BLUE PETER Series®

Probe Style Bearing RTDs and Thermocouples

FEATURES

- Easy-to-see sensor identification info shown on probe body
- Choice of many different RTD and thermocouple types
- Stocked for immediate delivery
- Copper tipped sheath for fast response
- Choice of sheath styles including electrically isolated versions
- Array of mounting and connection hardware available
- Cuttable sheath for easy probe length adjustment

APPLICATIONS

- Electric Motors
- Generators

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Bulletin #: BP-0060306AA

DESCRIPTION

BLUE PETER Series® bearing temperature sensors assure accurate measurement of motor/generator bearings. Our probe style RTDs and thermocouples continuously sense the thermal condition of bearing assemblies. They offer an outstanding first line of defense of bearing health.

Available in a number of different sheath diameters, probe lengths, body designs and element types, **BLUE PETER Series®** bearing temperature sensors are the ideal choice for Motor OEMs and fast paced Motor Repair businesses.

Friction in bearing assemblies creates energy in the form of heat. Bearing temperatures rise accordingly. When bearings operate at higher than normal or specified temperatures, service life may suffer due to deterioration of the lubricant oil film thickness and quality. It is critical to monitor motor bearings. Results of bearing failure can range from unscheduled down time, to major equipment repair or replacement costs or, worst case, human injury or death.

Excess heat signals problems and the potential for future bearing failure. If caught early, the results from bearings running at higher than specified temperatures can be avoided. Rather than absolute “good” or “bad” bearing temperatures usable for all applications, bearing temperatures vary for differing application conditions. A typical bearing temperature rise range is 40 to 80 degrees F (4 to 27 C) for most industrial applications. However, a bearing temperature rise over ambient of up to 120 F (49 C) is possible under extreme conditions.

Major causes of overheating include:

- Insufficient or excessive lubricant
- Poor or improper bearing installation
- Small bearing clearance or extremely heavy load
- Excessive friction between lip and seal groove
- Improper lubricant type
- Creep between the fitting surfaces

Also see: **www.bluepeterseries.com** for information on Stator Winding RTDs, Flexible “End Turn” RTDs, Embedded Bearing RTDs & Thermocouples and more.

8-Channel Scanning RTD Meter/Relay

Monitor both bearing and stator winding RTD output signals on the **BLUE PETER Series® Model KMD-8R** Eight-(8) Channel Scanning RTD Meter/Relay. It accepts outputs from as many as 8 different RTDs (i.e. 6 Stator Winding RTDs and 2 Bearing RTDs). With the **Model KMD-8R**, RTDs need not be of the same element type.

The KMD-8R also offers two set point levels which can be set independently for each channel. Two output relays can be activated when a temperature set point is reached for any channel.

Users often set one relay to trigger an alarm which will signal an ‘Alert’ condition and the second relay for when a ‘Critical’ condition exists.

* Indicates most common selection

Boxes 1, 2 & 3- Sensor Element Type

Code	RTDs
A13	***Platinum 100ohm (α = 385), 3-wire, single element**
A23	Platinum 100ohm (α = 385), 3-wire, dual element
F13	Copper 10ohm, 3-wire, single element
F23	Copper 10ohm, 3-wire, dual element
G13	Nickel 120ohm, 3-wire, single element
G23	Nickel 120ohm, 3-wire, dual element
	Thermocouples
J1G	Type "J" Thermocouple, single grounded element
J1U	Type "J" Thermocouple, single ungrounded element
J2G	Type "J" Thermocouple, dual grounded element
J2U	Type "J" Thermocouple, dual ungrounded element
K1G	***Type "K" Thermocouple, single grounded element**
K1U	Type "K" Thermocouple, single ungrounded element
K2G	Type "K" Thermocouple, dual grounded element
K2U	Type "K" Thermocouple, dual ungrounded element
T1G	Type "T" Thermocouple, single grounded element
T1U	Type "T" Thermocouple, single ungrounded element
T2G	Type "T" Thermocouple, dual grounded element
T2U	Type "T" Thermocouple, dual ungrounded element
E1G	Type "E" Thermocouple, single grounded element
E1U	Type "E" Thermocouple, single ungrounded element
E2G	Type "E" Thermocouple, dual grounded element
E2U	Type "E" Thermocouple, dual ungrounded element

Box 4- Probe Type & Dimensions

[Note: all Probe bodies have Copper tip]

Code	
A	12"L x 0.188"D Cuttable 316 SS sheath
B	12"L x 0.215"D Cuttable 316 SS sheath
C	12"L x 0.250"D Cuttable 316 SS sheath
D	18"L x 0.188"D Cuttable 316 SS sheath
E	***18"L x 0.215"D Cuttable 316 SS sheath**
F	18"L x 0.250"D Cuttable 316 SS sheath
G	24"L x 0.188"D Cuttable 316 SS sheath
H	24"L x 0.215"D Cuttable 316 SS sheath
J	24"L x 0.250"D Cuttable 316 SS sheath
K	12"L x 0.188"D Cuttable electrically isolated 316 SS sheath
L	12"L x 0.215"D Cuttable electrically isolated 316 SS sheath
M	12"L x 0.250"D Cuttable electrically isolated 316 SS sheath
N	18"L x 0.188"D Cuttable electrically isolated 316 SS sheath
P	18"L x 0.215"D Cuttable electrically isolated 316 SS sheath
Q	18"L x 0.250"D Cuttable electrically isolated 316 SS sheath
R	24"L x 0.188"D Cuttable electrically isolated 316 SS sheath
S	24"L x 0.215"D Cuttable electrically isolated 316 SS sheath
T	24"L x 0.250"D Cuttable electrically isolated 316 SS sheath

Box 5- Fittings to Process and Conduit

Code	
A	***Probe only. No Fitting**
B	With non-sealing spring mounted single ½" thread (to Process) hex fitting
C	With non-sealing spring mounted single ¾" thread (to Process) hex fitting
D	With non-sealing spring mounted dual ½" thread hex fitting
E	With non-sealing spring mounted dual thread hex fitting ½" to Process and ¾" to Conduit
F	With non-sealing spring mounted dual ¾" thread hex fitting
G	With sealing compression fitting single ½" thread (to Process) hex fitting
H	With sealing compression fitting single ¾" thread (to Process) hex fitting
J	With sealing compression fitting dual ½" thread hex fitting
K	With sealing compression fitting dual ¾" thread hex fitting
L	With spring loaded bayonet mounted single ½" thread (to Process) hex fitting
M	With spring loaded bayonet mounted single" thread (to Process) hex fitting
N	With spring loaded bayonet mounted dual ½" thread hex fitting
P	With spring loaded bayonet mounted dual ¾" thread hex fitting

Box 6- Connection Heads & Transitions

Code	NOTE: Selection of a connection head requires selection Code D, E, F, J or K for Box 5(above)
A	***Without connection head**
B	With aluminum, NEMA 4 rated, screw cap connection head without terminal block or Transmitter, ½"(Process) x ½" (Conduit), 14NPT
C	With aluminum, NEMA 4 rated, screw cap connection head without terminal block or Transmitter, ½"(Process) x ¾" (Conduit), 14NPT
D	With aluminum, NEMA 4 rated, screw cap connection head with ceramic terminal block , ½"(Process) x ½" (Conduit), 14NPT
E	With aluminum, NEMA 4 rated, screw cap connection head with ceramic terminal block , ½"(Process) x ¾" (Conduit), 14NPT
F	With aluminum, NEMA 4 rated, screw cap connection head with analog (4-20mA) 2-wire temperature transmitter , ½"(Process) x ½" (Conduit), 14NPT
G	With aluminum, NEMA 4 rated, screw cap connection head with analog (4-20mA) 2-wire temperature transmitter , ½"(Process) x ¾" (Conduit), 14NPT

NOTE: Cast Iron and Stainless Steel Connection Heads are also available upon request.

Boxes 7, 8 & 9- Leadwire Length

Code	
XXX	Enter the leadwire length in Inches (i.e. 012 equals 12")

Box 10- Leadwire Covering

Code	
A	***PTFE, Individual Leadwires**
B	Spiraled Stainless Armor over individual PTFE leads.

Ordering Information

1	2	3	—	4	5	6	7	8	9	10

Create your catalog number by filling in the boxes with the Code for the selections desired

A nautical code flag for the letter P has a blue background and white square in the center. It is often referred to as the BLUE PETER. Peter is a corruption of the French word "partir" meaning 'leave or notice of pending departure'. The flag signals a notice to all who are to make the voyage, to come onboard immediately.