Certificate of Compliance

Certificate:	80293818	**Master Contract:**	178551
Project:	80293818	**Date Issued:**	2026-04-14
Issued to:	**Flowline Incorporated** **10500 Humbolt St** **Los Alamitos, California** **90720** **United States** **Attention:** Michael Rafferty	**Issued by:**	*Amanda Ma* Amanda Ma

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.

C US

PRODUCTS

Class 2258 04 PROCESS CONTROL EQUIPMENT - Intrinsically Safe, Entity - For Hazardous Locations
Class 2258 84 PROCESS CONTROL EQUIPMENT - Intrinsically Safe, Entity - For Hazardous Locations - Certified to US Standards

Class I, Division 1, Groups A, B, C, D T*
Ex ia IIC T* Ga
Class I, Zone 0, AEx ia IIC T*Ga

Radar Level Transmitter LR81-1**0, LR83-13*0 and LR85-13*0; Supply voltage: 12-30 VDC, signal output: 4-20mA, two-wire, HART, Max. consumption:22.5 mA; Ta: -40˚C ≤ Tamb ≤ 60 ˚C. Enclosure: Type 6P Intrinsically Safe when installed per drawing 8X-CONWIRE.

Entity parameters:
LR81-1**0: Ui/Vmax=30.6V, Ii/Imax=131mA, Pi/Pmax=1.0W Ci=$L_{cable\,(ft)}$ *36pF/ft, Li=132.6uH+ $L_{cable\,(ft)}$ *0.083uH/ft
LR83-13*0, LR85-13*0: Ui/Vmax =30.6V, Ii/Imax =131mA, Pi/Pmax =1.0W, Ci=0, Li=132.6uH

Note1: The capacitance and inductance of the cable used in model LR81-1**0 is 36pF/ft and 0.083µH/ft respectively, where $L_{cable\,(ft)}$ denotes the length of the cable. (unit ft). The maximum allowable length of the cable is 656.17 feet (200m).
Note2 (for ordinary locations): Subject products will be supplied by external LPS circuits.

Breakdown of the model number LR81 is as follows:

Type designation key	LR81-1 * * 0 1 2 3 4
1st character: CLASSIFICATION	1 Intrinsically Safe
2nd character: CABLE ORIENTATION	0 Vertical 1 Horizontal
3rd character: PROCESS MOUNT	0 1 1/2" NPT 1 1 1/2" G with Viton Gasket
4th character: SIGNAL OUTPUT	0 4-20 mA with HART

Breakdown of the model number LR83 is as follows:

Type designation key	LR83- 1 3 * * 1 2 3
1st character: CLASSIFICATION	1 Intrinsically Safe
2nd character: PROCESS MOUNT	0 1 1/2" NPT 1 1 1/2" G with Viton Gasket
3rd character: SIGNAL OUTPUT	0 4-20 mA with HART

Breakdown of the model number LR85 is as follows:

Type designation key	LR85- 1 3 * * 1 2 3
1st character: CLASSIFICATION	1 Intrinsically Safe
2nd character: PROCESS MOUNT	0 3" NPT 1 M80x3 with Viton Gasket 3 3" ANSI Gimbal Flange 5 DIN80 Gimbal Flange
3rd character: SIGNAL OUTPUT	0 4-20 mA with HART

The temperature ratings are depending on the model, ambient temperature and process temperature and are as listed below.

Type	T class of whole equipment	Ambient temperature range	Process temperature range
LR81-1**0	T6	-40˚C to 60 ˚C	-40˚C to 60 ˚C
	T5	-40˚C to 60 ˚C	-40˚C to 80 ˚C
LR83-13*0	T6	-40˚C to 60 ˚C	-40˚C to 60 ˚C
	T5	-40˚C to 60 ˚C	-40˚C to 100 ˚C
LR85-13*0	T6	-40˚C to 60 ˚C	-40˚C to 60 ˚C
	T5	-40˚C to 60 ˚C	-40˚C to 100 ˚C
	T4	-40˚C to 60 ˚C	-40˚C to 120 ˚C

Conditions of Acceptability:

i. The equipment shall not be installed in a location where the external conditions are conducive to the build-up of electrostatic charge on such surfaces. This includes but is not limited to prevent friction to the enclosure surface or by the process medium as well as exposition to high voltage fields. In addition, the equipment shall only be cleaned with a damp cloth.
ii. All parts of the equipment which are in contact with the process medium must only be used in such a medium the materials are sufficiently resistant against.
iii. The product shall only be used in locations where there is a low risk of mechanical impact.

iv. Installation per drawing 8X-CONWIRE and instruction manual.
v. Installation shall be in accordance with the CEC Part I or NEC as applicable.

Conditions of Acceptability (for ordinary locations):

i. Equipment is only to be installed by manufacturer trained personnel.
ii. Equipment has only been tested for electrical safety. No evaluation of functional safety and performance characteristics has been conducted.

APPLICABLE REQUIREMENTS

Standards Used	Description
CAN/CSA C22.2 No. 60079-0:19	Explosive atmospheres - Part 0: Equipment - General requirements
CAN/CSA-C22.2 No 60079-11:14	Explosive Atmospheres - Part 11: Equipment protection by intrinsic safety 'i'
CAN/CSA C22.2 No. 61010-1-12, UPD1:2015, UPD2:2016, AMD1:2018	Safety requirements for electrical equipment for measurement, control, and laboratory use — Part 1: General requirements
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'
ANSI/UL 913:2013 - Eighth Edition - Including revisions through December 6, 2019	UL Standard for Safety Intrinsically Safe Apparatus and Associated Apparatus for Use in Class I, II, and III, Division 1, Hazardous (Classified) Locations
UL 61010-1:2012 - Third Edition - Including revisions through November 21, 2018	Electrical Equipment For Measurement, Control, and Laboratory Use; Part 1: General Requirements

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Notes:

Products certified under Class(es) C225804, 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: 80293818 **Master Contract:** 178551

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
80293818	2026-04-14	Original cCSAus certification on LR Radar Level instrument, model LR8X Series. Class I, Division 1, Groups A, B, C, D T* Ex ia IIC T* Ga Class I, Zone 0, AEx ia IIC T*Ga