

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:** FM16ATEX0114X

4 **Equipment or protective system:** TLS 4-20mA Tank Level System
(Type Reference and Name)

5 **Name of Applicant:** AMETEK Drexelbrook

6 **Address of Applicant:** 205 Keith Valley Rd
Horsham, PA 19044
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 26 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:

3061460 dated 21st April 2017

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 60079-0:2012+A11:2013, EN 60079-1:2014, EN 60079-11:2012, EN 60079-26:2015,
EN 60079-31:2014 and EN 60529:1992+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:



II 1/2 G Ex ia/db IIB T4 Ga/Gb; Tamb = -30°C to +70°C

II 1 G Ex ia IIB T4 Ga; Tamb = -30°C to +70°C

II 2 D Ex ia tb IIIC T90°C Db; Tamb = -30°C to +70°C

Digitally signed by
Richard Zammitt
DN: cn=Richard
Zammitt, o=FM
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Limited,
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Richard Zammitt
Certification Manager, FM Approvals Europe Ltd.

Issue date: 08th April 2019

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

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13 Description of Equipment or Protective System:

General - The TLS Dual 4-20mA Tank Level System (TLS) is a system with Dual 4-20mA Hart Digital outputs for measuring Total Liquid Level, Liquid Level Interfaces, Temperature and System Diagnostics for use with a magnetostrictive level sensor. The system is equipped with either stainless steel or flexible probes. The electronics consist of a power supply module and intrinsically safe probe interface barrier module, which provides intrinsically safe outputs to the probe. An optional 4-button display is available for users to access the menu, which is either installed in the TLS System or the Digital Stik probe. The electronics are housed in a flameproof dual compartment enclosure. The dual compartment enclosure consists of a Viewport Cover for the optional display, or Base and Lid Covers with threads of a M105 X 2 6g/6H thread form. The dual enclosures are separated by an inter-compartment lead-seal that uses Stycast 2651-40 with Catalyst 9 from Emerson and Cuming with a minimum cemented joint length of 12.7 mm. The sensor connections are made through and the two the entries into the field wiring compartment are M20 X 1.5 6H or 3/4 -14 NPT. The probe assembly and dual enclosure is separated by The Coupling/Cylindrical Seal Assembly. The Coupling/Cylindrical Seal Assembly contains a Male 3/4 inch NPT connection and one female 3/4 inch connection. The probe assembly and dual enclosure is separated by a cylindrical seal. The Coupling/Cylindrical Seal Assembly contains a Male 3/4 inch NPT connection and one female 3/4 inch connection. The probe assembly and dual enclosure is separated by the Coupling/Cylindrical Seal Assembly.

Ambient Operating Temperature Range - The TLS 4-20mA Tank Level System has an ambient operating temperature range of -30°C to +70°C.

Ratings - The TLS 4-20mA Tank Level System has the following Entity Parameters:
Vmax = 30V; Imax = 140mA; Pi = 1W; Ci = 0; Li = 0

M a b c d e. 316SS Rigid TLS Dual 4-20mA Tank Level System

Entity Parameters:

Vmax = 30V; Imax = 140mA; Pi = 1W; Ci = 0; Li = 0

- a = Output: 2, 3.
- b = Housing: 3, 4, 5, or 6.
- c = Dual Seal: X.
- d = Material: B, S, or F.
- e = 17 characters not affecting safety.

M a b c V d. UltraFlex TLS Dual 4-20mA Tank Level System.

Entity Parameters:

Vmax = 30V; Imax = 140mA; Pi = 1W; Ci = 0; Li = 0

- a = Output: 2, 3.
- b = Housing: 3, 4, 5, or 6.
- c = Dual Seal: X.
- d = 17 characters not affecting safety.

14 Specific Conditions of Use:

1. The enclosure contains aluminum and is considered a potential risk of ignition by impact or friction. Care must be taken into account during installation and use to prevent impact or friction.
2. Consult the manufacturer if dimensional information on the flameproof joints is necessary.
3. The enclosure contains non-metallic enclosure parts. To prevent the risk of electrostatic sparking, the non-metallic surface should be cleaned with a damp cloth.
4. The O-ring material should not be subjected to environmental conditions which may adversely affect the partition wall.
5. The User shall permanently mark the protection type chosen. Once the type of protection has been

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marked it shall not be changed.

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
05 th May 2017	Original Issue.
08 th April 2019	<u>Supplement 1:</u> Description of the Change: Certificate transferred from FM Approvals Ltd., notified body no. 1725, to FM Approvals Europe Ltd., notified body no. 2809.

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Blueprint Report

AMETEK Automation & Process Technologies (1000001534)

Class No 3610

AMETEK Automation & Process Technologies (1000001534)

Class No 3610

Original Project I.D. 3059818

Certificate I.D. FM16ATEX0114X

<u>Drawing No.</u>	<u>Revision Level</u>	<u>Drawing Title</u>
3061460	04/21/17	Private Labeler/Trade Agent Agreement

<u>Last Report</u>	<u>Electronic Drawing</u>
3061460	Yes (pdf)