

# Evolution Analogue Addressable Fire System



optimum fire safety systems solutions



- High speed FSK protocol, uniquely resistant to noise
- Up to 254 addresses per loop for flexible system design
- Built to exceptional marine standards
- Award-winning Dual Optical technology

**NITTAN**

Issue 2



## Evolution Analogue Addressable Fire System

Designed and engineered to Marine standards - the highest available - Nittan's Evolution Analogue Addressable range combines extremely reliable fire detection with exceptional protection against unwanted false alarms.

Based on Nittan's advanced, highly flexible FSK digital open protocol, Evolution is uniquely resistant to noise. The FSK protocol also allows for substantial amounts of information to be transmitted back to the panel, but without message collision and with minimal transmission errors due to a sophisticated data packet mechanism with built-in parity and check-sum features. The communication protocol is capable of very high speed and is not affected by the number of devices on the loop.

Evolution comes with sophisticated EEPROM addressing and an incredible 254 addresses per loop for maximum flexibility and convenience in system design, as well as providing a highly cost-effective fire system solution from reduced cabling and installation work.

The Evolution Analogue Addressable Fire System also benefits from a bright 'Omniview' 360° Alarm Indicator on all sensors allowing users to see the sensor's operation from any angle, plus patented, award winning Dual Optical technology incorporated into key detectors.

All Evolution products come with either LPCB, VdS, DBI EN54 or Intertek Approvals for total peace of mind.

- Up to 254 addresses per loop for flexible system design
- Built to exceptional marine standards for reliability and long life
- Unique, award-winning Dual Optical technology
- High speed FSK protocol, uniquely resistant to noise
- 'Omniview' 360° Alarm Indicator
- Modern, sleek design
- Full range of devices

# Evolution Analogue Smoke & Heat Detectors



A range of Optical, Heat, Multi and Dual Optical Sensors featuring Nittan's latest sophisticated technology for exceptional reliability and performance, including ASIC design, EEPROM addressable capability, Omniview 360° alarm indicator, low monitoring current and a chemically etched stainless steel insect screen to reduce ingress of insects and airborne contaminants, all housed in a stylish low-profile design.

## EV-P Optical Detector



Using a simple but effective technique, the EV-P Optical Detector incorporates a chamber housing an Infra Red (IR) LED light and a photodiode light detector set at an obtuse angle

preventing it from seeing the light. When smoke enters the chamber the light bounces off the smoke particles and strikes the photodiode, causing it to generate an alarm condition when a set threshold value is met. The EV-P Optical Detector is therefore more sensitive to larger smoke particles which tend to be caused by smouldering fires rather than fast flaming fires.

## EV-PS Optical Detector with in-built Sounder



Benefitting from the same sophisticated detection technology as the EV-P, the EV-PS Optical Detector comes with a sounder fully integrated within the sensor itself as

opposed to a separate sounder base. The EV-PS sensor drives and controls the EV-PSBCN base, with the entire platform only taking one address for maximum system efficiency. This clever design makes for quick and simple installation, saving both time and money, whilst remaining extremely competitively priced. It also makes for a more aesthetically pleasing appearance, with a lower profile for an unobtrusive look.

## EV-DP Dual Optical Detector



Using the scattered light principle inherent in optical detectors, the EV-DP Dual Optical Detector goes one step further and uses both IR and blue LEDs to provide a more accurate measurement

of particles within the chamber. By calculating the ratio of these light sources, which operate at different wavelengths, the EV-DP can determine the particle size and thus distinguish between smoke and non-combustion products such as steam and dust. This patented, award winning technology is unique to Nittan and provides an excellent solution to false alarms in areas prone to steam and dust, including hotels, hospitals and other areas of multiple occupancy.

## EV-H-A1R and EV-H-CS Heat Detectors



Unlike smoke detectors that detect the presence of smoke particles, heat detectors only react to changes in temperature. The EV-H-A1R and EV-H-CS are both Thermistor based Heat

Detectors, which use electronic components that change their resistance when heated; this change is detected by circuitry within the detector. The EV-H-A1R alarms at 62°C and the EV-H-CS at 92°C.

## EV-Firebeam+ Beam Detector



EV Firebeam+ provides a reliable, cost effective solution for protecting large areas. Building movement and accessibility have, in the past, made beam detection unreliable,

difficult and time consuming to commission as well as hard to maintain, but Firebeam overcomes these issues through its advanced motorised technology. The beam aligns itself to the centre of the reflector when commissioning and will automatically re-align itself when building movement occurs. Accessory kits allow ranges of 5 -100m.

## EV-PH Multi Sensor



The EV-PH is a combined Optical Smoke and Heat Detector in one unit. This advanced Multi Sensor is able to combine the benefits of both optical and heat sensing technologies making it

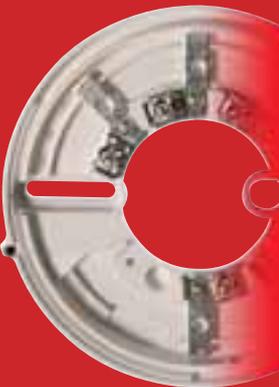
less prone to false alarms than individual sensing devices. An innovative Nittan designed algorithm reads both signals simultaneously and generates alarm signals from either (or both) sensor(s).

## EV-ASD & EV-LASD Aspirating Smoke Detectors



Professional air-sampling units, designed to compliment conventional and analogue addressable system technology, by combining standard field-serviceable smoke detectors with a stand-alone air-sampling

solution. The EV-ASD is ideal for the protection of difficult to access, environmentally demanding, aesthetic or architecturally restricted areas, whereas the EV-LASD is for risks requiring class A, B or C design sensitivity. Both are rugged, easy to install, weatherproof, and require no special tools or software to configure. The units are fitted with pre-wired detector bases and have an internal EV-Mini I/P module for direct connection to the analogue addressable loop, providing alarm and fault status.



**Evolution Analogue Detectors are designed for use with Evolution UB-4 Bases.**

# Evolution Analogue Audio Visual Alarm Devices

Nittan's range of Disability Discrimination Act (DDA) compliant Loop Powered audio visual devices have been designed for quick installation and, using Nittan's new LED technology, are highly efficient.

## EV-ABS Sounder



Available in ceiling and low profile wall mounted options, the EV-ABS is an addressable loop powered sounder designed to meet

the need for loop powered audio products, required for compliance to the DDA.

## EV-AV2 Sounder Beacon & EV-AV2 Base



The EV-AV2 provides a simple and highly flexible solution to meeting the DDA requirements by providing both sound and flashing light to alert occupants to a fire. Available as both integral base or low

profile wall mounting versions. The Base version has a fully integrated detector base.

## EV-PSBCN Beacon Base



The EV-PSBCN base has been designed specifically for use with Nittan's Evolution EV-PS Optical Smoke detector with built in sounder. The analogue addressable

photoelectric EV-PS detector drives and controls the EV-PSBCN base, with the entire platform only taking one address for maximum system efficiency.

## EV-HIOP-SB (IC) Sounder Beacon



IP65 rated as standard, the EV-HIOP-SB(IC) is an extremely cost effective wall mounted Sounder / Beacon. It comes with 16 alarm tones to choose from and individually

controlled alarm and alert tones, allowing customers to choose a combination that works for any installation. It is EEPROM Addressed (Programmer) and features FSK signalling protocol for robust, reliable communications.

## EV-HIOP-SDR (IC) Sounder



With all the features of the EV-HIOP-SB(IC) including IP65 rating as standard, but minus the Beacon, the EV-HIOP-SDR(IC) wall mounted Sounder represents great value.

## Evolution Analogue Modules



Nittan's extensive range of Evolution Analogue Modules are designed for the monitoring and controlling of many types of third party equipment.

- EV-IP Input Module
- EV-OP Output Module
- EV-SIO Single Input / Output Module
- EV-SCM Sounder Control Module
- EV-ZMU Zone Monitor Module
- EV-MINI I/P Mini Input Module
- EV-SBM Sounder Booster Module (Non Addressed)
- EV-240V MRA Mains Switching Relay (Non Addressed)

## Evolution Analogue Bases



- UB6-EV Detector Mounting Base
- STB-4SE Deep Detector Mounting Base
- SCI-5 Base S/C Isolator
- SCI-6 Boxed S/C Isolator & With Backbox



# Evolution Analogue Manual Call Points



Evolution Manual Call Points are available in a choice of STI 'ReSet' IP24 (EV-MCP RS RESET Surface Mounting Manual Call Point) or IP67 housing (EV-MCPWP RESET Waterproof Manual Call Point). They are DIL Switch Addressed and, in the case of the EV-MCP RS RESET, come with both Backbox & RF Wall Plate as standard.

# Evolution Analogue Accessories



A wide range of accessories are available for use with the Evolution Analogue Addressable range from Nittan, including equipment from fittings such as brackets, mounting plates and boxes through to specialist duct housing and the EV-AD2 Handheld Address Programmer.



EV-AD2 Handheld Address Programmer



EV-Module Address Lead



Module Address Lead Spare Pin Kit



UG-3 Duct Detector Housing



EV-PRADAPT Programming Adapter  
(for EV-AV2/SB and EV-B1)



Adjustable Mounting Bracket  
(for Flame Detector)



Back Box (for STI MCP)



3 Way Terminal Tray (for STI MCP)



Hinged Clear Cover (for STI MCP)



Flush Wall Mounting Plate (for STI MCP)



SCI-6 Isolator



IP55 Base and Mounting Box



Flush Mounting Box (for EV Module)



UB4 Detector Mounting Base

# Evolution Analogue Addressable Fire System Specification Summary

| Description                      | Part Number                       | Operating Current  | Standard   | Alarm Indication  |
|----------------------------------|-----------------------------------|--|--|-------------------|
| <b>Smoke Detectors</b>           |                                   |  |  |                   |
| EV-P                             | F14-82100                         | Quiescent: 200 $\mu$ A / lalarm: (LED ON) 5.2mA  | EN54-7:2000 +A1:2002   | Omniview 360° LED |
| EV-PS                            | F20-82501                         | Quiescent: 200 $\mu$ A / lalarm: (LED ON) 5.2mA  | EN54-3:2001 +A1:2002 + A2:2006<br>EN54-7:2000 +A1:2002 + A2:2006<br>EN54-17:2005 | Omniview 360° LED |
| EV-DP                            | F14-82105                         | Quiescent: 200 $\mu$ A / lalarm: (LED ON) 5.2mA  | EN54-7:2000 +A1:2002   | Omniview 360° LED |
| EV-H-A1R & EV-H-CS               | F15-82200, 60°C<br>F15-82201, 92c | Quiescent: 200 $\mu$ A / lalarm: (LED ON) 5.2mA  | EN54-5:2000 +A1:2002   | Omniview 360° LED |
| EV-PH                            | F20-82400                         | Quiescent: 200 $\mu$ A / lalarm: (LED ON) 5.2mA  | EN54-7:2000 +A1:2002<br>EN54-5:2000 +A1:2002                                     | Omniview 360° LED |
| EV-FIREBEAM+                     | F16-83000                         | Quiescent: + Alarm 4.5mA   | EN54-12  |                   |
| EV-ASD 1                         | F16-83100                         | Quiescent: 460 $\mu$ A   | EN54-20  |                   |
| EV-ASD 2                         | F16-83110                         | Quiescent: 460 $\mu$ A   | EN54-20  |                   |
| EV-LASD 1                        | F16-83200                         | Quiescent: 460 $\mu$ A   | EN54-20  |                   |
| EV-LASD 2                        | F16-83210                         | Quiescent: 460 $\mu$ A   | EN54-20  |                   |
| <b>Audio Visual (AV) Devices</b> |                                   |  |  |                   |
| EV-ABS                           | F16-82010                         | Quiescent: 200 $\mu$ A / lalarm: (Low O/P) 3mA<br>(High O/P) 6mA   | EN54-3:2001 +A1:2002   |                   |
| EV-AV2                           | F14-85011                         | Quiescent: 200 $\mu$ A / lalarm:<br>(Low O/P – SDR and BCN active) 9mA<br>lalarm: (High O/P – SDR and BCN active) 12mA                   | EN54-3:2000 +A1:2002   |                   |
| EV-PSBCN                         | F16-82016                         | Quiescent: 0 $\mu$ A / (BCN active) 6mA  |  |                   |
| EV-HIOP-SB (IC)                  | F16-82039                         | Quiescent: 200 $\mu$ A / lalarm: 20 mA   |  |                   |
| EV-HIOP-SDR (IC)                 | F16-82041                         | Quiescent: 200 $\mu$ A / lalarm: 20 mA   |  |                   |
| <b>Modules</b>                   |                                   |  |  |                   |
| EV-IP                            | F16-82033                         | Quiescent: 500 $\mu$ A / lalarm: 4.5mA   | EN54-18:2005   | Red LED           |
| EV-OP                            | F16-82027                         | Quiescent: 500 $\mu$ A / lalarm: 4.5mA   | EN54-18:2005   | Red LED           |
| EV-SIO                           | F16-82031                         | Quiescent: 300 $\mu$ A / lalarm: 3mA   | EN54-18:2005   | Red LED           |
| EV-SCM                           | F16-82029                         | Quiescent: 750 $\mu$ A / lalarm: 4.5mA   | EN54-18:2005   | Red LED           |
| EV-ZMU                           | F16-82023                         | From addressable loop:<br>From External PSU:<br>Class B Quiescent: 280 $\mu$ A<br>Class B Quiescent: 14mA<br>Class B lalarm: 50mA / spur | EN54-18:2005   | Red LED           |
| EV-MINI I/P                      | F16-82025                         | Quiescent: 460 $\mu$ A<br>lalarm: (No LED) 460 $\mu$ A<br>lalarm (LED ON) 4.5mA  | EN54-18:2005   | Optional Red LED  |
| EV-SBM                           | F16-82028                         | From External PSU<br>Quiescent: 85mA / lalarm: 90mA + Sounder load (Max 15A)   | EN54-18:2005   | Red LED           |
| EV-240v MRA                      | F16-82024                         |  |  |                   |
| <b>Isolators</b>                 |                                   |  |  |                   |
| SCI-5 Isolator Base              | F16-81441                         | Iq 300 $\mu$ I Operated 15mA   |  | Yellow LED        |
| SCI-6 Isolator                   | F16-81440                         | Iq 300 $\mu$ I Operated 15mA   |  | Yellow LED        |
| <b>Bases</b>                     |                                   |  |  |                   |
| UB6-EV                           | F03-83521                         |  |  |                   |
| STB-4SE-EV                       | F03-84005                         |  |  |                   |
| <b>Manual Call Points</b>        |                                   |  |  |                   |
| EV-MCP RS Reset                  | F16-82003                         | Quiescent: 200 $\mu$ A / lalarm (LED ON): 2.2 mA   | EN54-11:2001 +A1:2005  | Red LED           |
| EV-MCPWP Reset                   | F16-82004                         | Quiescent: 200 $\mu$ A / lalarm (LED ON): 2.2 mA   | EN54-11:2001 +A1:2005  | Red LED           |