



Member of the FM Global Group

FM Approvals
1151 Boston Providence Turnpike
P.O. Box 9102 Norwood, MA 02062 USA
T: 781 762 4300 F: 781-762-9375 www.fmapprovals.com

CERTIFICATE OF COMPLIANCE

HAZARDOUS (CLASSIFIED) LOCATION ELECTRICAL EQUIPMENT

This certificate is issued for the following equipment:

AaA592-bcA2Hdef Transmitter

XP / I / 1 / ABCD / T4 Ta = -20°C to +60°C; DIP / II, III / 1 / EFG / T4 Ta = -20°C to +60°C;

IS / I,II,III / 1 / ABCDEFG / T4 Ta = -20°C to +60°C – P0908; Entity;

NI / I / 2 / ABCD / T4 Ta = -20°C to +60°C – P0909; NIFW;

S / II, III / 2 / FG / T4 Ta = -20°C to +60°C – P0909; NIFW;

Type 4X, IP66/67

a = Measurement Type: P or C

b = Sensor Board Type: PH, EC, TE, or TC.

c = Approvals; F1, F2, F3.

d = Mounting Hardware; B0 or B2.

e = Identification Tag; T0, T1, or T2 (other than certification tags).

f = Documentation Language; M1, M2, M3, M4, M5, or M6.

Entity Parameters:

Transmitter

Ui = 30V, Ii = 160mA, Pi = 0.8W, Ci = 5nF, Li = 0.5mH.

Output Field Terminals (4-11):

Uo = 11.8V, Io = 5mA, Po = 15W, Co = 1.45µF, Lo = 1H.

Nonincendive Field Wiring Parameters:

Transmitter:

Vmax = 30V, Ci = 5nF, Li = 0.5mH

Output Field Terminals (4-11):

Voc = 11.8V, Io = 5mA, Po = 1.5W, Ca = 1.45µF, La = 0.5mH

Special Conditions of Use:

APA592-PH For connection to:

- 1. ABB pH/ORP/ISE sensor types TB551, TBX551, TB556, TB557, TBX557, TB561, TBX561, TB562, TBX562, TB564, TBX564, TBX567, AP10, AP20, AP30, 2867, 765, 766, 767.*
- 2. Simple apparatus; passive device that does not contain energy storing components and does not generate more than 1.5V, 100mA or 25 mW.*
- 3. FM Approved I.S. devices with entity parameters (connected per manufacturers instructions).*

ACA592-xx For connection to:

- 1. ABB conductivity sensor types 2025, 2045 2077, 2078, 2085, 2278, AC2, TB25, TB254, TB256, TB26, TB264, TB27, TB404, TB451, TB452, TB456, TB457, TB458, TB461, TB464, TB465, TB468, TB471, TB475.*



Member of the FM Global Group

Equipment Ratings:

Intrinsically Safe (Entity) for use in Class I, II and III, Division 1, Groups A, B, C, D, E, F and G; Temperature Class T4 Ta = 60°C in accordance with Control Drawing No. P0908; Nonincendive for use in Class I, Division 2, Groups A, B, C, and D; Temperature Class T4 Ta = 60°C with Nonincendive Field Wiring and in accordance with Control Drawing P0909; Suitable for use in Class II and III, Division 2, Groups F and G; Temperature Class T4 Ta = 60°C with Nonincendive Field Wiring and in accordance with Control Drawing P0909; Explosionproof for Class I, Division 1, Groups A,B,C and D; and Dust-ignitionproof for Class II, III, Division 1, Groups E, F and G hazardous (classified) locations; indoor and outdoor (Type 4X, IP66/67) locations.

FM Approved for:

ABB Inc - (Lewisburg WV)
Lewisburg, WV United States



Member of the FM Global Group

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

Class 3600	1998
Class 3610	2010
Class 3611	2004
Class 3615	2006
Class 3810	2005
ANSI/NEMA 250	1991
ANSI/IEC 60529	2004

Original Project ID: 0003042581

Approval Granted: October 14, 2011

Subsequent Revision Reports / Date Approval Amended

Report Number	Date	Report Number	Date
---------------	------	---------------	------

FM Approvals LLC

J.E. Marquedant
Group Manager, Electrical

14 October 2011

Date