

Self Aligning Beam Detector for FX NET Fire Detection system

The 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 of a ground level Controller, a Detector Head with an operating range of 8m-50m and a single prism.

One controller can operate up to a maximum of four separate detector heads.



Self aligning beam detector and controller

Function

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 ground level to avoid the need for expensive lifting gear.

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.

To protect distances from 50m to 100m, four prisms are required. In distances from 8 to 18 m short range mask (see installation guide) is required.

Features

- Ground level Controller avoids expensive lifting gear
- Automatic compensation for building movement
- Laser assisted alignment for quick installation
- Up to 4 detectors per Controller
- Each detector adjusts from 8m to 100m
- EN54:12 approved

Electrical considerations

The Auto-Aligning Beam Detector requires a 14 to 28V DC power supply. It can be interfaced onto the FX NET system using addressable input modules. See connection drawings on page 2.

Power to the detector can be supplied using an EN54 approved power supply or FX control panel - please refer to the Quick Start Guide supplied with the product for details.

Further information

The Auto-Aligning beam detector must be installed in accordance with the Quick Start Guide supplied with the product. This guide contains more information on the following topics:

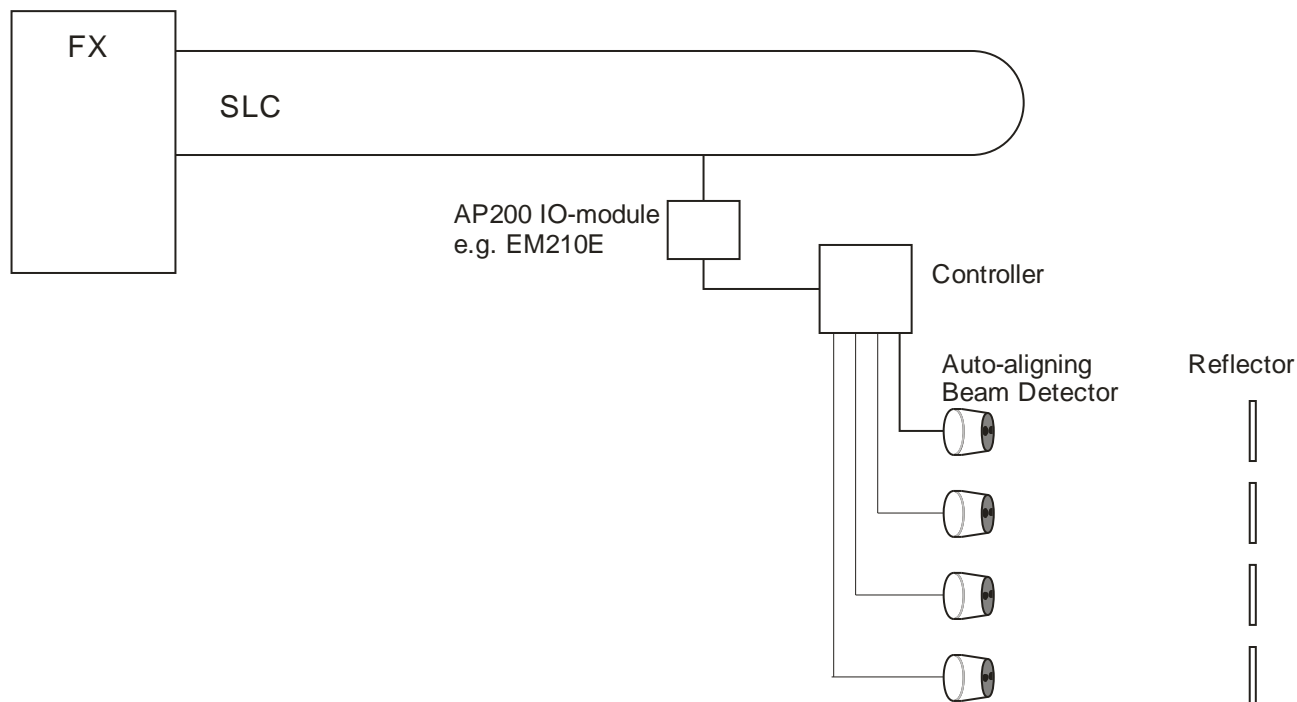
- System design
- Installing beam detectors
- Targeting, aligning and commissioning the Auto-Aligning Beam Detector
- Troubleshooting

LED fault indication

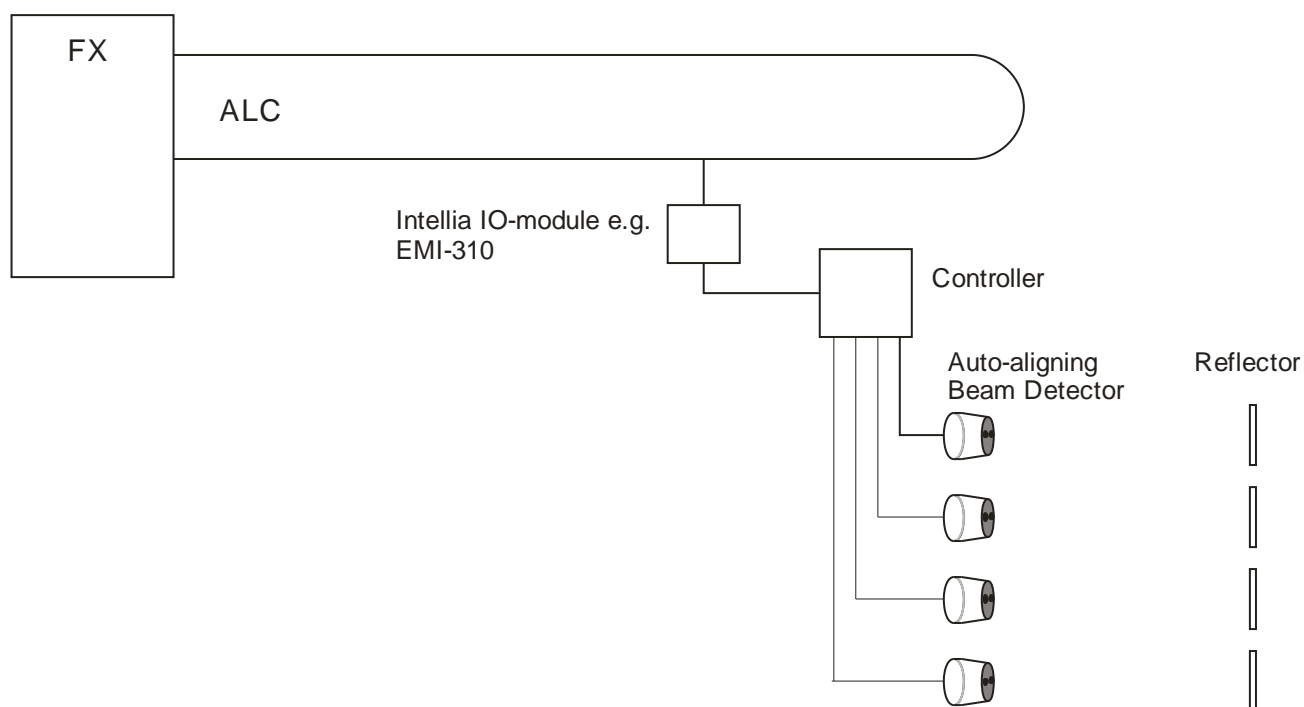
A fault is indicated by the amber LED flashing every 10 seconds.

If the drift compensation function has reached its limit the amber LED flashes once every 10 seconds and an error code is displayed on the ground level Controller. The detector will continue to function but maintenance procedures should be carried out at the earliest opportunity.

Connection to addressable loop

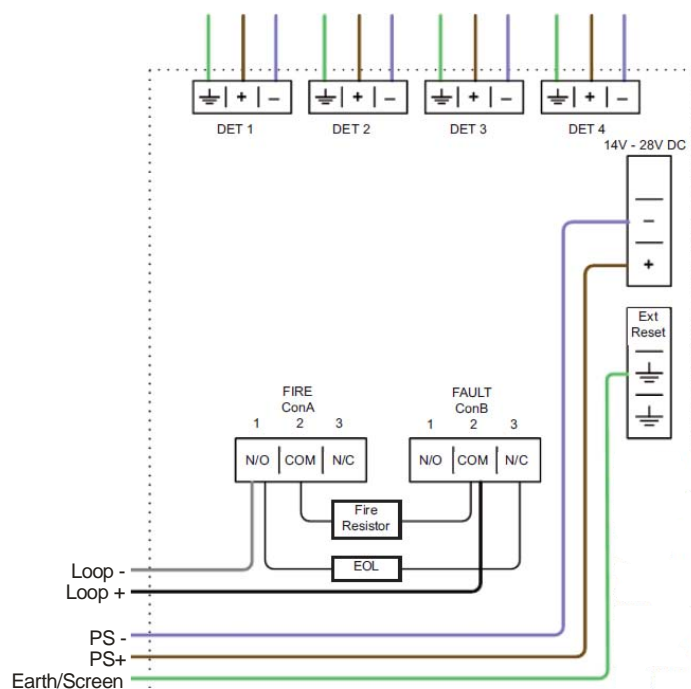


Connection of Auto-aligning Beam Detector to FX-SLC addressable loop.



Connection of Auto-aligning Beam Detector to FX-ALC addressable loop.

Wiring diagram



Wiring diagram in Controller unit

Technical data

Supply Voltage	14-28 V DC
Supply Current (1 detector head)	
Prism targeting mode (FAST)	50mA
Prism targeting mode (SLOW)	16mA
Alignment mode @24V DC	10mA
Run mode (quiescent) @24V DC	10mA
Alarm (LED illuminated)	10mA
Fault (LED illuminated)	10mA
Alarm thresholds	
25%	1.25dB
35%	1.87dB
50%	3.00dB
Alignment	
Maximum angular misalignment of Detector	± 0.3 Deg
Maximum angular misalignment of Reflector	± 5 Deg
Maximum angular movement of Detector head	± 3.5 Deg
Operating temperature	-10°C to 55°C
Humidity	0 to 93%RH (Non-Condensing)
IP rating	54
Material	Flame Retardant ABS
Colour	Grey/Black
Note: The operating current (constant) for each additional detector is min 1.8mA, typical 2.0mA	

Dimensions

Product	Dimensions w*h*d	Weight
Controller with base	202*230*81mm	1000g
Detector with base	135*135*135mm	500g
Universal bracket	135*135*71mm	200g
Reflector	100*100*10mm	100g

Product codes

Type	Description	Code
29600-524	Auto-Aligning Beam Detector 5-80m	0672 5273
29600-525	Additional Detector Head 8-50m	0672 5274
29600-526	Extension Kit 100m	0672 5275
29600-527	Universal Bracket (for use with detector head and prism mounting plates)	0672 5276
29600-528	Surface Mounting Plate for prisms	0672 5277
29600-529	Prism Mounting Plate (4 prisms 50-100m)	0672 5278
29600-530	Prism Mounting Plate (1 prism 8-100m)	0672 5279