



NITTAN

Evolution Fire Detection Product Range

ISSUE 6.0



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Business Overview

The Nittan Group has been at the forefront of the fire protection industry since 1954 and has sales, R&D and manufacturing bases in Japan, Vietnam, Sweden and the UK.

Nittan Europe was established in 1972 and has grown to become a major player in the fire protection industry. With the extensive support facilities of our Tokyo parent company, Nittan Europe now supplies in excess of 500,000 detectors per year, all of which are made to marine standard for exceptional quality.

Our latest breed of sophisticated Evolution Analogue Addressable fire detectors and ancillary products are sold worldwide.

If you would like to know more about our legacy product range Sensortec Analogue Addressable, Conventional Devices and other products, please visit our website: www.nittan.co.uk/products/ or contact your Regional Sales Manager.

Introduction



Why is Nittan's evolution protocol so good?

Nittan is a global pioneer of Analogue Addressable communication systems for use in Fire alarm systems. In fact Nittan was one of the first organisations to launch an Analogue Addressable system with our original Sensortec Protocol.

More recently Nittan developed the Evolution communication protocol, based on Sine Wave Frequency Shift Keying (FSK) transmission and because it was such a technological leap forward, to this day it is one of the most reliable and powerful Analogue Addressable systems on the market.

The Evolution FSK transmission system operates by changing between two frequencies to provide digital 0 or 1 in the data packet. Because, the protocol is based on a Sine Wave there are very smooth transitions during switching, which provides communication highly resilient to external Electro-Magnetic Interference and does not generate high frequency noise that could affect other equipment.

The system includes the following feature benefits over many competitors:

- Up to 254 primary addresses per loop.
- Higher DC Loop Voltage, allowing for longer loop cable length.
- Higher Loop Current capacity, allowing for Loop powered Sounders & Beacons.
- Highly advanced Check sum routines.
- Highly advanced Watchdog timer routines.
- Auto reset from transmission error.
- Interrupt command, for high speed processing of alarms.
- Sophisticated collision detection.

All of which provide exceptional system flexibility, whilst maintaining the highly stable transmission of data, essential when life safety is paramount.

Today Nittan proudly share the Evolution Protocol with several global partners, including our Marine Partner who is one of the largest suppliers to the global Marine market and also cover the demanding "off shore" markets with our resilient protocol. Even some competitors are using our protocol under licence (and a different name) for their primary communication system. These are a testament to the integrity and strength of the Nittan evolution protocol.

Evolution Analogue Addressable

Smoke and Heat Detectors

EV-PY Optical Detector

Part No. F14-82120



- Orange Optic LED and PY Type Chamber
- 3 Sensitivity Settings
- Backward compatible with EV-P
- Drift compensation
- Evolution FSK Protocol
- EEPROM Addressed with programmer

EV-PY-SCI Optical Detector with SCI

Part No. F14-82125



- Orange Optic LED and PY Type Chamber
- 5 Sensitivity Settings
- Integral -ve Short Circuit Isolator
- Drift compensation
- Evolution FSK Protocol
- EEPROM Addressed with programmer

EV-H2-A1R Heat Detector

Part No. F15-82220 Heat Category A1R (54°C)

EV-H2-CS Heat Detector

Part No. F15-82221 Heat Category CS (84°C)



- Heat Category A1R or Heat Category CS
- Backward compatible with EV-H-A1R & CS
- Evolution FSK Protocol
- EEPROM Addressed with programmer

EV-H2-SCI Heat Detector with SCI

Part No. F15-82225 Heat Category P (54/69/84°C)



- Heat Category P (A1R/A2S/BS/CS)
- Integral -ve Short Circuit Isolator
- Evolution FSK Protocol
- EEPROM Addressed with programmer

EV-PYH Optical Multisensor

Part No. F20-82420 Heat Category A1R (54°C)



- Orange Optic LED and PY Type Chamber
- 3 Sensitivity Settings
- Heat Category A1R
- Backward compatible with EV-PH
- Drift compensation
- Evolution FSK Protocol
- EEPROM Addressed with programmer

EV-PYH-SCI Optical Multisensor with SCI

Part No. F20-82425 Heat Category P (54/69/84°C)



- Orange Optic LED and PY Type Chamber
- 5 Sensitivity Settings
- Heat Category P (A1R/A2S/BS/CS)
- Integral -ve Short Circuit Isolator
- Drift compensation
- Evolution FSK Protocol
- EPROM Addressed with programmer

Evolution Analogue Addressable

Smoke and Heat Detectors

EV-PYS Optical Detector with In-Built Sounder

Part No. F20-82510



- Orange Optic LED and PY Type Chamber
- Sounder 85dB(A) @ 3.5mA
- 3 Sensitivity Settings
- Drive Output for EN 54-23 approved EV-PYSVAD Base
- Drift Compensation
- Evolution FSK Protocol
- EEPROM Addressed with Programmer

EV-DP Dual Optical Detector

Part No. F14-82105



- Dual Optical Technology Reduces False Alarms
- Evolution FSK Protocol
- EEPROM Addressed (Programmer)
- RIL and Base Control Outputs

EV-DPH-A2R Dual Optical & Heat Sensor

Part No. F14-82106 Heat Category A2R (54°C)



- Dual Optical Technology Plus Heat Multi Sensor Reduces False Alarms
- Evolution FSK Protocol
- EEPROM Addressed (Programmer)
- RIL and Base Control Outputs

EV-DPH-CS Dual Optical & Heat Sensor

Part No. F14-82107 Heat Category CS (84°C)



- Dual Optical Technology Plus Heat Multi Sensor Reduces False Alarms
- Evolution FSK Protocol
- EEPROM Addressed (Programmer)
- RIL and Base Control Outputs

Key Features: Evolution Detectors

- Award Winning Dual Optical Sensor Detectors. Proven to minimise false alarms.
- Premium Japanese design, built with highest quality components.
- OMNIVIEW™ 360 degree alarm indicator.
- Smoke Detector with integral Sounder, saving on Hardware cost plus Installation time & cost.
- All detector PCBs are Conformal Coated to Marine Standards, to protect against humidity and corrosion.
- New Range of Smoke, Heat (Category P) and Multi-sensor Detectors with integral Short Circuit Isolators.
- A wide range of peripheral devices and accessories available to build a complete system.

Why are Nittan Dual Optical Sensors resilient to false alarm?

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. This principle is further enhanced in the EV-DPH device that uses both "Dual Optical" and Heat sensor technology to provide an extremely false alarm resilient multi-sensor. This patented 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.

Evolution Analogue Addressable

Bases

UB-6-EV Detector Mounting Base

Part No. F03-83521



- Universal Mounting Base Standardised Across Entire Nittan Group Worldwide

UB-6-SL-EV Base with Shorting Link

Part No. F03-83560



- Detector Mounting Base with Shorting Link, for use with SCI detectors

EV-24VRL Relay Base for Evolution Addressable Detector

Part No. F03-82350



- Compatible with all detectors (Except EV-PYS)
- 1A@30Vdc Relay Contact Rating
- Latching Relay Output
- Remote Indicator connection
- Low quiescent current
- Self-resetting when panel reset

STB-4SE-EV Base

Part No. F03-84005



- Deep Detector Mounting Base

EV-B-SCI Detector Base with Short Circuit Isolator

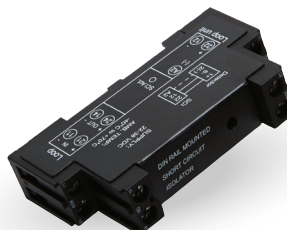
Part No. F03-83605



- -ve Isolator Base*
- Low quiescent current
- Self resetting

EV-DIN-SCI DIN Rail Mounting Short Circuit Isolator

Part No. F03-83620



- -ve Isolator Base*
- Low quiescent current
- Self resetting
- Spur up to 20 devices from main loop

* note +ve and -ve isolator styles cannot be mixed on a system. Contact Nittan Technical Support for more details and information on panel compatibility.

Evolution Analogue Addressable

Audio Visual Alarm Devices

EV-SDR Base Sounder

Part No. F16-82100



- Sounder with Integral Base
- Evolution FSK Protocol
- EEPROM Addressed (Programmer)
- 12 Tones DIP Switch Selected (3 Approved Tones)

EV-SDR Sounder

Part No. F16-82110



- Evolution FSK Protocol
- EEPROM Addressed (Programmer)
- 12 Tones DIP Switch Selected (3 Approved Tones)
- Replaces EV-ABS Sounder

EV-AV2 Base Sounder/Beacon

Part No. F14-85011



- Combined Sounder and Beacon with Integral Base
- Evolution FSK Protocol
- EEPROM Addressed (Programmer)
- 12 Tones DIP Switch Selected (3 Approved Tones)

EV-AV2 Sounder/Beacon

Part No. F14-85012



- Combined Sounder and Beacon
- Evolution FSK Protocol
- EEPROM Addressed (Programmer)
- 12 Tones DIP Switch Selected (3 Approved Tones)

EV-PYSVAD Beacon Base (for use with EV-PYS)

Part No. F16-82150



- Visual Alarm Device with Integral Base
- EN 54-23 Rating Category C 3.0 x 5.0 / 60m3
- Non Addressed – Dedicated for use with EV-PYS.

EV-HIOP-SDR High Output Sounder

Part No. F16-82061

EV-HIOP-SDR-SCI High Output Sounder with -ve Side Isolator*

Part No. F16-82060



- Type B Outdoor IP65
- 32 Tones DIP Switch Selected (3 Approved Tones)
- EEPROM Addressed (Programmer)
- FSK Signalling Protocol

Evolution Analogue Addressable

Audio Visual Alarms & Manual Call Points

EV-HIOP-SB-R High Output Sounder Red LED Beacon

Part No. F16-82053



- Type B Outdoor IP65
- 32 Tones DIP Switch Selected
- EN 54 part 23 Approved VAD
- EEPROM Addressed (Programmer)
- FSK Signalling Protocol

EV-HIOP-SB High Output Sounder White LED Beacon

Part No. F16-82051



- Type B Outdoor IP65
- 32 Tones DIP Switch Selected
- EN 54 part 23 Approved VAD
- EEPROM Addressed (Programmer)
- FSK Signalling Protocol

EV-HIOP-BCN-R High Output Red LED Beacon

Part No. F16-82058



- Type B Outdoor IP65
- EN 54 part 23 Approved VAD
- EEPROM Addressed (Programmer)
- FSK Signalling Protocol

EV-HIOP-BCN High Output White LED Beacon

Part No. F16-82056



- Type B Outdoor IP65
- EN 54 part 23 Approved VAD
- EEPROM Addressed (Programmer)
- FSK Signalling Protocol

EV-HIOP-BCN-R-SCI High Output Red LED Beacon With -ve Side Isolator*

Part No. F16-82057

EV-HIOP-BCN-SCI High Output White LED Beacon With -ve Side Isolator*

Part No. F16-82055

EV-MCP2-IP24 Manual Call Point (Indoor)

Part No. F16-82201



- STI "Reset" Housing
- IP24 Rated
- DIL Switch Addressed
- Includes Backbox & RF Wall Plate
- BS 5839-1: 2017 compliant cover available

EV-MCP2-IP67 Waterproof Manual Call Point (Outdoor)

Part No. F16-82206



- STI "Reset" Housing
- IP67 Rated
- DIL Switch Addressed
- Includes Backbox & RF Wall Plate
- BS 5839-1: 2017 compliant cover available

EV-MCP2-SCI-IP24 Manual Call Point with -ve Side Isolator*

Part No. F16-82200

EV-MCP2-SCI-IP67 Waterproof Manual Call Point -ve Side Isolator*

Part No. F16-82205

* note: +ve and -ve isolator styles cannot be mixed on a system. Contact Nittan Technical Support for more details and information on panel compatibility.

Evolution Analogue Addressable

Modules*

EV-2110 Dual Input/Single Output Module

Part No. F16-82260



- 1 x Class A or 2 x Class B Inputs
- 5A@240Vac Rated Relay
- Integral -ve Isolator
- Failsafe option for Door Release
- EEPROM Addressed (Programmer)
- Housing Fits Standard UK 2 Gang Pattress Box

EV-ZMU2 Zone Monitor Module

Part No. F16-82275



- 1 x Class A or 2 x Class B Inputs
- Integral -ve Isolator
- EEPROM Addressed (Programmer)
- Housing Fits Standard UK 2 Gang Pattress Box

EV-SCM2 Sounder Control Module

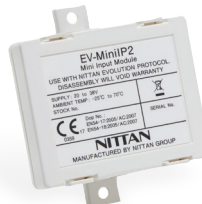
Part No. F16-82270



- 2 x 1A@30Vdc Output
- Input for EN54 part 4 PSU fault
- Integral -ve Isolator
- EEPROM Addressed (Programmer)
- Housing Fits standard UK 2 Gang Pattress Box

EV-Mini IP2 Mini Input Module

Part No. F16-82250



- 1 x Class B Input
- Integral -ve Isolator
- Housing Fits standard UK 1 Gang Pattress Box
- Remote Indicator Output

EV-310 Triple Input/Output Module

Part No. F16-82265



- 3 x Class B Inputs
- 1 x 5A@240Vac Rated Relay
- 2 x 1A@30Vdc Rated Relay
- Integral -ve Isolator
- EEPROM Addressed (Programmer)

EV-IO-420 4-20mA Input Module

Part No. F16-82255



- 1 x Class B Input
- 1 x 4-20mA Input
- 1 x 5A@240Vac Rated Relay
- Integral -ve Isolator
- EEPROM Addressed (Programmer)

* note: Enhanced modules on this page are suitable for use only on new panels or those updated to the latest firmware (June 2019 onward). Please contact Nittan Technical Support for further details.

Evolution Analogue Addressable

Modules**

EV-IP Input Module

Part No. F16-82033



- 1 x Class A or 2 x Class B Inputs
- EEPROM Addressed (Programmer)
- Housing Fits standard UK 2 Gang Pattress Box

EV-OP Output Module

Part No. F16-82027



- 1 x C/O Relay Contact
- EEPROM Addressed (Programmer)
- Housing Fits standard UK 2 Gang Pattress Box
- Control Output for EV-240V MRA

EV-SIO Single Input/Output Module

Part No. F16-82031



- 2A@24v Relay Contacts
- 1 x Class B Input Circuits
- EEPROM Addressed (Programmer)
- Housing Fits standard UK 2 Gang Pattress Box

EV-SBM Sounder Booster Module

Part No. F16-82028



- Sounder Booster Module
- Non Addressed
- Housing Fits standard UK 2 Gang Pattress Box

** note: Previous generation modules on this page are suitable for use on new and legacy Evolution systems. Please contact Nittan Technical Support for further details.

Our Environmental Policy

We strive to consider our impact on the Environment in all areas of the business from the Management team down to the Production line operators.

We believe it is our responsibility to invest the same level of care and craft into using and managing resources as we do in manufacturing our products.

Our environmental procedures are amongst the most rigorous in the industry and we constantly endeavour to set objectives to reduce the Company's Carbon Footprint.

Our policy also aimed at working in partnership with suppliers using either Reusable or Recyclable packaging materials only. Similarly, Recyclable materials are used for the packaging of our products.

Employees are encouraged to consider the Environment in everything they do and are committed to ensuring that all Recyclable waste produced in the business is segregated into the correct streams for collection.

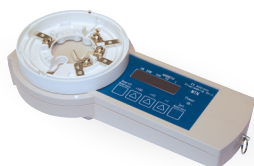
Furthermore, when working in partnership with our clients, our engineering team always ensure that any environmental concerns are addressed at every step of the process.

Evolution Analogue Addressable

Accessories

EV-AD2-EXT (KIT)

Part No. F05-83236



- Handheld Address Programmer Kit
- Battery/18V DC Powered
- Simple Operation
- Robust Design
- Programming Lead for Modules & Outdoor Sounders
- Adaptor plate for Sounder Bases

STA-R1 Remote Indicator

Part No. F05-83205



- Compatible with all Nittan Devices
- Fits UK Standard Single Gang Surface Pattress or Flush Box

UG-3 Duct Detector Housing

Part No. F05-83105

Requires 0.6m Pipe Venturi

Part No. F05-83111



- Duct Detector Housing
- Compatible with Nittan Addressable & Conventional
- Quick and Simple Installation
- Pre-assembled Cable Entries
- Error Free Pipe Mounting
- Test Hole in Cover

Hinged Clear Cover For MCP

Part No. F06-62008



- Spare Part STI Model CI
- BS 5839-1: 2017 Compliant

Stopper



- Flush and Surface

Call Point Stopper



- Flush and Surface

Accessories & Industrial Products



EV-Firebeam-Xtra Beam Detector with SCI

Part No. F16-83005

- Intelligent motorised beam head
- Ground level control
- Fast commissioning
- Ultra low power usage (3.5mA in normal service)
- IP65 rating
- Offer a range of 7 – 70m. Accessory kits available to extend the range to 70 – 140m or 140 – 160m

CPC-4 Control Panel

Part No. F09-66012

CPC-4-24 Control Panel 24V

Part No. F09-66014



- Control Unit for OKB-3 Detector
- Compact Unit 110mm (W) x 195mm (L) x 40mm (H)

OKB-3 Smoke Detector

Part No. F09-66010



- Advanced, Premium Smoke Detector
- Scattering Light Detection
- Very Small - 40mm(W) x 40mm(L) x 45mm(H)
- High Degree of Protection Against Unwanted False Alarms
- Extremely Reliable Fire Detection
- Use with CPC-4 Control Unit

Our Accessories and Ancillary Products

A wide range of accessories and ancillary products are available to satisfy the needs of even the most demanding installation, including Remote Indicators, Call Point Covers (various), Protective Cages and Duct Detector Equipment.

The Evolution Product Range can offer everything you need to build a complete fire safety system. We believe that there is no better way to achieve an optimum solution and provide total customer satisfaction.

Evolution Analogue Addressable

Accessories & Industrial Products

EVC-IR Conventional Flame Detector

Part No. F04-60044



- Dual Band IR Flame Detector
- Compatible with EV-ZMU2 Zone Monitor
- Compatible with other protocol Zone Monitors
- Omniview 360° LED
- Internal Alarm Current Limiting Resistor
- Operational Voltage Range (12v-32v)

Adjustable Mounting Bracket (for flame detector)

Part No. F07-63543



EVC-PY-IS Conventional Intrinsically Safe Optical Detector

Part No. F02-83300



- ATEX Class 1 G (Gas) T4
- Nittan Y Type Chamber
- Compatible with EV-ZMU2 Zone Monitor
- Compatible with other protocol Zone Monitors
- Omniview 360° LED
- Operational Voltage Range (12v-32v)
- Internal Alarm Current Limiting Resistor

Intrinsically Safe Isolator Circuit

Part No. F05-83220 – KFD0-CS-Ex1.51P



- Single Channel Isolator Barrier for Detector or Call Point
- ATEX Certified for use with Nittan EVC-PY-IS
- Operating Voltage 4 to 35Vdc (Line Powered)
- Reverse polarity protection
- Compatible with EV-ZMU2 Zone Monitor
- Compatible with other protocol Zone Monitors

EVC-DP Conventional Dual Optic Detector

Part No. F02-82215



- Dual Optical Detector Reduces False Alarms
- Compatible with EV-ZMU2 Zone Monitor
- Compatible with other protocol Zone Monitors
- Omniview 360° LED
- Internal Alarm Current Limiting Resistor
- Operational Voltage Range (12v-32v)

IP55 Base

Part No. F16-81373

Mounting Box

Part No. F16-81372



- IP55 Rating
- Robust Design
- Easy Entry Cable Glands

Evolution Analogue Addressable

Control Panels

evolution 1 Addressable Fire Alarm Control Panel

Part No. F12-83101



- 4.3 inch touch screen
- Easy to use configuration software
- Up to 254 devices on the loop
- 254 zones available
- Network Card built in for networking up to 16 panels
- Remote Access
- 2 x configurable rs485 ports
- Up to 8 password protected users
- Switch mode power supply
- EN 54 part 2 and part 4

evo+ 5101 Single Loop Fire Alarm Control Panel

Single Loop Panel in Standard Enclosure

Part No. F12N95101 evo+5101

Single Loop Panel in Medium Enclosure

Part No. F12N95111 evo+5101M

Single Loop Panel in Large Enclosure

Part No. F12N95121 evo+5101L

Single Loop Panel in Large Deep Enclosure

Part No. F12N95131 evo+ 5101D



- Single Loop Control Panel
- Programmable Push Buttons
- Fully Programmable
- Multiple Languages
- Global Compliance
- Fully Networkable
- Dual Microprocessor
- Real-time Clock
- 3 Year Warranty
- Slide-in Labels
- EN 54 part 2, 4 & 13

evo+ 5200 1-2 Loop Fire Alarm Control Panel

Multi Loop Panel in Standard Enclosure

Part No. F12N9520x* evo+520x*

Multi Loop Panel in Large Enclosure

Part No. F12N9522x* evo+520x*L

Multi Loop Panel in Large Deep Enclosure

Part No. F12N9523x* evo+520x*D



- 1 - 2 Loop Panel
- Global Compliance
- Networkable
- Multiple Languages
- Fully Expandable
- Programmable Push Buttons
- Robust Equipment Chassis
- 3 Year Warranty
- Slide-in Labels
- EN 54 part 2, 4 & 13

evo+ 5400 1-4 Loop Fire Alarm Control Panel

Multi Loop Panel in Standard Enclosure

Part No. F12N9540x* evo+540x*

Multi Loop Panel in Large Deep Enclosure

Part No. F12N9543x* evo+540x*D

Multi Loop Panel in Extended Enclosure

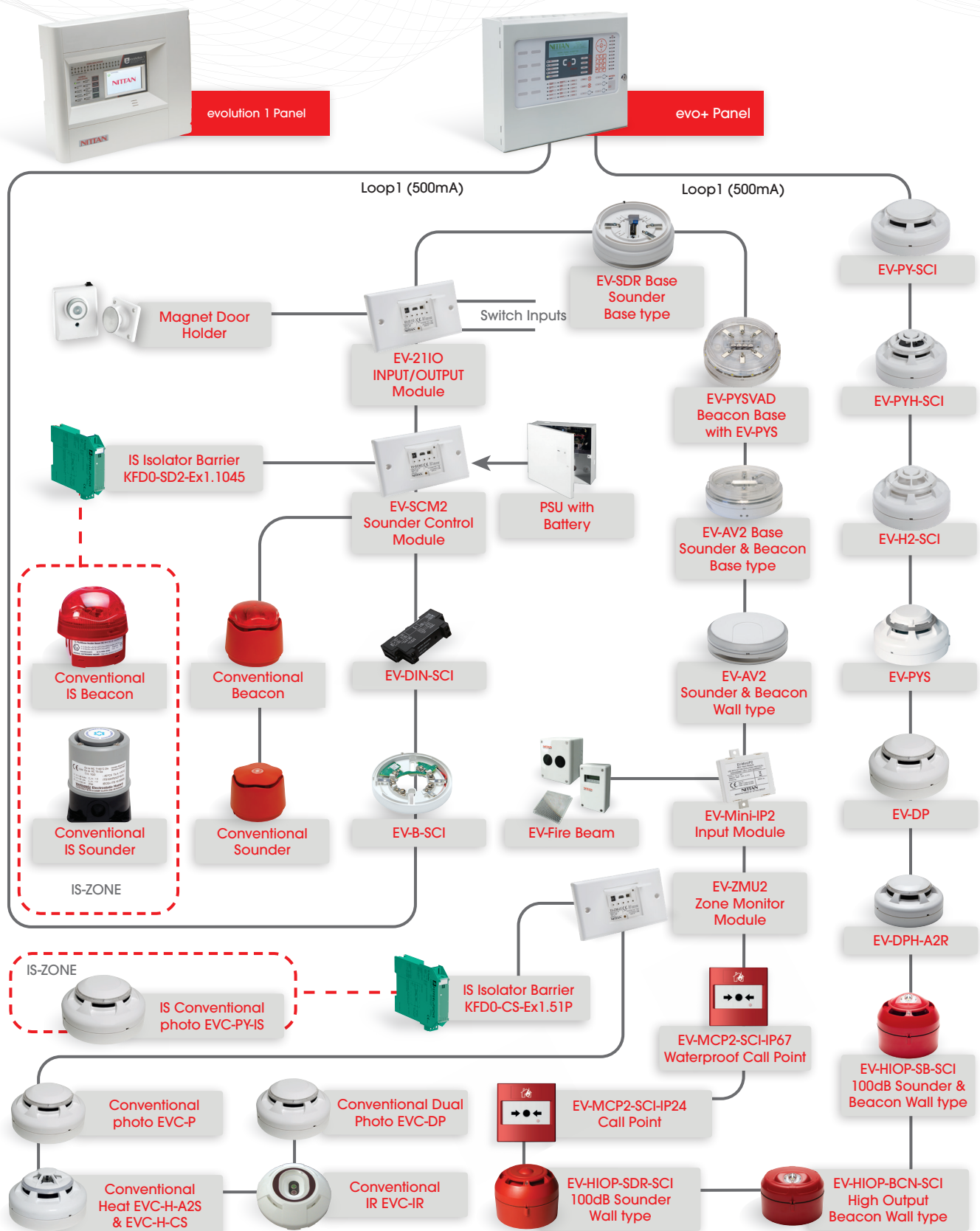
Part No. F12N9544x* evo+540x*E



- 1 - 4 Loop Panel
- Programmable Push Buttons
- Multiple Languages
- 3 Year Warranty
- Fully Expandable
- Global Compliance
- Networkable
- 20 Zonal / 25 System LEDs
- Robust Equipment Chassis
- Fully Programmable
- Slide-in Labels
- EN 54 part 2, 4 & 13

* note: x* reference should be replaced with appropriate number to determine number of loop cards fitted.

System Example





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