

The new MULTIpoint^{asd} detector from Rafiki

rafiki
PROTECTION



Three smoke detectors

Three heat detectors

Combined smoke/heat detector

Full alarm sounder

Strobe

End-of-line device/loop isolator

MULTIPOINT^{asd}



Rafiki's Multipoint ASD detector range have broken new barriers in fire detection and alarm. Not only does the multipoint offer seven modes of fire detection it also offers an optional built-in sounder and a sounder strobe in a single device.

The multipoint uses patented advanced optical scatter sensor design along with sophisticated electronic technology to deliver reliable smoke or heat detection, whilst substantially reducing false alarms.

The Multipoint ASD retains all the advantages of the original Multipoint detector with a range of additional features to make it a truly market leading design.

'Stealth' Optical Chamber Design

The method of optical scatter fire detection is well known. Sensors comprise an optical emitter and a receiver positioned in a sensing chamber. The emitter and receiver are positioned such that there is no line of site between them, although some light from the emitter does reflect on the walls of the chamber and into the receiver; this is known as standing scatter level. When smoke enters the chamber it increases radiation from the emitter and substantially increases the radiation detected by the receiver, a sensor circuit then triggers an alarm.

A disadvantage of this design is that dust, grease etc. enters the chamber and settle on the walls causing the scatter level to increase or decrease dependant on the type of contamination. This variation can cause false alarms or can mask the presence of a true alarm condition.

Stealth Chamber

Rafiki have designed a, patented, optical scatter smoke sensor that alleviates this problem. This has been achieved by creating a secondary chamber that collects the contamination out of site of the emitter and receiver thereby substantially reducing the incidence of false alarms and improving detection reliability.

Multi-Criteria Detector

The "Multipoint" detector has set new standards in detector technology, using microprocessor control, offering the installer a full range of detection capabilities with audible and visual warning in one compact device. Specifiers and installers who choose the Multipoint detector, do so secure in the knowledge that the fire detection performance of the detector can be matched to the environment in which it is installed – and changed any time during the lifetime of the installation. The mode of detection required can be simply changed by way of a DIL switch in the detector (configurable via commissioning software on addressable systems).

All modes are compliant with European detector type specifications, and are suitable for use in installations compliant with BS5839: Part 1: 2002, Part 6 2004 if used in conjunction with a "Twinflex Plus" system.

The Twinflex Intelligent conventional detector can be set to any one of the smoke or heat detection modes as well as a Combined Mode (Smoke 2 & Heat 2) where a smoke or heat source can trigger a fire decision. This means the end user is given optimum fire protection, even if the installer is unsure of the use of the particular area where the detector is sited. As part of the Twinflex system all Twinflex products including the Twinflex Multipoint detector feature an End of Line monitoring switch, which negates the need to install End of Line monitoring resistors.

The Sita Intelligent addressable detector is able to offer all the choices for detection, or a combination of any listed to give a choice of up to 15 different settings. It is set via a PC when programming the system. The Sita Multipoint also has an in-built loop isolator as well as an input/output facility for local control and switching.

The Multipoint Detector also has the unique benefit of an optional full specification integral sounder. A 90dBA output can be achieved. The Twinflex Intelligent two wire detector can be set to 3 different sound patterns, as well as switched off, with 2 sound output levels. The Sita Intelligent addressable detector has 7 different sound patterns and 3 volume settings.

Automatic Calibration

To ensure the detection capabilities of the Multipoint are never compromised it self-calibrates every 6 hours. It continuously monitors for dust contamination, until, over a period of time, depending on the environment, it reaches a point where the chamber becomes saturated. Before this can develop into a false alarm situation, the panel will indicate that a Multipoint needs attention on both the Twinflex and Sita systems. To make maintenance easy, the Multipoint features a disposable optical chamber. This means the chamber can be simply thrown away, and replaced economically when necessary.

The MULTIPoint detector offers the following modes of detection:

SMOKE 1

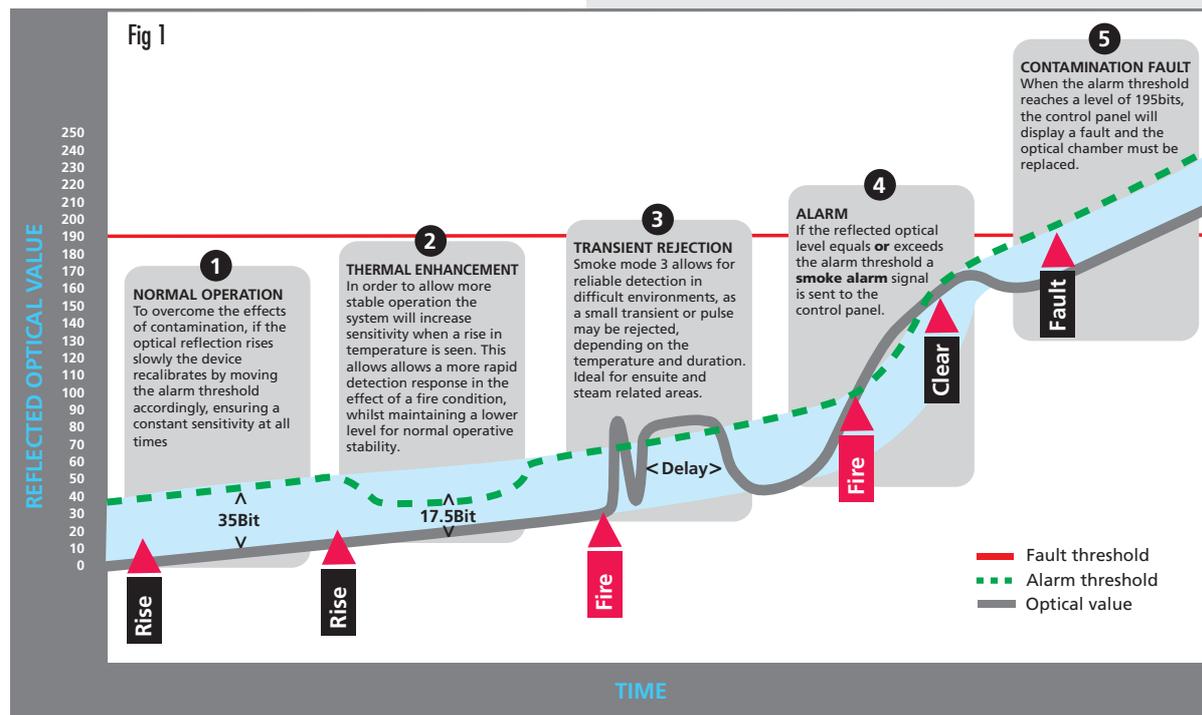
Used where ionisation detectors are normally fitted especially when there are high ceilings or a risk of free burning fires (chemical stores etc), or fires that need to be detected extremely quickly.

SMOKE 2

Used where optical detectors are normally fitted when there is a risk of a smouldering fire and for escape routes.

SMOKE 3

This setting is designed for use in areas that are prone to nuisance alarms. The reduced sensitivity linked with a time delay feature means that a higher concentration of smoke needs to be present for a constant time period, before a fire decision is made (Fig 1). This setting, for example, is ideal for hotel bedrooms with ensuite shower rooms, the end user can change the setting from smoke 2 to smoke 3 if nuisance alarms are becoming a problem – whilst still offering optimum protection of a smoke detection setting, especially if this is what has been specified.



HEAT 1

(Rate of Rise)

Used where a standard rate of rise detector would normally be used

HEAT 2

(Standard Fixed Temperature - 58°C approx)

Used where a standard fixed temperature heat detector would normally be fitted, suitable for kitchens etc

HEAT 3

(High Fixed Temperature - 90°C approx)

Used where a high fixed temperature heat detector would normally be fitted, suitable for boiler rooms etc.

MULTIPOINT Twinflex



Specifiers and installers who choose the Multipoint detector do so secure in the knowledge that the fire detection performance of the detector can be matched to the environment in which it is installed – and changed at any time during the lifetime of the installation. The mode of detection required can be simply set by configuring the DIL switch in the detector electronics module. All modes are compliant with European detector type specifications, and are suitable for use in installations compliant with BS5839: Part 1: 2002.

MODES OF DETECTION

SMOKE 1/Highly thermally enhanced optical

Used where ionisation detectors are normally fitted, especially when there are high ceilings or a risk of free burning fires

SMOKE 2/Thermally enhanced optical

Used where optical detectors are normally fitted, when there is a risk of a smouldering fire and for escape routes.

SMOKE 3/Thermally enhanced optical with pulse rejection

Used where optical detectors are normally used in positions exposed to brief concentrations of water vapour or smoke e.g. from a bathroom, kettle etc.

HEAT 1/Rate of rise to 58°C

Used where a standard rate of rise detector would normally be used

HEAT 2/Low fixed temperature 58°C

Used where a standard fixed temperature heat detector would normally be fitted, suitable for kitchens etc

HEAT 3/High fixed temperature 90°C

Used where a high fixed temperature heat detector would normally be fitted, suitable for boiler rooms, commercial kitchens, etc.

SMOKE 2/HEAT 2

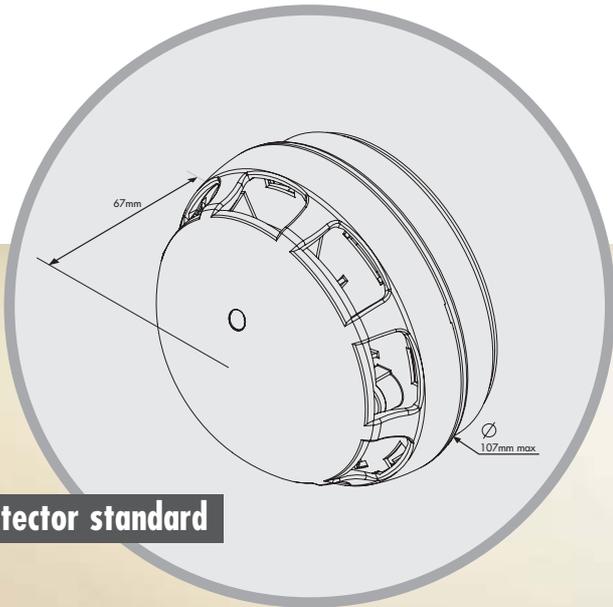
A combination mode of SMOKE 2 & HEAT 2 will trigger with either a smoke or heat source.

Technical specifications

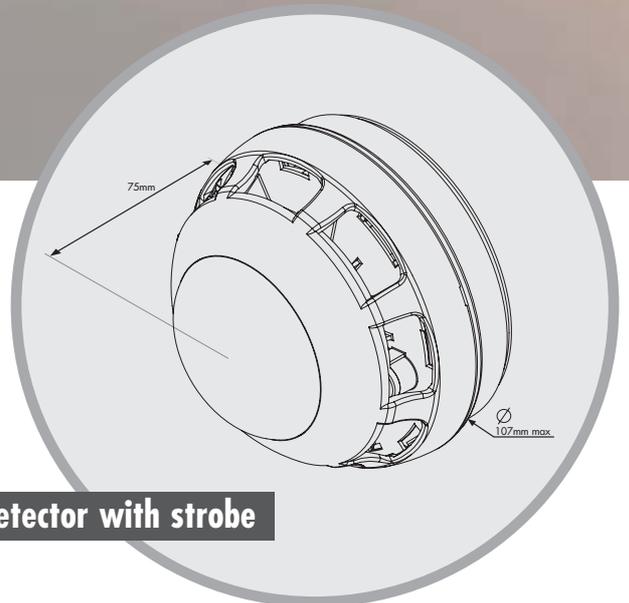
Compatibility:	Twinflex 2-wire	
Operating Temperature:	-10°C to 50°C	
Voltage Range:	18 to 35v DC	
Operating Current:	Quiescent:	65µA
	Alarm:	20mA
	Sound high:	16mA
	Sound low:	8mA
	With a sounder/strobe	Sound high:
	Sound low:	10mA
Loading:	MP:	OSLU (max 32 SLUs per zone)
	Sounder:	1SLU
Sound Outputs:	Low:	75dB(A)
	High:	90dB(A)
Sound Tones:	0, 1, 3 + 4	
LED Operation:	Quiescent:	20s interval
	EOL:	5s interval
	Fault:	1.3s interval
	Alarm:	Constant
Part Code:	No sounder:	204 0003
	With sounder:	204 0001
	With sounder strobe:	204 0012



MULTIPOINT Twinflex



Detector standard



Detector with strobe

If the Multipoint with integral sounder is required, then it too can be set to a choice of 7 different sound patterns and the volume can be set to either:

High (90 dBA)

Low (75 dBA)

Multipoint Sita



Specifiers and installers who choose the Multipoint detector do so secure in the knowledge that the fire detection performance of the detector can be matched to the environment in which it is installed –and changed at any time during the lifetime of the installation.

With the Sita 200 plus System a high technology approach has been adopted, with a microcomputer in each detector implementing a large degree of distributed intelligence. The system can support 200 Multipoint combined detector/sounders on a single loop. Each one not only provides detection, but also the option of a built in sounder. Integrity of the system is maintained by way of a built-in isolator in each device. Sita system intelligence has been harnessed in such a way that equipment used is very easy to install, commission and maintain.

The system has been designed to high specification and quality standards, and is intended to fully comply with the new EN54 -2 and EN54 - 4 standards and EU directives

- Fast short circuit isolator in every device
- 15 combinations of smoke & heat detection modes
- Multi stage alarms - pre alarm feature
- 7 sound patterns - plus off, 3 different volume settings – if using Sita Multipoint with integral sounder
- Auxiliary digital inputs and outputs are available at any Addressable Multipoint device
- Automatic continuous self calibration
- Addressable Multipoint detector is monitored for all failures of sensor chamber - warning is indicated when a smoke detector head requires servicing
- Maintenance is made easy with the unique disposable optical chamber, designed as a cost effective solution to cleaning and re-calibration

All modes are compliant with European detector type specifications, and are suitable for use in installations compliant with BS5839: Part 1: 2002.

Technical specifications

Compatibility:	Sita 200 plus	
Operating Temperature:	-10°C to 50°C	
Voltage Range:	16 to 48v DC	
Operating Current:	Quiescent:	96µA
	MP alarm:	4.9mA
	Sound high:	8mA
	Sound med:	4.7mA
	Sound low:	1.71mA
With Sounder/Strobe:	High:	9.71mA
	Med:	5.81mA
	Low:	2.71mA
Strobe:	1ALU	
Loading:	MP:	0ALU
	Sounder low:	0.5 ALU
	Sounder med:	1.5 ALU
	Sounder high:	2.5 ALU
Sound Outputs:	Low:	75dB(A)
	Med:	85dB(A)
	High:	92dB(A)
Sound Tones:	0, 1, 2, 3, 4, 5, 6 + 7	
LED Operation:	Quiescent:	20s interval
	Fault:	5s interval
	Alarm:	0.3s interval
Part Code:	with sounder:	205 0001
	no sounder:	205 0003
	bases:	905 0001 (pack of 5 sold separately)
	Sounder/strobe:	205 0012



Modes of detection

SMOKE 1

Highly thermally enhanced optical
Used where ionisation detectors are normally fitted, especially when there are high ceilings or a risk of free burning fires

SMOKE 2

Thermally enhanced optical
Used where optical detectors are normally fitted, when there is a risk of a smouldering fire and for escape routes.

SMOKE 3

Thermally enhanced optical with pulse rejection
Used where optical detectors are normally used in positions exposed to brief concentrations of water vapour or smoke e.g. from a bathroom, kettle etc.

HEAT 1

Rate of rise to 58°C
Used where a standard rate of rise detector would normally be used

HEAT 2

Low fixed temperature 58°C
Used where a standard fixed temperature heat detector would normally be fitted, suitable for kitchens etc

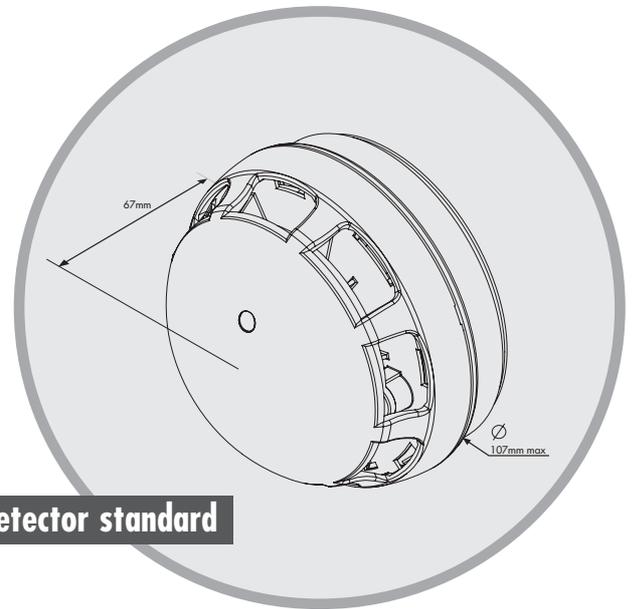
HEAT 3

High fixed temperature 90°C
Used where a high fixed temperature heat detector would normally be fitted, suitable for boiler rooms etc.

Combinations

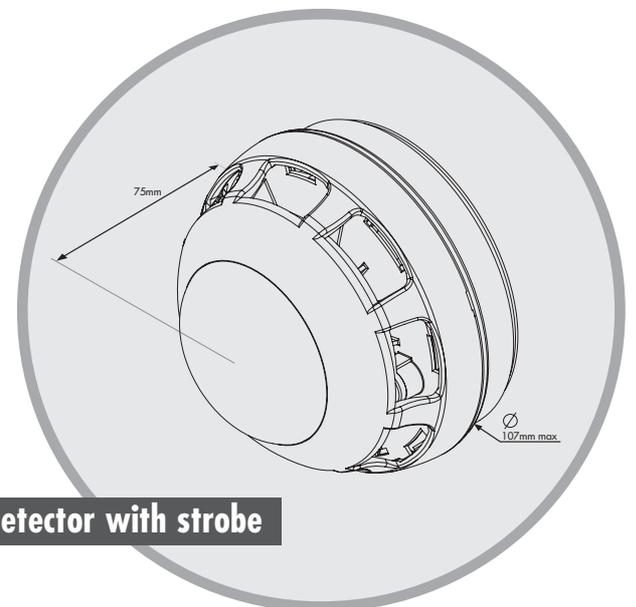
Any combination of smoke and heat modes may be selected, and differing alarm responses selected for each mode.

If the Multipoint with integral sounder is required, then it too can be set to a choice of 7 different sound patterns



Detector standard

Multipoint
Sita



Detector with strobe



MULTIpoint
Sita

MULTIpoint
Twinflex

For more information on the Multipoint ASD Detectors
contact your supplier

rafiki
PROTECTION

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