

Fire detection and evacuation solutions that save lives.

Reflective Addressable Beam System



Features

- Loop Powered and compatible with XP95 and Discovery Protocol
- Incorporates a bi directional short-circuit isolator
- Automatic drift compensation
- Automatic reset
- Ground level controller
- Automatic alignment compensation for building movement
- Laser assisted alignment for quick installation
- Allows for 2 detector heads per controller
- Up to 100m range
- Pre-alarm threshold

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The Ampac Addressable Auto-Aligning Beam Detector combines a transmitter/ receiver in the same detector head with an automatic alignment motor. This combination with integrated addressability allows for quick and simple installation.

The Addressable Auto-Aligning Beam Detector automatically compensates for environment effects on the beam signal, keeping the unit in the best possible working order. This is achieved through the combination of software (automatic gain control) and motorised realignment of the beam.

The Addressable Auto-Aligning Beam Detector is a compact detector for detecting smoke in large open areas such as warehouses, theatres, churches and sports centres. It comprises a ground level loop-powered controller, a detector head with an operating range of 8m-50m and a single prism. The operating range of each detector head can be increased, up to 100m by using the Extension kit, which comprise of three additional prisms. An additional detector head can be connected to the controller. Each head has a loop address. It also has a built in 20T negative bi-directional short circuit isolator, and it is compatible with the Ampac control panels using XP95 Protocol.

A built-in laser provides rapid initial alignment and thereafter the detector head will continuously automatically align and compensate for any building movement. The status of each detector can be monitored through the controller which is sited at the ground level. The detector head operates both as a transmitter and a receiver. A well-defined IR beam is projected to a prism mounted on the opposite wall, which is reflected back to the receiver. In the event of smoke partially obscuring the light an imbalance between the transmitted and received light will occur. The detector will then transmit an alarm value to the control panel.



The detector is factory set to a beam obscuration of 35% which is the best setting for most factories and warehouses. The settings can be changed to 25% for offices and clean areas such as theatres or to 50% for hostile areas such as mills or foundries. The detector reports a Pre alarm (analogue value 480 at the approximately 75% of the alarm threshold).

The detector compensates automatically for gradual contamination of the lenses in order to avoid false alarms. The detectors is non-latching and resets 30 seconds after an alarm event ceases and in 30 seconds after the removal of a fault.

Electrical Considerations

The Intelligent Auto Aligning Beam Detector is loop-powered and requires no external power supply.

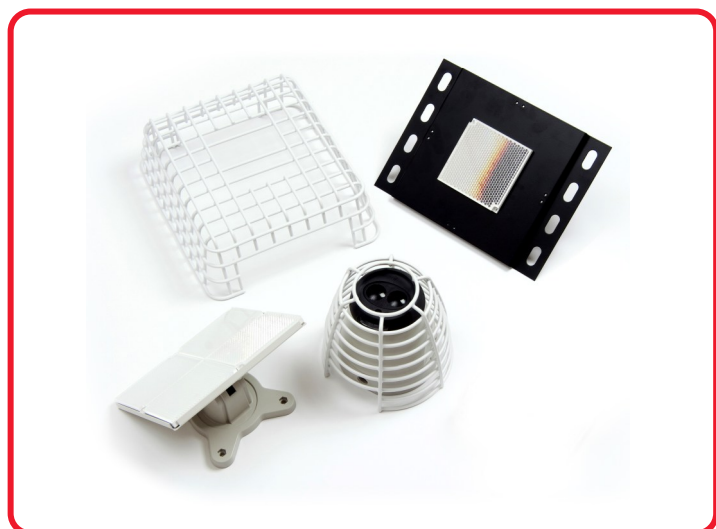
Each beam detector draws 10mA or less in quiescent and 36mA in alignment mode, from the analogue addressable loop. It is recommended that no more than ten beam detectors be powered from each loop. A recommended 2-core fire rated cable should be used for connection between the controller and the detector head.

LED Fault Indication

A fault is indicated by the amber LED flashing every 10 seconds. If the drift compensation function has reached its limit the amber LED flashes once every 10 seconds an error code is displayed on the ground level controller and an analogue value of 6 is transmitted. The detector will continue to function but maintenance procedures should be carried out at the earliest opportunity.

Approvals

World-wide approvals includes AS7240-12, EN54:12 and UL268



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Specifications

Supply Voltage	17-35V DC
Digital communication protocol	XP95 and Discovery compatible
Operating current	
1 Detector head	7.5mA
2 Detector heads	
Alignment mode current with 1 or 2 Detector heads	36mA
Response threshold	
Default	35%
Range	10-60%
Operating distance	8-100 m
Optical wave length	850nm
Short circuit isolator type	20T
Operating temperature	-10°C to 55°C
Storage temperature	-40°C to 85°C
Humidity	0% to 93% RH (no condensing or icing)
IP Rating	Designed to IP54
Housing flammability rating	UL94 V0
CPR Reference	0832-CPR-F1120
SAI Reference	SMK40168

All figures are quoted for 25 deg C

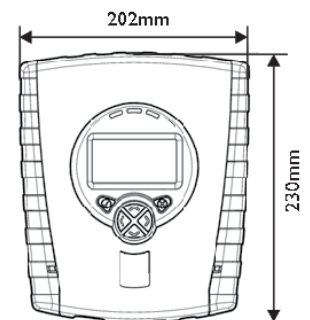
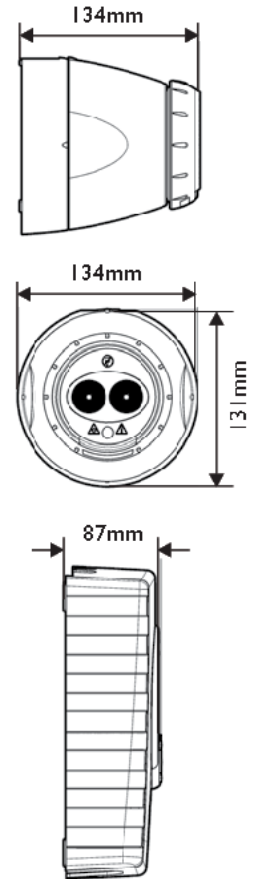
* 4 Reflectors required for > 50 m operation

Dimensions and Weight	Width (mm)	Height (mm)	Depth (mm)	Weight (kg)
System Controller, including base	202	230	87	1.0
Detector, including 'easy fit' base	134	131	134	0.5
Reflector	100	100	10	0.1

Item Numbers

Addressable Beam System (Controller, Detector & Reflective Prism)

SAI Global (AS 7240-12)	4109-1004
LPCB (EN 54-12)	SA7100-100AMP
Reflective Prism	220-0007
Detector & Reflective Prism	220-0009
Long Range Reflective Prism kit (100M)	220-0010
Universal Bracket for Detector	220-0011
Prism Plate (1)	220-0012
Prism Plate (4)	220-0013
Ceiling Pendant Mounting Bracket	220-0014
Detector Protective Cage	220-0015



Analogue Table

Analogue	Description
0	Microprocessor fault
4	General fault
5	Signal high fault
6	AGC limit reached
16	Controller powering up
25	Normal condition
48	Pre- Alarm
64	Alarm