a PLC or to a hazard monitoring system, such as 4B's T500 Hotbus Elite, Watchdog Super Elite, or T400 / T400 NTC Elite. The connections are not polarity sensitive therefore special connection requirements are eliminated. Four versions are available, a NTC thermistor model or PT100 type for continuous temperature monitoring, and PTC or Contact thermistor models with five trip points (60°C, 70°C, 80°C).

FEATURES

- ▶ **Screw in Installation**
- ▶ **Grease Zerk for Bearing Lubrication**
- ▶ **Wiring Connector**
- ▶ **NTC Version – Continuous Temperature**
- ▶ **PTC or Contact Versions – Trip Points from 60°C to 80°C**
- ▶ **PT100 Version**
- ▶ **ATEX Zone 22 Approved**

SENSOR SELECTION

Part Number	Description	Thermistor Type	Thread	ATEX Zone
MDB810V3A	Continuous Temperature Monitoring	NTC	1/4" BSPT	22
MDB819V3A	Continuous Temperature Monitoring	PT100	1/4" BSPT	22
MDB812V3A	60°C Trip Point	PTC	1/4" BSPT	22
MDB813V3A	70°C Trip Point	PTC	1/4" BSPT	22
MDB814V3A	80°C Trip Point	PTC	1/4" BSPT	22
MDB832V3A	60°C Trip Point	Contact	1/4" BSPT	22
MDB833V3A	70°C Trip Point	Contact	1/4" BSPT	22
MDB834V3A	80°C Trip Point	Contact	1/4" BSPT	22



Sensor

Connector



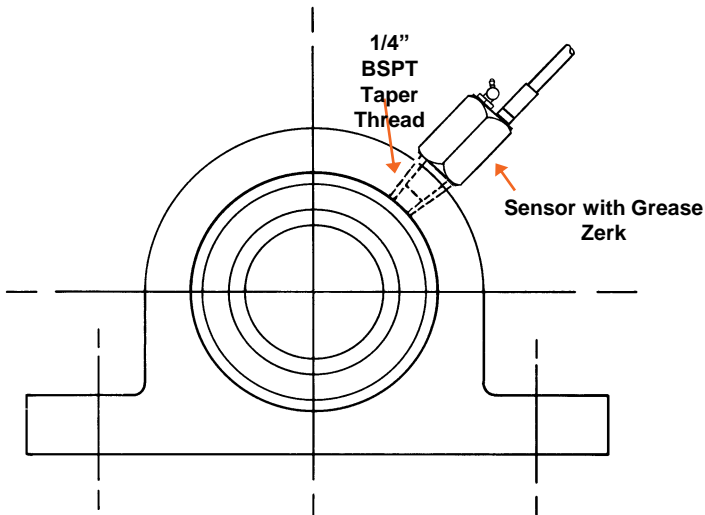
Zone 22

ACCESSORIES

Part Number	Description	ATEX Zone
CA4SW03A	3m long cable; M12 to bare ended	22
CA4SW05A	5m long cable; M12 to bare ended	22
CA4SW10A	10m long cable; M12 to bare ended	22
CA4SW30A	30m long cable; M12 to bare ended	22
CA4SP03A	3m long cable; M12 to M12	22
CA4SP05A	5m long cable; M12 to M12	22
CA4SP10A	10m long cable; M12 to M12	22
CA4SP30A	30m long cable; M12 to M12	22

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BETTER BY DESIGN



Installation of Bearing Temperature Sensor

Detailed specification, wiring diagrams and installation/operating instructions available immediately upon request.



Example of Bearing Failure

Bearing Temperature Sensors can be used with the following 4B Hazard Monitoring Systems

TECHNICAL SPECIFICATIONS

MDB Series Bearing Temperature Sensors

NTC Sensors	
Resistance at 25°C:	10,000 Ohms
Resistance at 60°C:	2,487 Ohms
Resistance at 90°C:	916 Ohms
Sensing Voltage:	5 to 24 VDC
Current Draw:	1 ma

PTC Sensors	
Resistance at 60°C:	≤ 250 Ohms
Resistance at Trip Point:	≥ 2,000 Ohms
Sensing Voltage:	5 to 25 VDC
Current Draw:	20 ma

Contact Sensors	
Resistance at 60°C:	≤ 2 Ohms
Resistance at Trip Point:	Open Circuit
Sensing Voltage:	24v DC Typical
Current Draw:	1.5 amps

PT100 Sensors	
Resistance at 0°C:	100 Ohms
Resistance at 80°C:	131 Ohms
Sensing Voltage:	Via Transducer
Current Draw:	1 ma



T500 Hotbus Elite



Watchdog Super Elite



T400 Elite / T400 NTC Elite

Please refer to instruction manual for correct installation. Information subject to change or correction. Sep 2018