CERTIFICATE OF CONFORMITY

1. **HAZARDOUS LOCATION ELECTRICAL EQUIPMENT PER CANADIAN REQUIREMENTS**

2. **Certificate No:** **FM16CA0114X**

3. **Equipment:**
   (Type Reference and Name) **N2910 and N2920 Float and Tape Transmitter (FTT)**
   N8200 Current Output Level Transmitter (COT)
   Transmitter

4. **Name of Listing Company:** **Varec, Inc.**

5. **Address of Listing Company:** **5834 Peachtree Corners East, Suite A**
   Peachtree Corners, GA 30092
   USA

6. The examination and test results are recorded in confidential report number:

   3038297 dated 6th December 2010

7. FM Approvals LLC, certifies that the equipment described has been found to comply with the following Approval standards and other documents:

   CSA-C22.2 No. 0.4:R2017, CSA-C22.2 No. 0.5:R2016, CSA-C22.2 No. 30:R2016,
   CSA-C22.2 No. 94:R2011, CAN/CSA-C22.2 No. 60079-0:2015,
   CAN/CSA-C22.2 No. 60079-1:2016, CAN/CSA-C22.2 No. 60079-11:2014,
   CAN/CSA-C22.2 No. 61010-1:2012, CSA-C22.2 No. 60529:2016

8. If the sign 'X' is placed after the certificate number, it indicates that the equipment is subject to specific conditions of use specified in the schedule to this certificate.

9. This certificate relates to the design, examination and testing of the products specified herein. The FM Approvals surveillance audit program has further determined that the manufacturing processes and quality control procedures in place are satisfactory to manufacture the product as examined, tested and Approved.

Certificate issued by:

J. E. Marquedant
VP, Manager, Electrical Systems

8 November 2018
Date

To verify the availability of the Approved product, please refer to www.approvalguide.com

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10. Equipment Ratings:

N2910 Float and Tape Transmitter (FTT).
N8200 Current Output Level Transmitter (COT).

Explosionproof for Class I, Division 1, Groups C and D Hazardous Locations with a T5 temperature class and a maximum ambient temperature range of -25°C to 85°C.

Flameproof for use in Class I, Zone 1, Ex db, Group IIB Hazardous Locations with a temperature code of T5 with a Gb equipment protection level at a maximum ambient temperature range of -20°C to 85°C.

N2920 Float and Tape Transmitter (FTT)

Explosionproof for Class I, Division 1, Groups C and D Hazardous Locations with a T5 temperature class and a maximum ambient temperature range of -25°C to 85°C.
Explosionproof with Associated Intrinsically Safe outputs for Class I, Division 1, Groups C, and D; with a T5 temperature class and a maximum ambient temperature range of -25°C to 85°C.

Flameproof for use in Class I, Zone 1, Ex db, Group IIB Hazardous Locations with a temperature code of T5 with a Gb equipment protection level at a maximum ambient temperature range of -20°C to 85°C.
Flameproof with Associated Intrinsically Safe outputs for Class I, Zone 1[0], Ex db [ia Ga], Group IIB Hazardous Locations with a temperature code of T5 with a Gb equipment protection level at a maximum ambient temperature range of -20°C to 85°C.

Explosionproof for Class I, Division 1, Groups C and D Hazardous Locations with a T5 temperature class and a maximum ambient temperature range of -40°C to 85°C.
Explosionproof with Associated Intrinsically Safe outputs for Class I, Division 1, Groups C, and D; with a T5 temperature class and a maximum ambient temperature range of -40°C to 85°C.

Enclosure is rated for Indoors / Outdoors (Type 4 / IP66) as indicated for each model.

11. The marking of the equipment shall include:

N2910 Float and Tape Transmitter (FTT).
N2920 Float and Tape Transmitter (FTT)
N8200 Current Output Level Transmitter (COT).

Class I Division 1, Group C,D, T5, Ta= -25°C ≤ Ta ≤ +85°C;
Ex db IIB T5 Gb Ta=-20°C ≤ Ta ≤ +85°C;
Type 4 / IP66;

N2920 Float and Tape Transmitter (FTT)
Class I Division 1, Group C,D, T5; Ta= -25°C ≤ Ta ≤ +85°C; Entity: 28-013355
Class I Division 1, Group C,D, T5; Ta= -40°C ≤ Ta ≤ +85°C; Entity: 28-013355
Ex db [ia Ga] IIB T5 Gb; -20°C ≤ Ta ≤ +85°C; Entity: 28-013355
Zone 1 Per CEC 18-100
Type 4 / IP66

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12. **Description of Equipment:**

The Model N2910 Float & Tape Transmitter (FTT) is a precision digital instrument designed to mount directly to most mechanical float and tape tank gauges and transmit level to an inventory management system. The Model N2910 FTT contains two discrete inputs for connection to ancillary devices, when the AC power option is installed two additional discrete inputs are available. When the AC power option is installed in the device, Six contact outputs which are software driven normally opened or closed outputs are provided. The N2910 FFT has a magnetic encoder. The Model N2910 FTT has a 380 cast aluminum alloy enclosure.

The Model N2910 FTT requires an electrical input of 20-65 VDC power which is supplied through the main communications board. Power can also be supplied with 40-65 VAC, 110 VAC or 220-240 VAC at 50/60 Hz. One or two junction boxes are required when powered by 40-65 VAC, 110 VAC or 220-240 VAC at 50/60 Hz. When the N2910 FTT is ordered with no limit switches, then one junction box is required.

The Model N2920 Float & Tape Transmitter (FTT) is a precision digital instrument designed to mount directly to most mechanical float and tape tank gauges and transmit level to an inventory management system. A display and HART Master I/O module with Intrinsically Safe communications are utilized in the N2920 FTT and each is contained within a separate Junction box. The Model N2920 FTT contains two discrete inputs for connection to ancillary devices, when the AC power option is installed two additional discrete inputs are available. When the AC power option is installed in the device, four contact outputs which are software driven normally opened or closed outputs are provided. The N2920 FFT has a capacitance encoder. The Model N2920 FTT has a 380 cast aluminum alloy enclosure. For -40°C temperatures a Quintex Line bushing is used to make connections between enclosures.

The Model N2920 FTT requires an electrical input of 20-65 VDC power which is supplied to the main communications board. With an optional AC Power printed circuit board the N2920 can also be supplied with 40-65 VAC, 110-120 VAC or 220-240 VAC at 50/60 Hz. One or two junction boxes are required when powered by 40-65 VAC, 110-120 VAC or 220-240 VAC at 50/60 Hz.

The Model N8200 Current Output Level Transmitter (COT) is an electromechanical device that is mechanically coupled to a liquid level indicating gauge head. The drive shaft of the device is coupled to a worm gear that drives the shaft of a potentiometer. Rotation causes current flow in the instrument output loop. The current loop variations are carried through a conductor pair to a central receiver or indicator to provide the signal to remotely display the level of the liquid in a tank. The Model N8200 COT shares the same 380 cast aluminum alloy enclosure with the Model N2910 FTT.

The Model N8200 COT requires an electrical input of 15-48 VDC or 120 VAC/ 220 to 240 VAC at 50/60 Hz.

N2910-abcdefg. Float and Tape Transmitter (FTT).
a = Approval Certification: FM.
b = Power Input: 0, 1, or 2.
c = Communications: NA, MS, MB, or LJ.
d = Range: 0, 1, 2, 3, 4, 5, or 6.
e = Limit Switches: N, A, B, or C.
f = Addition Junction Box: 0, or 1.
g = Digital Inputs / Outputs: A, or B.

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N2920-aabccdefghi. Float and Tape Transmitter (FTT).
Entity Parameters:
Uo = 28V, Io = 120mA, Po = 840mW

Gp	IIB	IIA
Co (uF)	0.65	2.15
Lo (mH)	9.87	19.75

aa = Approval Certification: FC or FM.
b = Power Input: 1, or 2.
cc = Communications: BP, MB, MS, or LJ.
d = Limit Switches: 0, 1, or 2.
e = Limit Switches Range: N, A, B, C, D, E, or F.
f = Digital Inputs/Outputs: 1, or 2.
g = Analog Inputs / Outputs: N, A, B, or C.
h = Hart Inputs / Outputs (Hart Master): 1.
i = Display Orientation: A, B, or C.

N2920-aabccdefghi. Float and Tape Transmitter (FTT).
aa = Approval Certification: FC or FM.
b = Power Input: 1, or 2.
cc = Communications: BP, MB, MS, or LJ.
d = Limit Switches: 0, 1, or 2.
e = Limit Switches Range: N, A, B, C, D, E, or F.
f = Digital Inputs/Outputs: 1, or 2.
g = Analog Inputs / Outputs: N, A, B, or C.
h = Hart Inputs / Outputs (Hart Master): 0.
i = Display Orientation: A, B, or C.

N8200abcde. Current Output Level Transmitter (COT).
a = Input Power Type: 0, 1, or 2.
b = Level Range: 1, to 8.
c = Approval Certification: 1.
d = General Options: 0, to 5.
e = Junction Box: 0, or 1.

13. **Specific Conditions of Use:**

1. Consult the manufacturer if dimensional information on the flameproof joints is necessary.\
2. "A SEAL SHALL BE INSTALLED WITHIN 50 mm OF THE ENCLOSURE" and "UN SCELLEMENT DOIT ETRE INSTALLE A MOINS DE 50 mm DU BOITIER", or equivalent wording.

14. **Test and Assessment Procedure and Conditions:**

This Certificate has been issued in accordance with FM Approvals Canadian Certification Scheme.

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15. **Schedule Drawings**

A copy of the technical documentation has been kept by FM Approvals.

16. **Certificate History**

Details of the supplements to this certificate are described below:

Date	Description
6th December 2010	Original Issue
5th May 2017	Supplement 5: Report Reference: 3058770 dated 5th May 2017 Description of the Change: Update Certificate to new Format. Update CAN/CSA-C22.2 No. 60079-0:2011, CAN/CSA-C22.2 No. 60079-1:2011 and added CAN/CSA-C22.2 No. 60079-11:2011 in section 7, Associated Intrinsically Safe in sections 10 and 11.Minor updates to section 12. Added specific conditions of use in section 13.
22nd May 2017	Supplement 6: Report Reference: 3058770 Reissue Supplement 5, May 15th 2017 Description of the Change: Corrected minor typographical error in section 6.
8th November 2018	Supplement 7: Report Reference: 3063488 dated 8th November 2018 Update standards used for certification, added N2920FTT -40°C versions, update documentation and company address.