



# 1 TYPE EXAMINATION CERTIFICATE

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

3 Type Examination Certificate No: FM07ATEX0035X

4 Equipment or protective system: Logix 3400IQ/MD Series Digital Valve Positioner  
(Type Reference and Name)

5 Name of Applicant: Flowserve US Inc.  
Springville Operation

6 Address of Applicant: 1350 North Mountain Springs Parkway  
Springville, UT 84663  
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. 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:

3027196EC dated 7<sup>th</sup> September 2007

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, EN 60079-15: 2005, EN 60529: 1991+ A1: 2000

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 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 3 G Ex nA nL IIC T6 Ta = -52°C to 60°C; IP65

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

Issue date: 06<sup>th</sup> January 2015

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

FM Approvals Ltd. 1 Windsor Dials, Windsor, Berkshire, UK. SL4 1RS  
T: +44 (0) 1753 750 000 F: +44 (0) 1753 868 700 E-mail: [atex@fmaprovals.com](mailto:atex@fmaprovals.com) [www.fmaprovals.com](http://www.fmaprovals.com)

# SCHEDULE

to Type Examination Certificate No. FM07ATEX0035X

## 13 Description of Equipment or Protective System:

The Logix 3400IQ/MD digital positioner is a two-wire Foundation Fieldbus registered, LinkMaster (LAS) digital valve positioner. The positioner is configurable through the local user interface. The Logix 3400IQ/MD utilizes the FF protocol to allow two-way remote communications with the positioner. The Logix 3400IQ/MD positioned can control both double- and single-acting actuators with linear or rotary mountings. The positioned is completely powered by the Foundation Fieldbus signal.

The equipment operates from 9Vdc to 32Vdc.

Maximum operating current, under normal conditions, is 23 mA.

The equipment requires an air supply of 207 to 1034 kPa at an air consumption rate of less than. 0.5 Nm<sup>3</sup>/hr at 414 kPa.

The equipment operates over an ambient temperature range of -52°C to +60°C. The enclosure is manufactured of either cast powder-painted aluminum (enclosure options 0, 2, 3, 4 or 5) or stainless steel (enclosure option 1). The enclosures are dimensionally identical and differ only in construction material and surface treatment.

Field wiring entries are by way of either two ½” NPT entries or two M20 entries, depending upon the configuration ordered.

### **34ab-CC-ddefg40h00. Logix Digital Valve Positioner.**

Maximum input voltage:

U<sub>i</sub> = 32V

a = Diagnostics: 0, 1 or 2

b = Enclosure: 0, 1, 2, 3, 4 or 5

CC = Software\*: IQ or MD

d = Certification Label: -15 or -28

e = Shaft D6 or N6

f = Conduit Connections: E or M

g = Action: 04, 03, 4V or 3V

h = Gauges: 0G, 0S, KG, KS or 0U

\*The IQ/MD is not required to be part of the model number string, but must be identified on the assembled unit. In certain cases both the IQ and MD may be visible on the unit.

## 14 Specific Conditions of Use:

1. To prevent the risk of electrostatic sparking, the equipment's mechanical pressure gauges shall be cleaned only with a damp cloth.
2. Using the box provided on the nameplate, the user shall permanently mark the protection type chosen for the specific installation. Once the type of protection has been 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.

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## 16 Test and Assessment Procedure and Conditions:

This 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 FM Approvals Ltd.

## 18 Certificate History

Details of the supplements to this certificate are described below:

Date	Description
27 <sup>th</sup> September 2007	Original Issue.
1 <sup>st</sup> August 2008	<u>Supplement 1:</u> Report Reference: – 3027196EC Supplement 1, dated 1 August 2008. Description of the Change: <ol style="list-style-type: none"><li>1. Applicant name changed to Flowserve US Inc. Springville Operations from Flowserve FCD Corporation.</li><li>2. Incorporated a re-designed Fieldbus Board.</li></ol>
21 <sup>st</sup> September 2010	<u>Supplement 2:</u> Report Reference: – 3027196rev100129 dated 9 March 2010 and 3027196rev091201 dated 12 March 2010. Description of the Change: <ol style="list-style-type: none"><li>1. Changed product type to Logix 3400IQ and Logix 3400MD Series.</li><li>2. Modification of the model code structure as a result of introducing MD as an alternative to the IQ designation.</li><li>3. Component changes to Fieldbus board 234394.</li><li>4. Mechanical drawing changes and manufacturing options added.</li></ol>
10 <sup>th</sup> November 2011	<u>Supplement 3:</u> Report Reference: – 3027196rev111006 dated 27 October 2011. Description of the Change: Minor changes to documentation in respect to electrical construction.
16 <sup>th</sup> February 2012	<u>Supplement 4:</u> Report Reference: – 3027196rev111206 dated 27 January 2012. Description of the Change: Minor changes to drawings.
14 <sup>th</sup> March 2012	<u>Supplement 5:</u> Report Reference: – 3027196rev120222 dated 1 March 2012. Description of the Change: Minor changes to electrical construction and minor drawing changes.

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# SCHEDULE

to Type Examination Certificate No. FM07ATEX0035X

29 <sup>th</sup> May 2012	<p><u>Supplement 6:</u> Report Reference: – 3028916rev111214 dated 20 March 2012. Description of the Change:</p> <ol style="list-style-type: none"><li>1. Decrease the lower ambient temperature range to -52°C with corresponding change in equipment marking.</li><li>2. Include new diagnostic code '2' in model code for Pro diagnostic.</li><li>3. Include alternate Mylar nameplate.</li><li>4. Change model code to include alternate label and new diagnostic code.</li><li>5. Minor documentation updates.</li></ol>
06 <sup>th</sup> January 2015	<p><u>Supplement 7:</u> Report Reference: – 3014965rev141016 dated 23<sup>rd</sup> December 2014. Description of the Change: Minor changes to drawings.</p>

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# Blueprint Report

**Flowserve US Inc (1000002350)**

**Class No 3610**

**Original Project I.D. 3027196**

**Certificate I.D. FM07ATEX0035X**

<u>Drawing No.</u>	<u>Revision Level</u>	<u>Drawing Title</u>	<u>Last Report</u>	<u>Electronic Drawing</u>
126173	1	Casting, Main Cover	FM07ATEX0035X	Yes (pdf)
126174	2	Cover	12--6-11	Yes (pdf)
130821	3	Flame Arrester	FM07ATEX0035X	Yes (pdf)
130822	3	Flame Arrester	FM07ATEX0035X	Yes (pdf)
130911	1	Washer, Seal Ring	FM07ATEX0035X Supp7	Yes (pdf)
130912	1	Retaining Ring	FM07ATEX0035X	Yes (pdf)
130913	2	Window	FM07ATEX0035X	Yes (pdf)
130914	3	Shaft bearing	FM07ATEX0035X	Yes (pdf)
137745	0	Cover, Spool Valve	FM07ATEX0035X	Yes (pdf)
137748	0	Cover, User Interface	FM07ATEX0035X	Yes (pdf)
139765	1	Stainless Steel, User Interface	FM07ATEX0035X, Supp 5	Yes (pdf)
141390	3	Cover, Driver Module	FM07ATEX0035X	Yes (pdf)
171209	2	Stainless Steel, Main Cover	12-6-11	Yes (pdf)
185155	1	Feedback Shaft DD	FM07ATEX0035X	Yes (pdf)
191647	1	Schematic, Pressure Sensor Board	FM07ATEX0035X Supp7	Yes (pdf)
191648	2	PCB, Pressure Sensor Board	FM07ATEX0035X	Yes (pdf)
192035	1	Stainless Steel, Modulator Cover	FM07ATEX0035X, Supp 5	Yes (pdf)
192456.000.000	5	BofM, Pressure Sensor Board	FM07ATEX0035X Supp7	Yes (pdf)
192456	4	PCBA, Pressure Sensor Board	FM07ATEX0035X Supp7	Yes (pdf)
192865	0	Logix Hall Sensor T- Board Schematic	FM07ATEX0035X	Yes (pdf)
192866	1	Logix Hall Sensor T- Board PCB	FM07ATEX0035X	Yes (zip)
192867.000.000	2	BofM, Hall Sensor Board	FM07ATEX0035X	Yes (pdf)
192867	4	PCBA, Hall Sensor Board	FM07ATEX0035X	Yes (pdf)
198769	7	198769 rev 4.pdf	FM07ATEX0035X, Supp 5	Yes (pdf)
198770	7	Stainless Steel M- Housing	FM07ATEX0035X, Supp 5	Yes (pdf)
198775	8	Main Housing	FM07ATEX0035X Supp7	Yes (pdf)
198776	7	Stainless Steel, Main Housing M-	FM07ATEX0035X Supp7	Yes (pdf)
215803	0	Feedback Shaft Namur	FM07ATEX0035X	Yes (pdf)
221867	1	PCB, Piezo Board	FM07ATEX0035X Supp7	Yes (pdf)
221868	0	Schematic, Piezo Board	FM07ATEX0035X	Yes (pdf)
221869.000.000	1	BofM, Piezo Board	FM07ATEX0035X	Yes (pdf)
221869	0	PCBA, Piezo Board	FM07ATEX0035X	Yes (pdf)
221962	2	Schematic, User interface Board	2/22/2012	Yes (pdf)
221963	2	Logix 3400IQ User Interace PCB	2/22/2012	Yes (zip_html)
234076	3	Logix 3400IQ Main Board Schematic	FM07ATEX0035X Supp 3	Yes (pdf)
234077	2	Logix 3400IQ Main Board PCB	FM07ATEX0035X	Yes (zip)
234305.000.000	3	BofM, User Interface	FM07ATEX0035X Supp7	Yes (pdf)
234305	2	Logix 3400IQ User Interface PCBA	FM07ATEX0035X Supp7	Yes (pdf)
234364.000.000	2	BofM, Main Control Board	FM07ATEX0035X Supp 3	Yes (pdf)
234364	2	Logix 3400IQ Main Board PCBA	FM07ATEX0035X Supp7	Yes (pdf)
234377	5	Schematic, Fieldbus Bd, Logix 3400	11/6/12	Yes (pdf)
234378	0	PCB, Fieldbus, Logix 3400IQ	FM07ATEX0035X Supp 1	Yes (pdf)
234401	3	Connection Diagram	FM07ATEX0035X Supp7	Yes (pdf)
234408	3	ATEX Label	FM07ATEX0035X, Supp 7	Yes (pdf)
245298.000.000	7	BofM, Fieldbus Board	FM07ATEX0035X Supp 7	Yes (pdf)
245298	5	Fieldbus PCA	FM07ATEX0035X Supp 7	Yes (pdf)
255009	1	Nameplate, Logix 3400MD, FM/ATEX	FM07ATEX0035X	Yes (pdf)
291519	0	Nameplate Mylar, Logix 3400	FM07ATEX0035X, Supp 5	Yes (pdf)
LGENIM3401	01	3400IQ User Instructions, Installation, Operation, Maintenance	FM07ATEX0035X	Yes (pdf)
LGENIM3404	00	3400MD User Instructions, Installation, Operation	FM07ATEX0035X	Yes (pdf)