

rafiki



INTELLIGENT FIRE TECHNOLOGY

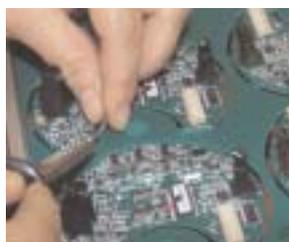
rafiki



Programme of continual product developments...



...Marketing leading designs - today and tomorrow...



...Focus on innovation



Located in Cwmbran, South Wales, Rafiki Protection Ltd is a fully integrated R & D and manufacturing centre. Producing unique products to meet the demands of the Fire Protection market for over 10 years, Rafiki development has been focussed around the "Multipoint" multi-criteria detector which was first launched in 1994.

Multipoint technology is at the core of all Rafiki systems. This multi-criteria detector is available to integrate as part of an intelligent conventional 2-wire system, and also intelligent addressable systems. Due to the advanced micro processor control the Multipoint detector uses, along with optical smoke and high specification thermistor sensors, it gives a highly accurate fire decision. Rafiki systems have focussed development on finding solutions to the problem of "nuisance alarms" - where the detector recognises a source of a fire like phenomenon but it isn't a "true" fire situation. The Twinflex 2-wire system and the Sita 200 plus addressable system use pre-alarm features to allow for 'nuisance alarm filtration' which Rafiki term as "Checkpoint" technology.

Rafiki's broad range of products can be categorised as follows:

- Twinflex intelligent conventional 2 wire system
- Twinflex Plus intelligent conventional 2 wire system with "Checkpoint" Technology
- Sita 200 plus Intelligent Addressable system for the analogue market
- Quadnet multi-loop, networked intelligent addressable systems

All product ranges offer an extensive choice of items that have been designed to accommodate most situations, and full flexibility when planning an installation. A range of auxiliary items are also available from Rafiki, for customers who aim to streamline their supplier base.

Rafiki have defined two distinct routes to market; firstly to Fire Alarm Installation Specialist companies, secondly through Specialist distributors of Fire and Security equipment. The policy is not to supply wholesalers and contractors directly, but to supply to companies that service this sector of the market. Rafiki also exports successfully to companies worldwide.

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Fire detection & alarm systems BS5839

A fire risk assessment should identify:

- **Possible hazards.**
- **Sources of ignition.**
- **Persons at risk of fire.**
- **Means of escape.**
- **Fire detection and alarm systems.**
- **Fire fighting facilities.**
- **Routine procedure in the event of fire.**
- **Any difficulties with the above and plans to put them right.**

Risk assessment

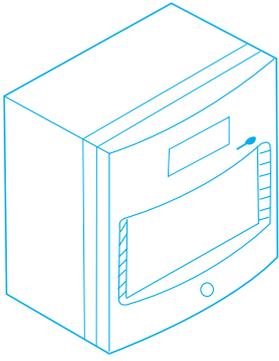
The 'Fire Precautions (Workplace) Regulations' require any business employing five or more persons to hold a written 'Fire Risk Assessment' and 'Emergency Plan'. This must then be periodically reviewed.

The local fire brigade can enforce compliance, and close any building that does not meet this act.

In the event of a fire in a building without a written 'Fire Risk Assessment', those responsible may face fines and imprisonment, and/or private litigation.

What the law requires you to do:

- Complete a fire risk assessment for your work place (considering all employees, the public, disabled people and people with special needs).
- Identify and record any significant findings or persons at risk.
- Provide and maintain fire precautions.
- Provide information, instruction and training.
- Nominate persons responsible to implement your emergency plan.
- Consult employees about the above nominations and your proposals to improve fire precautions
- Inform other employers who may have work places in the building about any significant risks which may affect their safety and co-operate with them to reduce/ control these risks.
- If you are not an employer, but control premises which contain more than one workplace, you are responsible for complying with the fire regulations.
- You must establish a suitable means of contacting the emergency services.
- Your employees must co-operate to ensure the workplace is safe from fire and its effects.



System zoning

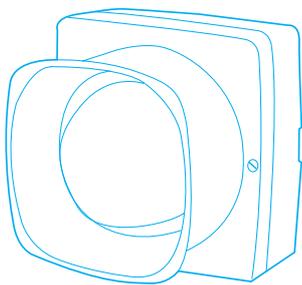
In order to aid identification of the source of a possible fire, the protected building should be divided into 'zones'. When deciding on a suitable zoning scheme for a building, consideration should be given to the size, any existing fire routines, escape routes, zone accessibility, and structural fire compartmentation.

The following guide lines should be observed:

- If the total floor area of the building is less than 300m² then the building needs only one zone, regardless of the number of storeys.

If the total floor area is greater than 300m²:

- The maximum area for a zone is 2000m².
- If a stairwell (or similar) extends beyond one floor it should be a separate zone.
- If a zone covers more than one fire compartment then the zone boundaries should follow the compartment boundaries.
- The search distance in order to ascertain the position of the fire should not exceed 30m. Remember that the use of Remote Indicator lamps may help to reduce the distance travelled.
- If a building is divided between occupiers, zones must not be shared between them.



Manual call points

A 'Manual Call Point' is a device which enables personnel to raise an alarm in the event of a fire incident by pressing a frangible element to activate the alarm system.

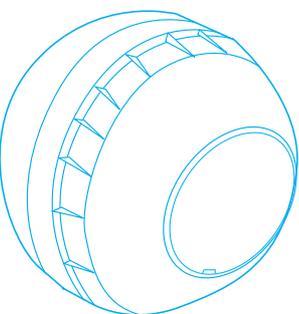
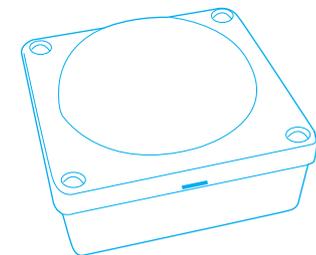
Manual Call Points should be installed at a height of 1.4m above floor level at easily accessible, conspicuous positions, on exit routes, at the entry to floor landings of staircases and at all exits to the open air.

Manual Call Points should be spaced so that one may always be found within a maximum distance of 30m apart.

Automatic detectors

When deciding on the type of detector to be used in any area it is important to remember that the detector has to discriminate between a genuine fire and the normal conditions existing therein, e.g. smoking in staff rooms, steam from ensuite bathrooms, kitchen fumes, vehicle and forklift truck fumes in warehouses, etc.

Generally all types of detectors should be sited on the ceiling at the highest point of the area to be covered. Detectors mounted at greater heights have a reduced efficiency and in these cases further advice should be sought.



Smoke detectors general

In open spaces under flat horizontal ceilings, every point should lie within 7.5m of a smoke detector.

Smoke detection should be generally avoided in the following areas to avoid unwanted alarms. They should be protected by means of other detectors such as heat detectors.

- Contamination in dusty areas may cause unwanted alarms and reduce the life of the detector.
- Damp or humid conditions such as showers, bathrooms and external areas should be avoided as the water vapour may cause unwanted alarms and reduce the life of the detector.
- Detectors should not be mounted where gases, vapours or fumes are present.
- Detectors should never be used at low temperature where ice or condensation can affect detector sensitivity.
- Kitchens, garages, welding shops and boiler houses should generally be avoided.

Heat detectors general

In open spaces under flat horizontal ceilings, every point should lie within 5.3m of a heat detector.

Heat detectors are designed to either detect a rapid rise in temperature or to operate at a fixed temperature. Although they provide a slower response time than smoke detectors they do provide a method of protection for areas where smoke detectors cannot be used.

Heat detectors should not be used for the protection of life or where extensive property loss may be expected.

'Rate of rise' heat detectors

'Rate of Rise' heat detectors respond to both rapid increases of temperature and to a fixed top temperature.

'Fixed temperature' heat detectors

Fixed temperature heat detectors are available with different temperature settings, and are normally installed in kitchens, boiler rooms, etc.

Detection in apex roofs

If the ceiling is pitched or sloping, smoke will tend to rise towards the highest point (apex) of the roof, therefore detection should be placed in the apex. As the slope tends to reduce the delay before smoke or heat reaches the detectors, it is permissible to use a greater spacing between the detectors mounted there.

The spacing of the smoke detectors in the apex only, may be increased by 1% for every degree of slope of the ceiling up to a maximum of 25%.

Fire alarm sounders

Fire Alarm sounders should be installed throughout the building with an even distribution, to generally provide a minimum sound level of 65dB(A) or 5dB(A) above any background noise which is likely to persist for more than 30 seconds.

Where the alarm may have to arouse sleeping persons e.g. hotel bedrooms, nursing homes, etc, a minimum sound level of 75dB(A) is required, at the bed head with all the doors shut.

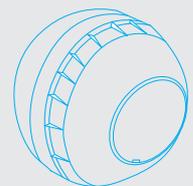
All fire alarm sounders in a building should produce the same sound, distinct from any other audible warning devices in the building.

Where fire alarm sounders are required in extremely noisy areas e.g., machine shops, it may be necessary to install additional 'Visual Indication Beacons'.

Cabling

The operation of a Fire Alarm and Detection System' depends on the cabling and connections between the components. It is essential that connection between Manual Call Points and Detectors function correctly when they are operated.

Cables within the system are required to function correctly for significant periods after being attacked by fire. These include the power supply cables to the control panel, the detection circuits and the fire alarm sounder circuits. Thus the cables chosen must be correctly rated to withstand these conditions.



User responsibilities

Introduction

The responsible person is required under BS5839 to undertake certain tasks with respect to the testing and maintenance of the fire alarm system.

The responsible person is also required to liaise with the building maintenance personnel to ensure that their work does not impair or otherwise affect the operation of the fire alarm system, and to ensure that a clear space is maintained in the vicinity of detectors, and call-points remain unobstructed and conspicuous.

Routine Testing

The responsible person should also ensure that the following routine testing is carried out. If there is a link to a remote monitoring centre it will be necessary to advise the centre prior to a test. On larger systems it may be necessary to isolate building services interfaces to avoid disruption to the occupants. In any case the panel should provide audible and visual indication that parts of the system are disabled.

Daily

Check that the panel indicates normal operation and that any fault is recorded. Also check that the recorded faults have been dealt with.

Weekly

Every week, a different Manual Call Point should be operated to test the ability of the control equipment to receive a signal and sound the alarm. The results should be recorded in the log book.

Biannually

The system should be checked by a fire alarm service organisation. This may be the system installer or an approved maintenance company, and is normally arranged via a maintenance agreement which specifies the number of visits and the level of service. The agreement should also cover non-maintenance visits, eg. call outs to attend faults, etc.

The standard specifies a number of maintenance tasks which include a visual inspection of the installation to ensure that there are no alterations or obstructions which could affect the operation of the system, and functional checks to confirm the operation of the system.

Any defects should be recorded in the log book and reported to the responsible person. A certificate of testing should also be completed and given to the responsible person.

Annually

Each device on the system should be tested for correct operation as before.

Any defects should be recorded in the log book and reported to the responsible person. A certificate of testing should also be completed and given to the responsible person.

Action by the user after a fire

Advise the servicing company and arrange for the system to be tested by them. A certificate of testing should be issued to confirm the system operation following the inspection and any remedial work that is necessary.

Action by the user after any false alarm

The user can assist the servicing company in the identification of false alarms by observing the following:

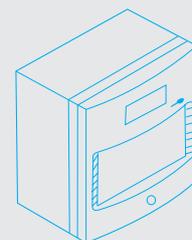
- Always make a note of all illuminated indicators and messages displayed at the control panel.
- Try and identify the activated device, ie. Do not reset the system until the area of the incident has been inspected.
- Record any other incidents occurring at the same time which could affect the system, eg. power supply failure, building works, etc.

The service organisation will be more likely to trace the false alarm if the above information is available.

Action by the user following a fault

When a fault is reported by the control panel, the user should note all illuminated LEDs, and the circumstances at the time the fault occurred, and report to the servicing company.

The service company will be able to advise if the system is still able to respond to a fire alarm or whether extra vigilance should be observed until the fault is rectified. Faults should not be left unreported.





Multipoint Detector

central to all Rafiki systems

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. 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.

Multi-criteria detector, micro-processor control and integral sounder

The “Multipoint” detector has set new standards in detector technology, using microprocessor control even as a conventional detector and offering the installer a full range of detection capabilities with audible 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 configuring the DIL switch in the detector electronics module (also 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 above 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 switch, which negates the need for End of Line resistors.

The Sita Intelligent addressable detector is able to offer all the opposite choices for detection, set to one mode, 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 I/O for local control and switching – see the “Sita” section for further details.

The Multipoint Detector also has the unique benefit of an optional full specification integral sounder. A 90dBA output can be achieved. The Twinflex Intelligent conventional 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.

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.

Twinflex

Twinflex has all of these features

- Two wire installation - Only one circuit per zone to connect detectors and sounders - **installation savings can be as high as 40%**
- Break glass identification. The panel has the ability to differentiate between call point or detector alarms
- **Built in end of line device.** All devices including detectors, break glasses and separate sounders, all have a built in end of line monitoring function. Simply flicking a switching within any device will enable end of line monitoring function. No resistors or extra circuits are required.
- No base diode requirement
- 7 modes of detection
- System fully complies to BS and EN
- 32 device per zone
- Easy to install - no need to worry about marking "in's" and "out's"
- Available in 2, 4 & 8 zone panels
- 72 Hour standby
- All panels have 1 auxiliary sounder circuit
- 8 and 16 zone repeater panels available
- Out-put module available - for plant shutdown, door release etc.
- Savings in cable costs
- Savings in Installation costs
- Multipoint saves the cost of a sounder
- Call points have option of integral sounder
- Special warning of head contamination, before going into false alarm - panel will indicate which zone and a device LED will signal to say the optical chamber is nearing the end of its life and is in need of changing.

The Twinflex conventional fire alarm system incorporating the Multipoint combined smoke and heat detector with built-in sounder means the whole system can be installed using only one pair of wires

Using the Multipoint detector as part of the Twinflex 2-wire fire alarm system means that when a detector is wired in, a sounder is too - with no extra wiring, therefore greatly reducing the number of points that need to be installed and the time it takes to install. As Multipoint offers 7 different modes of detection, the installation is made even simpler as this one device suits all applications. Whatever type of detection is required, for any part of the installation it can be selected by the flick of a switch at the time of commissioning. 3 different smoke modes, 2 fixed temperature heat modes, a rate of rise mode and a combination smoke or heat mode can be selected.

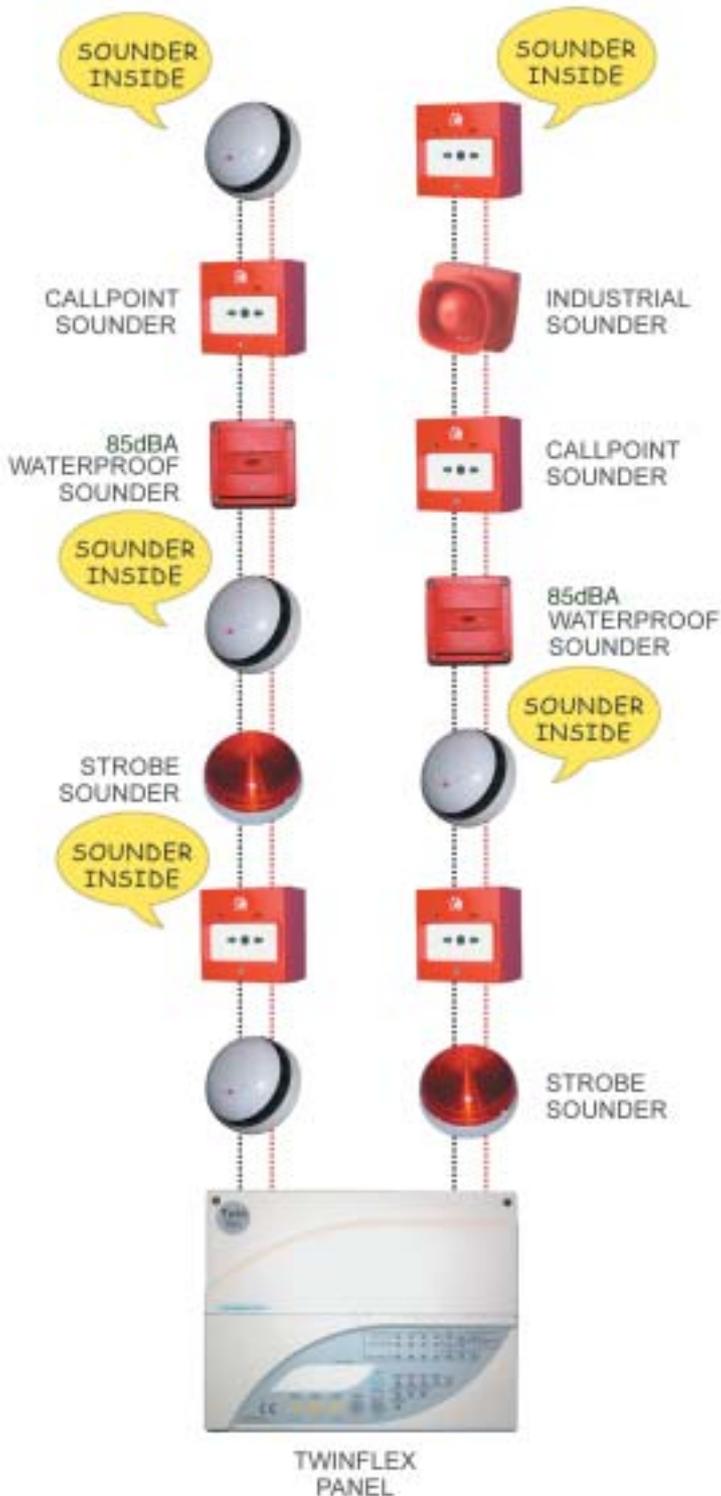


As the Multipoint detector is available with or without a full specification integral 90 dBA sounder (for only a marginal cost difference) no extra devices need to be purchased when audible warning is required. (As the audibility levels recommended in BS5839 Part 1:2002.) If extra sound is required, or, for areas that do not require detection, then a choice of several different stand

alone sounders can be used on the same two wires, as well as a call point /sounder combined unit and a sounder beacon.

The panel has the ability to differentiate between call point or detector alarm, can accommodate 32 devices per zone, has separate fault monitoring display for each zone, one man walk test facility and zones are configured without the need to use resistors or capacitors on unused zones. To make the Twinflex system even more flexible, Rafiki can also provide a special Output Unit. It can be situated anywhere on the zone circuit, and is ideal for connecting to plant shutdown, door release mechanisms etc.

Repeater panels are also available for the Twinflex system, which use key switch access and have the facilities of silence, sound alarms and reset.



Twinflex 2 Wire System

It is a fact that drift-compensation reduces false alarms. This feature is not normally available in conventional systems. The Twinflex Detector not only has this feature as standard but when the head does get contaminated it gives you a warning on the panel and at the Detector.

When you get the warning you just change the disposable head and the Detector automatically recalibrates back to normal. It's as easy as that.

Ease of installation and cost savings come as a bonus.

Twinflex Plus can be set for pre-alarm, which reduces the false alarms even further.

FEATURES

- Two wire installation
- Detectors with or without built-in sounders
- Callpoints with or without built-in sounders
- Installation savings as high as 40%
- Panel can differentiate between callpoint and detector alarms
- Built-in end of line in every device
- Upto 32 devices per zone
- 2,4,8 zone panels
- No base diode requirement
- 7 modes of detection

**TWINFLEX
MULTIPOINT**

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

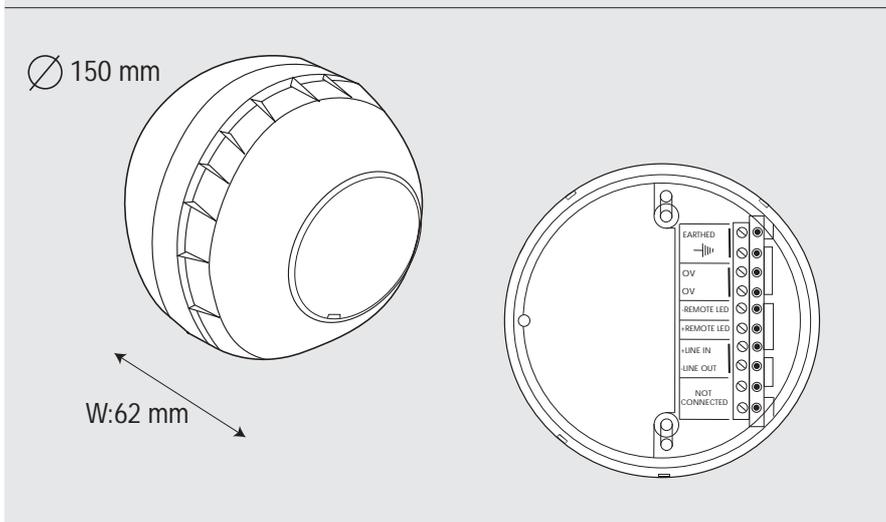
High fixed temperature 90°C
Used where a high fixed temperature heat detector would normally be fitted, suitable for boiler rooms, commercial kitchens, etc.

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: 65mA
	Alarm: 39mA
	Sound high: 16mA
Loading:	Sound low: 8mA
	MP: 0SLU (max 32 SLUs per zone)
Sounder:	1SLU
	Sound Outputs:
LED Operation:	High: 90dB(A)
	Quiescent: 20s interval
EOL:	5s interval
	Fault: 1.3s interval
Alarm:	Constant
	Part Code:
	With sounder: 202 0001



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)

**TWINFLEX
MANUAL
CALLPOINT**

Twinflex Call Points are available with the option of an integral sounder – and are resettable

All Rafiki manual call points are designed to comply with the latest European standards: EN54 parts 3 and 11.

With the resettable element the need for replacement glass is negated as the unit may be reset using the key provided.

The test key is inserted into the front of the unit in order to allow access for use wherever it may be sited. The user can test the call point with the test key or by depressing the element.

The Rafiki Twinflex call point also has the unique benefit of audible warning with an optional full specification built-in sounder offering 4 different sound patterns.

Every call point comes with an LED for indication of End of Line and Alarm. There is no need to remove the front cover and the glass at installation; just one screw fixes the whole unit together.

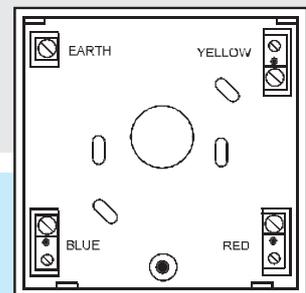
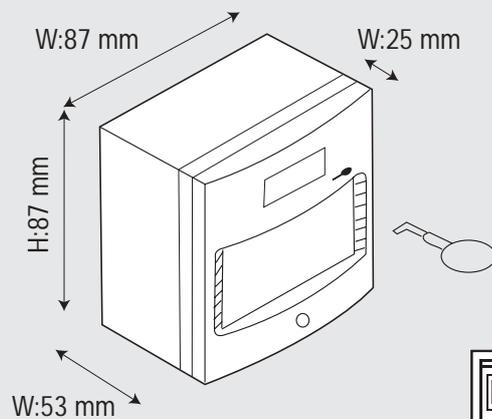
The back box can be fitted at the time of installation with other first fix items - the call point unit can be simply fitted in later. An adaptor plate is also supplied, for use with standard flush or surface backboxes.

The manual call point is connected to the back-box using simple flying-lead terminations



Technical specifications

Compatibility:	Twinflex 2-wire	
Operating Temperature:	-10°C to 50°C	
Voltage Range:	18 to 35v DC	
Operating Current:	Quiescent:	105uA
	MCP alarm:	25mA
	Sound high:	16mA
	Sound low:	8mA
Loading:	MCP:	OSLU (max 32 SLUs per zone)
	Sounder:	1SLU
Sound Outputs:	Low:	72dB(A)
	High:	85dB(A)
LED Operation:	EOL:	5s interval
	Alarm:	0.3s interval
Part Code:	No sounder:	402 0002
	With sounder:	402 0012



**TWINFLEX
CALL POINT
WEATHERPROOF**

Twinflex Call Points are available with an IP55 weatherproof rating

All Rafiki call points are designed to comply with the latest European standards: EN54 part 11.

With the resettable element the need for replacement glass is negated as the unit may be reset using the key provided.

The test key is inserted into the front of the unit in order to allow access for use wherever it may be sited. The user can test the call point with the test key or by depressing the element.

Every call point comes with an LED for indication of End of Line and Alarm.

There is no need to remove the front cover and the glass at installation; four screws fix the whole unit together.

The back box can be fitted at the time of installation with other first fix items - the call point unit can be simply fitted in later.

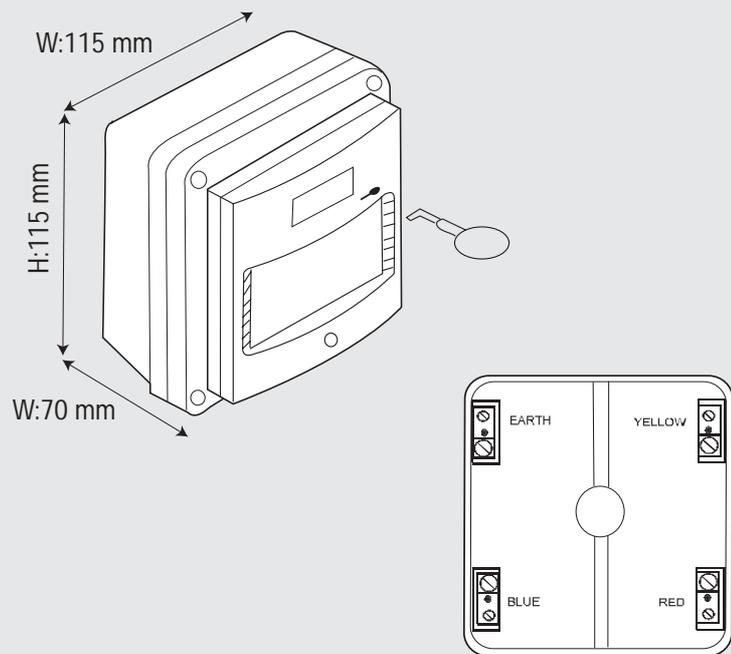
The manual call point is connected to the back-box using simple flying-lead terminations

The waterproof call point comes with an adaptable back box for surface installation and is weather proof to IP 55.



Technical specifications

Compatibility:	Twinflex 2-wire	
Operating Temperature:	-10°C to 50°C	
Voltage Range:	18 to 35v DC	
Operating Current:	Quiescent:	105mA
	MCP alarm:	25mA
Loading:	MCP:	0SLU (max 32 SLUs per zone)
LED Operation:	EOL:	5s interval
	Alarm:	0.3s interval
Part Code:	IP55:	402 0003



**TWINFLEX
HATARI
SOUNDER**

Twinflex Hatari sounders – for higher sound output requirements.

The Twinflex Hatari is designed to comply with the European standard EN54 part 3.

The stand alone Hatari sounder can be utilised where extra sound output on the zone is a requirement, or for areas that do not require automatic detection technology.

The field wiring is terminated to fixed connectors in the base, and a “deep base” is available as a separate item if required.

A bayonet locking mechanism means the sounder is easy to install and the anti-tamper feature ensures that the Hatari is only released with the use of the head removal tool.

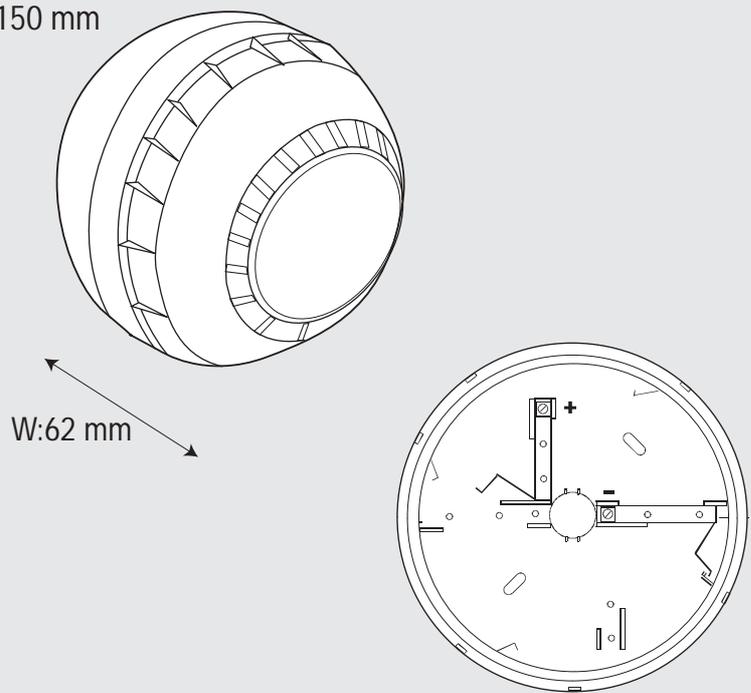
The Twinflex Hatari is available in Red or White to suit any preference and offers variable sound output adjustment.



Technical specifications

Compatibility:	Twinflex 2-wire	
Operating Temperature:	-10°C to 50°C	
Voltage Range:	18 to 35v DC	
Operating Current:	Alarm:	15mA
Loading:	6SLU (max 32 SLUs per zone)	
Sound Outputs:	92dBA	
Part Code:	Red:	302 0001
	White:	302 0002

∅ 150 mm



**TWINFLEX
FLASHPOINT**

The Twinflex Flashpoint allows a simple and effective visual indication directly from the 2-wire zone, complete with a sounder.

It has been designed to comply with the European standard EN54 part 3.

This zone powered combined sounder and beacon is available in a low profile or domed version, and can be manufactured in alternative colours if required.

Whilst in alarm the flashpoint synchronisation is uniquely reset every 10 seconds to ensure that the beacon's flash rate remains in absolute synchronicity across the entire system.

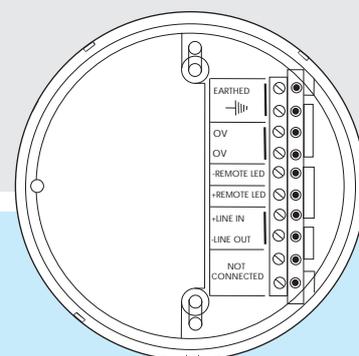
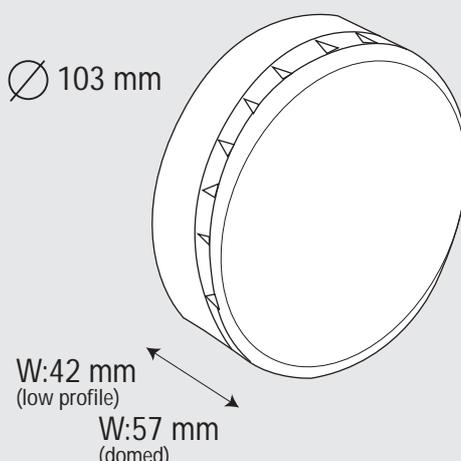
Installation is made simple by first fixing the base and then simply plugging in the unit.

As with all Rafiki sounders the flashpoint features an anti-tamper mechanism to ensure that the device is only released with the use of the head removal tool.



Technical specifications

Compatibility:	Twinflex 2-wire	
Operating Temperature:	-10°C to 50°C	
Voltage Range:	18 to 35v DC	
Operating Current:	Quiescent:	190uA
	Sound high:	13mA
	Sound low:	9mA
Loading:	Beacon:	6mA
	Sounder:	1SLU (max 32 SLUs per zone)
Sound Outputs:	Beacon:	1SLU
	Low:	78dB(A)
LED Operation:	High:	90dB(A)
	EOL:	5s intervals
Part Code:	Low Profile:	302 0012
	Domed:	302 0022



**TWINFLEX
FLASHPOINT
WEATHERPROOF**

The Twinflex Weatherproof Flashpoint allows a simple and effective visual indication directly from the 2-wire zone.

Whilst in alarm the flashpoint synchronisation is uniquely reset every 10 seconds to ensure that the beacon's flash rate remains in absolute synchronicity across the entire system.

Visual warning is available in this compact unit that is easy to install.

The back box can be fitted at the time of installation with other first fix items - the FlashPoint unit can be simply fitted in later.

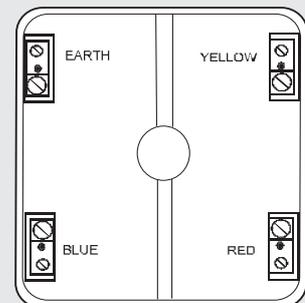
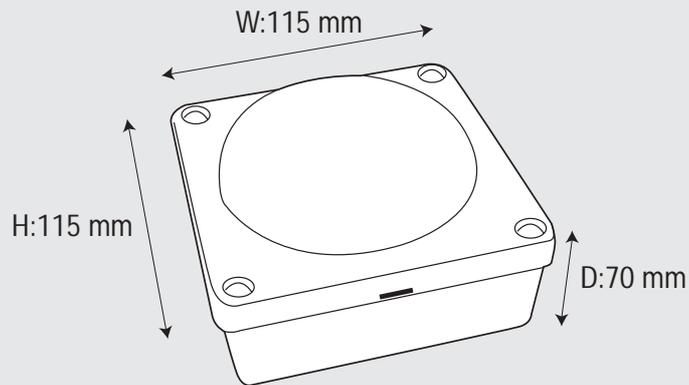
The FlashPoint is connected to the back-box using simple flying-lead terminations

The waterproof FlashPoint comes with an adaptable back box for surface installation and is weather proof to IP 55.



Technical specifications

Compatibility:	Twinflex 2-wire	
Operating Temperature:	-10°C to 50°C	
Voltage Range:	18 to 35v DC	
Operating Current:	Quiescent:	190uA
	Beacon:	6mA
Loading:	1SLU:	(max 32 per zone)
LED Operation:	EOL:	5s interval
Part Code:	IP55:	302 0013



**TWINFLEX
SOUNDPOINT**

The Twinflex Soundpoint is designed to comply with the European standard EN54 part 3.

The back box is common with the Rafiki callpoint and can be fitted at the time of installation with other first fix items - the Soundpoint unit can be simply fitted later.

An adaptor plate is also supplied, for use with standard flush or surface backboxes.

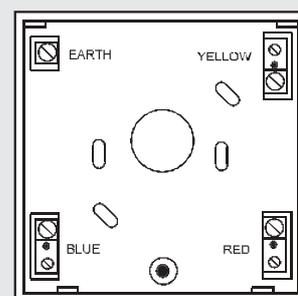
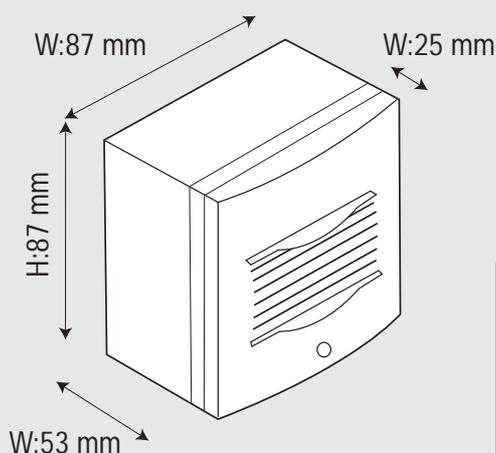
The device is connected to the back-box using simple flying-lead terminations.

The Twinflex Sound Point is ideal for areas that do not require automatic detection, and is available in a choice of 2 colours, red or white.



Technical specifications

Compatibility:	Twinflex 2-wire	
Operating Temperature:	-10°C to 50°C	
Voltage Range:	18 to 35v DC	
Operating Current:	Quiescent:	105uA
	Sound high:	16mA
	Sound low:	8mA
Loading:	1SLU (max 32 per zone)	
Sound Outputs:	Low:	72dB(A)
	High:	85dB(A)
Part Code:	Red:	313 0021
	White:	313 0022



**TWINFLEX
SOUNDPOINT
WEATHERPROOF**

The Twinflex Soundpoint is available with an IP55 weatherproof rating

The Twinflex soundpoint is designed to comply with the European standard EN54 part 3.

The back box is common with the Rafiki callpoint and can be fitted at the time of installation with other first fix items - the Soundpoint unit can be simply fitted later.

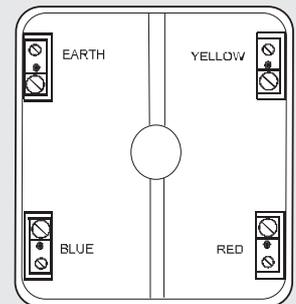
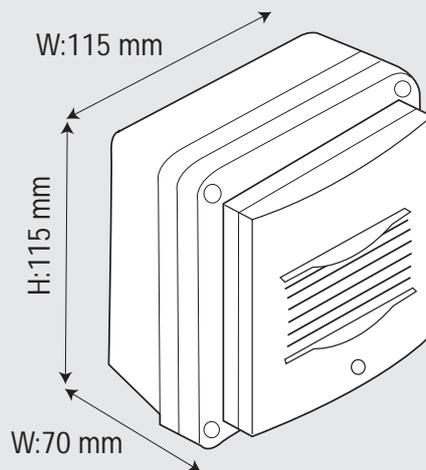
The device is connected to the back-box using simple flying-lead terminations.

The Weatherproof Twinflex Sound Point is ideal for areas that do not require automatic detection.



Technical specifications

Compatibility:	Twinflex 2-wire	
Operating Temperature:	-10°C to 50°C	
Voltage Range:	18 to 35v DC	
Operating Current:	Quiescent:	105uA
	Sound high:	16mA
	Sound low:	8mA
Loading:	1SLU (max 32 per zone)	
Sound Outputs:	Low:	72dB(A)
	High:	85dB(A)
Part Code:	IP55 Red:	313 0031



**TWINFLEX
HI-POINT**

The Twinflex Hipoint offers an industrial style sounder with high sound output.

It has been designed to comply with the European standard EN54 part 3.

This sounder has been designed with the industrial market in mind. A horn gives a high sound output and a narrow angle of projection for the more demanding industrial applications.

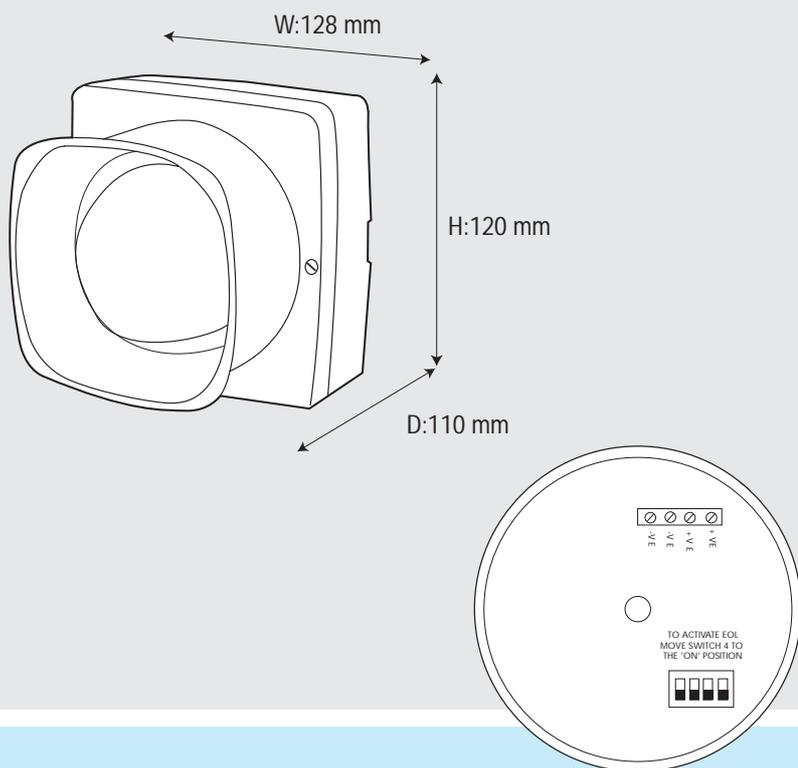
The surface back box may be fitted at the time of installation with other first fix items - the Hipoint unit can be simply fitted later.

The Twinflex Hi Point is ideal for areas that do not require automatic detection but require a high sound level.



Technical specifications

Compatibility:	Twinflex 2-wire	
Operating Temperature:	-10°C to 50°C	
Voltage Range:	18 to 35v DC	
Operating Current:	Quiescent:	105uA
	Sound high:	16mA
	Sound low:	8mA
Loading	1SLU (max 32 per zone)	
Sound Outputs:	Low:	75dB(A)
	High:	90dB(A)
Part Code:	302 0004	



**TWINFLEX
OUTPUT
MODULE**

The Twinflex Output Module is available for interfacing to other systems in the field. Ideal for operating plant shutdown, door release mechanisms, access control override, etc.

The Twinflex Output unit connects to the zone wiring, providing a 230v AC rated SPCO relay contact for switching purposes.

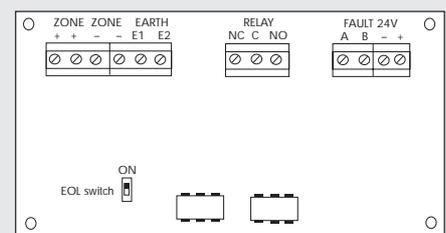
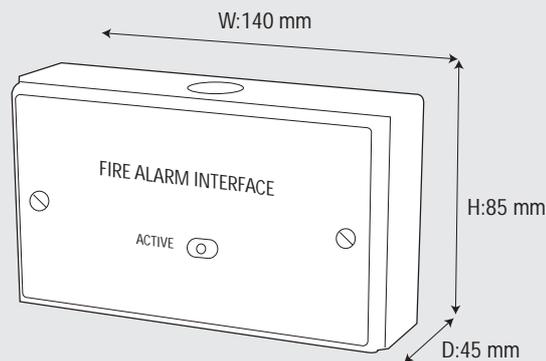
The module also provides a 'Fault Input' to allow fault indication from relevant ancillary equipment.

The industry standard double gang housing allows for ease of installation for either flush or surface mounting, and is connected to field wiring with fixed PCB mounted terminals.



Technical specifications

Compatibility:	Twinflex 2-wire	
Operating Temperature:	-10°C to 50°C	
Voltage Range:	18 to 35v DC	
Operating Current:	Quiescent:	40uA
	MCP alarm:	2mA
Relay Output:	Volt free SPCO, 6A 230V AC	
Power Supply:	Requires a 24V DC supply	
Loading:	1SLU (max 32 per zone)	
LED Operation:	Active:	Red LED
	Fault:	Yellow LED
Part Code:	802 0001	



**TWINFLEX
PANELS
2, 4 & 8 ZONE**

The Twinflex Control Panel range offers a complete solution for your fire alarm system...all on just 2 wires

Twinflex control panels are available in 2, 4 or 8 zones.

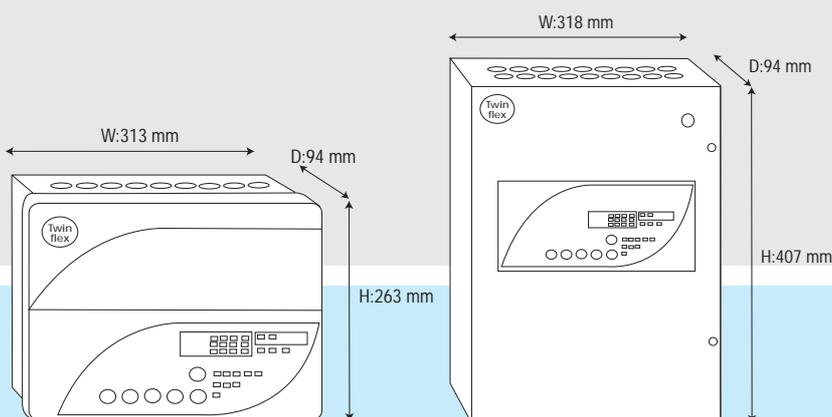
The 2 and 4 zone panels are controlled by access code and the 8 zone is controlled by a key switch.

- Break glass identification on panel – LED indication on panel display to differentiate between call point or detector alarm
- 72 hour Standby
- All panels have 1 auxiliary sounder circuit
- Special warning on panel for head contamination – LED indication on panel display to signal that optical chamber is nearing the end of its lifespan and should be changed
- Complies to BS and EN
- Repeater panels available
- Walk Test Facility
- Easy to install and configure
- A wide range of input and output functions to make system interfacing simple.
- Dual purpose flush or surface housing for the 2/4 zone panel. An optional bezel is available for the 8 zone panel.



Technical specifications

Compatibility:	Twinflex 2-wire	
Construction:	2/4 zone:	V2 rated ABS
	8 zone:	Mild Steel
Operating Temperature:	5°C to 33°C	
Voltage Range:	18 to 35v DC	
Main voltage:	230v AC +10% -15%	
PSU Output:	2/4 zone:	900 mA
	8 zone:	3A
Panel Inputs/Outputs:	1 x monitored sounder circuit	
	1 x monitored relay circuit	
	1 x common fire relay SPCO	
	1 x common fault relay SPCO	
	1 x non latching input	
	1 x 24v DC auxiliary supply	
	Repeater inputs and outputs	
Zone voltage:	30v DC	
Sounder Output Load:	2/4 zone:	500 mA
	8 zone:	800 mA
Battery Requirements:	2/4 zone 72hr:	2 x 2.1Ah 12v
	8 zone 24hr:	2 x 3.3Ah 12v
	8 zone 72hr:	2 x 7Ah 12v
Part Code:	2 zone:	502 0002
	4 zone:	502 0004
	8 zone:	502 0008



**TWINFLEX
KITS**

The Twinflex starter kit simplifies the equipment selection and offers a good starting point for a small installation, or for stock holding.

Everything needed to begin an installation in one boxed kit – available in 2 or 4 zones.

The Twinflex kit comprises of

6 – Twinflex Multipoints with integral sounder

2 – Surface or Flush Call Points

1 – Head Removal Tool

1 – 2 or 4 zone panel

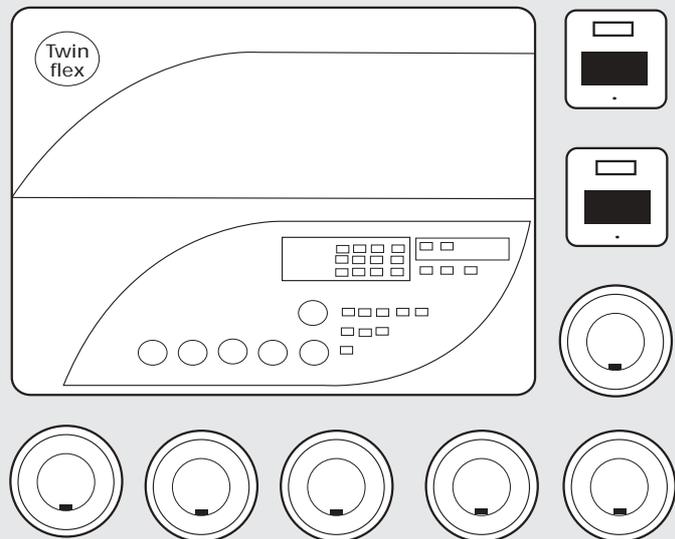
This neatly presented package serves as a perfect counter display, and shows the installer how simple a fire alarm system can be.



Technical specifications

See individual items for further details

Compatibility:	Twinflex 2-wire	
Part Code:	2 zone:	602 0002
	4 zone:	602 0004



**TWINFLEX
REPEATER
PANEL**

The Twinflex Repeater Panel range offers extended control for your system.

Twinflex repeater panels are available in 8 or 16 zones, and system controls are accessed by key switch operation.

The housing is common with the 2/4 zone Twinflex panels, giving a dual purpose flush or surface housing.

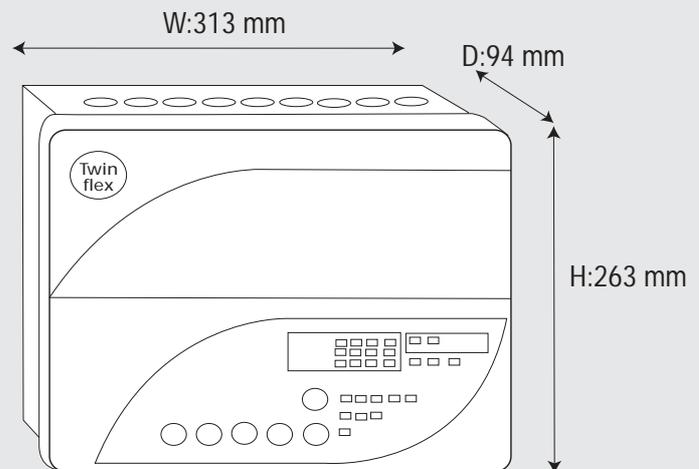
Power is derived from the main control panel so batteries and a mains supply are not required at the repeater.

Multiple panels may be connected to one repeater panel for central control of multi system sites.



Technical specifications

Compatibility:	Twinflex 2-wire	
Construction:	8/16 zone:	V2 rated ABS
Operating Temperature:	5°C to 33°C	
Voltage Range:	20 to 28v DC	
Operating Current:	Quiescent:	10mA
	Alarm:	30mA + 10mA per LED
Cable Requirements:	Controls:	3 core
	Common Indication:	2 core
	Power:	2 core
	Zonal Indication:	1 core per zone
Part Code:	8 zone:	506 0002
	16 zone:	506 0001



Twinflex^{plus}

Eliminates the problem of nuisance alarms!

The revolutionary 2 wire intelligent conventional fire detection system - now incorporating "Checkpoint" technology and the Multipoint detector

What is Twinflex Plus?

With the increasing number of new buildings and conversion of properties to flats and bed-sits along with greater pressure on environmental officers to actively enforce the requirements of BS5839 part 6, (The code of practice for fire detection and alarm systems in dwellings), organisations are constantly looking for a reliable early warning fire alarm system without the disruption of nuisance alarms. To satisfy this ever increasing market and tackle the problem of nuisance alarms, the Twinflex – plus system has been developed.

The key to the system technology is the, already proven, "Multipoint" multi-criteria detector offering seven different selectable modes of fire detection in one device, plus a built in 90dBA alarm sounder. Any of which may be selected at installation by way of DIL switch in the detector. Each device has the additional facility of a built in end of line fault monitoring feature eliminating the need for separate modules and call points have the feature of an optional integral sounder. The biggest advantage, from an installer's point of view, is that the system does not require separate sounders and in addition only requires one pair of wires to operate all devices on each zone, drastically reducing equipment requirements, installation time and therefore cost.

What is Checkpoint?

Alarm selection, the main feature of the Twinflex plus is the ability to set a pre-alarm in individual rooms or apartments but at the same time instigate full alarm should fire be detected in any communal area. This is made possible by a detector sounder "logical link" feature. This is the first time that this feature has been made available on a conventional system and is beneficial where two stage alarms are required.



At the planning stage of installation fire zones are designated as "dwelling" or "communal". Detectors in dwelling zones (e.g. apartments, hotel rooms etc.) are enabled with the "logical link" feature. This then allows the control panel to be, simply, programmed with a variable time alarm confirmation period (1-5 minutes at one minute increments). In the event of a fire being detected in a dwelling only the local (room) sounder will operate to alarm occupants of that particular dwelling. The control panel will then carry out a number of checks over this period (which may be 2 minutes, for example) to confirm the detector is still in alarm and is a genuine fire, not a false alarm generated by cooking fumes, steam etc. If at the end of this checking period the detector ceases to signal alarm the control panel will automatically reset the detector/sounder and the system will revert to its normal state.

If, however, at the end of the confirmation check the detector is still generating an alarm signal the control panel will instantly sound all alarms in the building for full evacuation. Detectors sensing fire, or, call point activation (in any zone) in communal areas instantly generate a full alarm throughout the building. The control panel meets all the requirements of EN54-2 and EN54-4:1997. The detector meets the requirements of EN54-5 and EN54-7 :2000. The sounder meets the requirements of EN54-3:2001.

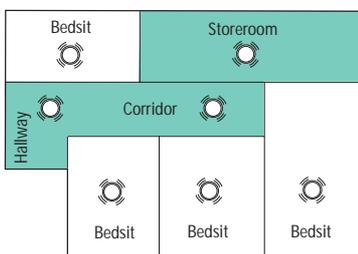
How to use the Twinflex Plus system in an installation

At the planning stage, fire zones are designated as either "Dwelling" or "Communal". Multipoint detectors in the dwelling zones have the facility to use "checkpoint" technology.

"Checkpoint" technology is the ability to select a checking period for individual detectors to confirm the smoke/heat detected as a genuine fire not an unwanted alarm.

This checking period can be selected between 1 – 5 minutes at commissioning stage after consultation with fire officers or other authorised bodies.

Communal Zone

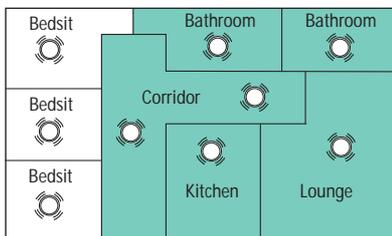


Communal Zone

Communal area, e.g. hall/stairway; kitchen; lounge.

When a detector alarm is activated on this type of zone, the control panel enters the fire state and the alarms are activated immediately throughout the installation.

Single Dwelling Zone

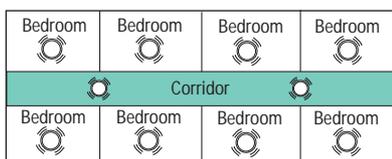


Single Dwelling per Zone (Zonal confirmation alarm)

eg flats with more than one room

When a detector alarm is activated on this type of zone, all sounders on the zone are activated and then the control panel carries out the configured number of confirmation checks. If the detector alarm is confirmed, the control panel enters the fire state and the alarms are activated throughout the installation; if the detector alarm is rejected, the sounders on the zone are silenced, and the detector in alarm is reset.

Multiple Dwellings per Zone



Multiple Dwellings per Zone (Local confirmation alarm)

Dwellings requiring a single detector/sounder, e.g. hostel; hall of residence; hotel rooms; bedsits.

When a detector alarm is detected on this type of zone, the integral sounder in the detector that generated the alarm signal is activated and then the control panel carries out the configured number of confirmation checks. If the detector alarm is confirmed, the control panel enters the fire state and the alarms are activated throughout the installation; if the detector alarm is rejected, the sounder is silenced, and the detector reset.

TWINFLEX PLUS PANELS

The Twinflex Plus range of control panels utilises standard Twinflex devices, but offers an innovative solution to false alarms in 'Housing of Multiple Occupation'.

Incorporating CHECKPOINT technology the Twinflex Plus range of control panels are available in 2, 4 or 8 zones.

The 2 and 4 zone control panels are controlled by access code and the 8 zone is controlled by a key switch.

These panels have all the benefits of the standard Twinflex range, with the addition of ability to programme zones as "dwelling" or "communal"

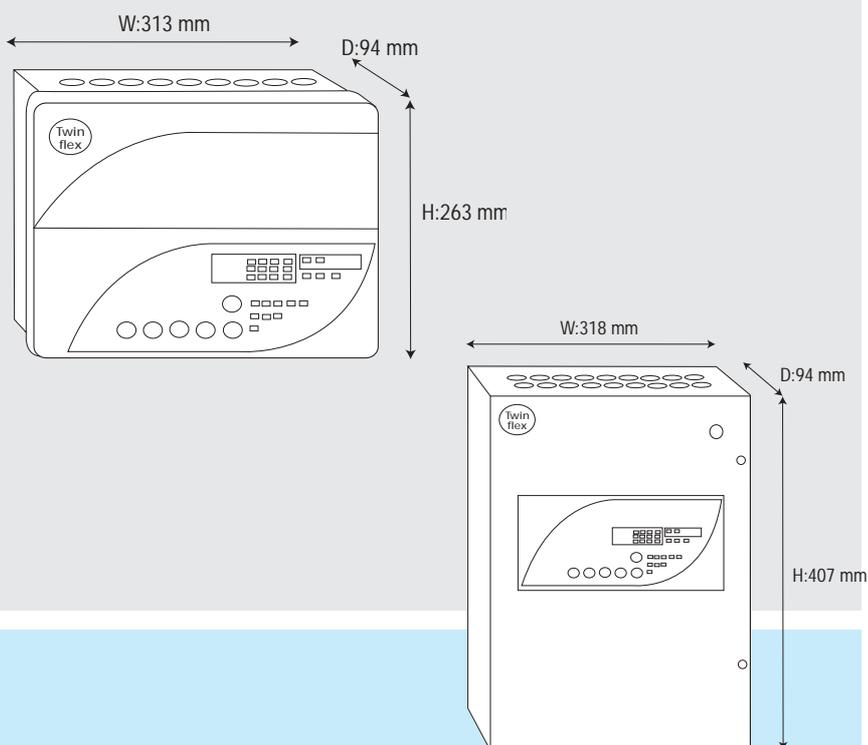
- Programmable (1-5 minute) automatic detector 'Alarm-Confirmation' in dwelling zones
- Local sounder will operate until alarm is confirmed or rejected
- EN54 compliant
- Solution for BS5839 part 6



Technical specifications

Points Additional to standard panels:

Zone Modes:	Communal	all devices instant
	Dwelling	detection delayed
		Callpoints instant
Alarm Confirmation Time:	1 - 5 minutes	
Alarm Confirmation Warning:	Local device or zone of origin	
Alarm Response:	Alarm reset if detected alarm clears	
	Full alarm if detected alarm remains	
Repeat Options:	Repeater outputs to follow the 'Fire' or the 'Alarm Confirmation' states.	
Part Code:	2 zone plus:	504 0002
	4 zone plus:	504 0004
	8 zone plus:	504 0008



Sita200^{plus}

Addressable intelligent detector system

200 detectors and 200 sounders on a single loop



With the Sita 200 plus System a high technology approach has been adopted, with a microcomputer in each device 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 a built in sounder.

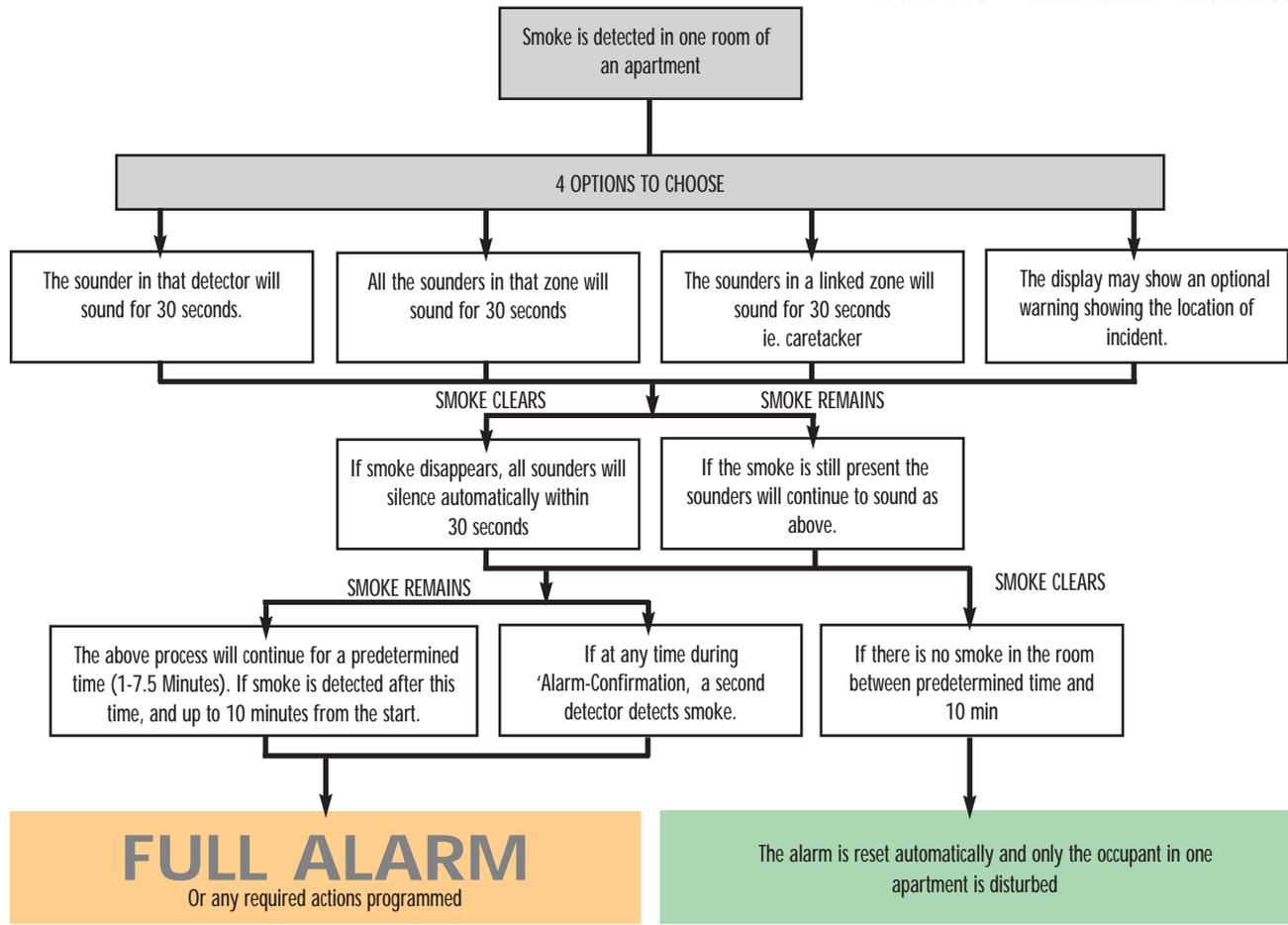
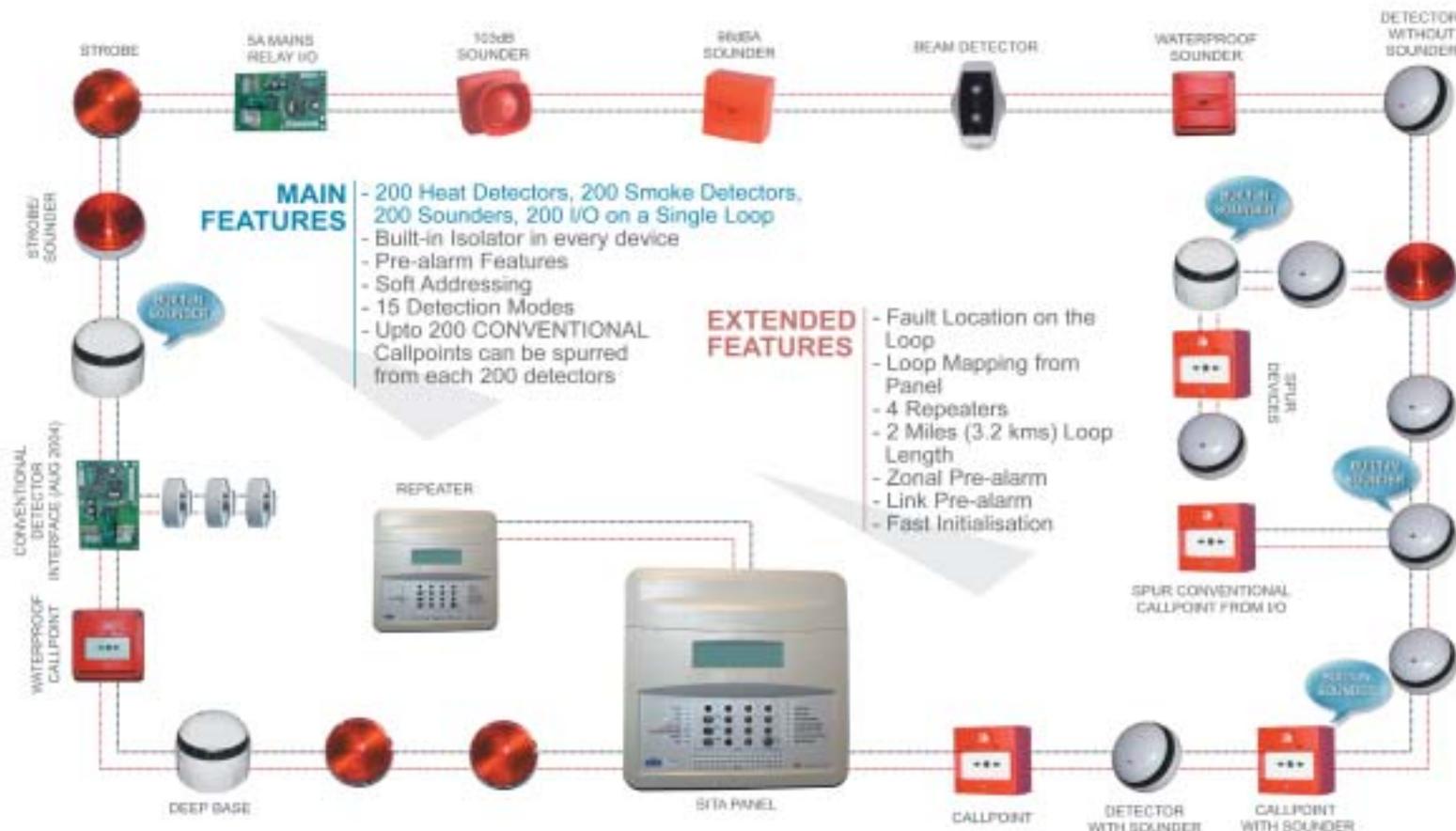
Integrity of the system is maintained by way of a built-in isolator in every device. Sita system intelligence has been harnessed in such a way that equipment used is very easy to install, commission and maintain.

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

Sita 200 plus offers all of these features:

- Fast short circuit isolator in every device
- 15 combinations of smoke & heat detection modes
- Loop length up to 3.2km (2 miles) long with spurs
- Digital communication with high power transfer
- 32 programmable detection/alarm zones
- Multi stage alarms – pre alarm feature
- Can be pre-configured on a PC
- Very low current consumption
- 7 sound patterns – plus off , 3 different volume settings
- Auxiliary digital inputs and outputs are available at any Sita Multipoint device
- Control panel has 32 zonal displays for fire
- 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
- Control panel has integral power supply with intelligent battery management
- Repeater units available – connected on a bi-directional serial data link
- Zones 17 to 32 can be assigned as auxiliary zones

Full range of loop driven sita compatible products available including call points, call point sounders, stand alone sounders, sounder beacons, I/O interface units and weatherproof items.



! If a call point or heat detector is activated before, during or after the 'Alarm-Confirmation' then the system will activate the alarms immediately.

**SITA 200 PLUS
MULTIPOINT**

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.

15 different modes of detection and a sounder (optional)..and an isolator – all in one device!



Technical specifications

Compatibility:	Sita 200 plus	
Operating Temperature:	-10°C to 50°C	
Voltage Range:	16 to 48v DC	
Operating Current:	Quiescent:	78uA
	MP alarm:	2.2mA
	Sound high:	7.5mA
	Sound med:	4.1mA
Loading:	Sound low:	1.2mA
	MP:	0ALU
	Sounder low:	0.5 ALU
Sound Outputs:	Sounder med:	1 ALU
	Sounder high:	2 ALU
	Low:	75dB(A)
LED Operation:	Med:	85dB(A)
	High:	92dB(A)
	Quiescent:	20s interval
Part Code:	Fault:	5s interval
	Alarm:	0.3s interval
	with sounder:	203 0001
	no sounder:	203 0003
	bases:	903 0001
		(pack of 5 sold separately)



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

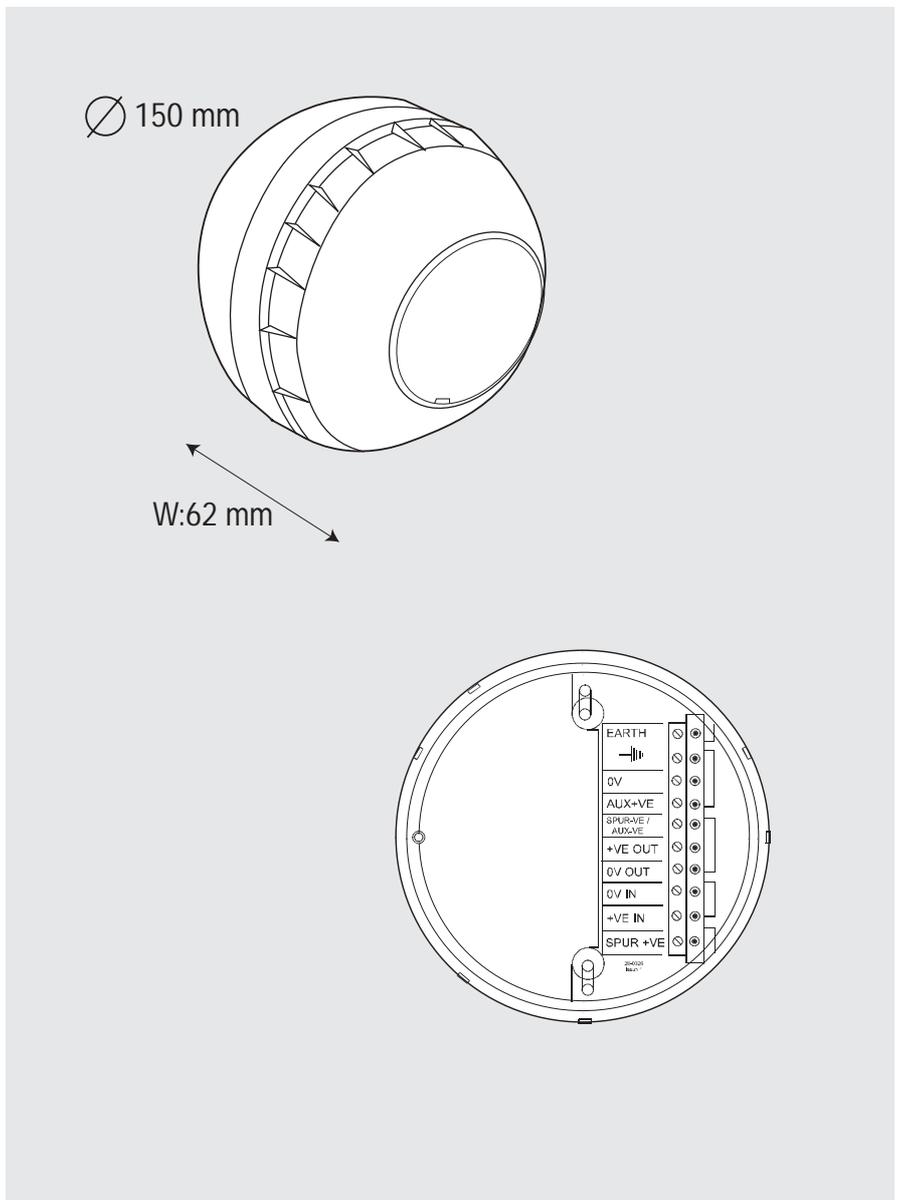
HEAT 3

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

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



SITA SOUND POINT

The Sita Soundpoint is a compact unit that has the option of being flushed in if required and is designed to comply with the European standard EN54 part 3.

The back box is common with the Rafiki callpoint and can be fitted at the time of installation with other first fix items - the Soundpoint unit can be simply fitted later.

An adaptor plate is also supplied, for use with standard flush or surface back boxes.

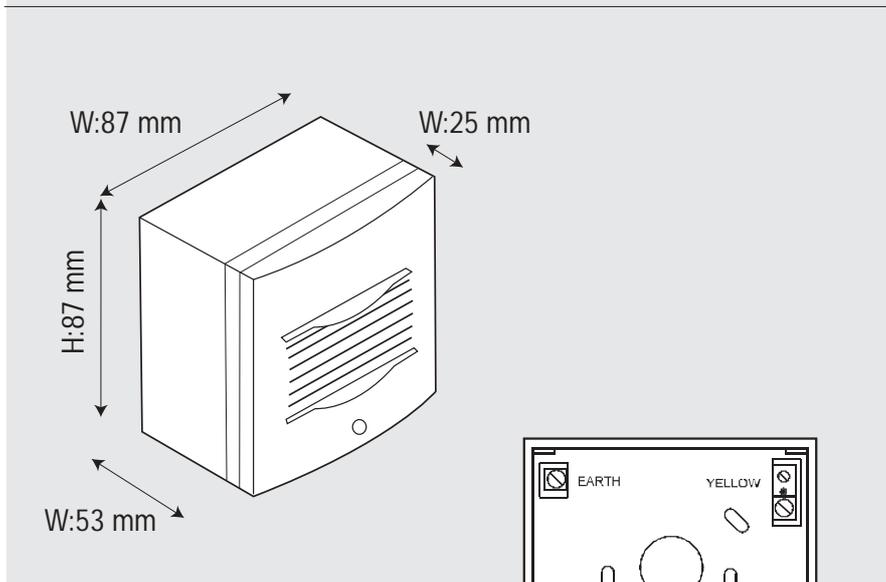
The device is connected to the back-box using simple flying-lead terminations.

The Sita Sound Point is ideal for areas that do not require automatic detection, and is available in a choice of 2 colours, red or white.



Technical specifications

Compatibility:	Sita 200 plus	
Operating Temperature:	-10°C to 50°C	
Voltage Range:	16 to 48v DC	
Operating Current:	Quiescent:	93uA
	Sound low:	1.2mA
	Sound med:	4.1mA
Loading:	Sounder low:	0.5 ALU
	Sounder med:	1 ALU
	Sounder high:	2 ALU
Sound Outputs:	Low:	75dB(A)
	Mid:	85dB(A)
	High:	95dB(A)
Part Code:	Red:	313 0001
	White:	313 0002



**SITA SOUND
POINT
WEATHERPROOF**

The Sita Soundpoint is available with an IP55 weatherproof rating

The Sita soundpoint is designed to comply with the European standard EN54 part 3.

The back box is common with the Rafiki callpoint and can be fitted at the time of installation with other first fix items - the Soundpoint unit can be simply fitted later.

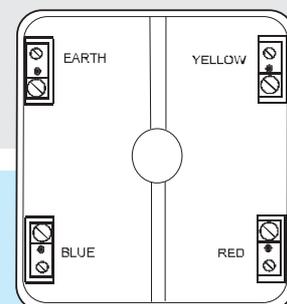
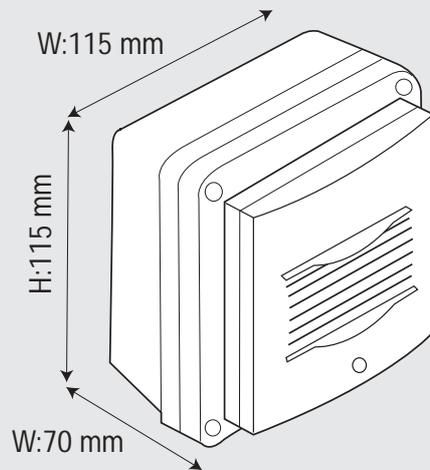
The device is connected to the back-box using simple flying-lead terminations.

The Weatherproof Sita Sound Point is ideal for areas that do not require automatic detection.



Technical specifications

Compatibility:	Sita 200 plus	
Operating Temperature:	-10°C to 50°C	
Voltage Range:	16 to 48v DC	
Operating Current:	Quiescent:	93uA
	Sound low:	1.2mA
	Sound med:	4.1mA
Loading:	Sounder low:	0.5 ALU
	Sounder med:	1 ALU
	Sounder hi:	2 ALU
Sound Outputs:	Low:	75dB(A)
	Mid:	85dB(A)
	High:	95dB(A)
Part Code:	IP55 Red:	313 0003



SITA HI-POINT

The Sita Hi -point offers an industrial style sounder with high sound output

The Sita Hi-point is designed to comply with the European standard EN54 part 3.

This sounder has been designed with the industrial market in mind. A horn gives a high sound output and a narrow angle of projection for the more demanding industrial applications.

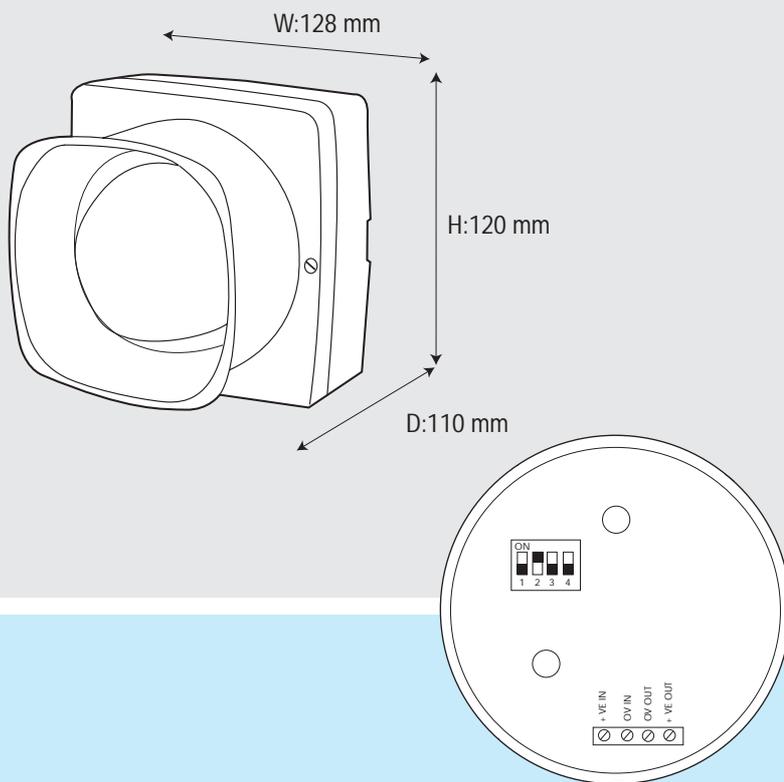
The surface back box may be fitted at the time of installation with other first fix items - the Hi-point unit can be simply fitted later.

The Sita Hi Point is ideal for areas that do not require automatic detection but require a high sound level.



Technical specifications

Compatibility:	Sita 200 plus	
Operating Temperature:	-10°C to 50°C	
Voltage Range:	16 to 48v DC	
Operating Current:	Quiescent:	93uA
	Sound low:	1.2mA
	Sound med:	4.1mA
Loading:	Sounder low:	0.5 ALU
	Sounder med:	1 ALU
	Sounder hi:	2 ALU
Sound Outputs:	Low:	79dB(A)
	Mid:	89dB(A)
	High:	99dB(A)
Part Code:	323 0001	



**SITA
FLASHPOINT**

The Sita Flashpoint allows a simple and effective visual indication directly from the loop wiring, complete with a sounder.

It has been designed to comply with the European standard EN54 part 3.

This loop powered combined sounder and beacon is available in a low profile or domed version, and can be manufactured in alternative colours if required.

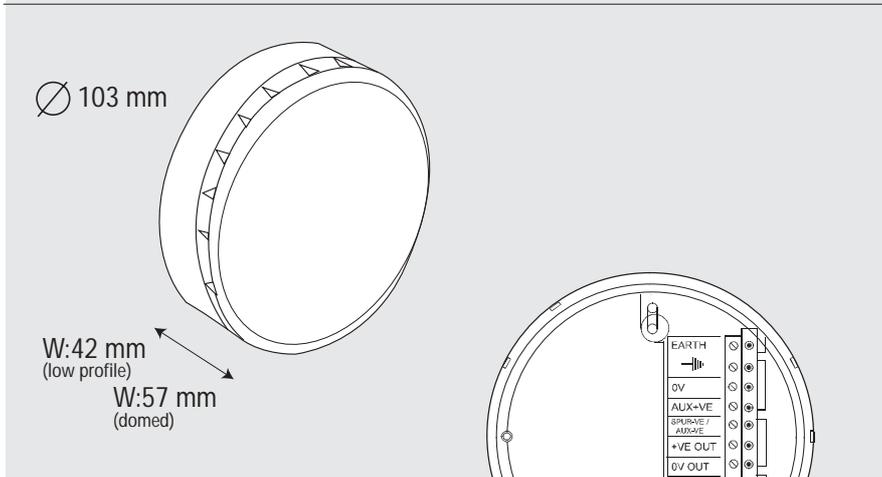
Whilst in alarm the flashpoint synchronisation is uniquely reset every 10 seconds to ensure that the beacon's flash rate remains in absolute synchronicity across the entire system.

Installation is simple by first fixing the base and then simply plugging in the unit.

As with all Rafiki sounders the flashpoint features an anti-tamper mechanism to ensure that the device is only released with the use of the head removal tool.



Technical specifications		
Compatibility:	Sita 200 plus	
Operating Temperature:	-10°C to 50°C	
Voltage Range:	16 to 48v DC	
Operating Current:	Quiescent:	93uA
	MCP alarm:	4mA
	Sound low:	1.5mA
	Sound med:	4mA
Loading:	Sounder low:	0.5 ALU
	Sounder med:	1 ALU
	Sounder hi:	2 ALU
	Beacon 15ms/1ms:	1 ALU
Sound Outputs:	Low:	75dB(A)
	Mid:	85dB(A)
	High:	95dB(A)
LED Operation:	Quiescent:	20s interval
Part Code:	Low Profile:	303 0012
	Domed:	303 0022



**SITA
FLASHPOINT
WEATHERPROOF**

The Sita Weatherproof Flashpoint allows a simple and effective visual indication directly from the loop.

Whilst in alarm the flashpoint synchronisation is uniquely reset every 10 seconds to ensure that the beacon's flash rate remains in absolute synchronicity across the entire system.

The back box can be fitted at the time of installation with other first fix items - the FlashPoint unit can be simply fitted in later.

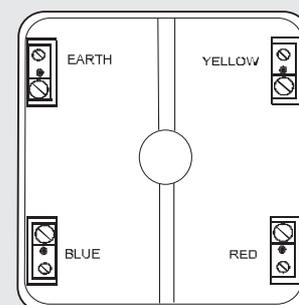
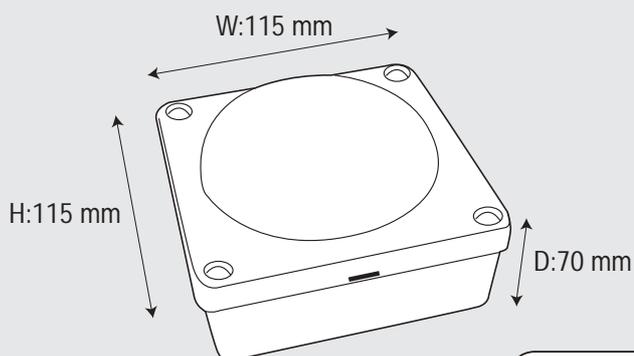
The FlashPoint is connected to the back-box using simple flying-lead terminations

The waterproof FlashPoint comes with an adaptable back box for surface installation and is weather proof to IP 55.



Technical specifications

Compatibility:	Sita 200 plus	
Operating Temperature:	-10°C to 50°C	
Voltage Range:	16 to 48v DC	
Operating Current:	Quiescent:	93uA
	MCP alarm:	4mA
	Sound low:	1.5mA
	Sound med:	4mA
Loading:	Beacon 15ms/1ms:	1 ALU
LED Operation:	Quiescent:	20s interval
Part Code:	IP55:	303 0013



**SITA
MANUAL
CALL POINT**

Sita Call Points are available with the option of an integral sounder – and are resettable

All Rafiki call points are designed to comply with the latest European standards: EN54 parts 3 and 11.

With the resettable element the need for replacement glass is negated as the unit may be reset using the key provided.

The test key is inserted into the front of the unit in order to allow its use wherever it may be sited. The user can test the call point with the test key or by depressing the element.

The Rafiki Sita call point also has the unique benefit of audible warning with an optional full specification built-in sounder offering 7 different sound patterns.

Every call point comes with an LED for indication of normal operation and Alarm.

There is no need to remove the front cover and the glass at installation; just one screw fixes the whole unit together.

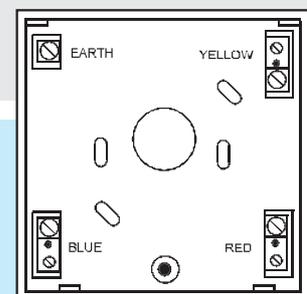
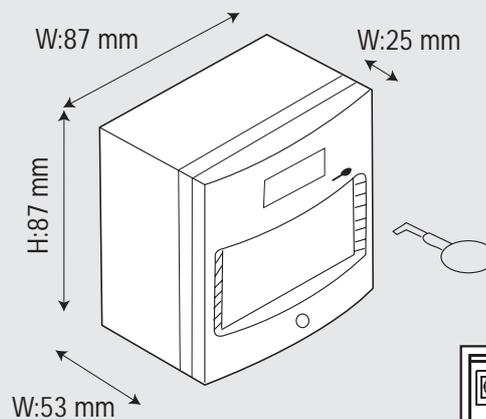
The back box can be fitted at the time of installation with other first fix items - the call point unit can be simply fitted in later. An adaptor plate is also supplied, for use with standard flush or surface back boxes.

The call point is connected to the back-box using simple flying-lead terminations



Technical specifications

Compatibility:	Sita 200 plus	
Operating Temperature:	-10°C to 50°C	
Voltage Range:	16 to 48v DC	
Operating Current:	Quiescent:	93uA
	MCP alarm:	4mA
	Sound low:	1.2mA
	Sound med:	4.1mA
Loading:	MCP:	OALU
	Sounder low:	0.5 ALU
	Sounder med:	1 ALU
	Sounder hi:	2 ALU
Sound Outputs:	Low:	75dB(A)
	Mid:	85dB(A)
	High:	92dB(A)
LED Operation:	Quiescent:	20s interval
	Alarm:	0.3s interval
Part Code:	No sounder:	403 0002
	With sounder:	403 0012



**SITA
WEATHERPROOF
CALL POINT**

Sita Call Points are available with an IP55 weatherproof rating

All Rafiki call points are designed to comply with the latest European standards: EN54 part 11.

With the resettable element the need for replacement glass is negated as the unit may be reset using the key provided.

The test key is inserted into the front of the unit in order to allow its use wherever it may be sited. The user can test the call point with the test key or by depressing the element.

Every call point comes with an LED for indication of Alarm.

There is no need to remove the front cover and the glass at installation; four screws fix the whole unit together.

The back box can be fitted at the time of installation with other first fix items - the call point unit can be simply fitted in later.

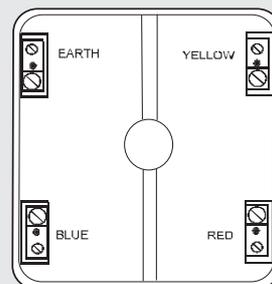
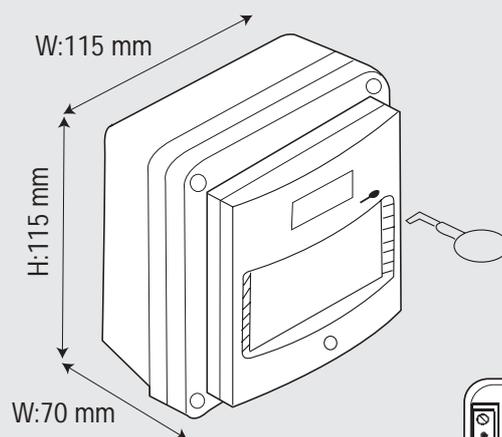
The manual call point is connected to the back-box using simple flying-lead terminations

The waterproof call point comes with an adaptable back box for surface installation and is weather proof to IP 55.



Technical specifications

Compatibility:	Sita 200 plus	
Operating Temperature:	-10°C to 50°C	
Voltage Range:	16 to 48v DC	
Operating Current:	Quiescent:	93uA
	MCP alarm:	4mA
Loading:	MCP:	0ALU
LED Operation:	Quiescent:	20s interval
	Alarm:	0.3s interval
Part Code:	IP55:	403 0003



**SITA 200 PLUS
CONTROL PANEL**

The Sita SINGLE LOOP panel has a maximum loop length of 3.2km (2 miles) fully loaded! The loop has a maximum capacity of 200 detectors and 200 sounders.

Sita utilises soft addressing and can be configured via a PC. The system itself operates on a "distributed intelligence" basis where signal processing and "fire decisions" are made within the local device. Activity of devices is displayed individually on the panel LCD.

The panel provides a set of monitored inputs and outputs that can be configured to perform a range of functions. The repeat link on the Sita panel enables up to 4 repeater units to be connected.

The system may be configured to utilise up to 3 alarm stages with full 'Cause & Effect' programming across all 32 zones and the option of 7 different sound patterns.

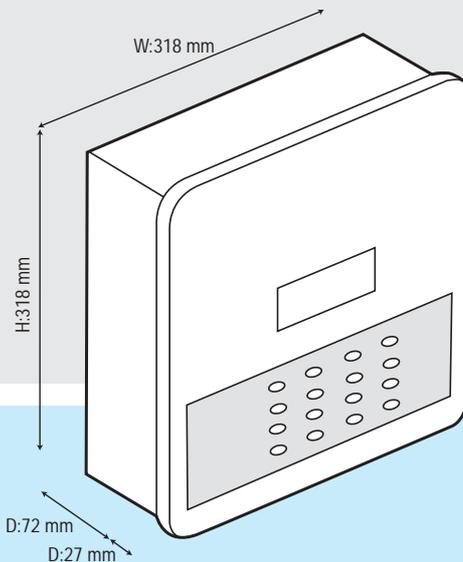
The Sita panel is compliant with EN54-2 and EN54 -4 and EU directives.

- Digital communication with high power transfer
- Alarm confirmation as standard
- Advanced PC configuration tools
- Very low current consumption
- 32 zonal displays for fire
- Integral power supply with intelligent battery management
- Repeater units available - connected on a bi-directional serial data link



Technical specifications

Compatibility:	Sita 200 plus	
Construction:	Front:	V2 rated ABS
	Back box:	Mild Steel
Operating Temperature:	5°C to 33°C	
Voltage Range:	16 to 48v DC	
Main voltage:	230v AC +10% -15%	
Panel Inputs/Outputs:	2 x monitored sounder/relay circuit	
	1 x common fire relay	
	1 x common fault relay	
	2 x fire input (latching/non latching)	
	1 x R-bus (Repeater and PC link)	
Loop voltage:	40v DC	
Current Consumption:	Max loop current:	500mA
	Quiescent:	25mA
	Alarm:	48mA
Battery Requirements:	48hr:	2 x 3.3Ah 12v
Loop Length:	3.2Km 2 core 1.5mm (with screen/earth)	
Part Code:	503 0001	



**SITA 200 PLUS
REPEATER PANEL**

The Sita Repeater panel provides additional indication and control for your system

The Sita repeater panel utilises a 2 core screened fire cable for data transmission, and will operate up to 4 repeater panels.

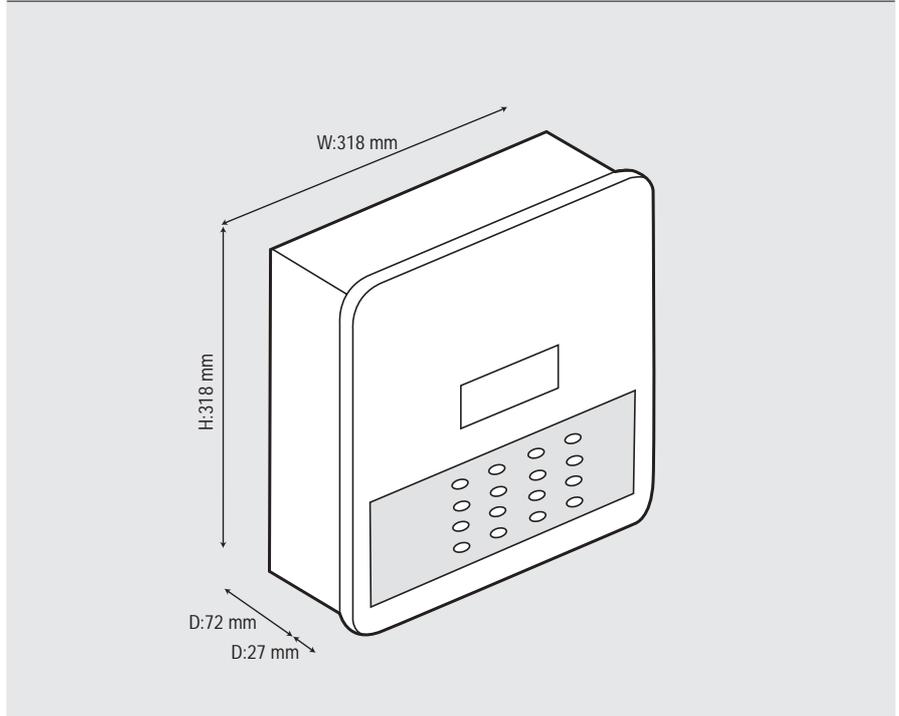
The panel gives full text and led indication of events taking place, and provides system controls for 'Alarms On/Off' and 'Reset System'.

The repeater panel housing is similar to the main control panel, allowing flush or surface mounting, complete with integral PSU and battery compartment.



Technical specifications

Compatibility:	Sita 200 plus	
Construction:	Front:	V2 rated ABS
	Back box:	Mild Steel
Operating Temperature:	5°C to 33°C	
Mains voltage:	230v AC +10% -15%	
Panel Inputs/Outputs:	1 x common fire relay	
	1 x common fault relay	
	1 x R-bus (Repeater and PC link)	
Battery Requirements:	2 x 3.3Ah 12v	
Part Code:	503 0002	



SITA OSP & SERIAL INTERFACE LEAD

The Sita 200 plus control panel may be programmed utilising the PC based Sita OSP programming software.

Sita OSP is the name given to the high level software package written to enable the individual configuration of the Sita 200 plus fire alarm system. The windows based program allows the system to be set up for each application, including the setting of detection modes, subsequent actions to be taken and individual sound patterns.

Much thought has taken place to implement operations in as simple a way as possible whilst not losing flexibility through over simplification. Complicated arrangements with three alarm stages may be arranged as required in order to tailor system operation to the client's building or safety procedures.

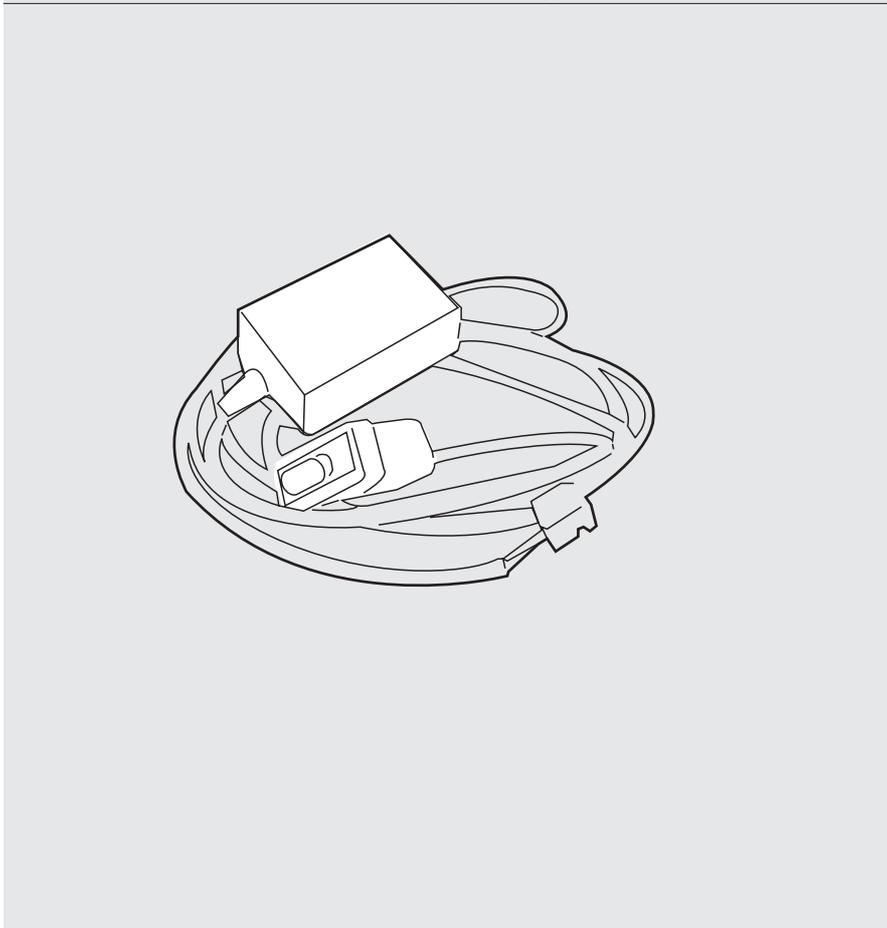
Tools are also included to enable you to create reports and specifications from your programming, including both 'Configuration' and 'Event Log' reports.

The 'Serial Interface Lead' is required to link a PC to the Sita 200 plus control panel and utilises an RS 323 serial port.



Technical specifications

Compatibility:	Sita 200 plus control panel
Connections:	Serial Port
Part Code:	803 0009 (OSP software + lead)
	803 0004 (lead only)



SITA MULTIPOINT I/O INTERFACE MODULE

The Sita Multipoint I/O Interface Module allows convenient use of the Multipoint's inbuilt input or output.

The I/O Interface unit may be connected to the Multipoint detector base in order to provide an input or an output from the addressable circuit.

The unit may be programmed as required for a wide variety of applications, including the ability to follow an individual device set for 'Alarm Confirmation'.

The module provides a 'Fault Input' to allow fault indication from relevant ancillary equipment, even when set to its relay/output mode. It is ideal for operating plant shutdown, door release mechanisms, access control override, etc.

The module is available mounted in an industry standard double gang housing for ease of installation for either flush or surface mounting, or mounted discretely within a multipoint detector base.

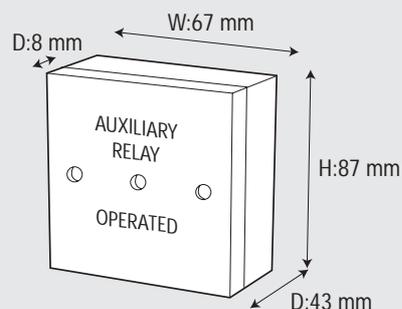
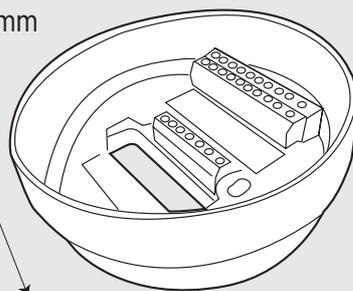


Technical specifications

Compatibility:	Sita 200 plus	
Construction:	ABS	
Operating Temperature:	-10°C to 50°C	
Voltage Range:	16 to 48v DC	
Operating Current:	Quiescent:	50uA
Relay Output:	Volt free SPCO, 0.5A 30V	
LED Operation:	Active:	Red LED
Part Code:	Base Mounted	803 0003
	Single Gang Box	803 0005

∅ 103 mm

D:26 mm



**SITA
I/O INTERFACE
MODULE**

The Sita Loop Powered I/O Module is available for interfacing to other systems in the field.

The Loop Powered I/O Module connects to the loop wiring, providing a 230v AC rated DPCO relay contact for switching purposes.

The unit may be programmed as required for a wide variety of input and output applications.

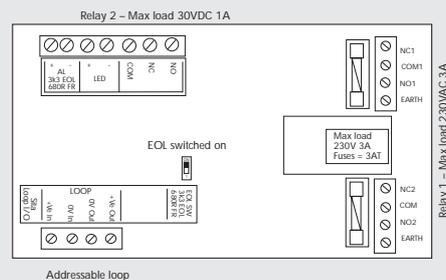
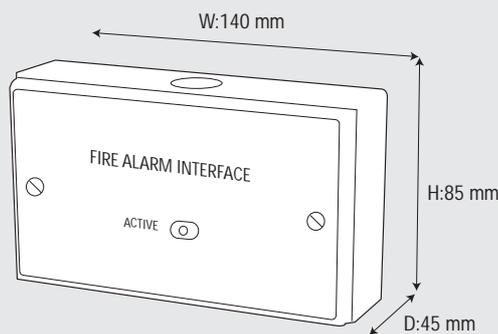
The module provides a 'Fault Input' to allow fault indication from relevant ancillary equipment, even when set to its relay/output mode. It is ideal for operating plant shutdown, door release mechanisms, access control override, etc.

The module is available mounted in an industry standard double gang housing for ease of installation for either flush or surface mounting.



Technical specifications

Compatibility:	Sita 200 plus	
Operating Temperature:	-10°C to 50°C	
Voltage Range:	24v to 42v DC	
Operating Current:	Quiescent:	0.5mA
	Active:	2.5mA
Relay Output:	Volt free DPCO, 3A 230V AC	
	Volt free SPCO, 0.5A 30V DC	
Input:	EOL:	3K3
	Firing Resistor:	680R
Loading:	1ALU (max 175 per loop)	
LED Operation:	Active:	LED on
Part Code:	803 0006	



**SITA LOOP
POWERED BELL**

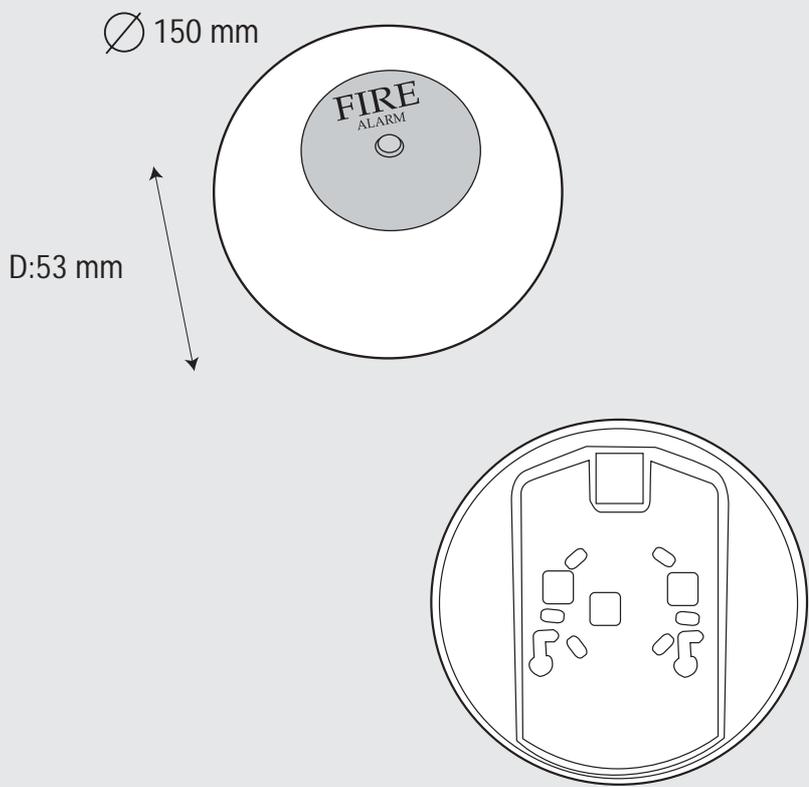
The Sita Loop Bell offers a slim profile design, with a high volume output and low power consumption. The bell gives even wider choice when using the Sita 200 plus system, especially as bells remain one of the most popular used alarms for fire evacuation. Up to 50 bells can be powered on the Sita loop.

Its design means it is simple to install with a multi-fixing base plate. A weatherproof version is also available on request to Rafiki.



Technical specifications

Compatibility:	Sita 200 plus
Operating Temperature:	-10 °C to 50°C
Voltage Range:	16 – 48 V DC
Sound Outputs:	96.5 dB (A)
Construction:	aluminium
Part Code:	303 0013



**SITA LOOP
POWERED
CONVENTIONAL
ZONE MODULE**

The Sita Conventional Zone Module is available for interfacing to conventional devices.

The Loop Powered Conventional Zone Module connects to the loop wiring, providing a conventional circuit to monitor conventional devices. Conventional detectors and manual call points may be utilised.

A single conventional beam detector may be connected to each module, powered directly from the loop.

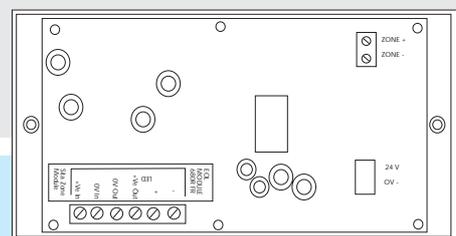
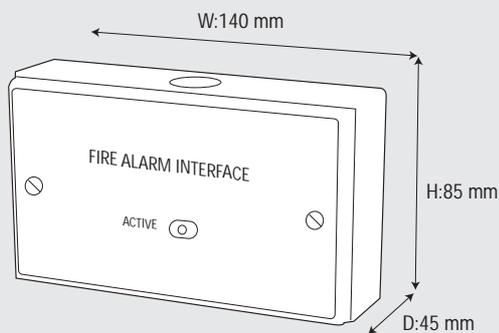
If a higher current capacity is required, ie. for older conventional devices, then an additional 24v power supply unit may be connected to handle the additional load.

The module is available mounted in an industry standard double gang housing for ease of installation for either flush or surface mounting.



Technical specifications

Compatibility:	Sita 200 plus	
Operating Temperature:	-10°C to 50°C	
Voltage Range:	24v to 42v DC	
Operating Current:	Quiescent:	0.5mA + load
	Active:	2.5mA + load
Input:	EOL:	capacitive
	Firing Resistor:	680R
Capacity:	Loop Powered:	20mA
	Remote PSU:	40mA
Loading:	Loop powered:	10 ALU
	Remote PSU:	1 ALU
LED Operation:	Normal:	20s interval
	Fault:	5s interval
	Activated:	0.3s interval
Part Code:	803 0010	



D E E P B A S E



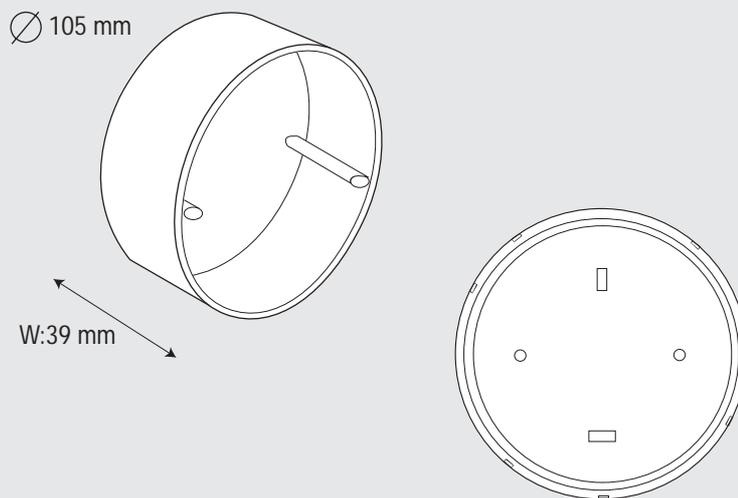
An optional 'Deep Base' for surface installation

Specially designed for Rafiki products the "deep base" is compatible with all Multipoint detectors/sounders, Flashpoint sounder/beacons and Hatari sounders.

Pre formed 'cut-outs' are provided for trunking, conduit and cable glands etc. Plenty of space is available for your cable entry to the device.

Technical specifications

Compatibility:	All Multipoint Detector/sounders
	All Flashpoint sounder/beacons
	All Hatari sounders
Part Code:	900 0001



H E A D R E M O V A L T O O L



The Head Removal Tool makes maintenance of systems simple.

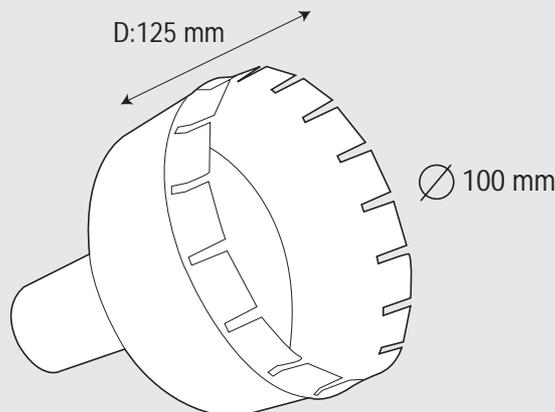
The Rafiki Head removal tool can be used to release the optical chamber on any Rafiki Multipoint detector/sounder and also to unlock the Hatari and Flashpoint sounder beacon.

A necessity for maintenance, the Head Removal Tool is supplied free of charge with any Rafiki control panel, but can also be ordered separately if more are required.

To assist on site maintenance the Head Removal Tool may be attached to an extendable pole.

Technical specifications

Compatibility:	All the following Rafiki devices:
	Multipoint detector/sounder
	Flashpoint sounder/beacon Hatari sounder/beacon
Part Code:	25-0012-301



**M U L T I P O I N T
O P T I C A L
C H A M B E R**

Replacing a contaminated detector is quick, simple and cost effective when using the Multipoint.

The unique design of the Rafiki Multipoint detector allows a contaminated optical chamber to be easily replaced on site.

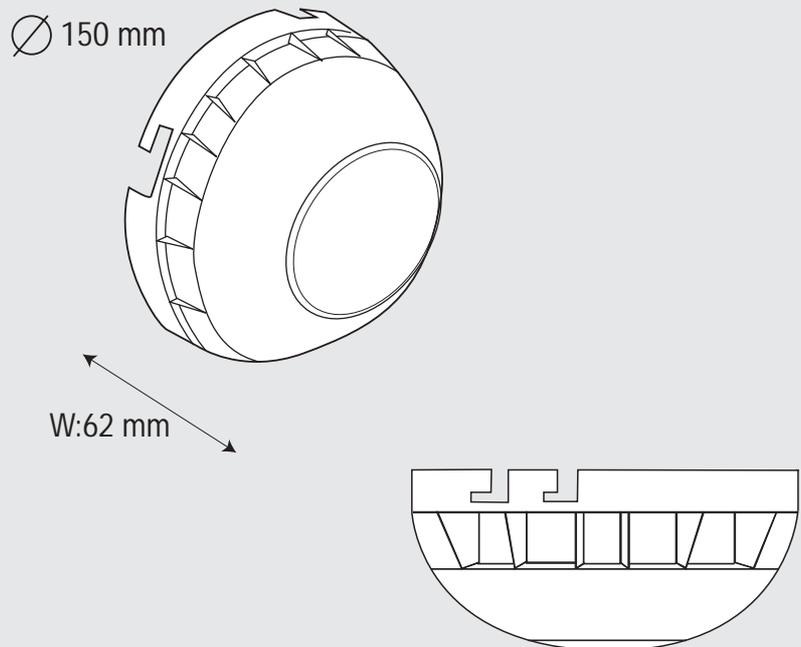
The Twinflex and Sita systems offer a contamination warning at both the control panel and the device for a period of time before a chamber has reached the point where contamination can lead to false alarms.

A replacement chamber may easily be installed, allowing the Multipoint to re-calibrate itself within minutes to retain optimum detection performance.



Technical specifications

Compatibility:	All Multipoint Detectors:	
	Twinflex 2-wire	
	Sita 200 plus	
Operating Temperature:	-10°C to 50°C	
Part Code:	Twinflex:	45 0001 202
	Sita 200 plus:	45 0010 202



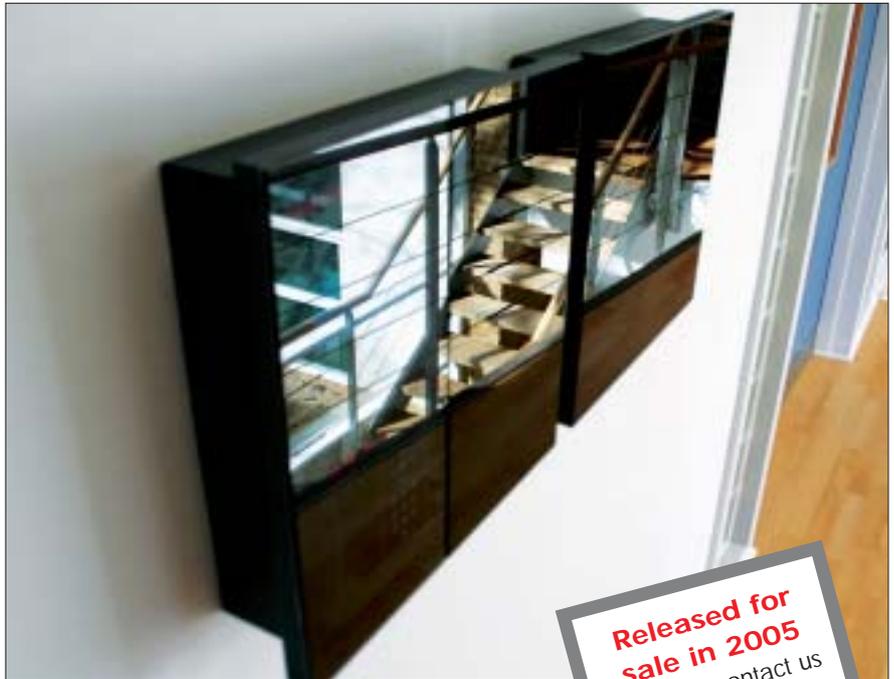


**Sita Technology...
and more**

- **Multi-loop**
- **Networkable**
- **50,000 devices**

Specification Overview
(Correct at time of going to press)

- 4 Loop panel
(Supplied as 1 loop, which is expanded using plug-in loop cards if required)
- Network up to 32 panels
- Network facility built-in as standard – no additional “net-work” card to purchase
- Loop length 3.2km (2 miles) fully loaded
- Loop capacity 200 devices with built –in sounder
- Building Management Software included as standard
- Over 100 finishes available for panel enclosure
- Proven Sita protocol devices-full range available
- Compatible with existing Sita installations if required
- Printer available
- Advanced commissioning software
- 128 available zones per panel
- Up to 1 km length between networked panels



Released for sale in 2005
– please contact us for further information on Quadnet.

Powerful software gives the capacity to build a system of up to 32 panels, each with 4 loops, making Sita Multipoint detector technology available to customers with systems with up to 50,000 devices. The Quadnet panel offers extension to the established Sita intelligent addressable range of products using the existing Sita protocol.

Quadnet has been designed using resources of a renowned design company, and significant customer feedback, to produce a high specification system with many unique features. Its appeal will attract consultants, clients, installers and engineers alike. The standard black hi-gloss finish of the Quadnet panel has been chosen to reflect the “state of the art” technology which it encases, the idea being it is a panel to enhance its surroundings, rather than be hidden away. If, however, a different look is required the Quadnet panel can be manufactured in many different finishes including brushed aluminium, walnut and marble. Commissioning software, the panel menu and key pad layout are installer friendly, along with ease of access for cable entry and terminations, making Quadnet a popular choice for engineers and the end user.



**CONVENTIONAL
MANUAL
CALL POINT**

All Rafiki Manual call points are designed to comply with the latest European standards: EN54 part 11.

With the resettable element the need for replacement glass is negated as the unit may be reset using the key provided.

The test key is inserted into the front of the unit in order to allow its use wherever it may be sited. The user can test the call point with the test key or by depressing the element.

There is no need to remove the front cover and the glass at installation; just one screw fixes the whole unit together.

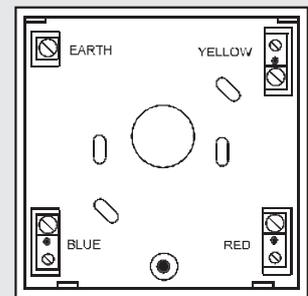
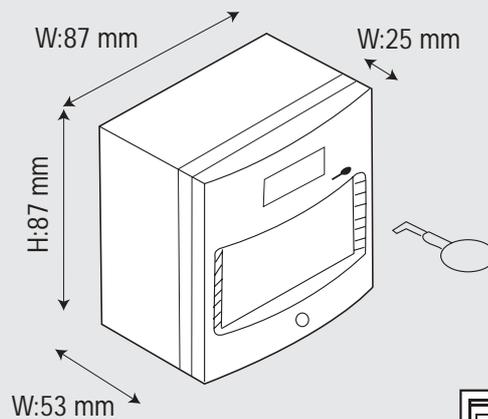
The back box can be fitted at the time of installation with other first fix items - the call point unit can be simply fitted in later. An adaptor plate is also supplied, for use with standard flush or surface backboxes.

The manual call point is connected to the back-box using simple flying-lead terminations



Technical specifications

Compatibility:	Conventional 24V DC
Operating Temperature:	-10°C to 50°C
Voltage Range:	18 to 35v DC
Part Code:	400 0002



**CONVENTIONAL
MANUAL
CALLPOINT
WEATHER PROOF**

Call Points are available with an IP55 weatherproof rating

All Rafiki Manual call points are designed to comply with the latest European standards: EN54 part 11.

With the resettable element the need for replacement glass is negated as the unit may be reset using the key provided.

The test key is inserted into the front of the unit in order to allow its use wherever it may be sited. The user can test the call point with the test key or by depressing the element.

Every call point comes with an LED for indication of Alarm.

There is no need to remove the front cover and the glass at installation; just one screw fixes the whole unit together.

The back box can be fitted at the time of installation with other first fix items - the call point unit can be simply fitted in later.

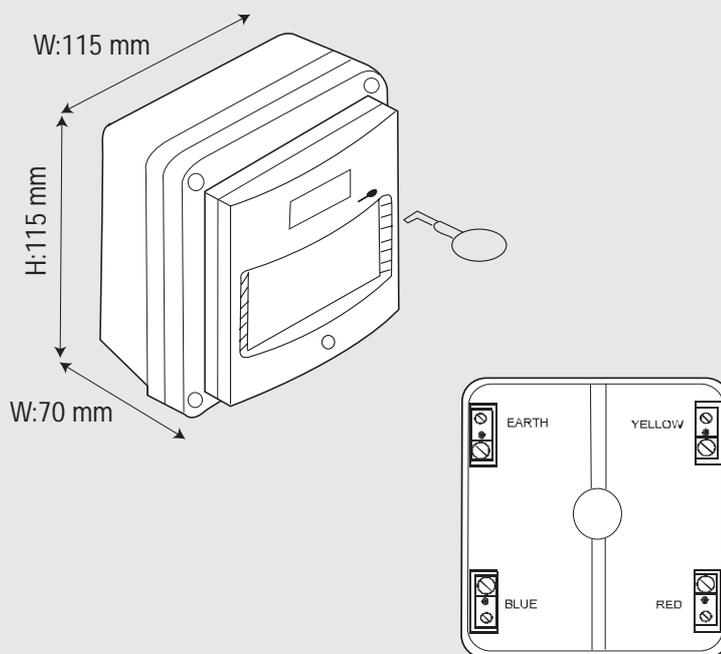
The manual call point is connected to the back-box using simple flying-lead terminations

The waterproof call point comes with an adaptable back box for surface installation and is weather proof to IP 55.



Technical specifications

Compatibility:	Conventional 24V DC	
Operating Temperature:	-10°C to 50°C	
Voltage Range:	18 to 35v DC	
Part Code:	IP55:	400 0003



**CONVENTIONAL
HATARI SOUNDER**

Compact conventional sounder with sound output of 100 dBA

The Hatari sounder available in Red or White is an attractive, compact unit that can be used on any conventional system. It features a bayonet locking mechanism so the base can be installed with other first fix items and the unit itself can be simply plugged in later.

As per European standards the Hatari sounder has an anti-tamper mechanism which means the sounder can only be removed once installed by way of the Rafiki Head Removal Tool.

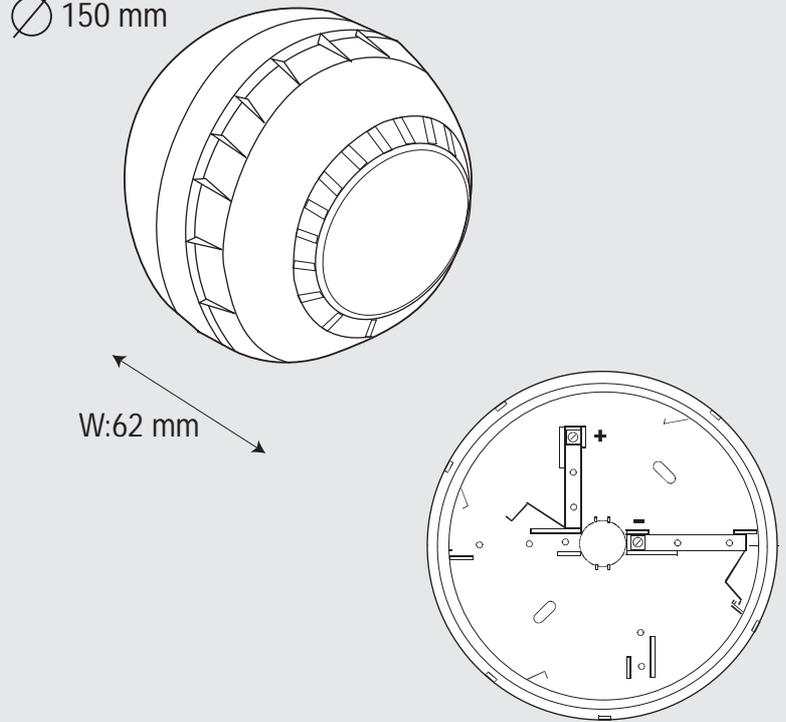


Technical specifications

Compatibility:	Conventional 24V DC	
Operating Temperature:	-10°C to 50°C	
Voltage Range:	18 to 35v DC	
Operating Current:	Max:	20mA
Sound Outputs:	100dB(A)	
Part Code:	Red:	300 0001
	White:	300 0002

∅ 150 mm

W:62 mm



**CONVENTIONAL
HATARI SOUNDER
STROBE**

Visual and audible warning for conventional systems – all in one compact device

The Rafiki Hatari Sounder Strobe unit offers audibility levels of up to 100 dBA with a combined visual indication beacon.

The unit is available in a choice of Red or White and has the benefit of low current efficiency.

It features a bayonet locking mechanism so the base can be installed with other first fix items and the unit itself can be simply plugged in later.

As per European standards the Hatari sounder strobe has an anti-tamper mechanism which means the sounder can only be removed once installed, by way of the Rafiki Head Removal Tool.

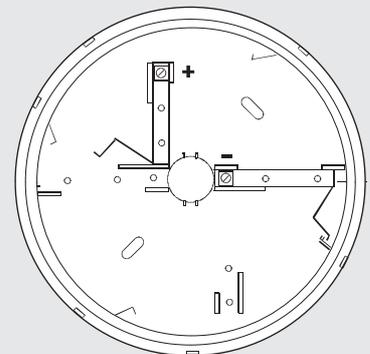
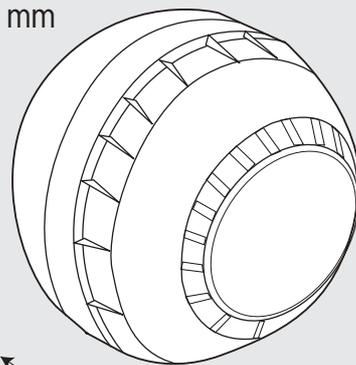


Technical specifications

Compatibility:	Conventional 24V DC	
Operating Temperature:	-10°C to 50°C	
Voltage Range:	18 to 35v DC	
Operating Current:	Max:	50mA
	Mean:	35mA
Sound Outputs:	100dB(A)	
Part Code:	Red:	300 0011
	White:	300 0012

∅ 150 mm

W:62 mm





Intelligent Fire Technology

Note

All specifications are available in electronic format on request to Rafiki.

Disclaimer

Rafiki's policy is one of continuous improvement, and the right to change specification at any time without notice is reserved. Whilst every care has been taken to ensure that the contents of this document are correct at the time of publication, Rafiki shall be under no liability whatsoever in respect of such contents.

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Rafiki Protection Limited
55 Springvale Industrial Estate
Cwmbran
NP44 5BD
United Kingdom

T: +44 (0) 1633 865558
F: +44 (0) 1633 866656
uksales@rafiki.biz
www.rafiki.biz

Issue 1

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