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TGS 33 EVC-IR Flame detector guidance notes

The EVC-IR Flame Detector is a conventional device monitoring the infrared energy emitted during a fire. It is useful for detecting flame in a large and high-ceiling area such as a gymnasium, atrium, aircraft hangar or industrial space. It can also be used for monitoring machinery which could cause an ignition source due to some malfunction such as a bearing seizure.

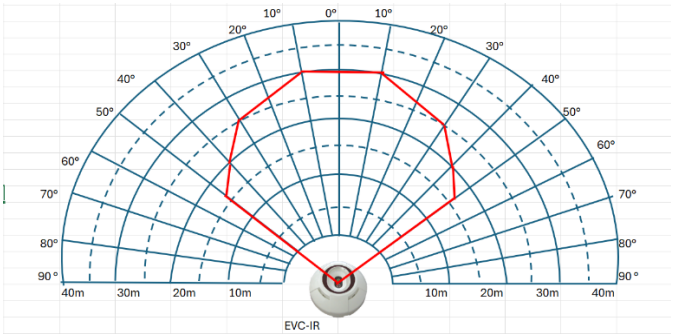
The EVC-IR can easily be interfaced with a variety of conventional control panels. Addressable fire alarm systems can make use of a zone monitoring module to interface to the EVC-IR.

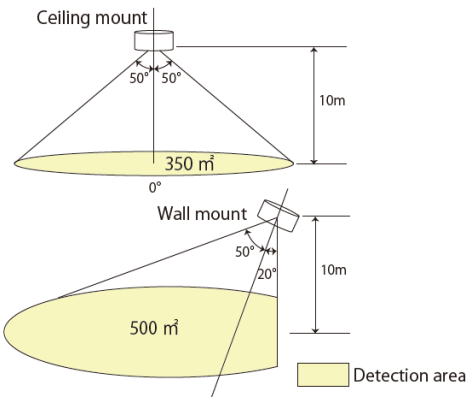
Features

Coverage

- Supervision angle up to 100 degrees (+/- 50°). Distance limit 17 metres.
- Maximum supervision distance 30 metres at a 20-degree (+/- 10°) angle.
- EVC-IR has a 360-degree omni-ring indication for alarm, and a self-test function for glass contamination.

For further technical specifications please refer to the data sheet for the EVC-IR.





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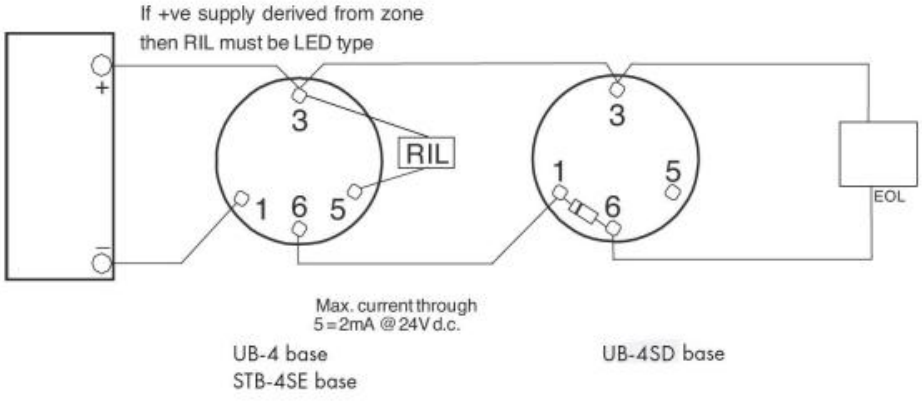
Installation

The EVC-IR should be installed to protect the desired risk.

- Aim the detector towards the centre of the detection zone.
- Ensure an unobstructed view of the protected area.
- Detector face should ideally be tilted down at a 45° angle.
- Fit in a location where it can be available for maintenance purposes.
- Supervision angle and distance limitations must be observed.
- Obstacles including transparent windows, glass or plastics must not be present.
- Vibration may affect the sensitivity and effectiveness of the sensor.
- Areas where a constant high-heat flicker is present should also be avoided.
- Do not install where corrosive gases are present, in high temperatures, or in places where flames can normally be present such as kitchens.
- Smoke, water vapour (such as steam) and condensation must be avoided.
- Avoid direct sunlight falling onto the device.

The EVC-IR is compatible with a variety of standard Nittan detector bases such as UB-4, UB-4-SD or UB-6-EV depending on control panel requirements. An adjustable mounting bracket is available separately to accommodate angling the device to the detection zone. The detector base is screwed to the adjustable bracket and the cable can be pulled through the bracket to connect with the base.

Typical connections from a control panel or Module to the detector base.



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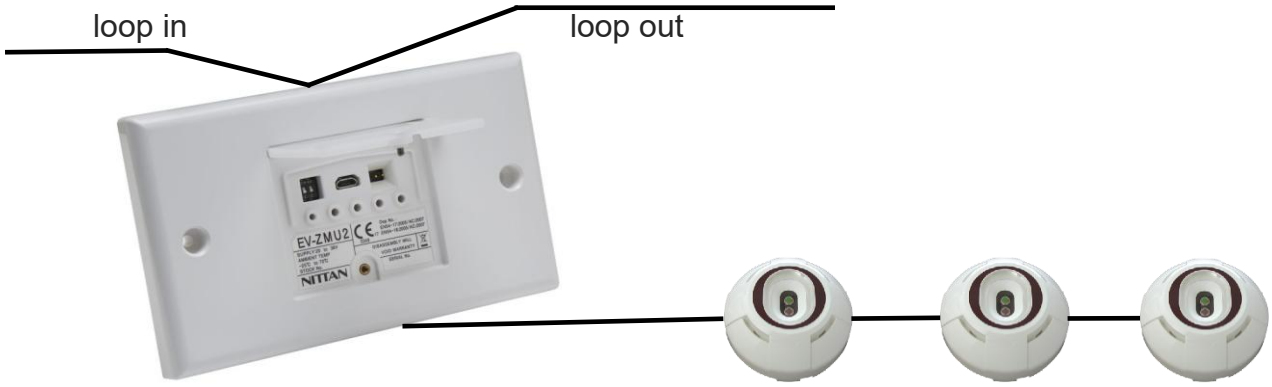
For interfacing with addressable systems a zone monitoring unit can be used. Nittan provides the EV-ZMU2 which is fully loop powered and can provide 1 class A (loop) circuit or two Class B (radial) circuits. Each circuit can support up to 5 EVC-IR devices. For other interfaces the EVC-IR operates from 10V-32V with a monitoring current of 130uA and an alarm current of up to 50mA (limited by control circuit. It has an alarm impedance of 375 Ohms and requires a 1 second reset time. An initial 4 seconds is the power on reset time.



Internal Fault Monitoring Feature

The EVC-IR provides additional internal fault monitoring which uses the remote LED indicator output as a tell-tale. Connecting a remote LED indicator provides an extra level of diagnostic information:

1. The LED indicator will show continuously along with the device omni-ring light in the case of a fire condition.
2. If the detector window is contaminated (dirty), the remote LED will pulse once every 4 seconds. Cleaning the window may alleviate the condition.
3. If the internal sensor is faulty, the remote LED will pulse twice every 4 seconds and the device will need to be replaced and returned for investigation.

Note: The fault condition is not notified to the zone circuit.

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Commissioning & Testing

The EVC-IR flame detector incorporates a specific flame flicker algorithm and dual-wavelength comparison method and as such it requires a specific flame simulation method for test purposes.

The MTE2-NK test tool is available from Nittan. An adapter (FZ-007) is also available for connecting with standard detector tester auxiliary rods. The tester is battery-powered and has a specific IR test lamp for the purpose. The tester is switched on and produces a beeping sound whilst active. It should then be brought into close proximity to the device under test (<1 cm) to activate the device. The EVC-IR should respond within 30 seconds.

Maintenance

The EVC-IR requires very little maintenance in normal usage. The device should be tested regularly as part of the normal maintenance schedule.

Checking that the device is still in alignment with the detection zone area and cleaning the window carefully with a soft cloth is advisable.

Important

If you need any further guidance, please contact Nittan Technical Support:

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