



1 EU-TYPE EXAMINATION CERTIFICATE

2 **Equipment or Protective systems intended for use in Potentially
Explosive Atmospheres - Directive 2014/34/EU**

3 **EU-Type Examination Certificate No: FM09ATEX0038X**

4 **Equipment or protective system: Model QEX1000 Series ActiveSONAR™
(Type Reference and Name) Flowmeter System**

5 **Name of Applicant: Expro Meters Inc**

6 **Address of Applicant: 50 Barnes Industrial Park N
Wallingford, CT 06492
United States of America**

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 Europe Ltd, notified body number 2809 in accordance with Article 17 of Directive 2014/34/EU of 26th February 2014, 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:

3034211EC dated 29th May 2009.

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:

EN IEC 60079-0:2018, EN 60079-1:2014, EN 60079-18:2015 +A1:2017
and EN 60529:1999 +A1:2000 +A2:2013

10 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.

11 This EU-Type Examination certificate relates only to the design, examination and tests of the specified equipment or protective system in accordance to the directive 2014/34/EU. 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:

For the QEX1000 ActiveSONAR Flowmeter System consisting of TA1000, JB1000 and FT1000 electrical sub-assemblies:



II 2 G Ex db mb IIB T6...T4 Gb Ta = -45°C (-50°C) to +60°C

TA1000 Transducer Assy: II 2 G Ex mb IIB T6...T4 Gb Ta = -45°C to +60°C

JB1000 Junction Box Assy: II 2 G Ex db IIB T6...T4 Gb Ta = -50°C to +60°C

FT1000 Transmitter Assy: II 2 G Ex db IIB T6...T4 Gb Ta = -50°C to +60°C

Damien McArdle

Damien Mc Ardle
Certification Manager, FM Approvals Europe Ltd.

Issue date: 15th December 2020

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

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13 Description of Equipment or Protective System:

The Model QEX1000 Series ActiveSONAR Flowmeter System is a family of clamp-on flowmeters designed to attach to the outside of a process pipe and use ultrasonic signals to measure properties of the fluid or gas flowing within. An array of encapsulated “mb” ultrasonic transducers (TA1000 Series Transducer Assy) on one side of the pipe communicates ultrasonically with a similar array on the opposite side. The driver and receiver electronics are located in a separate flameproof “db” enclosure (FT1000 Series Flow Transmitter Assy) and extract the flow information from the ultrasonic signals. That module is powered by external DC power connections and provides I/O signals to the customer which includes the measured flow information. An additional flameproof “db” enclosure (JB 1000 Series Junction Box Assy), located between the electronics enclosure and the transducer arrays, houses the electrical interconnections.

The parts of the QEX1000 Series have Degree of Protection IP66 or IP67, with IP67 for the TA1000 Series Transducer Assy and IP66 for the other parts of the system.

The specific models described by this Certificate are as follows:

QEX1000a-b-A Flow Meter System consisting of the following TA1000, JB1000 and FT1000 electrical sub-assemblies:

- a = alphanumeric string indicating general configuration and application (Not Ex safety related)
- b = alphanumeric. Operational process temperature [never exceeding 125°C] (Not Ex safety related)

TA1000-aaa-bbb-cc-de-Agh-ii-1-k-A. Transducer Assy

- a = alphanumeric indicating pipe (Not Ex safety related)
- b = alphanumeric indicating the set of transducer components (limited to those elements listed in ECD00021)
- c = alphanumeric indicating primary transducer interface (Not Ex safety related)
- d = 1 or 2 Protective cover material
- e = alphanumeric indicating cover features (Not Ex safety related)
- g = 1,2,3,4,5,6,7,8,9,A,B,C,D,E,F,G,H,J,K,L,M,N,P,Q,R,S,or T. Cable gland
- h = alphanumeric indicating cable length(Not Ex safety related)
- i = alphanumeric indicating language (Not Ex safety related)
- k = alphanumeric. Operational process temperature [never exceeding 125°C] (Not Ex safety related)

JB1000-Ebc-1-e-ff-1-h-A. Junction Box Assy

- b = alphanumeric indicating non-Ex safety-related enclosure options
- c = A, B, C, or D. Ex safety-related enclosure options.
- e = alphanumeric indicating bracket (Not Ex safety related)
- f = alphanumeric indicating language (Not Ex safety related)
- h = alphanumeric. Operational process temperature [never exceeding 125°C] (Not Ex safety related)

FT1000-aa-Ecd-Afg-hh-i-jj-1-A. Flow Transmitter Assy

- a = alphanumeric indicating software (Not Ex safety related)
- c = alphanumeric indicating non-Ex safety-related enclosure options
- d = A or B. Ex safety-related enclosure options.
- f = 1,2,3,4,5,6,7,8,9,A,B,C,D,E,F,G,H,J,K,L,M,N,P,Q,R,S,or T. Cable gland
- g = alphanumeric indicating cable length (Not Ex safety related)
- h = alphanumeric indicating electronics option (Not Ex safety related)
- i = alphanumeric indicating communication protocol (Not Ex safety related)
- j = alphanumeric indicating language (Not Ex safety related)

14 Specific Conditions of Use:

1. Special temperature measurements are required if process temperatures can exceed 100°C. See instructions in ECD00022 or ECD00062.

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2. Special gland and cable selection requirements may apply. See instructions in ECD00022 or ECD00062.

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 EU-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 Europe 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 Europe 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
23 rd June 2009	Original Issue.
05 th April 2010	<u>Supplement 1:</u> Report Reference: – Supplement 1 to Report No 3034211EC dated 01 st April 2010 Description of the Change: An alternate construction of the Transducer Housing Module can be provided to accommodate a thicker transducer element.
07 th May 2014	<u>Supplement 2:</u> Report Reference: – 3034211rev130515 dated 21 st April 2014 Description of the Changes: <ul style="list-style-type: none">• Update to Edition 6 of EN 60079-0• Update to Edition 3 of EN 60079-18• Minor updates to product identification• Revisions to the multi-transducer insert assembly, not affecting Ex Safety• Introduction of a combined safety instruction document ECD00062 that includes all of the instructions of the current ECD00022, in addition to ATEX, US, and Canada safety instruction.• Updates to the marking to show the new safety instruction document, update the web site, and remove the phone number.

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Date	Description
	<ul style="list-style-type: none">Remove the "fall cover" options from the Flow Transmitter Assembly Clarification of Specific Conditions of Use
15 th December 2020	<p>Supplement 3: Report Reference: – RR224365 dated 14th December 2020.</p> <p>Description of the Changes:</p> <ul style="list-style-type: none">Certificate transferred from FM Approvals Ltd., notified body no. 1725, to FM Approvals Europe Ltd., notified body no. 2809Update from EN 60079-0:2012 +A1:2013 to EN IEC 60079-0:2018Update EN 60079-1 from 2007 to 2014Update EN 60079-18 from 2009 to 2015 +A1:2018Update EN 60529:1999 +A1:2000 +A2:2013Minor updates to product labels and this certificate as a result of the aboveMinor updates to combined safety instruction document ECD00062, which includes all of the instructions of the current ECD00022Minor revisions to product and documentation not affecting Ex Safety

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Blueprint Report

Expro Meters Inc (106831)

Class No IEC

Original Project I.D. 3034210

Certificate I.D. FM09ATEX0038X

<u>Drawing No.</u>	<u>Revision Level</u>	<u>Drawing Title</u>	<u>Last Report</u>	<u>Electronic Drawing</u>
ECD00021	05	QEX1000 Certification Drawing - ATEX	RR224365	Yes (pdf)
ECD00022	03	QEX1000 Ex Safety Instructions - IECEX/ATEX	RR224365	Yes (pdf)