



FM Approvals
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CERTIFICATE OF COMPLIANCE

HAZARDOUS (CLASSIFIED) LOCATION ELECTRICAL EQUIPMENT

This certificate is issued for the following equipment:

CH106mn. Connection head.

AS7kabcrdef. Single RTD Assembly with CH106 Connection Head.

AS7kabcrcrdef. Dual RTD Assembly with CH106 Connection Head.

AS7kabghdPff. Thermocouple Assembly with CH106 Connection Head.

AS7kabcrdefij. RTD Transmitter Assembly with CH106 Connection Head.

AS7kabcrdefijt. RTD Transmitter Assembly with CH106 Connection Head.

AS7kabghdPffj. Thermocouple Transmitter Assembly with CH106 Connection Head.

XP / I / 1 / BCD / T6 Ta = 40°C, T2 Ta = 260°C; I / 1 / AEx d / IIC / T6 Ta = 40°C, T2 Ta = 260°C;

DIP / II / 1 / EFG / T6 Ta = 40°C, T2 Ta = 260°C; Type 3, 4, 4X, IP66

- a = Probe type 0, 1, 2, 3, 4, 5, 6, 7, 8 or 9.
- b = Fitting and connection head 1, 3, 5, 7 or 9.
- c = Sensing element material P, N, C or T.
- d = Insertion depth in mm (minimum = 26).
- e = Number of leadwires per element X, Y or Z.
- f = Conduit thread 3 or 4.
- g = Thermocouple type B, E, J, K, L, N, R, S, T, U, BB, EE, JJ, KK, LL, NN, RR, SS, TT or UU.
- h = Junction U or G.
- i = Transmitter model number TT111, TT151, TT164, TT176, TT190, TT205, TT211, TT232, TT233, TT246, TT296, TT316, TT317, TT321, TT333, TT340, TT411, TT511, TT520, TT521, TT522, TT576, TT676, TT711, TT733, TT821 or TT921.
- j = One or two letter temperature code A thru Z or AA thru ZZ.
- k = Probe diameter 0, 2, 4, or 6.
- m = Thread code P1, P2, P3 or P4.
- n = Type and number of connection points T0, T4, T6, T8, W0, W4, or W6.
- r = Resistance curve and tolerance A through Z.
- t = Calibration 0 through 9.



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CH104mn. Connection head.

AS7kabcrdef. Single RTD Assembly with CH104 Connection Head.

AS7kabcrcrdef. Dual RTD Assembly with CH104 Connection Head.

AS7kabghdPf. Thermocouple Assembly with CH104 Connection Head.

AS7kabcrdefjt. RTD Transmitter Assembly with CH104 Connection Head.

AS7kabcrdefijt. RTD Transmitter Assembly with CH104 Connection Head.

AS7kabghdPfi. Thermocouple Transmitter Assembly with CH104 Connection Head.

XP / I / 1 / BCD / T6 Ta = 40°C, T2 Ta = 260°C; I / 1 / AEx d / IIC / T6 Ta = 40°C, T2 Ta = 260°C;

DIP / II / 1 / EFG / T6 Ta = 40°C, T2 Ta = 260°C; Type 3, 4, IP65.

- a = Probe type 0, 1, 2, 3, 4, 5, 6, 7, 8, or 9.
- b = Fitting and connection head 0, 2, 4, 6, or 8.
- c = Sensing element material P, N, C or T.
- d = Insertion depth in mm (minimum = 26).
- e = Number of leadwires per element X, Y, or Z.
- f = Conduit thread 3 or 4.
- g = Thermocouple type B, E, J, K, L, N, R, S, T, U, BB, EE, JJ, KK, LL, NN, RR, SS, TT, or UU.
- h = Junction U or G.
- i = Transmitter model number TT111, TT151, TT164, TT176, TT190, TT205, TT211, TT232, TT233, TT246, TT296, TT316, TT317, TT321, TT333, TT340, TT411, TT511, TT520, TT521, TT522, TT576, TT676, TT711, TT733, TT821, or TT921.
- j = One or two letter temperature code A thru Z or AA thru ZZ.
- k = Probe diameter 0, 2, 4, or 6.
- m = Thread code P1, P2, P3 or P4.
- n = Type and number of connection points T0, T4, T6, T8, W0, W4, or W6.
- r = Resistance curve and tolerance A through Z.
- t = Calibration 0 through 9.



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AS9abcPrdef. Simplex RTD Assembly with CH104 Connection Head.
AS9abcPrPrdef. Duplex RTD Assembly with CH104 Connection Head.
AS9abcghdPf. Thermocouple Assembly with CH104 Connection Head.
AS9abcPrdefij. RTD Transmitter Assembly with CH104 Connection Head.
AS9abcPrdefiqstu. RTD Transmitter Assembly with CH104 Connection Head.
AS9abcghdPfiij. Thermocouple Transmitter Assembly with CH104 Connection Head.
AS9abcghdPfiqstu. Thermocouple Transmitter Assembly with CH104 Connection Head.
XP / I / 1 / BCD T_a = 60°C, T₂ T_a = 260°C; DIP / II,III / 1 / EFG T_a = 60°C, T₂ T_a = 260°C;
I / 1 / AEx d IIC T_a = 60°C, T₂ T_a = 260°C; Type 3, 4, IP65

- a = Connection head and probe diameter 3, 4, or 5.
- b = Probe Type 0, 1, 2, 3, 4, or 5.
- c = Fitting 4, 6, 7, 8, or 9.
- d = Insertion depth in millimeters: min 26.
- e = No. of leadwires per element X, Y, or Z.
- f = Conduit thread 3 or 4.
- g = Thermocouple type B, E, J, K, L, N, R, S, T, U, BB, EE, JJ, KK, LL, NN, RR, SS, TT or UU.
- h = Junction U or G.
- i = Transmitter Model TT111, TT151, TT164, TT176, TT190, TT205, TT211, TT216, TT230, TT232, TT233, TT246, TT266, TT280, TT316, TT317, TT321, TT333, TT340, TT411, TT511, TT520, TT521, TT522, TT576, TT676, TT711, TT733, TT821, TT921, OR TT926.
- j = One or two letter temperature code A through Z or AA through ZZ.
- q = Actual temperature range shown as (Min Temp/Max Temp) Degrees C or F.
- s = Signal output 1 or 2 character number and/or letter or blank.
- t = Calibration 1 or 2 character number and/or letter or blank.
- u = Options 1 or 2 character number and/or letter or blank.



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AS9abcPrdef. Simplex RTD Assembly with CH106 Connection Head.
AS9abcPrPrdef. Duplex RTD Assembly with CH106 Connection Head.
AS9abcghdPf. Thermocouple Assembly with CH106 Connection Head.
AS9abcPrdefij. RTD Transmitter Assembly with CH106 Connection Head.
AS9abcPrdefiqstu. RTD Transmitter Assembly with CH106 Connection Head.
AS9abcghdPfi. Thermocouple Transmitter Assembly with CH106 Connection Head.
AS9abcghdPfiqstu. Thermocouple Transmitter Assembly with CH106 Connection Head.
XP / I / 1 / BCD T_a = 60°C, T₂ T_a = 260°C; DIP / II,III / 1 / EFG T₆ T_a = 60°C, T₂ T_a = 260°C;
I / 1 / AEx d IIC T₆ T_a = 60°C, T₂ T_a = 260°C; Type 3, 4, 4X, IP66

- a = Connection head and probe diameter 0, 1, or 2.
- b = Probe Type 0, 1, 2, 3, 4, or 5.
- c = Fitting 4, 6, 7, 8, or 9.
- d = Insertion depth in millimeters: min 26.
- e = No. of leadwires per element X, Y, or Z.
- f = Conduit thread 3 or 4.
- g = Thermocouple type B, E, J, K, L, N, R, S, T, U, BB, EE, JJ, KK, LL, NN, RR, SS, TT or UU.
- h = Junction U or G.
- i = Transmitter Model TT111, TT151, TT164, TT176, TT190, TT205, TT211, TT216, TT230, TT232, TT233, TT246, TT266, TT280, TT316, TT317, TT321, TT333, TT340, TT411, TT511, TT520, TT521, TT522, TT576, TT676, TT711, TT733, TT821, TT921, OR TT926.
- j = One or two letter temperature code A through Z or AA through ZZ.
- q = Actual temperature range shown as (Min Temp/Max Temp) Degrees C or F.
- s = Signal output 1 or 2 character number and/or letter or blank.
- t = Calibration 1 or 2 character number and/or letter or blank.
- u = Options 1 or 2 character number and/or letter or blank.

Equipment Ratings:

CH106 Series Connection Head and associated probes as explosionproof for Class I, Division 1, Groups B, C, & D; T₆ T_a = 40°C (or 60°C for AS9...), T₂ T_a = 260°C; flameproof for Class I, Zone 1, AEx d IIC T₆ T_a = 40°C (or 60°C for AS9...), T₂ T_a = 260°C; Dust-ignitionproof for Class II, Division 1, Groups E, F, & G; T₆ T_a = 40°C (or 60°C for AS9...), T₂ T_a = 260°C; indoor and outdoor (NEMA Type 3, 4, 4X, IP66) hazardous (classified) locations.

CH104 Series Connection Head and associated probes as explosionproof for Class I, Division 1, Groups B, C, & D; T₆ T_a = 40°C (or 60°C for AS9...), T₂ T_a = 260°C; flameproof for Class I, Zone 1, AEx d IIC T₆ T_a = 40°C (or 60°C for AS9...), T₂ T_a = 260°C; Dust-ignitionproof for Class II, Division 1, Groups E, F, & G; T₆ T_a = 40°C (or 60°C for AS9...), T₂ T_a = 260°C; indoor and outdoor (NEMA Type 3, 4, IP65) hazardous (classified) locations.

FM Approved for:

Minco Products, Inc.
Minneapolis, MN 55432 USA



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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 + A1	1995
ANSI/IEC 60529	2004
ANSI/ISA 60079-0	2002
ANSI/ISA 60079-1	2002
ANSI/NEMA 250	1991

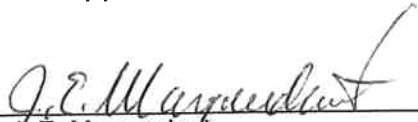
Original Project ID: 3012833

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Subsequent Revision Reports / Date Approval Amended

Report Number	Date	Report Number	Date
3016892	March 25, 2003		
3021095	July 27, 2004		
3029362	May 22, 2007		
091228	January 11, 2010		

FM Approvals LLC



J. E. Marquedant
Group Manager, Electrical

11 January 2010
Date