Catalogue

SAFEGARD V5

Bespoke Intelligent Damper Control & Monitoring System

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SAFEGARDSYSTEMS
A Swegon Group company

Introduction

Consultants in the field of fire engineering have long recognised the damage and danger to human life that can be caused by smoke spreading through buildings, even when the fire is confined to a small area.

Smoke/fire protection can save human lives as well as keeping damage to property and contents to an absolute minimum.

Control measures for smoke/fire protection, in old and new buildings, comprise of a wide variety of systems and items of equipment that must be carefully integrated in order to ensure maximum safety.

One of the most important tasks is performed by the automatic smoke and fire dampers that are incorporated into HVAC systems. In an emergency they must close immediately to contain the smoke and fire and prevent their spread through the ducting or open immediately to allow smoke extraction to take place.

The Safegard V5 system represents the fifth and latest evolution of damper control in the Actionpac line of control panels. The system has been designed with the user in mind, providing an advanced tool that simplifies installation and commissioning of dampers and peripheral devices. The embedded computer utilises solid state technology for optimum reliability.

Its server architecture delivers benefits such as reduced commissioning time, simplified operation and scope for future growth and complete flexibility.

Safegard V5 Bespoke Intelligent Damper Control and Monitoring System

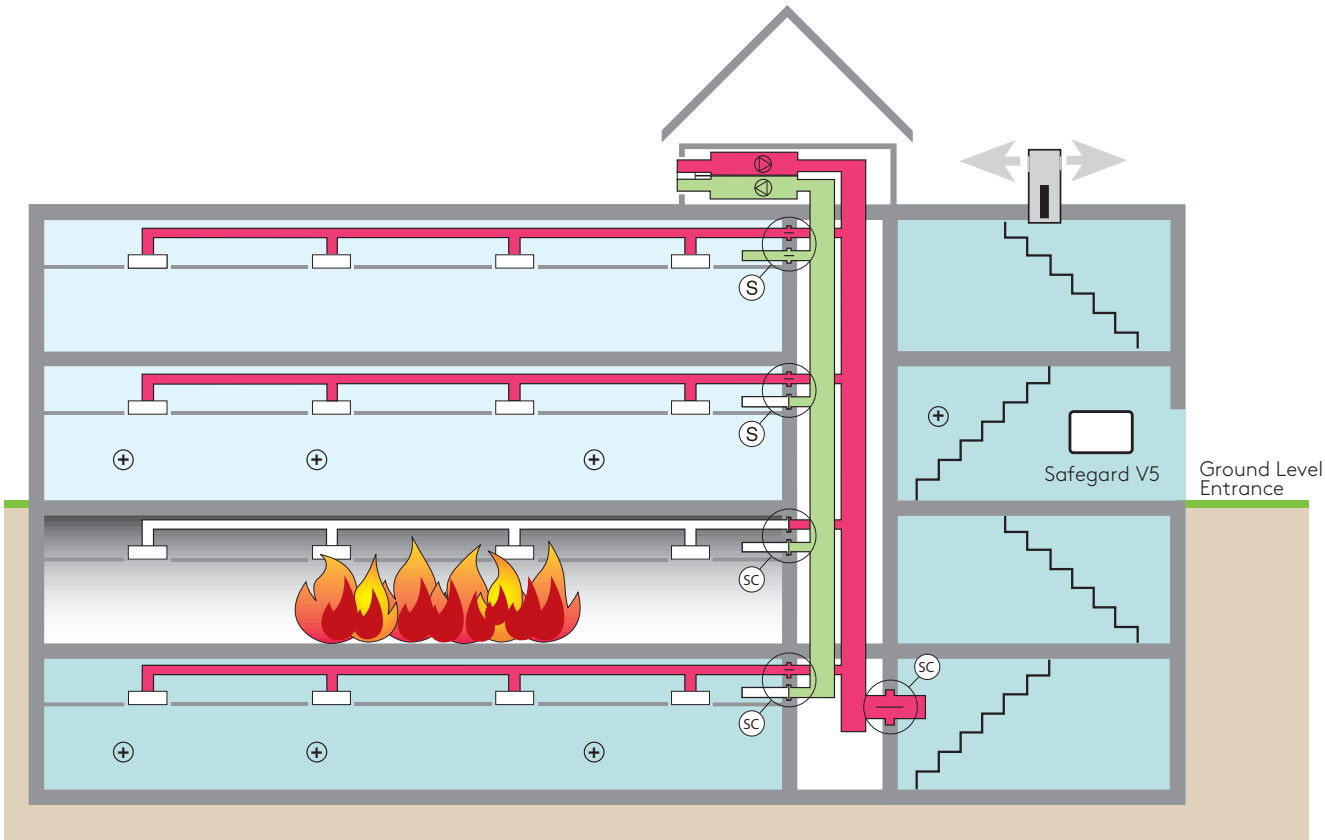
The Safegard V5 system is designed to protect life and property from damage caused by smoke and fire, by providing the means to:-

- Compartmentalise fire zones.
- Reduce the spread of smoke and fire.
- Keep escape routes and fire-fighting access open.
- Allow pressurisation and smoke extract by combined operation of dampers and fans.
- Allow complex strategies (cause and effect).

Ⓢ = Denotes SmokeShield CE Marked 'ES' Rated EN 1366-2 Fire Damper

Ⓢⓒ = Denotes SmokeCommand CE Marked EN 1366-10 HOT400/30 Smoke Damper

⊕ = Positive Pressure.



Why choose Safegard V5?

Why V5?

- Optional networking of panels to a central control and monitoring panel - up to 64 networked panels
- V5 is a CE marked, EMC and LVD compliant product
- Optional remote access via internet
- System designed to cater for environmental occupancy (energy saving) as well as the building's smoke/fire strategy
- Powerful and very flexible functionality accommodates any last minute changes to strategy, zones, damper quantities, references and descriptions etc and enables standardisation of software (no bespoke site specific versions required)
- V5 is designed to work with all Safegard life safety dampers including SmokeCommand EN 1366-10 dampers
- Open and interoperable protocol allows possible support by others future proof life-cycle preventative maintenance costs
- Allows for phased commissioning and future expansion
- Practically suits any building's damper requirements

Why Safegard?

- Off site system cause and effect witnessing can be arranged
- Optional automatic scheduled damper testing, including omit option for critical dampers
- We are able to offer preventative maintenance contracts
- Thousands of prestigious reference sites
- Customer testimonials available upon request
- Here at Safegard, our Safegard team have vast experience and know-how in the damper market, helping and advising our customers choose the safest and most appropriate product
- Largest team of dedicated commissioning and maintenance engineers in the UK

System Commissioning

Safegard provide a comprehensive after sales service to include pre-commissioning checks and a complete commissioning service for all our products.

Our Standard Commissioning service includes the following:–

- Attendance at all necessary induction courses and site familiarisation.
- Final connections of inputs to system from fire alarms, override switches, BMS etc.
- Final connections of each damper interface unit, electrical contractor to have ensured all necessary cables are entered into enclosure glands.
- Establishing communication to each damper interface unit.
- Viewing of damper blade movement to check operation.
- Configuring of the relevant cause and effect.
- Demonstration / witnessing of 10% of dampers installed. Full witnessing available by special request.
- Client Training on the system.
- Customer Service

Safegard provides quality products backed by a dedicated team committed to providing the very best in customer service.

We offer experienced technical backup, comprehensive sales, administrative customer support,and product commissioning.

Panel Specifications

Sizing (max load 500W all panels)

Enclosure Size (mm) W x H x D	Embedded Computer	DIO
500 x 500 x 210	10"	DI8O4 - M
600 x 600 x 210	15"	DII6O8 - M
800 x 1000 x 300	15"	DII6O8 - M
800 x 1200 x 300	15"	DII6O8 - M

Details

Colour	RAL 7035
Hinged	Left
230V Supply	Top entry right hand side
Network cables	Top entry left hand side
I/O cables	Top entry middle
Protection	IP 20 (230 Volt terminals shrouded)
Max ambient temperature	30 °C (Panel must be in a ventilated environment)
Options	Flush Mount Panel

Standard panel sizes and weights are dependent on the number of networks and digital input/output devices required.

Firefighter's override panel

Example of firefighter's override panel. Manufactured to suit projects needs. Bespoke LED mimic panels manufactured to suit projects needs are also available.

Specification

Safegard V5 Control Panel

The Safegard V5 System consists of either a 10 or 15 inch embedded computer depending on the panel size (see page 3), UPS and pre-loaded software. The system communicates with damper interfaces to provide intelligent control and monitoring of motorised dampers and monitoring of manual fire dampers. The data network cabling enables substantial reduction in costs when compared with conventional systems. Digital input/output devices can be accommodated on the network cable or located within the panel enclosure.

The embedded panel computer is supplied with Safegard V5 software and operates on an embedded platform, which is extremely user friendly.

The server architecture delivers benefits such as flexibility, reduced commissioning time, ease of configuration, simplified operation, future system growth, full diagnostics for system and device integration along with optional automatic scheduled damper testing.

Digital Input/Output Device (DI16O8-M)

This device accepts sixteen volt free contact inputs into the Safegard V5 System. Typical inputs would be from fire alarm panels, fireman's override switches, manual call points and smoke detectors.

This device also provides eight relay outputs to be driven from the Safegard V5 System. Typical outputs would be to fans and BMS systems.

Complex strategy (cause and effect) lists, including priorities can be driven from this input / output device which is located within the embedded panel PC enclosure. Other I/O devices are available for panel or field location.

Please note: 500 x 500 panel uses a DI8O4-M, eight inputs and four outputs (see page 3).

Damper Interfaces

For further information, please refer to Actionpac Damper Interface Catalogue

Smoke Fire Damper Interface (SFDI-M)

This device is required for each smoke fire damper used with the Safegard V5 System.

The SFDI-M controls and monitors motorised smoke/fire dampers and can be configured for spring return (SFDI-M) fire dampers, SmokeShield or drive open drive closed (SDI-M) smoke dampers, SmokeCommand. The device ensures correct operation and status of the damper and provides an alarm at the PC Panel in the event of local power supply failure.

3 Position Smoke Fire damper interface (3PSFDI-M)

Actuator can be set to a balanced position or driven one way and fail safes the other via spring return. Actuator can alternatively be modulated via 2 – 10V signal from BMS.

Smoke Damper Interface (SDI-M)

The SDI-M controls and monitors motorised smoke dampers, drive open drive closed, SmokeCommand dampers to EN1366-10.

Please note: The damper interfaces can accept local auxiliary inputs (normally duct smoke detectors) which can drive cause and effect schedules, except for the 3PSDI-M.

Hot Smoke Damper Interface (HSDI-M)

The HSDI-M (SDI-M with a unique thermal enclosure) offers protection of the various interfaces to control and monitor SmokeCommand EN 1366-10 smoke control dampers up to 400°C for 30 minutes.

The enclosure consists of two separate materials, enabling the HSDI-M to function at the extreme temperature specified.

The outer casing has endothermic properties that significantly slow down the internal temperature rise in a high temperature emergency condition. The inner casing is a special thermal insulating material. The unit has been tested and independently witnessed by Lloyds.

SFDI Options

SFDI-M Damper Control Interface

Typical Operation

- System will control and monitor most motorised dampers and offers monitoring of any dampers that are manually reset
- Power On – Damper resets / Power Off – Spring release
- Release Time ≈ 22 secs / Reset Time ≈ 60 secs.

24V AC or DC (Power transformation by others)

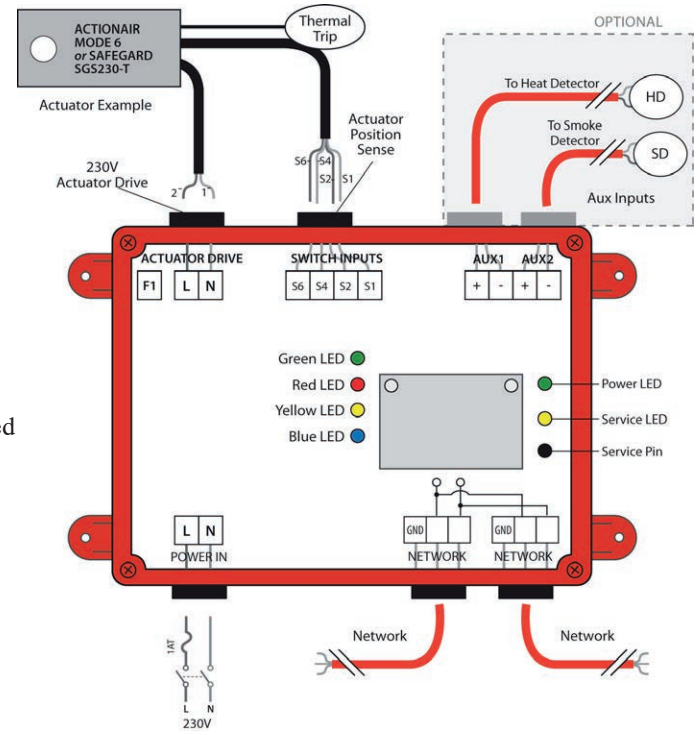
- Connect 24V via a safety isolating transformer.

230V AC 50/60Hz (By other)

- 1 amp fused spur to be provided. EN wiring regulations to be observed

Power Supply (By other)

- 24V AC or DC + Mode5 actuator
- 230V AC + Mode6 actuator



3P-SFDI-M Damper Control Interface

Typical Operation

- Auto Mode Damper can be set from the Actionpac or Safegard smoke control system to a balanced position (once learned) or to drive open or closed (damper configuration mechanically set) and failsafe via spring-return.
- Learn Mode Damper can be set to its required balanced position.
- Local Mode Damper can be modulated via a 2 -10V signal from the Building Management System (BMS). In the event of a fire alarm/ firefighters override input the Actionpac or Safegard smoke control system will take control away from the BMS and react according to the input(s).

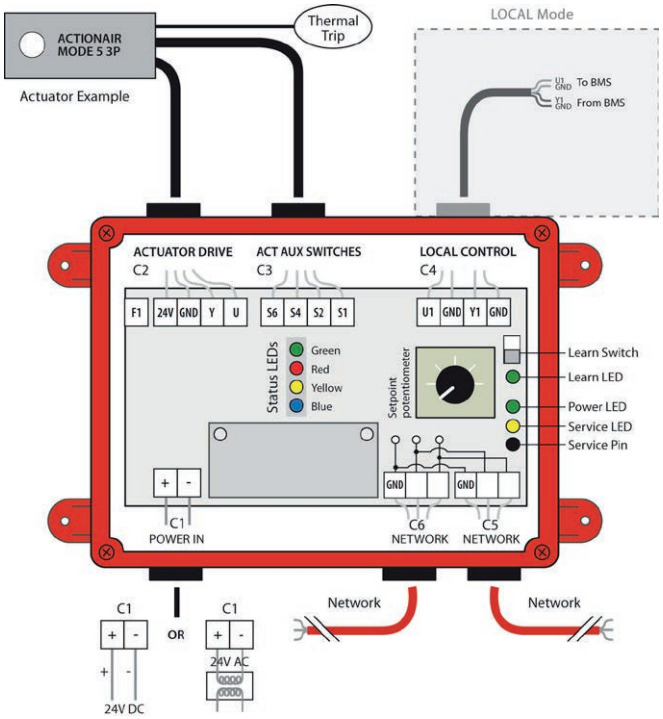
24V AC or DC (Power transformation by others)

- Connect 24V via a safety isolating transformer.

Power Supply (By other)

- 24V AC or DC + Mode5 3P actuator

Maximum power consumption for combined SFDI-M/3P-SFDI-M plus Safegard actuator is <15W.



Cable Specifications

Cable Type	Fire Rated	Max Length of Network Channel	Conductor Size
Belden 9841 NH 2 core		1000m	0.51mm²
Prysmian (Pirelli) FP 200 Gold 2 core	●	1000m	1.5mm²
Prysmian (Pirelli) FP Plus 2 core	●	1000m	1.5mm²
Firetuf FT30 2 core	●	1000m	1.5mm²
Firetuf FT120 2 core	●	1000m	1.5mm²

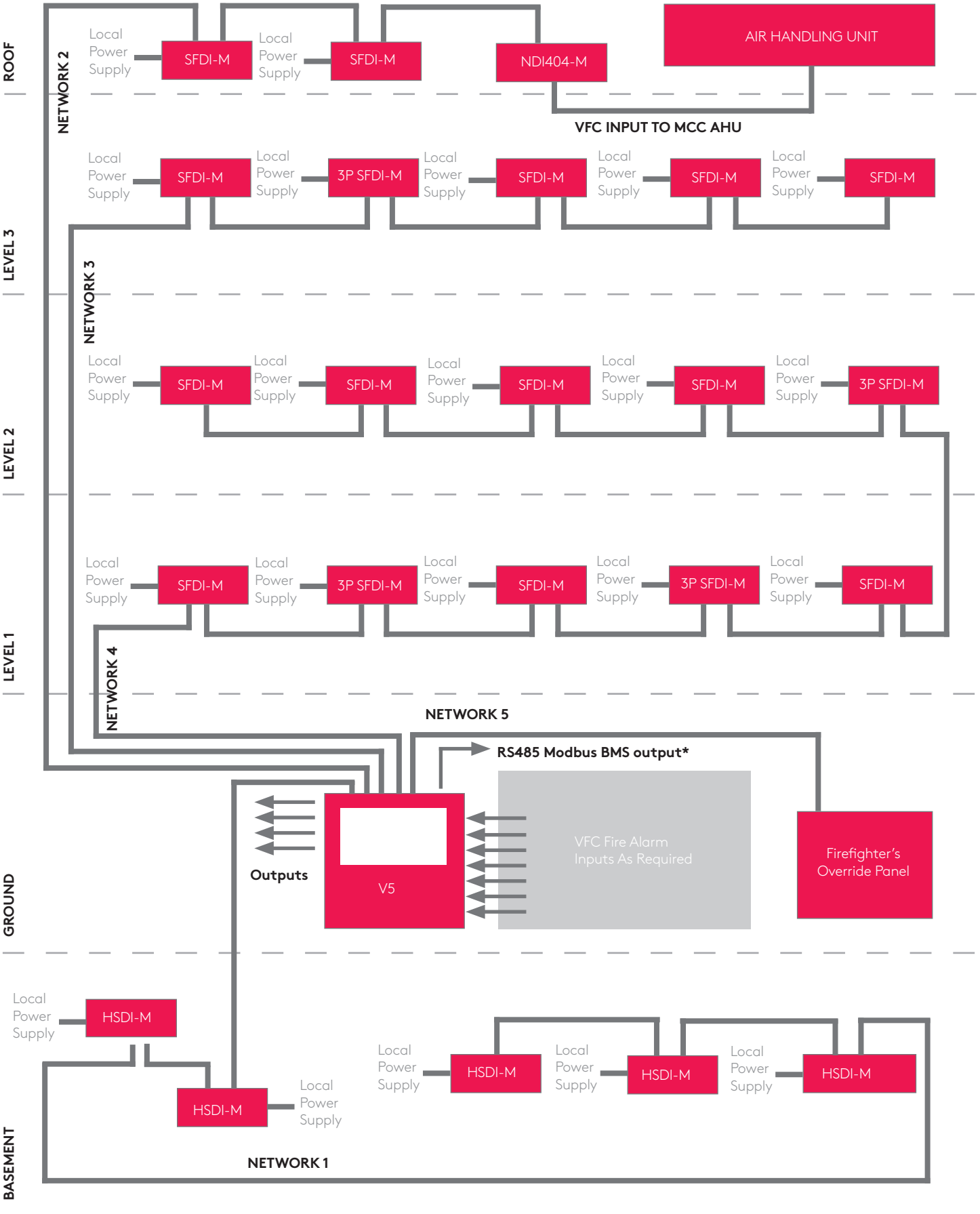
These cable specifications are fundamental to the stable and reliable operation of your smoke/fire control and monitoring system.

- Maximum number of devices* on a network channel is 120.
- The network is polarity sensitive.
- Networked devices are wired in a simple 'daisy chain', (in and out). No cable stubs permitted.
- Typically, the SFDI-M is no more than one metre from the damper as the actuator flying leads are one metre in length.

* A device is one of the following:- Damper Interface, Hot Damper Interface or a, NDI404-M.

N.B. A multiple damper requires one Damper Interface or Hot Damper Interface per damper/actuator section

Typical Network Schematic



Note: Each damper interface controls/monitors a damper.

* BACnet over IP available as an option

Our team are experienced in working with both consultants and contractors, and are able to give you key guidance as to the elements you should consider when developing your cause and effect.

In the schematic, SmokeShield EN 1366-2 fire dampers are used above ground together with SFDI-M's or 3PSFDI-M's and SmokeCommand EN1366-10 smoke dampers are used below ground together with HSDI-M's.

Safegard are here for you from the start to the end of a project and throughout the lifecycle of the building

Maintenance plans

Safegard's preventative maintenance plans have been developed to meet our customers' specific needs. Our service engineers will ensure your system is kept in full working order:

- Analyse communications
- Check UPS & system logs to ensure no outstanding actions Replace UPS battery every 3 years
- Check whether staff have experienced any problems
- Operate all smoke/fire dampers, where permitted
- Repair of defective items during visit, if possible
- Simulate all system inputs, confirm and check outputs, where permitted
- Software upgrades
- Support from our in house engineers via telephone, fax or e-mail
- Update training, if required
- Warranty for additional equipment fitted

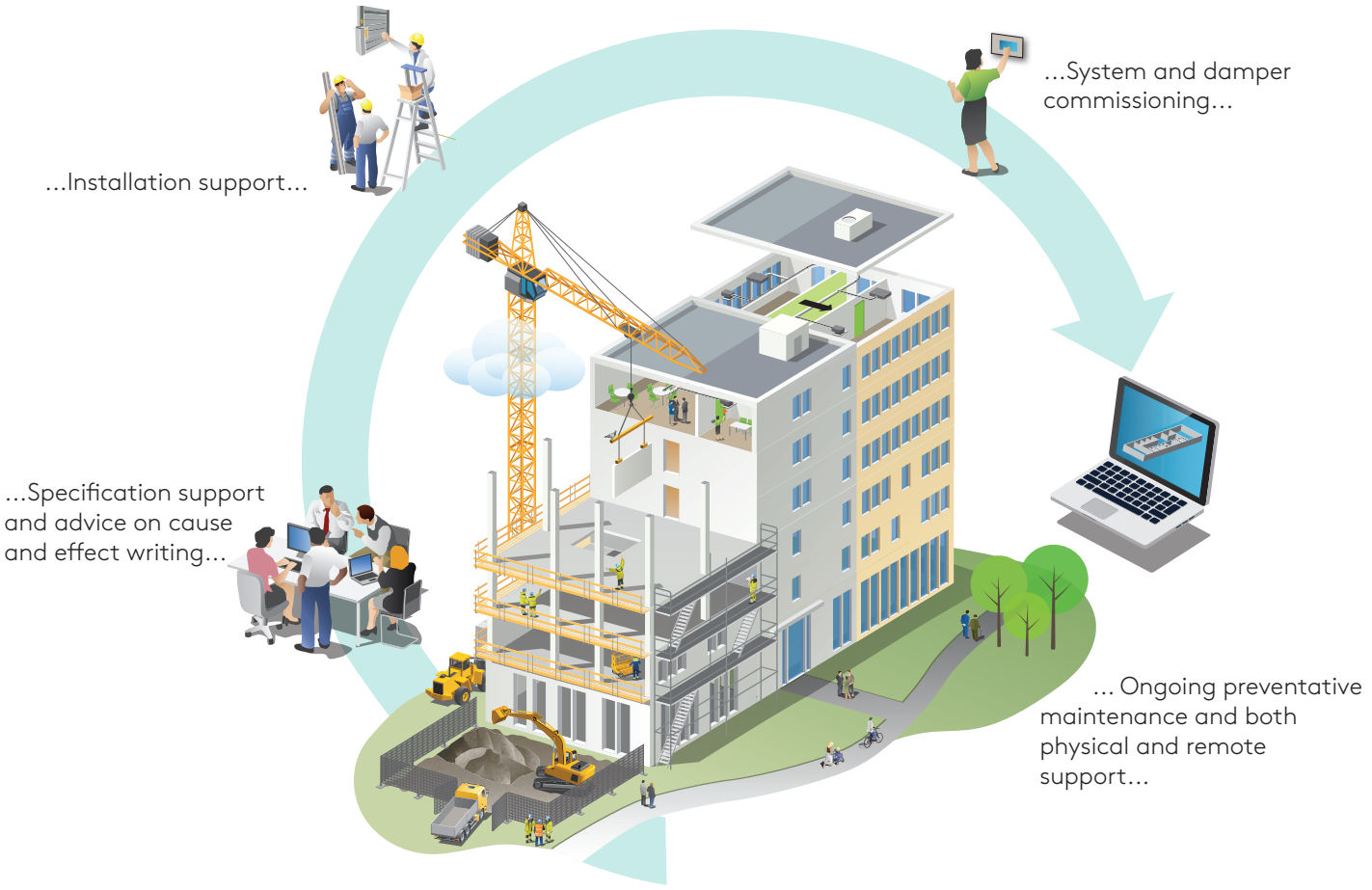
Cause and effect assistance

Our team are experienced in working with both consultants and contractors and able to give you key guidance as to the elements you should consider when developing your cause and effect.

Typically, complex systems will involve:

- Fan control
- Linking to the BMS
- Firefighter override panels
- Multi-position smoke dampers
- High operating temperature smoke extract
- Automatic zonal control

We can advise how best to incorporate firefighter override panels and how they can be linked to the smoke extract fans in the affected zones of the building.



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