

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
MDB810V3AI	Continuous Temperature Monitoring	NTC	1/4" BSPT	22
MDB819V3AI	Continuous Temperature Monitoring	PT100	1/4" BSPT	22
MDB812V3AI	60°C Trip Point	PTC	1/4" BSPT	22
MDB813V3AI	70°C Trip Point	PTC	1/4" BSPT	22
MDB814V3AI	80°C Trip Point	PTC	1/4" BSPT	22
MDB832V3AI	60°C Trip Point	Contact	1/4" BSPT	22
MDB833V3AI	70°C Trip Point	Contact	1/4" BSPT	22
MDB834V3AI	80°C Trip Point	Contact	1/4" BSPT	22



Sensor

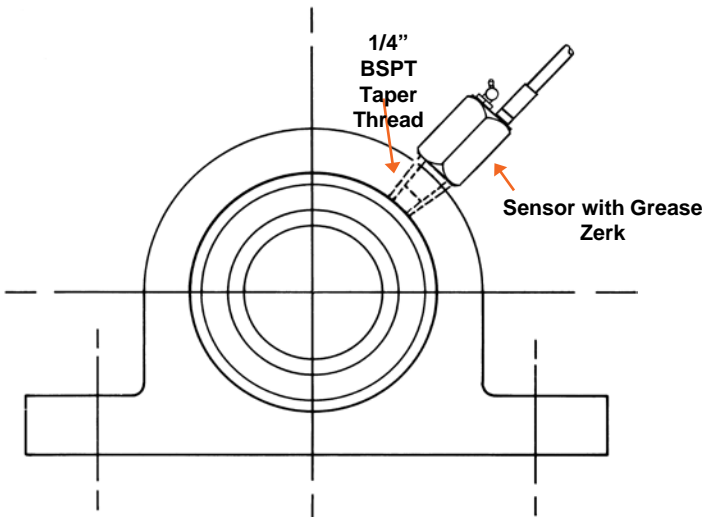
Connector



Zone 22

ACCESSORIES

Part Number	Description	ATEX Zone
CA4SW03AI	3m long cable; M12 to bare ended	22
CA4SW05AI	5m long cable; M12 to bare ended	22
CA4SW10AI	10m long cable; M12 to bare ended	22
CA4SW30AI	30m long cable; M12 to bare ended	22
CA4SP03AI	3m long cable; M12 to M12	22
CA4SP05AI	5m long cable; M12 to M12	22
CA4SP10AI	10m long cable; M12 to M12	22
CA4SP30AI	30m long cable; M12 to M12	22



Installation of Bearing Temperature Sensor

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



Example of Bearing Failure

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

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



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. Aug 2017