

# 1 EC-TYPE EXAMINATION CERTIFICATE



2 Equipment or Protective systems intended for use in Potentially  
Explosive Atmospheres - Directive 94/9/EC

3 EC-Type Examination Certificate No: FM10ATEX0022X

4 Equipment or protective system: N2900 and N2910 Float and Tape Transmitter (FTT)  
(Type Reference and Name) N8200 Current Output Level Transmitter (COT)

5 Name of Applicant: Varec, Inc.

6 Address of Applicant: 5843 Peachtree Corners East; Suite A  
Norcross, GA 30092  
USA

7 This equipment or protective system and any acceptable variation thereto is specified in the schedule to this certificate and documents therein referred to.

8 FM Approvals Ltd, notified body number 1725 in accordance with Article 9 of Directive 94/9/EC of 23 March 1994, certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment intended for use in potentially explosive atmospheres given in Annex II to the Directive.

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

3038297EC dated 6<sup>th</sup> December 2010

9 Compliance with the Essential Health and Safety Requirements, with the exception of those identified in item 15 of the schedule to this certificate, has been assessed by compliance with the following documents:

EN60079-0:2006, EN60079-1:2007, EN60529:1991 + A1:2000

10 If the sign 'X' is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the schedule to this certificate.

11 This EC-Type Examination certificate relates only to the design, examination and tests of the specified equipment or protective system in accordance to the directive 94/9/EC. Further requirements of the Directive apply to the manufacturing process and supply of this equipment or protective system. These are not covered by this certificate.

12 The marking of the equipment or protective system shall include:



II 2 G Ex d IIB T5 Gb Ta = -20°C to +85°C IP66

**Mick Gower**  
Certification Manager, FM Approvals Ltd.,

Issue date: 19<sup>th</sup> September 2013

**THIS CERTIFICATE MAY ONLY BE REPRODUCED IN ITS ENTIRETY AND WITHOUT CHANGE**

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# SCHEDULE



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to EC-Type Examination Certificate No. FM10ATEX0022X

## 13 Description of Equipment or Protective System:

**Model N2900 FTT** – The Model N2900 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 N2900 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 Model N2900 FTT shares the same 380 cast aluminum alloy enclosure with the Model N8200 COT.

**The Model N2910 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, four contact outputs which are software driven normally opened or closed outputs are provided. The N2910 FTT has a new magnetic encoder instead of an optical encoder which was part of the N2900 FTT and can be used as a part replacement for the N2900 FTT. The Model N2910 FTT has the same 380 cast aluminum alloy enclosure as the Model N2900 FTT.

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 V, 110 V or 220-240 V at 50/60 Hz. One or two junction boxes are required when powered by 40-65 V, 110 V or 220-240 V at 50/60 Hz. When the N2910 FTT is ordered with no limit switches, then one junction box is required. Additional information and configurations can be found in the Installation and Operations Manual.

**Model N8200 COT** – The Model N8200 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 N2900 FTT. Additional information can be found in the Installation and Operations Manual listed with documentation.

**Power Requirements** - The Model N8200 COT and Model N2900 FTT require an electrical input of 15-48 Vdc or 120 Vac/ 220 to 240 Vac at 50/60 Hz. Additional information can be found in the Installation and Operations Manuals listed with documentation.

### ***N2900Babcde. Float and Tape Transmitter.***

- a = Power Input: 0 or 1.
- b = Communications: M4, 48 or LJ.
- c = Inputs/Outputs: 0, 1 or 2.
- d = Limit Switches: 0, 2, 3, 4 or 5.
- e = Approval Certification: AT or IC.

### ***N2910-abcdefg. Float and Tape Transmitter.***

- a = Approval Certification: AT.
- b = Power Input: 0, 1 or 2
- c = Communications: N/A, MS, MB or LJ.
- d = Range: 0, 1, 2, 3, 4, 5 or 6.
- e = Limit Switches: N, A or B.
- f = Addition Junction Box: 0 or 1.
- g = Digital Inputs / Outputs: A or B.

### ***N8200abcde. Current Output Level Transmitter.***

- a = Input power type 0, 1 or 2.
- b = Level Range: 1 to 8
- c = Approval Certification: 2 or 3
- d = General Options 0 to 5.
- e = Junction Box 0, 1

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## 14 Special Conditions for Safe Use:

1. Consult the manufacturer if dimensional information on the flameproof joints is necessary.

## 15 Essential Health and Safety Requirements:

The relevant EHSRs that have not been addressed by the standards listed in this certificate have been identified and assessed in the confidential report identified in item 8.

## 16 Test and Assessment Procedure and Conditions:

This EC-Type Examination Certificate is the result of testing of a sample of the product submitted, in accordance with the provisions of the relevant specific standard(s), and assessment of supporting documentation. It does not imply an assessment of the whole production.

Whilst this certificate may be used in support of a manufacturer's claim for CE Marking, FM Approvals Ltd accepts no responsibility for the compliance of the equipment against all applicable Directives in all applications.

This Certificate has been issued in accordance with FM Approvals Ltd's ATEX Certification Scheme.

## 17 Schedule Drawings

A list of the significant parts of the technical documentation is annexed to this certificate and a copy has been kept by the Notified Body.

## 18 Certificate History

Details of the supplements to this certificate are described below:

Date	Description
24 <sup>th</sup> January 2011	Original Issue.
26 <sup>th</sup> May 2011	Supplement 1: Report Reference: 3038297 rev110201 dated 29 <sup>th</sup> March 2011 Description of the Change: Corrected errors in Model Code structure that does not affect safety.
8 <sup>th</sup> November 2011	Supplement 2: Report Reference: Supplement 1 to report 3038297EC dated 26 <sup>th</sup> September 2011 Description of the Change: Addition of Model N2910 Float and Tape Transmitter (FTT)
13 <sup>th</sup> April 2012	Supplement 3: Report Reference: 3038297 rev120216 dated 30 <sup>th</sup> March 2012 Description of the Change: Minor changes to drawings not affecting safety
26 <sup>th</sup> July 2012	Supplement 4: Report Reference: 3038297 rev120424 dated 9 <sup>th</sup> July 2012 Description of the Minor changes to drawings not affecting safety
19 <sup>th</sup> September 2013	Supplement 5: Report Reference: 3021811 rev130214 dated 4 <sup>th</sup> September 2013 Description of the Change: Minor changes to drawings not affecting safety

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# Blueprint Report

Varec, Inc. (1000005120)

Class No 3615

Original Project I.D. 3038297

Certificate I.D. FM10ATEX0022X

<u>Drawing No.</u>	<u>Revision Level</u>	<u>Drawing Title</u>	<u>Last Report</u>	<u>Electronic Drawing</u>
B15595	E	EXPLOSION-PROOF NIPPLE ASSEMBLY -20 WIRES	3038297	Yes (pdf)
B15740	K	EXPLOSION-PROOF NIPPLE ASSEMBLY -10 WIRES	3038297	Yes (pdf)
EX-B12130	C	BEARING/ SEAL	3038297	Yes (pdf)
EX-B12132	G	DRIVE COUPLING - PIN FOR 1/8 DIA. SHAFT	3038297	Yes (pdf)
EX-B12133	D	DRIVE COUPLING SLOT	3043343	Yes (pdf)
EX-C5599	Y	TRANSMITTER HOUSING MACHINING	2/14/13	Yes (pdf)
EX-C7764	C	Fig 8200 Series Current Output Transmitter	3038297	Yes (pdf)
EX-D5235	V	COVER, TRANSMITTER	02/14/13	Yes (pdf)
EX012914	C	KILLARK HKB MODIFICATIONS HKB-B-20-SU9 FLAT 1900 2900 8200 8230	02/14/13	Yes (pdf)
EX06-03313	J	CONDULET ASSY. (2 SHTS.)	02/14/13	Yes (pdf)
EX16-013099AT	A	ATEX / IECEX PRODUCT LABEL FOR 2910 FTT, LIMIT SWICH ONLY	3043343	Yes (pdf)
EX16-013116	B	UNIVERSAL WARNING LABEL	3038297	Yes (pdf)
EX16-02900AT	B	ATEX/IECEX PRODUCT LABEL FOR 2900 FLOAT AND TAPE TRANSMITTER	3038297	Yes (pdf)
EX16-08200AT	B	ATEX/IECEX PRODUCT LABEL FOR 8200 SERIES TANK GAUGE TRANSMITTER	3038290	Yes (pdf)
EX16-2910AT	A	ATEX / IECEX PRODUCT LABEL FOR 2910 FTT FLOAT & TAPE TRANSMITTER	3043343	Yes (pdf)
EX36-07464	C	ENCLOSURE, EXPLOSIONPROOF	02/16/12	Yes (pdf)
EX36-07643	C	ENCLOSURE, EXPL PROOF, FM	07/14/09	Yes (pdf)
EX36-07645	D	SERIES 8200 TRANSMITTER	3038297	Yes (pdf)
IOM005GVAE	1110	8200 CURRENT OUTPUT TRANSMITTER, INSTALLATION AND OPERATIONS MANUAL	3038297	Yes (pdf)
IOM012GVAE	1110	2900 FLOAT & TAPE TRANSMITTER, INSTALLATION AND OPERATIONS MANUAL	02/16/12	Yes (pdf)
IOM104GVAE	1612	2910 FLOAT & TAPE TRANSMITTER (OPERATIONS AND MAINTENANCE MANUAL)	04/24/12	Yes (pdf)
IOM106GVAE	1612	2910 FLOAT & TAPE TRANSMITTER INSTALLATION AND OPERATIONS MANUAL	04/24/12	Yes (pdf)