FM Approvals
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CERTIFICATE OF COMPLIANCE

HAZARDOUS (CLASSIFIED) LOCATION ELECTRICAL EQUIPMENT

This certificate is issued for the following equipment:

XP01 a-bcdefghi-j-k-lm,n RTD Assembly with fixed element.
XP01 a-bcdef[reduced tip option]i-j-k-lm,n RTD Assembly with reduced tip fixed element.

XP02 a-b1c1d1e1f1-j-k-lm,n TC Assembly with fixed element.
XP02 a-b1[reduced tip option]e1f1-j-k-lm,n TC Assembly with reduced tip fixed element.

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

a = Agency Approval Options (XP, or XF).
b = RTD Class (R1, R3, R5, RA, RB, RC, RD).
b1 = Thermocouple Types (E, EE, EEE, J, JJ, JJJ, K, KK, KKK, T, TT, TTT, N, NN, NNN)
c= Element Construction (T, F, B)
c1 = TC Sheath Diameter (2, 3, 4, 5 6, 8, 166, 203, 404).
d= No. of Elements (1, 2)
d1 = TC Sheath Materials (3, 4, 5, 8, 9, 28, 29, 37, 41)
e1 = Junction Type (U)
f1 = Special Options (M, H, and / or blank if not used)
e= Element Resistance & Coeff. (10, 12, 14, 15, 16, 17, 18, 19, 20, 21, 25, 46, 53, 55, 59, 64, 75, 85, 90, 92, 95)
f = Temperature Range (K, L, M or H).
g = RTD Sheath Diameter (2, 3, 4, 5 6, 8 or XXX for 3 digit decimal between 0.125" and 0.500" (example 156 = 0.156")).
h = RTD Sheath Materials (3, 4, 5, 8, 9, 26, 29, 35, 36, 37)
Reduced Tip Option = (88R48, 68R38, 48R28)
i = Element Connection (2, 3, or 4).
j = Sensor Length (NN(N/N) where N = any number between 0 to 9 with possible fractions)
k = Sheath Fittings (00, 01A, 05A, 05B, 05C, 15A, 15B, 15C, 14, 10A, 10B, 10C, 10AL, 10BL, 10CL, 12A, 12B, 12C, 11A, 11B, 11C, 19C, 17, 18, 17R, 18R, 8A_ _, 8B_ _, 8C_ _, 8D_ _, 8E_ _, 2_ _, 3_ _ where underscores represent single or double digits using 0 through 9 for extension length)
l = Head Mounting Fittings (6HN, 8HN, 6RNAC, 8RNAC, 6RNBC, 8RNBC, 6RNDC, 8RNDC, 6RNEC, 8RNEC, 6HP, 9HP)
m * = Head Termination (74, 75, 76, 77, 84, 93, or 94 for Groups ABCD; 72, or 82 for Groups BCD; 71 or 81 for Groups CD).
n = Head Options (I, SB, W, RG, M2 and/or T- 440, T- 441, T- 442, T- 642B, T- 662C, T82, T, 00, D, D10 or blank (Not Used)).

T** Temperature Class Code

Transmitter	T Code	Temperature
440, 441, 442, T82	T6/T5/T4	Ta=-40 to +70/80/85°C
642B,642D 662C, (without display)	T6/T5/T4	Ta=-40°C to +55/+70/+85°C

642D-D 642B-D, 662C-D,(D=with display)	T6/T5/T4	Ta=-40 to +55/70/70°C
Blank	T6/T5/T4	Ta=-50 to +80/95/100°C

XP03 a-bcdefghi-j1j2j3j4j5j6j7-k-lm,n RTD Assembly with Threaded, Weld In or Socket weld Thermowell.
XP03 a-bcdefghi-j8j2j9j10j11j4j5j6j7-k-lm,n RTD Assembly with Flanged Thermowell.
XP03 a-bcdefghi-j12-j13-j14-j17-k-lm,n RTD Assembly with Pipe Well.
XP03 a-bcdefghi-j12-j13-j14-j5j9j10j11j15-k-lm,n RTD Assembly with Flanged Mounted Pipe Well.
XP03 a-bcdefghi-j12-j13-j14-j16j15-k-lm,n RTD Assembly with Bushing Mounted Pipe Well.

XP04 a-b1c1d1e1f1-j1j2j3j4j5j6j7-k-lm,n TC Assembly with Threaded, Weld In or Socket weld Thermowell.
XP04 a-b1c1d1e1f1-j8j2j9j10j11j4j5j6j7-k-lm,n TC Assembly with Flanged Thermowell.
XP04 a-b1c1d1e1f1-j12-j13-j14-j17-k-lm,n TC Assembly with Pipe Well.
XP04 a-b1c1d1e1f1-j12-j13-j14-j5j9j10j11j15-k-lm,n TC Assembly with Flanged Mounted Pipe Well.
XP04 a-b1c11de1f1-j12-j13-j14-j16j15-k-lm,n TC Assembly with Bushing Mounted Pipe Well.

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

a = Agency Approval Options (XP, or XF).
b = RTD Class (R1, R3, R5, RA, RB, RC, RD).
b1 = Thermocouple Types (E, EE, EEE, J, JJ, JJJ, K, KK, KKK, T, TT, TTT, N, NN, NNN)
c= RTD Element Construction (T, F, B)
c1 = TC Sheath Diameter (2, 3, 4, 5 6, 8 or XXX for 3 digit decimal between 0.125" and 0.500" (example 156 = 0.156")).
d= No. of Elements (1, 2)
d1 = TC Sheath Materials (3, 8, 9)
e1 = Junction Type (U)
f1 = Special Options (M, H, and / or 8VS or blank if not used)
e= Element Resistance & Coeff. (10, 12, 14, 15, 16, 17, 18, 19, 20, 21, 25, 46, 53, 55, 59, 64, 75, 85, 90, 92, 95)
f = Temperature Range (K, L, M or H).
g = RTD Sheath Diameter (2, 3, 4, 5 6, 8 or XXX for 3 digit decimal between 0.125" and 0.500" (example 156 = 0.156")).
h = RTD Sheath Materials (3, 4, 5, 8, 9, 26, 29, 35, 36, 37)
i = Element Connection (2, 3, or 4).
j1 = Thermowell Threaded Stem Shape, Mounting (S, H, ST, LS, SW, HW, RW, or WI).
j2 = Thermowell Bore Size (2, 3, 4, 5, 6, 8, 166, 203, 404).
j3 = Thermowell Threaded Mounting Thread (C, D, E, F, G, or Z).
j4 = Thermowell Bore Depth (NN (N/N) where N is any number 0 through 9 with possible fractions in inches).
j5 = Thermowell Material (03, 04, 05, 06, 07, 08, 09, 22, 26, 27, 28, 29, 31, 32, 33, 35, 36, 37, 38, 41, 45, 51, 59, 60, 61, or 91).
j6 = Thermowell Lagging Option (T2, T3, TN (N/N) where N is any number 0 through 9 with possible fractions in inches, and blank if not used).
j7 = Thermowell Options (S, O, E, H, F, N, W C8, C9, C22 and blank if not used)
j8 = Thermowell Flange Well Type (SF, HF, or RF).
j9 = Thermowell Flange Size (05, 08, 10, 13, 15, 20, 25, 30, or 40).
j10 = Thermowell Flange Type (F, R, J, or V).
j11 = Thermowell Flange Rating (0, 1, 3, 6, 9, 15 or 25).
j12= Pipe Thermowell Material (03, 04, 05, 06, 07, 08, 09, 22, 26, 27, 28, 29, 31, 35, 36, 37, 38, 41, 45, 51, 59, 60, 61, 91).
j13 = Pipe Thermowell size and schedule (12, 13, 25, 26, 37, 38, 50, 51, 52, 75, 76, 77, 98, 100, 101, 102, 125, 150, 151, 200, 250)
j14 = Pipe Length X (4 to 240 Inches)
j15 = Pipe Well Flange or Bushing Position U (4 to 240 inches)
j16 = Pipe Well Bushing Thread Size (A, B, C, D, E, F, G, H, Q)

j17 = Pipe Well (no process connection)
k = Spring Loading Type (SN, FE, SL or SC; SL not applicable w/Head Termination Option 75).
l = Head Mounting Fittings (6HN, 8HN, 6PN, 8PN, 6XU_, 8XU_, 6RNAC, 6PND, 6XUD_, 8PND, 8RNAC, 8RNBC, 8RNDC, 8XUD_ where underscores represent single or double digits using 0 through 9 for extension length).
m * = Head Termination (74, 75, 76, 77, 84, 93, or 94 for Groups ABCD; 72, or 82 for Groups BCD; 71 or 81 for Groups CD).
n = Head Options (I, SB, W, RG, M2 and/or T- 440, T- 441, T- 442, T- 642B, T- 662C, T82, T, 00, D, D10 or blank (Not Used)).

Condition of Safe Use:

1) *All models are to be mounted within Thermowells suitable rated for the application they are used.*
2) *Suitable Rated Thermowells are to have thread engagement of 5 full turns wrench tight*

T** Temperature Class Code

Transmitter	T Code	Temperature
440, 441, 442, T82	T6/T5/T4	Ta=-40 to +70/80/85°C
642B,642D 662C, (without display)	T6/T5/T4	Ta=-40°C to +55/+70/+85°C
642D-D 642B-D, 662C-D,(D=with display)	T6/T5/T4	Ta=-40 to +55/70/70°C
Blank	T6/T5/T4	Ta=-50 to +80/95/100°C

XP05 a-bcdefghi-j-k-lm,n RTD Spring Load Assembly with flame-path element.
XP06 a-b1c1d1e1f1-j-k-lm,n TC Spring Load Assembly with flame-path element.

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

a = Agency Approval Options (XP, or XF).
b = RTD Class (R1, R3, R5, RA, RB, RC, RD).
b1 = Thermocouple Types (E, EE, EEE, J, JJ, JJJ, K, KK, KKK, T, TT, TTT, N, NN, NNN)
c= RTD Element Construction (T, F, B)
c1 = TC Sheath Diameter (2, 3, 4, 6).
d= No. of Elements (1, 2)
d1 = TC Sheath Materials (3, 4, 5, 8, 9, 41)
e1 = Junction Type (U)
f1 = Special Options (M, H, and / or blank if not used)
e= Element Resistance & Coeff. (10, 12, 14, 15, 16, 17, 18, 19, 20, 21, 25, 46, 53, 55, 59, 64, 75, 85, 90, 92, 95)
f = Temperature Range (K, L, M or H).
g = RTD Sheath Diameter (2, 3, 4, 6).
h = RTD Sheath Materials (3, 4, 5, 8, 9, 26, 29, 35, 36, 37)
i = Element Connection (2, 3, or 4).
j = Sensor Length (NN(N/N) where N = any number between 0 to 9 with possible fractions)
k = Spring Loading Type (FP)
l = Head Mounting Fittings (8HN, 8PU_ where underscore indicates “E” length 4” to 7”))
m * = Head Termination (74, 75, 76, 77, 84, 93, 94, 72, or 82 for Groups BCD; 71 or 81 for Groups CD).
n = Head Options (I, SB, W, RG, M2 and/or T- 440, T- 441, T- 442, T- 642D, T- 662C, T82, T, 00, D, D10 or blank (Not Used)).

Condition of Safe Use:

1) *All models are to be mounted within Thermowells suitable rated for the application they are used.*
2) *Suitable Rated Thermowells are to have thread engagement of 5 full turns wrench tight*

T** Temperature Class Code

Transmitter	T Code	Temperature
440, 441, 442, T82	T6/T5/T4	Ta=-40 to +70/80/85°C
642B,642D 662C, (without display)	T6/T5/T4	Ta=-40°C to +55/+70/+85°C
642D-D 642B-D, 662C-D,(D=with display)	T6/T5/T4	Ta=-40 to +55/70/70°C
Blank	T6/T5/T4	Ta=-50 to +80/95/100°C

XP07 a-bcdefghi-HT-jk-l-m,n RTD Heat tracer assembly.
XP07 a-b1c1d1e1f1g1-HT-jk-l-m,n TC Heat tracer assembly.

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

a = Agency Approval Options (XP, of XF).
b = RTD Class (R1, R3, R5, RA, RB, RC, RD).
b1 = Thermocouple Types (E, EE, EEE, J, JJ, JJJ, K, KK, KKK, T, TT, TTT, N, NN, NNN)
c= RTD Element Construction (T, F, B)
c1 = TC Element construction (blank or P)
d1 = TC Sheath Diameter (4, 6).
d= No. of Elements (1, 2)
e1 = TC Sheath Materials (3, 4, 5, 8, 41)
f1 = Junction Type (U)
g1 = Special Options (M, H, and / or blank if not used)
e= Element Resistance & Coeff. (10, 12, 14, 15, 16, 17, 18, 19, 20, 21, 25, 46, 53, 55, 59, 64, 75, 85, 90, 92, 95)
f = Temperature Range (K, L, M or H).
g = RTD Sheath Diameter (4, 6).
h = RTD Sheath Materials (3, 4, 5, 8, 9, 26, 29, 35, 36, 37)
i = Element Connection (2, 3, or 4).
j = Hot Leg Length (3, XX for customer specified length in inches)
k = Cold Leg Length (4, 6, 8, XX for customer specified length in inches)
l = Mounting Pad (18RD)
m * = Head Termination (74, 75, 76, 77, 84, 93, 94 Groups ABCD, 72, or 82 for Groups BCD; 71 or 81 for Groups CD).
n = Head Options (I, SB, W, RG, M2 and/or T- 440, T- 441, T- 442, T- 642B, T- 662C, T82, T, 00, D, D10 or blank (Not Used)).

T** Temperature Class Code

Transmitter	T Code	Temperature
440, 441, 442, T82	T6/T5/T4	Ta=-40 to +70/80/85°C
642B,642D 662C, (without display)	T6/T5/T4	Ta=-40°C to +55/+70/+85°C
642D-D 642B-D, 662C-D,(D=with display)	T6/T5/T4	Ta=-40 to +55/70/70°C
Blank	T6/T5/T4	Ta=-50 to +80/95/100°C

Equipment Ratings:

Series RTD Sensor Assembly and 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	2011
Class 3615	2006
Class 3810	2005
ANSI/NEMA250	1991

Original Project ID: 3026139 Approval Granted: November 15, 2006

Subsequent Revision Reports / Date Approval Amended

Report Number	Date	Report Number	Date
3052743	July 14, 2015		
3052743 Re-Issue 1	October 14, 2015		

FM Approvals LLC

J.E. Marquedant
Group Manager, Electrical

14 October 2015
Date