Certificate of Compliance

Certificate: 2333949 **Master Contract:** 155493

Project: 2646909 **Date Issued:** October 25, 2013

Issued to: **ABB Inc.**

Analytical PRU
843 N Jefferson St,
Lewisburg, WV 24901
USA
Attention: Scott Kiddle

The products listed below are eligible to bear the CSA Mark shown

Dennis Jeffrey

Issued by: Dennis Jeffrey

PRODUCTS

CLASS 2258 03 - PROCESS CONTROL EQUIPMENT - Intrinsically Safe and Non - Incendive Systems - For Hazardous Locations

Class I, Division 1, Groups A, B, C, & D; Class II, Division 1, Groups E, F &G; Class III, Division 1:

TB82PH, ML82PH, 4-20 mA two-wire pH transmitter, TB82EC, ML82EC, 4-20 mA conductivity transmitter, TB82TE, ML82TE, 4-20 mA two-electrode conductivity transmitter and TB82TC, ML82TC, 4-20 mA toroidal conductivity transmitter; rated 42 VDC max., 4-20 mA; intrinsically safe when connected per dwg. No. P0806; temperature code, T3C. Enclosure Type 4X; IP65.

Class I, Division 2, Groups A, B, C, & D; Class II, Division 2, Groups E, F & G; Class III, T5:

TB82PH, ML82PH pH transmitter, TB82EC, ML82EC four-electrode conductivity transmitter, TB82TE, ML82TE two-electrode conductivity transmitter and TB82TC, ML82TC toroidal conductivity transmitter; rated 42 VDC max., 4-20 mA; suitable for installation in Division 2 locations and provides non-incendive outputs to TBI sensors per dwg. No. P0806 (4-20 mA versions) or P0883 (fieldbus versions) when installed in Class I hazardous locations. Enclosure Type 4X; IP65.

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TB84PH, ML84PH, pH analyzer, TB84EC, ML84EC, four-electrode conductivity analyzer, TB84TE, ML84TE, two-electrode conductivity analyzer and TB84TC, ML84TC, 4-20 mA toroidal conductivity transmitter; rated 110-240 VAC, 17VA, 50/60 Hz, contacts rated 10 A/240VAC, 8 A,/24 VDC; suitable for installation in Division 2 locations and provides non-incendive outputs to TBI sensors specified on dwg. No. P0806 when installed in Class I hazardous locations. Enclosure Type 4X; IP65.

CLASS 2258 04 - PROCESS CONTROL EQUIPMENT - Intrinsically Safe, Entity - For Hazardous Locations

Class I, Division 1, Groups A, B, C, & D; Class II, Division 1, Groups E, F & G; Class III, Division 1:

TB82PH, ML82PH pH transmitter, TB82EC, ML82EC conductivity transmitter, TB82TE, ML82TE two-electrode conductivity transmitter and TB82TC, ML82TC toroidal conductivity transmitter; rated 42 VDC max., 4-20 mA; 4-20 mA version intrinsically safe with entity parameters of Vmax = 42 V, Imax = 200 mA, Ci = 0, Li = 0.4 mH, when connected per dwg. No. P0806; fieldbus version intrinsically safe with entity/ FISCO parameters of Vmax = 24 V, Imax = 380 mA, Ci = 0, Li = 0 mH when connected per dwg. No. P0883; temperature code T3C. Enclosure Type 4X; IP65.

APPLICABLE REQUIREMENTS

CAN/CSA Standard C22.2 No. 0-M91 *(Reaffirmed 2001)*	General Requirements - Canadian Electrical Code, Part II
CAN/CSA Standard C22.2 No. 94-M94 *(Reaffirmed 2001)*	Special Purpose Enclosures
CSA Standard C22.2 No. 142-M1987 *(Reaffirmed 2000)*	Process Control Equipment
CAN/CSA Standard C22.2 No. 157-92 *(Including update No. 2, June, 2003)*	Intrinsically Safe and Non-Incendive Equipment for Use in Hazardous Locations.
CSA Standard C22.2 No. 213-M1987 *(Reaffirmed 2008)*	Non-incendive Electrical Equipment for Use in Class I, Division 2 Hazardous Locations
CAN/CSA Standard C22.2 No. 60529:05	Degrees of Protection Provided By Enclosures (IP Code)

MARKINGS

The manufacturer is required to apply the following markings:

- Products shall be marked with the markings specified by the particular product standard.

- Products certified for Canada shall have all Caution and Warning markings in both English and French.

Additional bilingual markings not covered by the product standard(s) may be required by the Authorities Having Jurisdiction. It is the responsibility of the manufacturer to provide and apply these additional markings, where applicable, in accordance with the requirements of those authorities.

The following markings are provided on Avery MMS/P9, 0.002 thick Mylar or 0.005 in. thick polycarbonate nameplates with 3M467 adhesive.

Refer to Descriptive Documents List for Label Drawing(s).

- Manufacturer's name: "ABB", or CSA Master Contract Number "155493" adjacent to the CSA Mark in lieu of the manufacturer's name.
- Model number: as specified in the PRODUCTS section above.
- Electrical rating: as specified in the PRODUCTS section above.
- Manufacturing date in MMYY format, or serial number, traceable to month of manufacture.
- Enclosure ratings: as specified in the PRODUCTS section above.
- Optional: IP rating, as specified in the PRODUCTS section above.
- The CSA Mark, as shown on the Certificate of Conformity.
- Hazardous locations Class, Division, and Group designation: as specified in the PRODUCTS section above.
- Temperature code: As specified in the PRODUCTS section, above. (Optional for equipment rated T5 or T6)
- For models Certified for Class I, Division 2 only: The following words:
  - "WARNING – EXPLOSION HAZARD - Substitution of components may impair suitability for Class I, Division 2."
  - "Install per drawing P0806 or P0883" , followed by number for Nonincendive Field Wiring Control Drawing, as specified in the PRODUCTS section, above.
- For models Certified for Class I, Division 1 only: The following words:
  - "Exia".
  - "Intrinsically Safe"
  - "WARNING: Substitution of components may impair intrinsic safety."
  - "Install per drawing P0806 or P0883"

Supplement to Certificate of Compliance

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The products listed, including the latest revision described below, are eligible to be marked in accordance with the referenced Certificate.

Product Certification History

Project	Date	Description
2646909	Oct 25, 2013	Update to report 2333949 to update the LCD driver on the display board on both TB82 Hart and TB84 versions.
2508629	Nov 21, 2012	Update to report 2333949 to revise the LCD driver on the display board.
2333949	Aug 2, 2010	This project was initiated to transfer report 1074224 from master contract number 216748 into the new master contract number 155493.

History

LR 53016-18	January 9, 1998	Superseded by Report 157332-1074224.
LR 53016-21	March 11, 1998	Update to Report LR 53016-18 to include Models ML82PH, TB82EC and ML82EC.
LR 53016-22	February 8, 1999	Update of Report LR 53016-18 to include Models TB82TE and ML82TE.
LR 53016-24	May 12, 1999	Update of Report LR 53016-18, to include Models xx84xx transmitters.
1074224	March 29, 2000	Supersedes Report LR 53016-18: - (Model TB82PH, TB82EC, TB84XX, ML82PH, ML82EC and ML84XX transmitter, for hazardous locations.) - To cover revised Power Supply Board (including HART Communications).
1106463	July 6, 2000	Update of Report 1074224, to include Toroidal Conductivity Transmitter and Sensor.
1437762	May 9, 2003	Update of Report 1074224 to cover addition of "Fieldbus" version, for TB and ML Series Transmitters.
1514861	May 5, 2004	Variation No 2 to LCIE/CENELEC ATEX EExia Certificate LCIE 02 E6115X. (LCIE 02 ATEX 6115X/02). No CSA report issued.
1633928	January 21, 2005	Update of Report 1074224 to cover minor circuitry and minor drawing changes.
2062895	July 21, 2008	Update of Report 1074224 to cover minor drawing revisions.
2222677	October 1, 2009	Update of Report 1074224 to reflect changes to drawings that affect the TB and ML series of products.