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:** **FM16ATEX0107X**

4 **Equipment or protective system: (Type Reference and Name)** **FLS-02EC and FLS-02EC-H2 Photoelectric Smoke Detectors**

5 **Name of Applicant:** **Fenwal Controls of Japan, Ltd.**

6 **Address of Applicant:** **232, Tobukicho, Hachiouji-shi, Tokyo, 192-0001 Japan**

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:

3057977 dated 03rd June 2020

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 and EN 60079-1:2014

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:

FLS-02EC-a

II 2 G Ex db IIB T6 0°C ≤ Ta ≤ +50°C

FLS-02EC-H2-a

II 2 G Ex db IIB+H2 T6 0°C ≤ Ta ≤ +50°C

Digitally signed by Richard Zammitt
Date: 2021-01-28 11:23:09
Foxit PhantomPDF Version: 10.0.1

Richard Zammitt
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Issue date: 28th January 2021

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SCHEDULE

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13 **Description of Equipment or Protective System:**

FLS-02EC and FLS-02EC-H2 detect smoke using the scattered light, detecting the scattering of the light reflected by the smoke. There are light emitter (Infrared LED) and the detector (photo-diode) inside, the former emits the light through the lens, and the latter detects the light scattered by smoke to detect the smoke in the hazardous area. This detector outputs include a localized LED, and relays. The installation locations could be battery rooms, combustible engine storage facilities, chemical plants, etc. FLS-02EC is suitable for Group IIB, while FLS-02EC-H2 is suitable for Group IIB+H2.

The construction consists of a single flameproof box, composed of a base and cover, with three M20 or ½"NPT entries. The base and the cover are constructed of ADC12 Aluminium Alloy. The approximate weight of the flame detectors is 3 kg. The construction includes internal and external ground, along with a cable tie insertion slot on the outside.

FLS-02EC and FLS-02EC-H2 are rated for 24VDC ±10%, 10 mA (standby) and 20 mA (alarm), with an ambient temperature range of 0°C to +50°C.

FLS-02EC-a
a = Entries m or n

FLS-02EC-H2-a
a = Entries m or n

14 **Specific Conditions of Use:**

1. The FLS-02EC and FLS-02EC-H2 include flameproof joints, consult Fenwal Controls of Japan, Ltd. if repair of the flameproof joints is necessary.
2. Consult with Fenwal Controls of Japan, Ltd. for genuine replacement cover fasteners: M6X20 hexagon bolts of A2-70 strength class SUS304 stainless steel or better are acceptable alternatives.'

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.

SCHEDULE

to EU-Type Examination Certificate No. FM16ATEX0107X

18 **Certificate History**

Details of the supplements to this certificate are described below:

Date	Description
05th June 2020	Original Issue.
28th January 2021	Supplement 1: Report Reference: RR226405 dated 26th January 2021. Description of the Change: Minor documentation changes not affecting the equipment safety.

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Blueprint Report

Fenwal Controls of Japan Ltd (155974)

Class No 3230

Original Project I.D. 3057977

Certificate I.D. FM16ATEX0107X

Drawing No.	Revision Level	Drawing Title	Last Report
ES1666	10	FLS-02EC(-H2)_Instrucion Manual & Technical Bulletin	3057977
K1B0001	2	Chamber Base	3057977
K2B0005	2	Chamber Cover	3057977
K2B0015	2	Body Base(M Thread)	3057977
K2B0016	2	Body Base(NPT Thread)	3057977
K2B0017	2	Body Cover(Support H2)	3057977
K2B0018	2	Body Cover	3057977
K2B0019	1	Main Board Electrical Schematics	RR226405
K3B0067	2	FLS-02EC-H2 Outline Drawing	3057977
K3B0068	5	FLS-02EC-H2 Structure Drawing	3057977
K3B0069	1	Spigot Joints-1 (-H2)	3057977
K3B0070	1	Cylindrical Joints (-H2)	3057977
K3B0082	2	FLS-02EC Outline Drawing	3057977
K3B0083	5.0	FLS-02EC Structure Drawing	3057977
K3B0084	1	Spigot Joints-1	3057977
K3B0085	1	Cylindrical Joints	3057977
K3B0099	2	Bug Screen	3057977
K3B0100	2	Chamber Protective Cover	3057977
K3B0102	11	Nameplate FLS-02EC	RR226405
K3B0103	3	Wiring Diagram	3057977
K3B0171	6	Nameplate (Supprot H2)	RR226405
K4B0094	2	Lens Holder Cap	3057977
K4B0095	3	Lens(Rod)	3057977
K4B0096	3	Lens(Status Display Lamp)	3057977
K4B0097	2	PD Shield Cover	3057977
K4B0098	2	PD Cap	3057977
K4B0099	2	LED Cap	3057977
K4B0100	2	PD Cap Cover	3057977
K4B0101	2	LED Cap Cover	3057977
K4B0102	2	Rod(Status Display Lamp)	3057977
K4B0104	1	Harness	3057977
K4B0105	2	Terminal Board Electrical Schematics	RR226405
K4B0108	2	Protection Plate (For Main Board)	3057977
K4B0115	1	Stopping Plug	3057977
K4B0127	2	Rubber Sheet	3057977
K4B0128	1	Shield Sheet	3057977
OL1491	4	TERMINAL BOARD	3057977
OL1498	3	IR LED BOARD	3057977
OL1499	3	PD BOARD	3057977
OL1593	6	MAIN BOARD	RR226405
OL1613-1	3	MECHANICAL PARTS(Product)	RR226405
OL1613-2	3	MECHANICAL PARTS(Purchase)	RR226405
QL0424	2	Calibration & Inspection specifications.pdf	RR226405