Certificate of Compliance

Certificate:	80229832	**Master Contract:**	205557
Project:	80229832	**Date Issued:**	2025-05-23
Issued to:	**Endress+Hauser Conducta GmbH & Co. KG** **Dieselstraße 24** **Gerlingen, Baden-Württemberg 70839** **Germany** **Attention:** Andreas Bast	**Issued by:**	*Anil Sodhi* Anil Sodhi, P. Eng.

The products listed below are eligible to bear the CSA Mark shown with adjacent indicators 'C' and 'US' for Canada and US or with adjacent indicator 'US' for US only or without either indicator for Canada only.

PRODUCTS

Class 2258 03 PROCESS CONTROL EQUIPMENT - Intrinsically Safe and Non-Incendive Systems - For Hazardous Locations
Class 2258 04 PROCESS CONTROL EQUIPMENT - Intrinsically Safe, Entity - For Hazardous Locations
Class 2258 83 PROCESS CONTROL EQUIPMENT - Intrinsically Safe and Non-Incendive Systems - For Hazardous Locations - Certified to US Standards
Class 2258 84 PROCESS CONTROL EQUIPMENT - Intrinsically Safe, Entity - For Hazardous Locations - Certified to US Standards

Model(s)
Liquiline transmitter CM42B-aabbccddeeff

IS Class I Division 1, Groups ABCD
Ex ia IIC T6/T4 Ga
Class I, Zone 0, AEx ia IIC T6/T4 Ga
Class I Division 2, Groups ABCD T6/T4, NI

Liquiline transmitter **CM42B-aabbccddeeff** is a loop-powered field measuring instrument used for liquid analysis. The transmitter is intrinsically safe and can be installed in hazardous gas atmospheres when installed according to the installation instructions in control drawing XA03509C.

CM42B-aabbccddeeff(g)

aa CB (CSA marking)

bb Sensor
- 11 Memosens
- 21 pH/ORP analogue
- 22 Conductive conductivity analogue
- 23 Inductive conductivity analogue

cc Output
- AA 1 x 4…20 mA, HART
- AB 2 x 4…20 mA

dd Enclosure
- 11 Plastics
- 12 Stainless steel
- 21 Rail mount (optional remote display)

ee Cable glands
- AA M20x1.5
- AB NPT ½" (with adaptor)
- AC G ½" (with adaptor)

ff Other options (not ex relevant)

g Optional = one or more characters determining optional features, e.g. test or other certificates/declarations, remote display (not ex relevant)

Entity parameters for electrical connection:

Input parameters:

1. Current output 1 and 2

(Terminals: 33, 34, FE)	**Maximum values**
Ui / Vmax	30 V
Ii / Imax	100 mA
Pi or Pmax	750 mW
Li	30 µH
Ci (output 1)	15.2 nF
Ci (output 2)	7.9 nF

Output parameters:

1. Memosens Interface (Digital Sensor)

(Terminals: 87, 88, 97, 98)	**Maximum values**
Uo	5 V
Io	100 mA
Po	120 mW

Li	0 uH
Ci	15.6 uF
Lo	3.5 mH
Co	100 uF

2. Analog Sensor Interface (VSPH1/pH/ORP sensor)

(Terminals: 11, 12, 13, 14, 16, 17, 18, 20, 22)	**Maximum values**
Uo	5 V
Io	30 mA
Po	37.5 mW
Li	0 uH
Ci	1 uF
Lo	30 mH
Co	100 uF

3. Analog Sensor Interface (VSLI1/Conductive I module)

(Terminals: 11, 12, 13, 15, 16, 17, 18, 20)	**Maximum values**
Uo	7.6 V
Io	95 mA
Po	100 mW
Li	0 uH
Ci	480 nF
Lo	3.5 mH
Co	10.4 uF

4. Analog Sensor Interface (VSLC1/Conductive C module)

(Terminals: 11, 12, 13, 19, 20)	**Maximum values**
Uo	8.2 V
Io	30 mA
Po	38 mW
Li	0 uH
Ci	0 nF
Lo	30 mH
Co	7.6 uF

Ambient Temperature :

Ambient Temperature Range	**T-code**
-20 °C ≤ Ta ≤ +50°C	T6
-20 °C ≤ Ta ≤ +60°C	T4

Field device housing: Plastics and Stainless steel: **IP66, IP67**, Type Rating **4X**
Rail mount device: **IP20**
Remote display: **IP66**, Type Rating **4X**

Conditions of Acceptability:

1. The plastic enclosure version has a high risk of electrostatic discharge. The instructions of the user manual must be observed.
2. For the verification of intrinsically safe circuits, the internal effective capacitance (Ci) needs to be taken into consideration and must be added to the total sum of concentrated capacitance for sensor connections.
3. The maximum value for sensor output is the allowed value for Inductance (Lo) and Capacitance (Co) individually for information

only, however it is not permitted to be used in combination, unless reduced to values as permitted according to the CSA/UL 60079-11 standard requirements for compliance.

4. Intrinsically safe certified Digital Memosens sensors with measuring cable *YK10 & *YK20 and CLS50D (without measuring cable) with a maximum length of 100m may be connected to the output of the digital sensor interface to match the entity parameters as per control drawing XA03509C.
5. Intrinsically safe certified Analog sensors may be connected to the output of the analog sensor interface to match the entity parameters as per control drawing XA03509C.
6. The final installation shall be subject to acceptance by local authority having jurisdiction.
7. The rail mount version of CM42B transmitter is rated IP20 which shall be installed within a separate cabinet as applicable for end use.

APPLICABLE REQUIREMENTS

CSA C22.2 No. 60079-0:19 - Fourth Edition - Explosive atmospheres — Part 0: Equipment — General requirements

CAN/CSA C22.2 No. 60079-11:14 - Second Edition - Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"

CAN/CSA C22.2 No. 213-17+ UPD 1 (2018) + UPD 2 (2019) + UPD 3 (2021) - Nonincendive electrical equipment for use in Class I and II, Division 2 and Class III, Divisions 1 and 2 hazardous (classified) locations

CAN/CSA C22.2 No. 61010-1-12,UPD1:2015, UPD2:2016, AMD1:2018, UPD3:2023 - Safety requirements for electrical equipment for measurement, control, and laboratory use - Part 1: General requirements

CSA C22.2 No. 94.2:20 - Third Edition - Enclosures for electrical equipment, environmental considerations

ANSI/UL 60079-0-2020 Seventh Edition - Electrical Apparatus for Explosive Gas Atmospheres - Part 0: General Requirements

ANSI/UL 60079-11-2018 Sixth Edition - Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"

UL 121201:2017 - Ninth Edition-Including Revisions through April 1, 2021 - UL Standard for Safety Nonincendive Electrical Equipment for Use in Class I and II, Division 2 and Class III, Divisions 1 and 2 Hazardous (Classified) Locations

ANSI/UL 61010-1:2012 - Third Edition - Including revisions through June 6, 2023 - Safety Electrical Equipment For Measurement, Control, and Laboratory Use; Part 1: General Requirements

UL 50E:2020 - Third Edition - UL Standard for Safety for Enclosures for Electrical Equipment, Environmental Considerations

ANSI/UL 913-2022 Eighth Edition - Intrinsically Safe Apparatus and Associated Apparatus for Use in Class I, II, and III, Division 1, Hazardous (Classified) Locations

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.

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The following markings appear on the product. Refer to the nameplate drawings listed in descriptive documents.

- Manufacturer's name "Endress + Hauser", or CSA Master Contract Number "205557", adjacent to the CSA Mark in lieu of manufacturer's name.
- Marking on the unit that indicates the manufacturing location if the equipment is manufactured at more than one factory location;
- Model designation: As specified in the PRODUCTS section, above.
- Electrical ratings: As specified in the PRODUCTS section, above. (the current outputs may be marked with absolute range of "3.6….23mA")
- Enclosure ratings: As specified in the PRODUCTS section, above.
- Manufacturing date in MMYY format, or serial number, traceable to year and month of manufacture.
- The CSA Mark, with, or without the "C" and "US" indicators, as shown on the Certificate of Conformity.
- CSA Certificate number "**CSA 24CA80229832X**".
- Hazardous Location designation: As specified in the PRODUCTS section above. The word "Class" may be abbreviated "CL", the word "Division" may be abbreviated "DIV", and the word "Groups" may be abbreviated "GRP" or "GP".
- Method of Protection markings (Ex -- markings): As specified in the PRODUCTS section, above.
  The markings may be abbreviated or combined and explained in the manual
- ISO 3864 Symbol B.3.1 ⚠ or ISO 7000 symbol 0434 ⚠ (triangle with exclamation point).
- Functional earthing TERMINAL is identified by the IEC 60417 No 5017 symbol ⏚ , adjacent to the ground TERMINAL on the enclosure.
- The warnings, "Avoid electrostatic charge!" and "Éviter les décharges électrostatiques!"

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Notes:

Products certified under Class(es) C225803, C225804, C225883, C225884 have been certified under CSA's ISO/IEC 17065 accreditation with the Standards Council of Canada (SCC). www.scc.ca

Supplement to Certificate of Compliance

Certificate: 80229832 **Master Contract:** 205557

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
80229832	2025-05-23	Prime cCSAus certification for Liquiline transmitter model CM42B-aabbccddeeff as an Intrinsically safe device.