



Member of the FM Global Group

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CERTIFICATE OF COMPLIANCE

HAZARDOUS (CLASSIFIED) LOCATION ELECTRICAL EQUIPMENT

This certificate is issued for the following equipment:

70-20abcde-63-00fghijklmno-t-uvw-xy. RTD Assembly with Thermowell.

70-20abcde-63-01pgqkrmns-t-uvw-xy. RTD Assembly with Thermowell.

XP/II/1/A*B*CD; DIP/II,III/1/EFG; T**;

a = Approval Options (XP, or XF).

b = RTD Type (RBF185, RBF285, RAF185, RAF285, RBT185, RBT285, RAT185, RAT285, R1T185, R1T285, R3T185, R3T285, R5T185, or R5T285).

c = Temperature Range (L or H).

d = Sheath Diameter (48 or 68).

e = Element Connection (2, 3, or 4).

f = Thermowell Stem Shape, Mounting (SF, HF, or RF).

g = Thermowell Bore Size (4 or 6).

h = Thermowell Flange Size (05, 08, 10, 13, 15, 20, 25, or 30).

i = Thermowell Flange Type (F, R, J, or V).

j = Thermowell Flange Rating (0, 1, 3, 6, 9, 15 or 25).

k = Thermowell Bore Depth (04, 06, 09, 12, 15, 18, 21, 24, NN, or NN N/N where N is any number 0 through 9 with possible fractions).

l = Thermowell Material (03, 04, 05, 06, 08, 09, 22, 26, 28, 29, 31, 32, 33, 35, 36, 37, 38, 45, 51, 59, 60, 61, or 91).

m = Thermowell Optional Lagging (T2, T3, TN, or TN N/N where N is any number 0 through 9 with possible fractions).

n = Thermowell Optional Cap and Chain (C8, C9, or C22).

o = Thermowell Options (S, O, E, H, F, N, W, and/or Z, or not used).

p = Thermowell Stem Shape, Mounting (S, H, ST, LS, SW, HW, RW, or WI).

q = Thermowell Mounting Thread (C, D, E, F, or G).

r = Thermowell Material (03, 04, 05, 06, 08, 09, 22, 26, 28, 29, 31, 32, 33, 35, 36, 37, 38, 45, 51, 59, 60, 61, or 91).

s = Thermowell Options (S, O, E, H, and/or Z, or not used).

t = Spring Loading Type (SL or SC; SL not applicable w/ Head Termination Option 75).

u = Head Mounting Fittings (6HN, 6PN_, 6XU_, 8HN, 8PN_, or 8XU_, where underscores represent single or double digits using 0 through 9 for extension length).

v* = Head Termination (74, 75, or 84 for Groups ABCD; 72 or 82 for Groups BCD; 71 or 81 for Groups CD).

w = Head Options (I, SB, W, RG, and/or T, or Not Used).

x** = Electrical Connections [440 (T6/T5/T4 @ Ta=-40 to +70/80/85°C), 441 (T6/T5/T4 @ Ta=-40 to +70/80/85°C), 442 (T6/T5/T4 @ Ta=-40 to +70/80/85°C), 642B (T6/T5/T4 @ Ta=-40 to +55/70/85°C), 642B-D (T6/T5/T4 @ Ta=-40 to +55/70/70°C), or Blank (T6/T5/T4 @ Ta=-50 to +80/95/100°C)].

y = Electrical Connection Option (Not Used or D, only Available w/ 642 Transmitter).



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70-21abcde-f-g-hi,j-kl. Spring-Loaded RTD Element Assembly.

XP//I/B*CD; DIP//II,III/1/EFG; T**;

a = Approval Options (XP, or XF).

b = RTD Type (RBF185, RBF285, RAF185, RAF285, RBT185, RBT285, RAT185, RAT285, R1T185, R1T285, R3T185, R3T285, R5T185, or R5T285).

c = Temperature Range (L or H).

d = Sheath Diameter (38, or 48).

e = Element Connection (2, 3, or 4).

f = Sheath Length Dimension (3 digits using 0, 1, 2, 3, 4, 45, 6, 7, 8, and/or 9).

g = Spring Loading Type (FP).

h = Head Mounting Fitting (8HN, or 8PU).

i* = Head Termination (72, 74, 75, 82, or 84 for Groups BCD; 71 or 81 for Groups CD).

j = Head Options (I, SB, W, RG, and/or T, or Not Used).

k** = Electrical Connections [440 (T6/T5/T4 @ Ta=-40 to +70/80/85°C), 441 (T6/T5/T4 @ Ta=-40 to +70/80/85°C), 442 (T6/T5/T4 @ Ta=-40 to +70/80/85°C), 642D (T6/T5/T4 @ Ta=-40 to +55/70/85°C), 642D-D (T6/T5/T4 @ Ta=-40 to +55/70/70°C), or Blank (T6/T5/T4 @ Ta=-50 to +80/95/100°C)].

l = Electrical Connection Option (Not Used or D, only Available w/ 642 Transmitter).

70-22abcde-f-gh,i-jk. Fixed Element RTD Assembly.

XP//I/A*B*CD; DIP//II,III/1/EFG; T**;

a = Approval Options (XP, or XF).

b = RTD Type (RBF185, RBF285, RAF185, RAF285, RBT185, RBT285, RAT185, RAT285, R1T185, R1T285, R3T185, R3T285, R5T185, or R5T285).

c = Temperature Range (L or H).

d = Sheath Diameter (28, 38, 48, or 68R38).

e = Element Connection (2, 3, or 4).

f = Sheath Length Dimension (3 digits using 0, 1, 2, 3, 4, 45, 6, 7, 8, and/or 9).

g = Head Mounting Fitting (6HN, 8HN, 9HP, or 8RNDC).

h* = Head Termination (74, 75, or 84 for Groups ABCD; 72 or 82 for Groups BCD; 71 or 81 for Groups CD).

i = Head Options (I, SB, W, RG, and/or T, or Not Used).

j** = Electrical Connections [440 (T6/T5/T4 @ Ta=-40 to +70/80/85°C), 441 (T6/T5/T4 @ Ta=-40 to +70/80/85°C), 442 (T6/T5/T4 @ Ta=-40 to +70/80/85°C), 642B (T6/T5/T4 @ Ta=-40 to +55/70/85°C), 642B-D (T6/T5/T4 @ Ta=-40 to +55/70/70°C), or Blank (T6/T5/T4 @ Ta=-50 to +80/95/100°C)].

k = Electrical Connection Option (Not Used or D, only Available w/ 642 Transmitter).

70-80abcdef-63-00ghijklmnop-u-vwx-yz. Thermocouple Assembly with Thermowell.

70-80abcdef-63-01qhrslnot-u-vwx-yz. Thermocouple Assembly with Thermowell.

XP//I/A*B*CD; DIP//II,III/1/EFG; T**;

a = Approval Options (XP, or XF).

b = Thermocouple Type (E, EE, J, JJ, K, KK, T, TT, N, or NN).

c = Sheath Diameter (4 or 6).

d = Sheath Material (3, 8, or 9).

e = Measuring Junction (U).

f = Special Options (M, and/or H, or Not Used).

g = Thermowell Stem Shape, Mounting (SF, HF, or RF).

h = Thermowell Bore Size (4 or 6).

i = Thermowell Flange Size (05, 08, 10, 13, 15, 20, 25, or 30).

j = Thermowell Flange Type (F, R, J, or V).

k = Thermowell Flange Rating (0, 1, 3, 6, 9, 15 or 25).

l = Thermowell Bore Depth (04, 06, 09, 12, 15, 18, 21, 24, NN, or NN N/N where N is any number 0 through 9 with possible fractions).

m = Thermowell Material (03, 04, 05, 06, 08, 09, 22, 26, 28, 29, 31, 32, 33, 35, 36, 37, 38, 45, 51, 59, 60, 61, or 91).

n = Thermowell Optional Lagging (T2, T3, TN, or TN N/N where N is any number 0 through 9 with possible fractions).

- o = Thermowell Optional Cap and Chain (C8, C9, or C22).
- p = Thermowell Options (S, O, E, H, F, N, W, and/or Z, or not used).
- q = Thermowell Stem Shape, Mounting (S, H, ST, LS, SW, HW, RW, or WI).
- r = Thermowell Mounting Thread (C, D, E, F, or G).
- s = Thermowell Material (03, 04, 05, 06, 08, 09, 22, 26, 28, 29, 31, 32, 33, 35, 36, 37, 38, 45, 51, 59, 60, 61, or 91).
- t = Thermowell Options (S, O, E, H, and/or Z, or not used).
- u = Spring Loading Type (SL or SC; SL not applicable w/ Head Termination Option 75).
- v = Head Mounting Fitting (6HN, 6PN_, 6XU_, 8HN, 8PN_, or 8XU_, where underscores represent single or double digits using 0 through 9 for extension length).
- w* = Head Termination (74, 75, or 84 for Groups ABCD; 72 or 82 for Groups BCD; 71 or 81 for groups CD).
- x = Head Options (I, SB, W, RG, and/or T, or Not Used).
- y** = Electrical Connections [440 (T6/T5/T4 @ Ta=-40 to +70/80/85°C), 441 (T6/T5/T4 @ Ta=-40 to +70/80/85°C), 442 (T6/T5/T4 @ Ta=-40 to +70/80/85°C), 642B (T6/T5/T4 @ Ta=-40 to +55/70/85°C), 642B-D (T6/T5/T4 @ Ta=-40 to +55/70/70°C), or Blank (T6/T5/T4 @ Ta=-50 to +80/95/100°C)].
- z = Electrical Connection Option (Not Used or D, only Available w/ 642 Transmitter).

70-81abcdef-g-h-ij,k-lm. Spring Loaded Thermocouple Assembly.

- XP/II/1/B*CD; DIP/II,III/1/EFG; T**;
- a = Approval Options (XP, or XF).
- b = Thermocouple Type (E, EE, J, JJ, K, KK, T, TT, N, or NN).
- c = Sheath Diameter (3, or 4).
- d = Sheath Material (3, 8, or 9).
- e = Measuring Junction (U).
- f = Special Options (M and/or H, or Not Used).
- g = Sheath Length Dimension (3 digits using 0, 1, 2, 3, 4, 45, 6, 7, 8, and/or 9).
- h = Spring Loading Type (FP).
- i = Head Mounting Fitting (8HN, or 8PU_, where underscores represent single or double digits using 0 through 9 for extension length).
- j* = Head Termination (72, 74, 75, 82, or 84 for Groups BCD; 71 or 81 for Groups CD).
- k = Head Options (I, SB, W, RG, and/or T, or Not Used).
- l** = Electrical Connections [440 (T6/T5/T4 @ Ta=-40 to +70/80/85°C), 441 (T6/T5/T4 @ Ta=-40 to +70/80/85°C), 442 (T6/T5/T4 @ Ta=-40 to +70/80/85°C), 642D (T6/T5/T4 @ Ta=-40 to +55/70/85°C), 642D-D (T6/T5/T4 @ Ta=-40 to +55/70/70°C), or Blank (T6/T5/T4 @ Ta=-50 to +80/95/100°C)].
- m = Electrical Connection Option (Not Used or D, only Available w/ 642 Transmitter).

70-82abcdef-g-hi,j-kl. Fixed Element Thermocouple Assembly.

- XP/II/1/A*B*CD; DIP/II,III/1/EFG; T**;
- a = Approval Options (XP, or XF).
- b = Thermocouple Type (E, EE, J, JJ, K, KK, T, TT, N, or NN).
- c = Sheath Diameter (2, 3, 4, 6, or 68R38).
- d = Sheath Material (3, 4, 5, 8, 9, 28, 29, 37, or 41).
- e = Measuring Junction (U).
- f = Special Options (M, and/or H, or Not Used).
- g = Sheath Length Dimension (3 digits using 0, 1, 2, 3, 4, 5, 6, 7, 8, and/or 9).
- h = Head Mounting Fittings (6HN, 8HN, 9HP, or 8RND).
- i* = Head Termination (74, 75, or 84 for Groups ABCD; 72 or 82 for Groups BCD; 71 or 81 for Groups CD).
- j = Head Options (I, SB, W, RG, and/or T, or Not Used).
- k** = Electrical Connections [440 (T6/T5/T4 @ Ta=-40 to +70/80/85°C), 441 (T6/T5/T4 @ Ta=-40 to +70/80/85°C), 442 (T6/T5/T4 @ Ta=-40 to +70/80/85°C), 642B (T6/T5/T4 @ Ta=-40 to +55/70/85°C), 642B-D (T6/T5/T4 @ Ta=-40 to +55/70/70°C), or Blank (T6/T5/T4 @ Ta=-50 to +80/95/100°C)].
- l = Electrical Connection Option (Not Used or D, only Available w/ 642 Transmitter).



Equipment Ratings:

Pyromation, Inc.'s 70-20 Series RTD Sensor Assembly and 70-80 Series Thermocouple Assembly as Explosionproof for Class I, Division 1, Groups A, B, C, and D; and Dust-Ignitionproof for Class II and III, Division 1, Groups E, F, and G Hazardous (Classified) Locations.

FM Approved for:

Pyromation, Inc.
5211 Industrial Road
Fort Wayne, IN 46825 USA

This certifies that the equipment described has been found to comply with the following Approval Standards and other documents:

Class 3600	1998
Class 3615	2006
Class 3810	1989
w/ supplement 1	1995
ANSI/NEMA 250	1991


Original Project ID: 3026139

Approval Granted: *NOVEMBER 15, 2006*

Subsequent Revision Reports / Date Approval Amended

Report Number	Date	Report Number	Date
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FM Approvals LLC



Robert L. Martell, Jr.
Assistant Vice President

NOVEMBER 15, 2006

Date