NITTAN

EXPLOSION-PROOF SMOKE DETECTOR　　FLS-02EC-H2

■ Features

- 6-wire type of operation
- 24VDC operation
- Accurate fire detection
- Intelligent photoelectric chamber
- Easy installation
- Programmable Logic Controller (PLC) Distributed Control System (DCS), integration with relay outputs
- Complete peace of mind

FM APPROVED

IECEx　**Ex**

■ Specifications

Rating	DC24V, 5mA (Standby), 10mA(Alarm)
Range of the voltage	DC24V ± 10%
Alarm Level	1.8 to 3.1 %/ft
Status LED	Color: Red
	-Normal: Blinks once in 10 seconds
	-Alarm: Blinks once in 2 seconds
	-Trouble: Light out
Output Range	Alarm Relay: Form A, DC24V1A
	Trouble Relay: Form B, DC24V 1A
Temp. Range	Operating　0°C ~ +50°C
	Storage　-20°C ~ +70°C
Humidity Range	30 to 85 %RH (No Condensation)
Dimensions	W136mm X D136mm X H100mm (See Figure 1)
Material	Aluminum alloy (ADC12)
Terminals	Wire: 0.2-2.5mm2 or AWG24-12
	Terminal Board: See Figure2
Thread	M20(Option: NPT1/2inch)
Weight	Approx. 2.0kg (4.4lbs)
Manufactured by	Fenwal Controls of Japan, Ltd.
Country of origin	Japan

■ Description

The **FLS-02EC-H2** is reliable Explosion-Proof Smoke Detector certificated with FM / IECEx / ATEX approval.

The **FLS-02EC-H2** has division and zone explosion-proof ratings. The detector is a sensor using the scattered light, and it detects the scattering of light reflected by smoke inside chamber. There are light emitter (Infrared LED) and 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.

The **FLS-02EC-H2** is suitable in a hazardous area and also tolerates hydrogen explosion.

■ Applications

- Chemical plants
- Combustible storage facilities
- Munitions facility
- Volatile chemical storage
- Petroleum refineries
- Battery rooms
- Aerospace facility
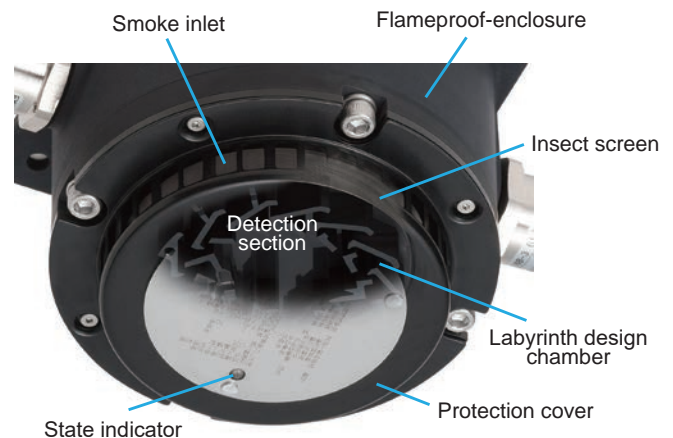- Onshore
- Engine rooms
- Dust explosions

■ Structure of the detection unit

Smoke inlet　　　Flameproof-enclosure

Insect screen

Detection section

Labyrinth design chamber

State indicator　　Protection cover

FLS-02EC-H2-DAT-02　　　Rev.2

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■ Dimensions

Earth
- Single Sems Screw M4×8 and Washer
- M4 Crimped terminal

Cable tie insertion slot

Explosion-proof Structure

29

100

φ101

φ130

136

Nameplate
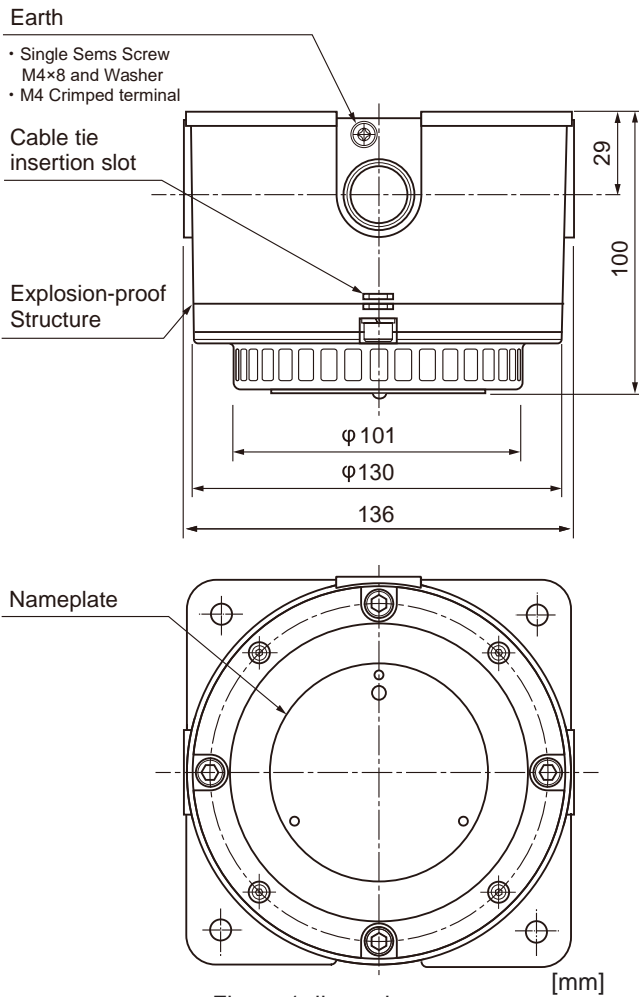
Figure 1 dimensions

[mm]

■ Pin assignments of Terminal Board

Terminal Board 1 2 3 4 5 6

CN5

CN3

CN4

No.2816

1 2 3 4 5 6
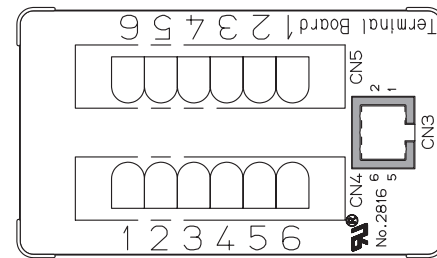
Figure 2 Terminal Board

Pin No.	Function
1	+24V
2	0V
3	Alarm contact-Normal Open
4	Alarm contact-Common
5	Trouble contact-Normal Close
6	Trouble contact-Common

■ Certifications

FM Certification

FM APPROVED

FM18US0151X
Class1, Division1, Group B, C, D T6
Ta=0°C to +50°C
Class1, Zone1, AEx db IIB+B+H2 T6 Gb
Ta=0°C to +50°C

IECEx Certification Standards

IECEx

IECEx FMG 16.0040X
IEC60079-0:2011 (Ed:6.0)
IEC60079-1:2014-06(Ed:7.0)
Ex db IIB+H2 T6 Gb

ATEX Certification

Ex

FM16ATEX0107X
II 2G Ex db IIB+H2 6
0°C < Ta < +50°C

NITTAN

54-5, 1-chome, Sasazuka,
Shibuya-ku, Tokyo 151-8535, Japan
TEL: +81-3-6407-9861 FAX: +81-3-5465-5077

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