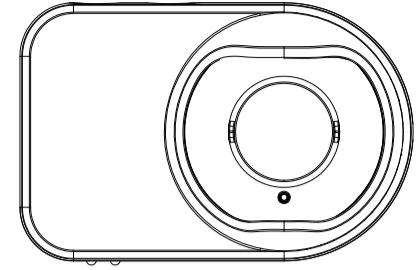


Installation Sheet - OSID Smoke Detection System

This installation sheet provides information on how to install the OSID Smoke Detection System. Full product information can be found in the OSID Product Guide (Document No. 15204) available at www.xtralis.com.

The OSID system consists of an Imager and up to seven Emitters. Although both components have the same mechanical housing, Imagers are distinguished by the presence of the two status LEDs on the underside of the device.

OSID Installation Kit (OSID-INST) are sold separately. They are required for all product installations. Please contact your local Xtralis supplier for ordering information.



1 Determine the positions of the Imager and Emitter Components.

Make sure that the intended mounting locations meet the following criteria:

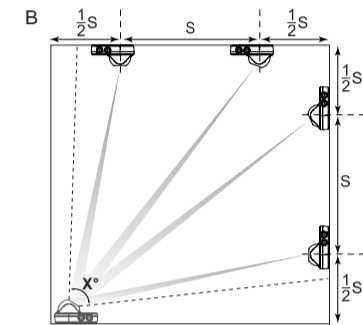
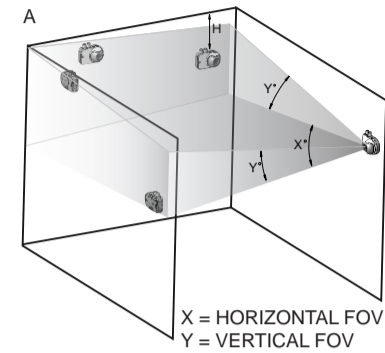
- Emitter spacing must comply with local codes and standards (B)
- Emitters must be located within the Field of View (FOV) of the Imager (A)
- Clear path between the Emitter and Imager
- Mounted well above the head-height of people and obstructions
- Avoid direct sunlight onto the units

When securing the detector to the mounting surface, mount the Imager first so that the approximate edges of its field of view can be determined. This will show the region in which the Emitter units can be located.

The Imager and Emitter/s should be placed within a distance (H) below the ceiling. This value will vary according to regional specifications, geometry, and specific requirements for the installation. The distance (H) for flat ceilings and basic spacing requirements (S) is shown in the following table.

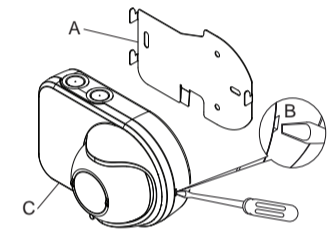
Standard	Distance from Ceiling (H)	Maximum Spacing (S)
NFPA72	-	18.3 m (60 ft)
AS1670.1	25 to 600 mm (1 to 23.6 in.)	14 m (45.9 ft)
BS5839.1	25 to 600 mm (1 to 23.6 in.)	15 m (49.2 ft)
GB50166	300 to 1000 mm (11.8 to 39.4 in.)	14 m (45.9 ft)

For full information on spacing requirements, please refer to your local codes and standards.



2 Detach Detector Mounting Bracket from Front Cover.

- To detach the unit from the Mounting Bracket (A), open the front cover and with a screwdriver push the lip backwards to then slide the unit up to detach from the Mounting Bracket
- To provide cable access to the Termination Card of the Imager or externally-powered Emitter, use a screw driver as shown in (B) to remove the Front Cover (C) from the main assembly. Remove the cut-outs from the back or top of the main assembly by using a sharp blade to cut around the circular discs.



3 Mounting via Mounting Bracket (Option 1):

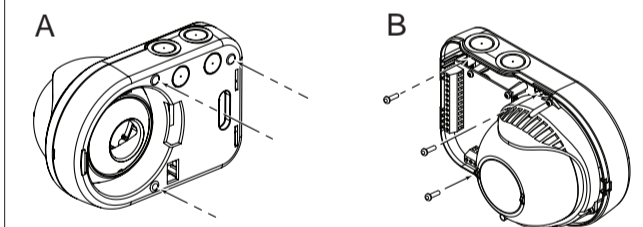
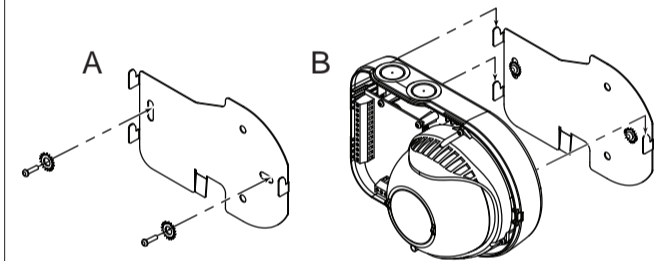
Please follow the instructions in this step if you have chosen to secure the detector component to the mounting surface using the supplied mounting bracket. If mounting directly to the mounting surface, please skip to Option 2.

- Using the screw holes of the bracket as a template, mark the installation point (A).
- Use appropriate fasteners to fix the mounting brackets to the mounting surface. It is recommended that starwashers are used to prevent the brackets slipping.
- Attach the rear assembly of the component onto the mounting brackets (B)
- When mounting the Imager units onto the brackets, ensure that the ribbon cable at the back of the optical sphere does not get caught between the unit and the bracket, as movement of the optical sphere may pull the ribbon cable out of the connectors.

Mounting directly to the mounting surface (Option 2):

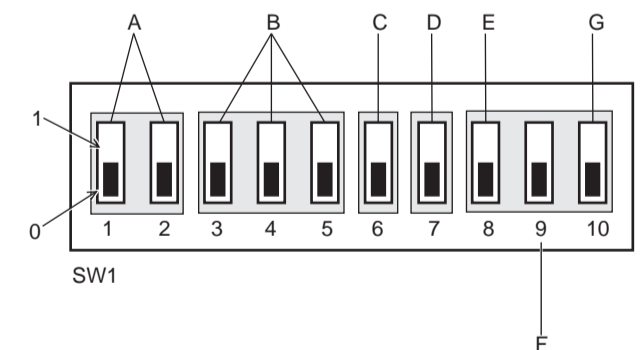
Follow this step if you have chosen to secure the detector directly onto the mounting surface without using the supplied mounting bracket.

- Pre-drilled mounting screw holes have been provided (three places) (A).
- Using the drilled screw holes as a template, mark the installation point.
- Use appropriate fasteners to secure the detector component to the mounting surface.



4 Configure System via the DIP Switches on the Termination Card of the Imager:

A. Fire Alarm Thresholds (Switch Pair A, Switch no. 1 & 2)	00	Level 4 - 65% (4.56 dB) Lowest Sensitivity, Industrial Mode	C. Alarm Latching (Switch C, Switch no. 6)	0	Non-Latching
	10	Level 1 - 20% (0,97 dB) Highest Sensitivity		1	Latching
	01	Level 2 - 35% (1,87 dB)	D. Dust Rejection (Switch D, Switch no. 7)	0	Disabled
	11	Level 3 - 50% (3,01 dB) Low Sensitivity		1	Enabled (Increased tolerance to dust events resulting in fewer Faults signaled)
B. Number of Emitters (Switch Group B, Switch no. 3, 4 & 5)	000	Not Configured (Trouble / Fault signaled)	E. (Switch no. 8)	0	Not used
	100	1 Emitter present		1	Not used
	010	2 Emitter present	F. Enhanced Mode (Switch no. 9)	0	Disabled (EN54-12 Approved 6dB Alarm enabled) for UL 268 Approved units, set to 0
	110	3 Emitter present		1	Enabled (Not EN54-12 approved. Object intrusion producing 6dB attenuation gives a Fault instead of Alarm)
	001	4 Emitter present	G. (Switch no. 10)	0	Not used
	101	5 Emitter present		1	Not used
	011	6 Emitter present			
	111	7 Emitter present			



Notes:

A. Fire Alarm Thresholds: Level 4 (65%) is not UL/ULC/FM approved.

D. Dust Rejection: Do not use with OSI-90 in EN54 approved installations if the alarm level 65% is selected.

5 Wire the Termination Card on the Imager and Emitters:

Note: This step does not apply to battery-powered Emitters. For more details, please refer to the Product Guide.

For Imagers:

1. Wire the initiating device circuit on the Imager Termination Card using the FIRE and FAULT relay terminals for a four-wire (A) device connection.

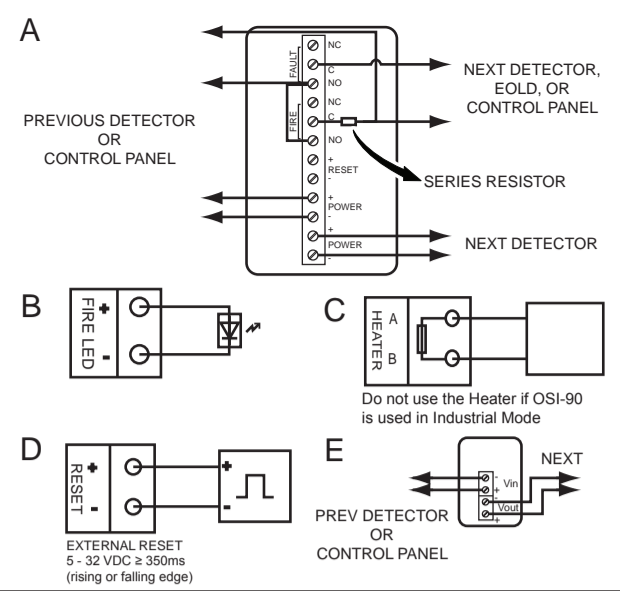
Note: For all relay connections, break wire run to allow monitoring.

2. Wire external power to the unit via the POWER terminals.
3. Wire the Remote Indicator (B), heater power supply (C) and external RESET input (D) if required.
4. Re-attach the front cover of the Imager.

For wired Emitters:

1. Connect power to the Emitter via the Vin and Vout terminals (E) on the Termination Card.
2. Re-attach the front cover of the Emitter.

Note: Analog Addressable Input Modules can also be used with the system. For further detail, please consult the Product Guide.

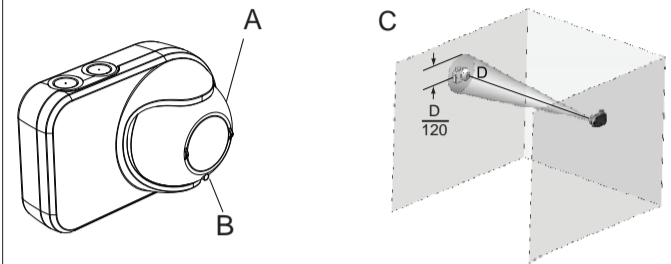


6 Manually adjust the Emitter/s and Imager until they are aligned:

Note: The OSID Laser Alignment Tool from the OSID Installation Kit must be used to align the system.

Follow these steps to adjust the optical sphere (A) of the detector component to align the system:

1. Unlock the sphere by inserting the Laser Alignment Tool fully into the alignment hole (B) and rotate the tool anti-clockwise.
2. Turn on the laser and move the tool until the laser spot and sphere points near the Imager and within the limits of Diagram (C).
3. Rotate the Laser Alignment Tool 90° clockwise and lock it into position. Make sure that the alignment of the Emitter or Imager is according to the specified limits after locking the sphere. Remove the laser tool.
4. For Single Emitter Imager systems, align as above. For multiple Emitter Imager systems, point the laser to the gravitational centre point of all the Emitters.

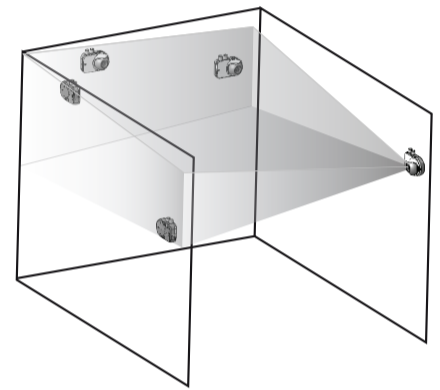


7 Initiate Training Mode:

Once mounted, final system setup is achieved by initiating Training Mode:

1. Ensure that all the spheres of the Emitters/Imager are locked in place and externally-powered Emitters are powered. Emitters will emit a faint purple flash when powered up.
2. Apply power to the Imager to initiate Training Mode.
3. After powering up the Imager, the Imager will search for Emitters in its field of view, and the Trouble LED will indicate that the detector is in Training Mode. Training Mode takes about 10 minutes to complete, after which the detector will start normal operation and flash the green LED or report a Trouble Code.
4. After a successful System commissioning, the Imager will retain the location of the Emitter(s) and the UV and IR reference levels. In order to clear stored Emitter locations and the UV and IR reference levels from the Imager, DIP switches 3, 4 and 5 should be set to 0 for a period exceeding 10 seconds whilst power is applied. During this period, the Imager will flash the yellow Fault LED rapidly. To commence a new System commissioning, set DIP switches 3, 4 and 5 to a valid setting. After a period of 10 seconds, where the front cover can be re-attached, the Imager will commence commissioning.

Refer to the OSID Product Guide (Document No. 15204) available at www.xtralis.com for more information.



8 Fault / Trouble Identification:

Follow the below steps to identify the source of fault / trouble:

1. Source Identification: Yellow LED pulses according to whether the Trouble originates from the Emitter or system:
 - a. "n" pulses identifies Emitter Beam "n" as having a Trouble (Fault) condition.
 - b. a double pulse identifies the system as having a Trouble condition.
2. 2 seconds OFF.
3. Trouble (Fault) Code: Yellow LED signals the fault type according to the pulsing sequences identified in the below table.
4. If more Faults are present: 5 seconds OFF.
 - a. If no others Faults are present in the system: 10 seconds OFF.
5. Restart from Step 1.

Emitter / System Fault	Activation Sequences	Status
-	Double Pulse every one second	Training Mode
Emitter (One or more slow pulses)	One Pulse	Emitter failed, obscured or misaligned.
	Two Pulses	Contamination fault. Emitter and Imager require cleaning.
	Three Pulses	Emitter range fault. Emitter is either too close or too far away.
	Four Pulses	Emitter type mismatch. Emitter type is not recognised by the receiver
	Five Pulses	Emitter battery approaching end of life and needs to be replaced at the next scheduled maintenance visit. Note: Smoke detection continues to function while there is sufficient residual battery power. A Trouble is signaled to the fire panel once the battery life is exceeded.
	Six Pulses	Imager cannot discern the signal from the Emitter beam due to an oversaturation of light. Please check for reflections onto the Imager, or bright light sources adjacent to the Emitter when viewed from the Imager.
System (Double pulse)	One Pulse	Incorrect DIP switch configuration. Refer to Step 4 on this Installation sheet for further details. Note: Unused DIP switches must be set to '0'.
	Two Pulse	Too many Emitters have been detected. Check the DIP switch settings and ensure that Emitters belonging to a different system are not interfering with the Imager.
	Three Pulses	Too few Emitters have been detected. Check the DIP switch settings and ensure that all Emitters are contained in the field of view of the Imager. Minimise bright light sources adjacent to the Emitter when viewed from the Imager.
	Four Pulses	Imager out of alignment. Check that the field of view of the Imager is correctly aligned to all Emitters in the system.
	Five Pulses	Internal fault in the Imager. Imager requires replacement.

Note: Unless otherwise noted, a Trouble is signaled to the Fire Alarm Control Panel for all System or Emitter Faults.

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