Instructions: Case Style C and D Temperature Sensor in Bearing Shoe Potting Method

EI 184 Revision E

(Reference: Document 2231196)

1. Suggested Installation Procedure

1. For 0.125" (3,2 mm) diameter sensors (case style C), use a #30 bit to drill a 0.128" (3,26 mm) diameter hole in the bearing shoe to where temperature measurement is desired.
2. For 0.080" (2,0 mm) diameter sensors (case style D), use a #44 bit to drill a 0.086" (2,20 mm) diameter hole in the bearing shoe to where temperature measurement is desired.

Case Style	Case Diameter	Hole Diameter	Drill Size
C	0.125" (3,2 mm)	0.128" (3,26 mm)	#30
D	0.080" (2,0 mm)	0.086" (2,18 mm)	#44

3. For sensors with diameters other than 0.125” (3,2 mm) or 0.080” (2,0 mm), drill a hole that provides a slip fit in the bearing shoe to where temperature measurement is desired.
4. Apply a small amount of silicone heat sink compound to the tip end of the temperature sensor (Dow Corning 340 or similar is recommended). Apply enough compound to fill the drill tip cone at the bottom of the hole when the sensor is installed. This compound improves thermal conductivity from the bearing shoe to the sensor when installed, thereby resulting in faster sensor response to changes in bearing temperature.
5. Insert the sensor into the drilled hole until it reaches the bottom.
6. Pot the lead wire in place where it enters the shoe: use an epoxy or other suitable potting compound compatible with the bearing shoe materials, temperature, and service conditions. During application and curing of the potting compound, verify that the sensor remains at the bottom of the hole. Position the shoe so the lead wire extends upward. This method is recommended because it uses gravity to help keep the sensor at the bottom of the hole.
7. When routing the lead wire from the bearing shoe, leave sufficient slack in the lead wire for movement of the shoe when it is in service. Use mechanical retainers to secure the lead wire externally to the shoe or pot the lead wire in place using epoxy or another suitable potting compound.

2. Drawing

Although the illustration below depicts a journal bearing shoe, this installation procedure can be used with other types of bearings, and with equipment other than bearings.