CONVENTIONAL DETECTORS

- **Wide range of detector types**
- **360° visibility LED**
- **EN54 approved**
- **Low profile design**

The Menvier and JSB ranges of conventional detectors have been specifically designed to operate with their respective control panels. Section 11.1 of BS5839 part 1:2002 confirms the need for system designers to make certain that all system components are fully compatible with each other. Menvier 800/900 series and JSB FXN500/600 series conventional detectors are third party approved to the relevant section of EN54 (part 7 for smoke detectors & part 5 for heat detectors).

Ionisation detectors

Ionisation smoke detectors are mildly radioactive,and as such have to be disposed of under carefully controlled conditions. Advances in technology have resulted in the development of the photo thermal detector which offers superior performance to the ionisation type, but with a considerably lower environmental impact. Cooper Lighting and Security policy is therefore to phase out the use of ionisation detectors during 2007.

Cooper Lighting and Security has an enviable reputation for innovation, and this latest catalogue sees the introduction of a number of new enhanced detectors which will supersede existing versions during 2007.

Existing detectors and their new enhanced equivalents, are mechanically and electrically compatible with each other and can be mixed on an existing system.

CONVENTIONAL DETECTORS

SYSTEM OVERVIEW

- The smoke detector range consists of:
  - Optical smoke detector
  - Ionisation smoke detector (being phased out)
  - Combined photo thermal
- With photo thermal detector, sensitivity of smoke detection element varies according to changes in temperature. If temperature is stable then smoke detection sensitivity is reduced to provide maximum false alarm rejection, if there is a significant rate of rise in temperature, smoke detection sensitivity is increased to maximum, to provide earliest possible detection of all fires, especially those which are fast clean burning types
- Photo thermal offers excellent detection of both cool smouldering fires and hotter burning cleaner fires. It is therefore becoming a natural replacement for less environmentally friendly ionisation type detectors.
- Heat detector range consists of:
  - Rate of rise heat detector
  - Medium temperature fixed heat detector
  - High temperature fixed heat detector
- Detectors have an attractive appearance, enhanced by low profile design, optical detector has a profile including base of only 45mm, thermal and photo thermal detectors have a profile including base of 55mm
- Detectors use light pipe technology to provide 360° LED viewing angle. This simplifies installation and reduces search time in the event of alarm activation
- The LED status indicator can be seen from any angle avoiding the need for careful alignment of LED with optimum viewing point such as the entrance to a room
- The logo on each detector is colour coded to indicate the exact device type without the need to remove the detector for inspection
- Enhanced smoke and photo thermal detectors have chamber monitoring with drift compensation, this feature automatically monitors for chamber contamination and adjusts detector sensitivity in response to gradual build up of dust. When end of drift compensation limit is reached, an amber status LED illuminates to alert user. Note this feature is only incorporated in the new enhanced detectors (see page 85)
- Bi wire versions include additional components to make them fully compatible with JSB FX2200BW series panels (see page 50 for further details)

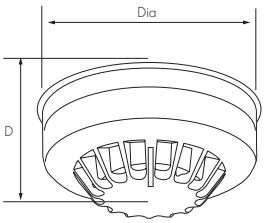
USER INTERFACE

- Red LED to indicate alarm condition
- Amber LED to indicate chamber fault/drift compensation limit (enhanced versions only)
- All wiring connections are via a common mounting base (supplied separately)

INSTALLATION NOTES

- Detectors are fixed and wired via common mounting base
- Cable entry into base can be rear or side
- A locking facility is provided which can be activated if required to prevent unauthorised detector removal without the use of a special tool
- Positive click mechanism incorporated to provide clear indication when detector is correctly located in base

DIMENSIONS



	Dia (mm)	D (excl base)	D (incl base)
Optical & Ionisation smoke detectors	101	33	45
Photo-thermal detector	101	43	55
Heat detectors	101	43	55

Innovative light pipe technology allows LED to be seen from any angle

CATALOGUE NUMBERS

Description	Part number to suit Menvier systems	Part number to suit JSB systems	Part number to suit JSB Bi wire systems
Optical smoke detector [a]	MPD820	FXN523	-
Enhanced optical smoke detector	MPD821 [b]	FXN533 [b]	FXN623
Ionisation smoke detector [c]	MID810	FXN521	FXN621
Combined photo/thermal detector	MPT950 [a]	FXN622 [a]	-
Enhanced photo thermal detector [b]	MPT951 [b]	FXN632 [b]	FXN622
Fixed heat detector (77°C)	MMT860	FXN524	FXN624
Fixed heat detector (92°C)	MHT890	FXN526	FXN626
Rate of rise heat detector	MFR830	FXN525	FXN625
Common base	MDB800	FXN520	FXN520

a) This device will be phased out during 2007 and replaced with the new enhanced designs
b) This device will be introduced during 2007
c) This device will be phased out during 2007

SELF CHECK CONVENTIONAL DETECTORS

- New patented technology
- Enhanced system integrity for conventional systems
- Constantly checks and confirms detector operation
- Triggers a fault locally and at panel in event of a fault
- Drift compensation

The JSB range of self check detectors work like ordinary conventional detectors, but in addition incorporate additional circuitry to constantly monitor their own status and raise an alarm both locally and at the panel in the event of a fault.

Self check detectors represent a major innovation, greatly enhancing the integrity conventional fire alarm systems. With traditional conventional fire systems, the monitoring systems within the control panel, check that all detectors are in place and that wiring is intact, they do not however verify that the detectors are actually working. The new self check range of detectors changes this, detectors automatically constantly monitor themselves and raise an alarm in the event of a failure.

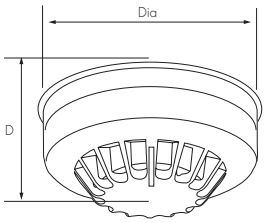
SYSTEM OVERVIEW

- Range consists of
  - Optical detector
  - Photo thermal detector
  - Rate of rise heat detector
  - 77°C fixed temperature heat detector
  - 92°C fixed temperature heat detector.
- Optical and photo thermal detectors incorporate drift compensation to automatically compensate for small slow changes in background readings, helping to compensate for the build up of dust etc within the chamber.
- Self check detectors are compatible with JSB FX2200 series panels only
- All self check detectors have a status LED (with 360° viewing angle) to provide clear status information and minimise search times in event of alarm activation.
- Detectors have a discreet low profile design

USER INTERFACE

- Amber status LED to indicate internal fault or drift compensation limit reached
- Red status LED to indicate a fire condition
- If a detector develops a fault, a fault signal is also sent to the control panel

DIMENSIONS



	Dia (mm)	D (excl base)	D (incl base)
Optical & Ionisation smoke detectors	101	33	45
Photo-thermal detector	101	43	55
Heat detectors	101	43	55

CATALOGUE NUMBERS

Cat. No.	Description
FXN523ISC	JSB Self Check optical conventional detector
FXN524ISC	JSB Self Check conventional heat detector (77°C)
FXN525ISC	JSB Self Check conventional heat detector (Rate of rise)
FXN526ISC	JSB Self Check conventional heat detector (92°C)
FXN622ISC	JSB Self Check combined photo/thermal conventional detector
FXN520	JSB common mounting base

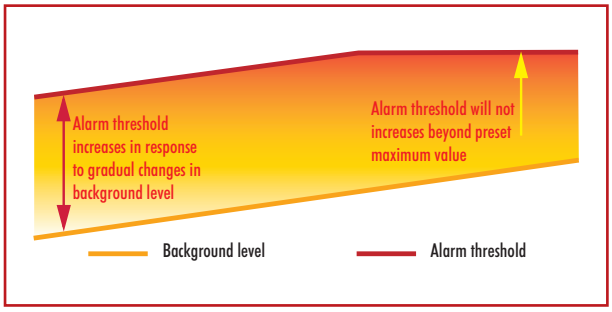
INSTALLATION NOTES

- Detectors are fixed and wired via common mounting base
- Cable entry to base can be rear or side
- A locking facility is provided, which can be activated if required to prevent unauthorised detector removal

DRIFT COMPENSATION EXPLAINED

Smoke detectors sense the presence of tiny smoke particles in the air. With traditional detectors, the gradual build up of dust and similar particles can be seen as smoke and can result in false alarms. Drift compensation increases the alarm threshold of the detector in response to a very slow gradual build up of dust or similar contaminant, thus maintaining a safe margin between normal and alarm levels.

Detectors will only increase the alarm threshold very gradually and have a programmed maximum drift value, which they will not go beyond. This ensures that a detector will respond to a genuine very small fire situation. (see below)



Drift compensation helps avoid false alarms

SELF CHECK CONVENTIONAL DETECTORS

CONVENTIONAL BASES

- **Separate loop in and loop out terminals**
- **Stand off fixing feature**
- **Accepts side entry surface cables**
- **Selectable detector locking feature**

Detector mounting bases are available which have been specifically designed to be compatible with Menvier or JSB detectors and control panels. One base is available for Menvier systems and one suitable for JSB systems. The bases have been designed for flexibility, simplicity and speed of installation.

SYSTEM OVERVIEW

- Bases incorporate purpose designed devices to provide fault warning if detector is removed whilst maintaining full zone wiring integrity
- Menvier base has spring contact switch and parallel zener diode arrangement
- JSB base has series Schottky diode

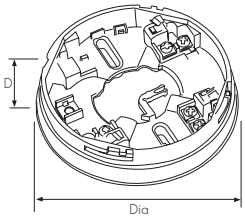
USER INTERFACE

- Heavy duty terminals are provided for each connection, each terminal can accept 2 x 2.5mm cables.
  Separate loop in and loop out terminals are provided for each connection.

INTERFACE OPTIONS

- Menvier and JSB conventional detectors and bases support the use of a remote LED refer to page 132 for details

DIMENSIONS



Dia (mm)	D (mm)
104	22

INSTALLATION NOTES

- Base incorporates a retaining clip to provide positive feedback when detector is correctly fitted
- Separate terminals are provided for loop in and loop out connections
- Each terminal can accept up to 2 x 2.5mm cables
- Base incorporates a substantial cable entry aperture in the rear of the base
- Breakouts are provided to enable the detector base to sit neatly over surface cables and then enter via the rear entry aperture
- Base mounting incorporates a stand off feature to help prevent distortion when mounted on an uneven surface
- Fixings are suitable for standard BESA box or direct fixing to suitable surface
- Optional locking devices (supplied with base) to prevent unauthorised detector removal

CATALOGUE NUMBERS

Cat. No.	Description
FXN520	Common mounting base for JSB FXN500 & FXN600 series detectors
MDB800*10	Base for Menvier 800/900 series detectors (Pack of 10)
MDB800	Base for Menvier 800/900 series detectors (single base)

RELAY BASES

- **Simple to install**
- **Designed specifically for Menvier and JSB detectors**
- **Provides remote signal for external interfacing**
- **Versions to suit analogue and conventional systems**

Relay bases are available from Cooper Lighting and Security to provide a local relay signal in the event of a particular detector being triggered. These are ideal for instigating a local response in the event of a specific detector being triggered. Two formats are available, one designed specifically to operate with the latest generation of Menvier detectors and one designed to operate with the latest generation of JSB detectors.

DEVICE OVERVIEW

- Relay base combines a detector mounting base with a relay
- Simple to install, first fix mounting plate

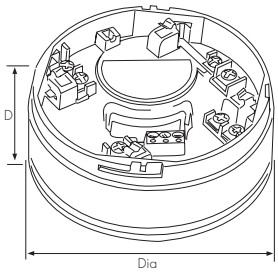
SYSTEM FUNCTIONALITY

- Relay is controlled by status of host detector
- If host detector is triggered relay activates

INTERFACE OPTIONS

- Bases are compatible with latest generation Menvier (800 & 900 series) and JSB (500 & 600) detectors only

DIMENSIONS



Dia (mm)	D (mm)
102	40

INSTALLATION NOTES

- Relay base is supplied with a first fix fixing plate
- Fixing plate has a central cable aperture
- Cable entry is from rear
- Main body is then clipped into place on base, body locks into place when pressed into position

TECHNICAL SPECIFICATION

Relay contact rating	1A @ 24 V DC
Relay trigger source	Detector remote LED output
Detector locking facility	Supplied as standard

CATALOGUE NUMBERS

Cat. No.	Description
FXN520R	Relay base to suit JSB conventional detectors
MDB800R	Relay base to suit Menvier conventional detectors
MAB800R	Relay base to suit Menvier analogue detectors