مشاوره، نظارت و اجرای سیستمهای آتش نشانی



فروش و تجهیز سیستمهای اعلام و اطفاء حریق

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### Smoke Detector FG-413 Series









### Main Features

- Power supply non-polar input
- Infrared photoelectric sensor
- MCU processing, eliminate false alarm
- Network relay output / LED indicating alarm
- SMT manufacture technology, high stability
- Dustproof, mothproof, anti-light interference design
- Stainless steel shield in chamber, anti-RFI(20V/m-1GHz)
- Execute criterion: GB4715, EN54-7, UL539
- Design Patent No.:201130310516. 3

### Technical specification

Model NO.	FG-413SD-2 FG-413SD-4	
Operating voltage	DC10-30V	DC10-30V
Static current	20uA	13mA (NC) ; 4mA (NO)
Alarm current	35mA@DC12V;83m@DC24V	9mA (NC); 19mA (NO)
Alarm output	Remote LED indicator	Relay output
Installation	Ceiling mounted	Ceiling mounted
Sensitivity	$0.15  ext{dB/m} (\pm 0.03  ext{dB/M})$	$0.15 ext{dB/m}(\pm0.03 ext{dB/M})$
Working environment	-10℃~+50℃, (≤95%RH No congelation)	-10℃~+50℃, (≤95%RH No congelation)
Dimension	Ф100*48mm	Φ100*48mm



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تلفن همراه : ۹۸۹۳۹۹۶۰۳۸۰۰

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# Manual Call Point Technical Data

A modern stylish Fireguard FG921 Manual Call Point designed to provide greater aesthetic appeal. A low profile surface mounting MCP blends in with today's modern architectural styles. The FG921 MCP is ideal where emergency situations are identified and require an immediate evacuation.

The FG921 range offers improved features for both the end user and the installer. A single maintenance tool provides access to test, reset and release the lid to change the glass or reset the element. The FG921 is fully compatible with all conventional systems available on the market. The new MCP is EN54 compliant LPCB Approved.

#### **Product Benefits**

Conventional resettable MCP Clearly visible alarm signal indication Anti-tamper facility Easy installation and maintenance





### **Product Range**

Floudet Range		
Model No.	Model Description	
FG921	Conventional manual call point with LED	
FG921-F	Conventional manual call point with flashing LED	
FG921-TC	Conventional manual call point with LED and transparent cover	
FG921-FTC	Conventional manual call point with flashing LED and transparent cover	

#### FG921 Base Range

Model No.	Model Description
FG921B1	Standard MCP mounting base (Height: 28 mm)
FG921B2	Taller MCP mounting base (Height: 40 mm)
FG921B3	The tallest MCP mounting base (Height: 55 mm)

#### **Electrical Specification**

Cable Termination: 0.5 – 1.5mm<sup>2</sup> Maximum Voltage: 35VDC

Current Rating (switch only): 2Amps

#### **Environmental Specification**

Humidity: 0-95% non-condensing
Operating Temperature: -10°C to +55°C
Storage Temperature: -10°C to +55°C



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# *iQ400 series* 4 and 8 Zone conventional fire alarm control panel



Fireguard iQ series microprocessor based UL listed

conventional control panels provide a solution to any conventional system requirement. Fireguard iQ series panels fully complies with UL-864 and NFPA-72.It comes with 16x2 dot matrix LCD display with lamp & walk test facility. Fireguard iQ series panels advanced features included as standard to ensure ease of use and high reliability.



Model iQ400 series-404- 4 Zone Model iQ400 series-408- 8 Zone

# Features:

- 4 Class B initiating device circuit t (IDC).
- All zones accept smoke detectors and any normally open contact device.
- Any Zone can be configured as Alarm or supervisory Zone.
- 2 Class B Notification Appliance Circuits (NAC).
- Fully complies with UL -864 and NFPA-72.
- Rugged CRCA sheet with powder coated finish.



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- Operates on 120 220v 50 /60 Hz, AC Mains power supply.
- Standby (battery) backup 24v DC power supply with built in charger.
- 16x2 Dot Matrix LCD Display.
- Error free Fire / Fault status in unambiguous colored LED indication.
- System ON indication.
- Main, Standby status audible and visual indication.
- Battery Low visual warning with audible tone.
- Form-C relays for fire, fault and supervisory.
- Resettable / uninterrupted 24v D.C. Output.
- RS 485 Communication facility (Optional).
- Lamp Test facility.
- Walk Test facility.
- Zone Isolation facility with loop voltage cut off.
- Earth fault annunciation facility at 0 ohm
- All field wiring circuits are Power limited except 110 220v AC and Battery.
- All field wiring circuits are supervised.
- AC Low voltage cutoff.
- Programmable NAC's.
- Programmable IDC's.
- Programmable Supervisory Mode.
- Programmable AC loss delay.
- Alarm verification on facility.
- Programmable Trouble reminder facility.



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# **Technical Specification:**

### Primary Power - CN1 (RE-SMPS-4A-R1)

120 - 220VAC ± 10%, 50 Hz,

### Standby Power - CN10

24v D.C (2 Nos of 12v, 12Ah Sealed Lead acid battery).

## Operating Condition

Operating Temperature - 0 - 49° C/32-120° F.

Relative Humidity –  $93\pm2\%$  RH (non-condensing) at  $32\pm2^\circ$  C/ $90\pm3^\circ$  F.

## **Charging Circuit**

Charging Voltage - 28.2V, ±0.5V

Charging Current - 800mA (Max.).

# **Initiating Device Circuits - CN 8**

All zones are Class B Style B/C operation (Programmable).

Normal Operating Voltage: 14-21 VDC.

Alarm Current: 15-30mA.

Short Circuit Current: 45mA Maximum Loop resistance: 100 ohms Maximum End-Of-Line Resistor: 3K9, 1/2watt

Standby Current: 7mA (2mA for Detectors)

# **Notification Appliance Circuits**

Class B Style - Y wiring

Operating Nominal Voltage: 24VDC Special Application

Current for all NACs: 1.2Amps (0.6A per circuit)
Current Limit: CN5 and CN6 via Thermal Fuse

Line Drop: 1.8V

End-Of-Line Resistor: 3K9, 1/2watt

Note: For compatible devices refer Chapter 9(CD 01).

#### D.C. Power - CN7

Operating Voltage: Supervised 24VDC regulated. 300mA Max. (for 4 wire smoke

detector)

### **Common Three Form C Relays**

Relay Contact Rating: 2Amps @ 30 VDC. 2Amps @ 30VAC.

Power Factor: 0.6

### Dimension of the panel

440 x 340 x120mm (l x h x d)



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تلفن همراه : ۹۸۹۳۹۹۶۰۳۸۰۰

تلفن دفتر مرکزی: ۹۱۰۹۲۰۷۶ – ۹۸۲۱

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# **Base Mounted Flame Detector**



### **Product Features**

- · 2 or 4 wire models
- · Advanced detection and discrimination algorithms
- · Easy installation and maintenance
- · Sleek low-profile housing design
- Quick Detection of Flame from Distance
- · High Sensitivity and Wide Directivity
- SMD circuit board design-satisfactory quality and reliability quaranteed
- N/C (normal/close)-N/O (normal/open)selectable relay output or remote LED indication output

#### **Product overview**

FL800-2	2-wire Flame Alarm
FL800-2L	2-wireFlame Alarm with Remote LED Output
FL800-4	4-wire Flame Alarm with Relay Output (12/24VDC)

### **Product information**

The Series FL800 Ultraviolet (UV) Flame Detector is designed to protect areas where flaming fires may be expected.

The detector is sensitive to UV radiation emitted by flames during combustion. Since it requires only UV radiation the flame detector responds even to stationary flames with no flicker like cigarette lighters and blue gas flames.

The detector is set to respond to UV radiation (185 to 260 nm) emitted by almost all flames including those invisible to the naked eye, e.g. hydrogen fires.

The detector has a single UV sensor with a narrow spectral response in order to discriminate between flames and most spurious sources of radiation and is designed for use in internal, fully enclosed areas.



CAUTIONThe detector will also detect electrical discharges from lightning or arc welding.

### **Technical Data**

All data is supplied subject to change without notice. Specifications are typical at 24V, 23°C and 50% RH unless otherwise stated.

 $\begin{array}{ccc} \text{Supply voltage} & 12 & -28 \text{ V dc} \\ \text{Quiescent current} & 250 \text{ } \mu\text{A} \\ \text{Alarm voltage} & 6 \text{ to } 33 \text{ V dc} \\ \text{Alarm current} & 35 \text{ mA at } 28 \text{ V} \\ 30 \text{ mA at } 24 \text{ V} \end{array}$ 

15 mA at 10 V
5 Supply pos

Terminal functions 5 Supply positive 2 Supply negative

6.3 Remote indicator

Remote output characteristics Remote is a current sink to the negative

line limited to 17 mA

Alarm indicator Red light emitting diode

Design alarm load 420  $\Omega$  in series with a 2 V drop

Holding voltage 6 V min
Holding current 10 mA min
Minimum voltage required 12 V

illuminate indicators

Alarm reset voltage >1 V

Alarm reset time 1 second

Range of view 0.1 m² n-heptane at 25 m

Sensitivity Class 1, EN 54-10

Field of view 120° Cone

Spectral response UV 185 to 260 nm

Operating temperature -40°C to +70°C

(no condensing or icing)

Storage temperature -40°C to +85°C

Relative humidity 95% non-condensing

IP rating Ip40

Dimensions 102 mm x 40 mm detector only

102 mm x 40 mm detector and base

Weight 90 g - detector only

130 g - detector and base

Materials: Housing: White polycarbonate, V-0 rated to UL94

Terminals: Nickel plated stainless steel



### **Electrical considerations**

The detector signals an alarm state by switching an alarm latch on increasing the current drawn from the supply from 250  $\mu$ A to a maximum of about 35 mA. This fall in the impedance of the detector is recognised by the control panel as an alarm signal.

The alarm current also illuminates the detectors integral LEDs. A remote indicator connected between the 6 In terminal and the 3 terminal will have a voltage equal to the supply voltage less one volt across it and so will illuminate.

To ensure correct operation of the detector the control panel must be arranged to supply a maximum of 30 V dc and a minimum of 12 V dc in normal operation.

The supply may fall to 6 V dc in alarm conditions if a supply current of at least 10 mA is available at this voltage.

To ensure effective illumination of the integral LEDs and any remote indicator, the supply to the detector should exceed 12 V.

To restore the detector to quiescent condition, ensuring all flames are extinguished interrupt the supply to the detector for a minimum of one second.

Note: When using the detector the following must be avoided; outside viewing, UV lamps, electrical sparking, welding and sources of radiation, UV light sources, prolonged ambient temperatures above 60°C and obstructions to the field of view.

### Applications for UV flame detectors

UV flame detectors are designed for use in enclosed spaces and require a clear line of sight within the area to be protected. They are unaffected by draughts or convection currents.

They are fast acting and respond to a flame more than 25 m away (refer to Figure 1).

#### Installation

If fitting to an FL400 Control Panel do not fit more than one device per zone.

If fitting to a conventional control panel please verify the quantity per zone with the panel manufacturer.

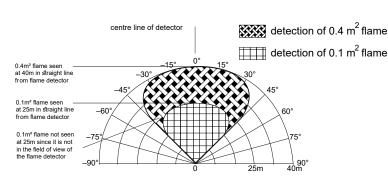


Figure 1: Field of view

The field of view of the flame detector is shown in Figure 1. This also provides information on the size of fire that is detectable at various distances.

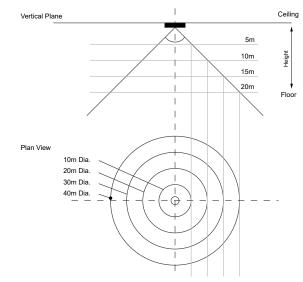


Figure 2: Ceiling mounting example

The flame detectors can also be ceiling mounted, positioned above the anticipated flame source or at the centre of the area to be protected, perpendicular to the floor below. If the detector cannot see the whole of the area to be protected, one or more additional detectors may be required. Refer to the angle of view diagram - Figure 2 - to establish the detector performance. The area of detection is dependent on the detectors height above the likely source of flame. The detector has a 90° conical field of view or 45° either side of the viewing axis centre line. The maximum ceiling height is 20 m. If the detector is perpendicular to the floor and at a height of 10 m then the detector will view a circular floor area below with a 10 m radius - 20 m diameter circle.



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# Fire Resistant Cables- Fireguard-UK FG FRC 180 PH30





Fireguard cables are manufactured with latest technology to ensure consistent quality and reliability. All the cables are fully traceable with batch no. Fireguard Cables are LPCB approved to BS 6387 CWZ and EN 50200 for 2, 3 & 4 Cores.

#### Features:

Halogen Free Flame retardant

Low Smoke

Supplied on robust plastic reels

Safe & Easy to handle

Weather & Moisture resistant

100m, 500m reels and other special lengths available on request

### **Construction**

Conductor Solid bare copper (IEC/ EN 228, BS 6360, VDE 0295, HD 383)

Insulation Fire resistant silicon rubber (HD 22.1, BS 7655 EI2), colors: BS7671/HD308-

S2/VDE0293-308 (for more than 5 cores white core/black numbered)

Separator Polyester tape

Drain Wire 0.80 mm Solid tinned copper

Shield Aluminum laminated polyester tape

Sheath HFFR, Red (RAL 3000) or White; EN 50290-2, VDE 0207 HM2, BS 7655 LTS1 / LTS3

#### **Technical and Electrical Properties (20°C)**

Conductor Resistance (max.) 1 mm<sup>2</sup>: 18  $\Omega/\text{km}$  - 1.5 mm<sup>2</sup>: 12  $\Omega/\text{km}$  - 2.5 mm<sup>2</sup>: 7.4  $\Omega/\text{km}$ 

Insulation Resistance (min.) 200 M.Ωxkm

Operating Voltage 300 V / 500 V Test Voltage 2000 V

Temperature Range Fixed -30 °C ...+90 °C Flexing -5 °C ...+60 °C

Min. Bending Radius Fixed 8 x Cable Diameter, Flexing 15 x Cable Diameter



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Flame Tests IEC / EN 60332-1, IEC 60332-3-24<sub>. (BS</sub> 4066 part 1&3), EN 50266-2-4

Insulation Integrity Smoke IEC 60331, BS 6387 C, W, Z, EN 50200 PH30

Density IEC / EN 61034, BS 7622, HD 606

Corrosive Gas Measurement IEC 60754-2, BS 6425, EN 50267

Cross Section (mm²)	Dia. (+/-5%) mm	Copper W (kg/km)	Cable W. (kg/km)
2x1.00	5.80	23	51
3x1.00	6.00	32	65
4x1.00	6.60	41	81
2x1.50	6.65	33	70
3x1.50	6.75	46	90
4x1.50	7.60	59	110
2x2.50	7.80	50	100
3x2.50	8.25	72	135
4x2.50	9.10	95	165

# **Application:**

Power Supply or Control of equipment, Fire Alarm systems, Emergency lighting, Evacuation & Monitoring systems

Colours available: Red / White



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# FG-BD100 BEAM DETECTOR



### **PRODUCT OVERVIEW**

Reflective Beam Detector has built in Laser beam pointing and Digital guide display for real user friendly alignment method. The Laser bam pointing accurately point the exact location where to mount mirror and with additional digital guide display allows to monitor and guide on the actual light intensity between the mirror and detector which cannot be seen by our naked eye making it more easy and convenient in alignment commissioning.

FG-BD100 has four adjustable operational ranges between 8 to 20, 20 to 40, 40 to 70 and 70 to 100 metres beside with three adjustable sensitivity setting ranges from 2.6dB, 3.8dB and 5.8dB to meet the specific environmental requirement. FG-BD100 works on the principle of reflective infrared beam obscuration. Used in conjunction with a reflector, it will notify the fire alarm panel when the infrared beam is obscured by smoke.





# **Features**

- > EN54-12 Compliance.
- >Hassle free alignment, built with digital guide display and laser beam pointing.
- > Employ single-ended design through reflective mirror.
- > Four ranges wide monitoring from 8-100 meters via encoder.
- > Built-in microprocessor.
- >Self-diagnosis function can monitor for internal faults.
- > Automatic compensation for factors weakening received signals, such as dust contamination, positional movement and ageing of the transmitter.
- > Fire and Fault interfacing relays.
- >Attractive and pleasing appearance.
- > Real User friendly alignment method.

MODEL	DESCRIPTION	
FG-BD100	REFLECTIVE BEAM DETECTOR	



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