

NEW
AND ENHANCED

Actionpac LNS3

Intelligent Damper Control and
Monitoring System

Range and Features

Panel PC Driven system.

User friendly, no need for operating and maintenance manual.

Full diagnostic for system and device integration from Panel PC.

Flexible system architecture, enables sophisticated as well as simple fire engineering configurations.

Network – unidirectional 2 core cable, utilising daisy chain method of wiring to all devices – reducing wiring costs.

Centralised or localised wiring to input and output devices, reducing wiring costs.

Graphic User Interface operates on a windows™ platform making it universally accepted.

Localised supplies to all devices.

Will control and monitor many variants of Actionair motorised Dampers.



www.actionair.co.uk

*action*air

Smoke... the silent killer

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 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 Actionpac LNS3 system represents a new generation of smoke/fire damper control. The system has been designed with the user in mind, providing an advanced tool that simplifies installation and commissioning of smoke/fire dampers and peripheral devices. The Panel PC operates on a Windows™

platform making it universally accepted and utilises solid state technology for optimum reliability.

It's server architecture delivers new benefits such as reduced commissioning time, simplified operation and scope for future growth.

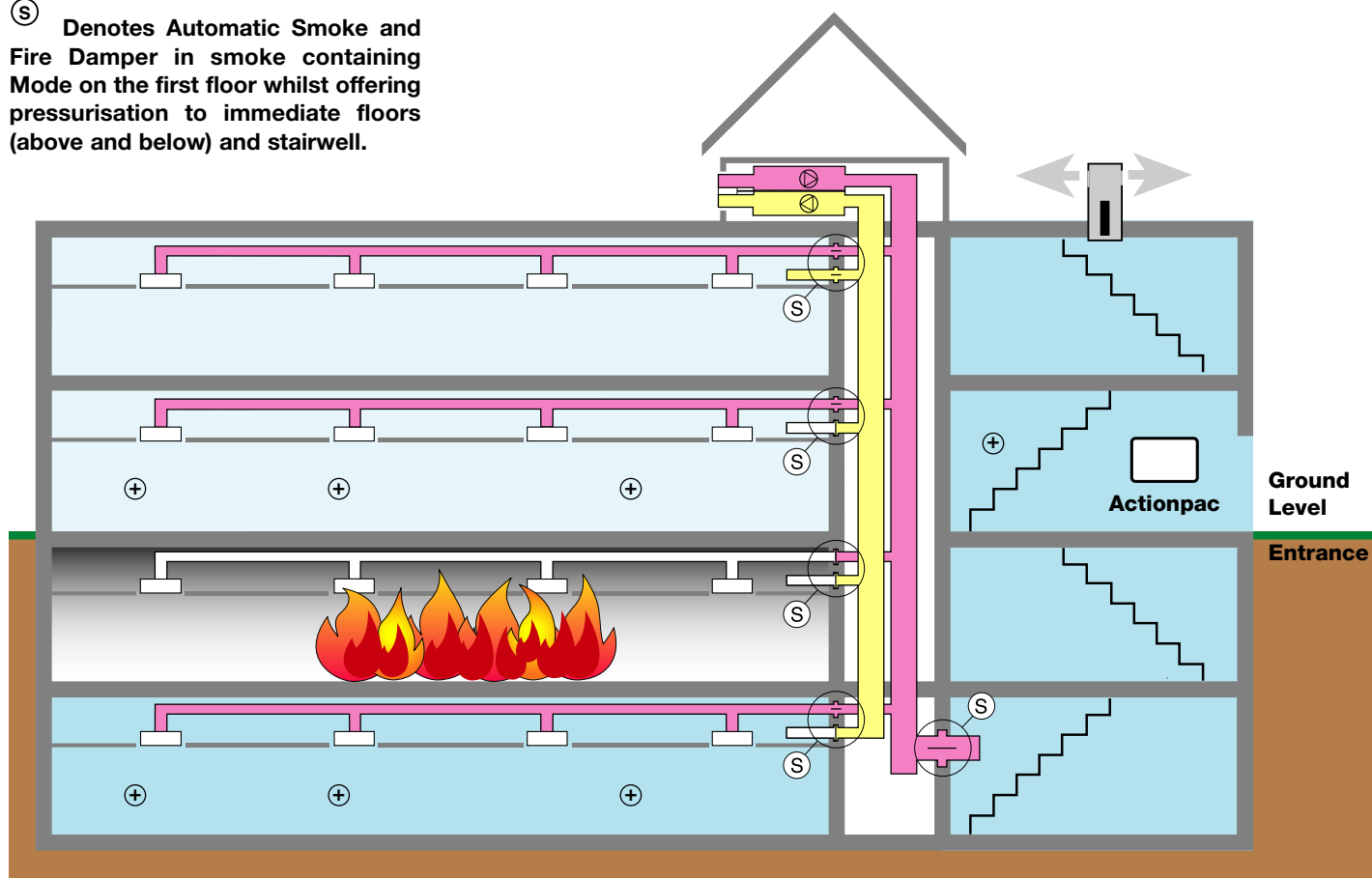
The Actionpac LNS3 Intelligent Smoke and Fire Damper typical Control System application.

The Actionpac LNS3 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.

Ⓢ Denotes Automatic Smoke and Fire Damper in smoke containing Mode on the first floor whilst offering pressurisation to immediate floors (above and below) and stairwell.



Specification



Control Panel

The Actionpac LNS3 System consists of a Panel PC, UPS and pre-loaded software. The system communicates with the damper interfaces to provide intelligent control and monitoring of motorised dampers. The data network cabling enables substantial reduction in costs when compared with conventional systems. Digital inputs and outputs (DX-8) can be accommodated on the network cable or located within the panel enclosure.

The Panel PC is supplied with Actionpac LNS3 software and operates on a Windows™ platform, making it extremely user friendly. The server architecture delivers new benefits, such as reduced commissioning time, ease of configuration, simplified operation and system growth. Full diagnostics for system and device integration from the Panel PC, along with automatic scheduled damper testing facility to meet new European damper test standards.



Digital Input / Output Device DX-8

This device accepts eight volt free contact inputs into the Actionpac LNS3 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 Actionpac LNS3 system. Typical outputs would be to fans and BMS systems.

Large strategy (cause and effect) lists can be driven from these input / output devices and they can be placed anywhere on the network to reduce cabling costs, or located within the Panel PC enclosure.

Mimic Panels

Bespoke LED mimic panels are available to clients' specification.

Firefighter's Override Panels (FOP)

Bespoke key switch or push button firefighter's override panels are available to clients' specification.



Damper Interfaces

All the damper interfaces accept local auxiliary inputs (normally smoke detectors) which can drive cause and effect schedules.

Smoke Fire Damper Interface (SFDI)

This device, which is a registered LonMark ® FSDAC product, can be used with the Actionpac LNS3 system or in smaller distributed systems as it is supplied complete with software.

The SFDI controls and monitors motorised smoke/fire dampers. 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.

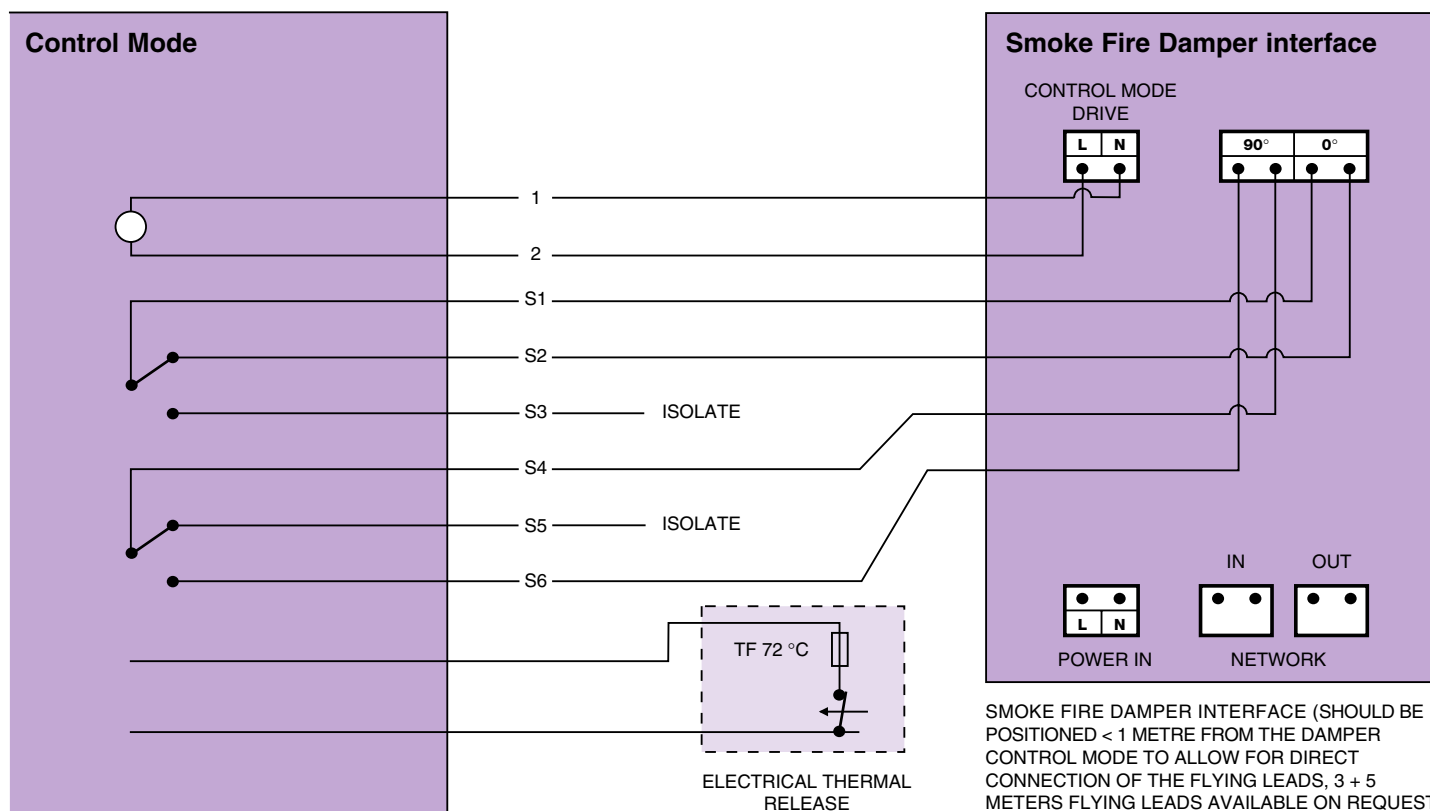
Smoke Damper Interface (SDI)

This device controls and monitors motorised smoke dampers.

Fire Damper Interface (FDI)

Monitors damper position and provides facility for energising an electromagnet. Damper failsafes closed via spring mechanism and must be manually reset.

Wiring Detail



Control Options

System will control and monitor any motorised damper and offer monitoring of any manual reset.

Typical operation

- Power On – Damper resets
- Power Off – Spring release
- External mechanical position indicator with pointer.
- Release Time 20 secs.
- Reset Time 60 secs.

24V A.C.or D.C.

Connect 24V via a safety isolating transformer.

220 – 240V A.C.50 / 60Hz

To isolate from main power supply, the system must incorporate a device which disconnects the phase at least 3mm contact gap.

SMOKE FIRE DAMPER INTERFACE (SHOULD BE POSITIONED < 1 METRE FROM THE DAMPER CONTROL MODE TO ALLOW FOR DIRECT CONNECTION OF THE FLYING LEADS, 3 + 5 METERS FLYING LEADS AVAILABLE ON REQUEST

Power Consumption

24V A.C. or D.C.
 220V - 240V A.C.
 Maximum power consumption for combined SFDI plus 24V or 230V actuator is <13W.

Cable Specifications

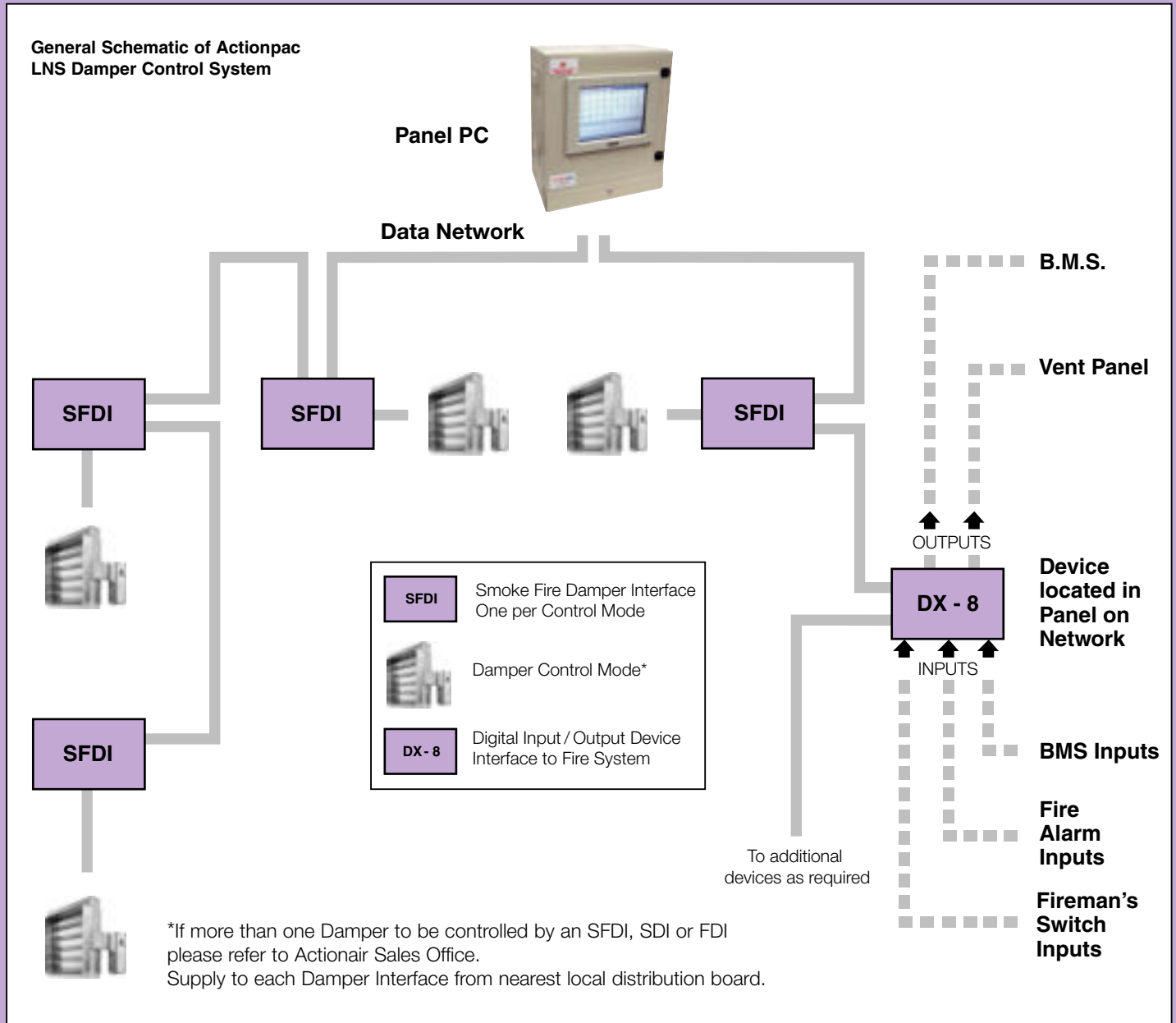
Cable Type	Max device to device	Max total cable	Conductor size
Belden 8471NH	400m	500m	1.3mm ²
Pirelli FP200 Gold	400m	500m	1.5mm ²
Pirelli FP PLUS	400m	500m	1.5mm ²
Firetuf	400m	500m	1.5mm ²
Firetuf Plus	400m	500m	1.5mm ²

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

Failure to adhere to these specifications will result in unstable and unreliable network communications and will void all warranties.

1. Maximum number of devices per cable segment is 64. If >64 and / or >500m cable segment, use a network extender kit.
2. If wired as a loop, the network is polarity sensitive. In all other instances, the network is polarity insensitive.
3. Each cable segment must be wired in a 'daisy chain' i.e. in and out and no stubs will be allowed.
4. Belden 8471NH is not fire rated.

Typical Network Schematic



Benefits

- Completely flexible to meet practically any building's damper requirements
- 3 levels of alarm priority Panel PC driven system with real-time graphic displays
- Panel PC utilises solid state technology for optimum reliability
- Operates on windows™ platform – user friendly
- Full configuration and diagnostics from Panel PC
- Automatic scheduled Damper testing
- Allows for exact location of devices in text
- Multiple wiring configurations to include Radial or Loop Topology
- Damper operational count provided
- Flexibility to accommodate any last minute changes to strateg, zones, damper additions, damper locations etc.
- Guaranteed input response times of <10 seconds on a 512 damper system to meet the new draft BS EN 12101-9.

Panel Specification

Enclosure Specifications

Standard enclosure sizes and weights are dependent on number of panel routers and DX8's required.

Max load (Watts)	Enclosure Size (mm)
500	600 x 600 x 300
500	800 x 800 x 300
500	1000 x 800 x 300
500	1200 x 800 x 300



Colour	RAL 7032
Hinged	Left
Power cables	Bottom entry right hand side
Network cables	Top entry
I/O cables	Top entry
Protection	IP 20 (230 Volt terminals shrouded)
Max ambient temperature	30 °C (Panel must be in a ventilated environment)
Minimum clearance for vents	150mm

Customer Service

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

Offering experienced technical backup, comprehensive sales and administrative customer support, product commissioning and maintenance service.

System Commissioning

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

Control Mode 5 PTC and Control Mode 6 PTC

Control Mode 5 PTC and Control Mode 6 PTC 60 seconds MAX Reset/20 seconds Release operation.

These new series of control modes achieve 60 seconds to drive to the end position, with a 20 second spring return time. This brings Actionair dampers in line with imminent European standardisation for fire and smoke control.

As with all PTC modes, this series uses the *snaplock™* interface. Fire rated dampers are primarily designed to be fitted into a wall or floor, and the interface displaces the mode from the line of the wall. Dampers may be installed and finally the mode removed from storage for easy fitting, thus preventing damage to the mode before it is required. End switches and LSF cable are provided as standard on all modes.

Versions are available to allow fail-safe close for fire safety (Smoke/Shield) or fail-safe open for smoke extract (Vent/Shield) and may be combined with protective enclosures (Hot/Shield) to provide enhanced operation for 1 hour at 300 °C or 2 hours at 300 °C.

The Electro Thermal Release (ETR) supplied for fire damper use has integral fail-safe devices to ensure that it is installed into the ductwork correctly. ETR units are not supplied with Hot/Shield, because these are designed to operate at temperatures in excess of 72 °C, should a fire cause any temperature rise.

End switches are provided with each mode, so that damper Reset and Release positions may be monitored. The mode is permanently attached to the mechanism driving the damper blades.



ETR Indication light

As standard, a green LED lamp is built into the ETR housing. This gives the user a simple and clear visual check that the Actuator is receiving power, the ETR is correctly fitted, and the thermal fuse is intact.



Smoke/Shield and Vent/Shield

M5 PTC	24V 7W (10VA), end switches SPDT 250V 6(3)A	XNNN00015	Smoke/Shield	Thermal Release / Power Off – Fail-safe Close*
M6 PTC	230V 8W (12.5VA), end switches SPDT 250V 6(3)A	XNNN00016	Smoke/Shield	Thermal Release / Power Off – Fail-safe Close*
M5 PTC Vent	24V 7W (10VA), end switches SPDT 250V 6(3)A	XNNN00019	Vent/Shield	Thermal Release / Power Off – Fail-safe Open*
M6 PTC Vent	230V 8W (12.5VA), end switches SPDT 250V 6(3)A	XNNN00020	Vent/Shield	Thermal Release / Power Off – Fail-safe Open*
M5 PTC NON ETR	24V 7W (10VA), end switches SPDT 250V 6(3)A	XNNN00017	Smoke/Shield	Power Off – Fail-safe Close
M6 PTC NON ETR	230V 8W (12.5VA), end switches SPDT 250V 6(3)A	XNNN00018	Smoke/Shield	Power Off – Fail-safe Close
M5 PTC Vent NON ETR	24V 7W (10VA), end switches SPDT 250V 6(3)A	XNNN00021	Vent/Shield	Power Off – Fail-safe Open
M6 PTC Vent NON ETR	230V 8W (12.5VA), end switches SPDT 250V 6(3)A	XNNN00022	Vent/Shield	Power Off – Fail-safe Open

*Smoke/Shield and Vent/Shield Control Modes M5 PTC and M6 PTC are supplied as standard with the Electrical Thermal Release (ETR). The units Fail-safe by means of the unique and patented ETR device which operates at 72 °C, or if the power supply is off/interrupted. Complying with BS 5588 Part 9 1999. Non ETR versions Fail-safe when the power is off/interrupted.

Hot/Shield and Hot/Vent/Shield

HM5 PTC	24V 7W (10VA), end switches SPDT 250V 6(3)A	XNNN00281	Hot/Shield	Power Off – Fail-safe Close
HM6 PTC	230V 8W (12.5VA), end switches SPDT 250V 6(3)A	XNNN00282	Hot/Shield	Power Off – Fail-safe Close
HM5 PTC Vent	24V 7W (10VA), end switches SPDT 250V 6(3)A	XNNN00283	Hot/Vent/Shield	Power Off – Fail-safe Open
HM6 PTC Vent	230V 8W (12.5VA), end switches SPDT 250V 6(3)A	XNNN00284	Hot/Vent/Shield	Power Off – Fail-safe Open
HM5-2H PTC	24V 7W (10VA), end switches SPDT 250V 6(3)A	XNNN00285	Hot/Shield	Power Off – Fail-safe Close
HM6-2H PTC	230V 8W (12.5VA), end switches SPDT 250V 6(3)A	XNNN00286	Hot/Shield	Power Off – Fail-safe Close
HM5-2H PTC Vent	24V 7W (10VA), end switches SPDT 250V 6(3)A	XNNN00287	Hot/Vent/Shield	Power Off – Fail-safe Open
HM6-2H PTC Vent	230V 8W (12.5VA), end switches SPDT 250V 6(3)A	XNNN00288	Hot/Vent/Shield	Power Off – Fail-safe Open

Hot/Shield and Hot/Vent/Shield Control Modes HM5 PTC and HM6 PTC (operational for 1 hour @ 300 °C) and HM5 – 2H PTC and HM6 – 2H PTC (operational for 2 hours @ 300 °C) are not supplied with the Electrical Thermal Release (ETR). They Fail-safe when the power is off/interrupted.

Actionpac Electro Mechanical Smoke and Fire Damper Hard Wired Control Panels

EMS – Standard

EMB – Bespoke

Control and Monitoring System

Actionpac Electro Mechanical Smoke and Fire Damper Control System.

Automatic damper operation utilising Relay Logic and LED indication of damper status.

Damper Panels:

Customised Central Control Panel.

Remote Repeater Panel.

Fire Damper Monitor Panel.

Specialist Panels available:

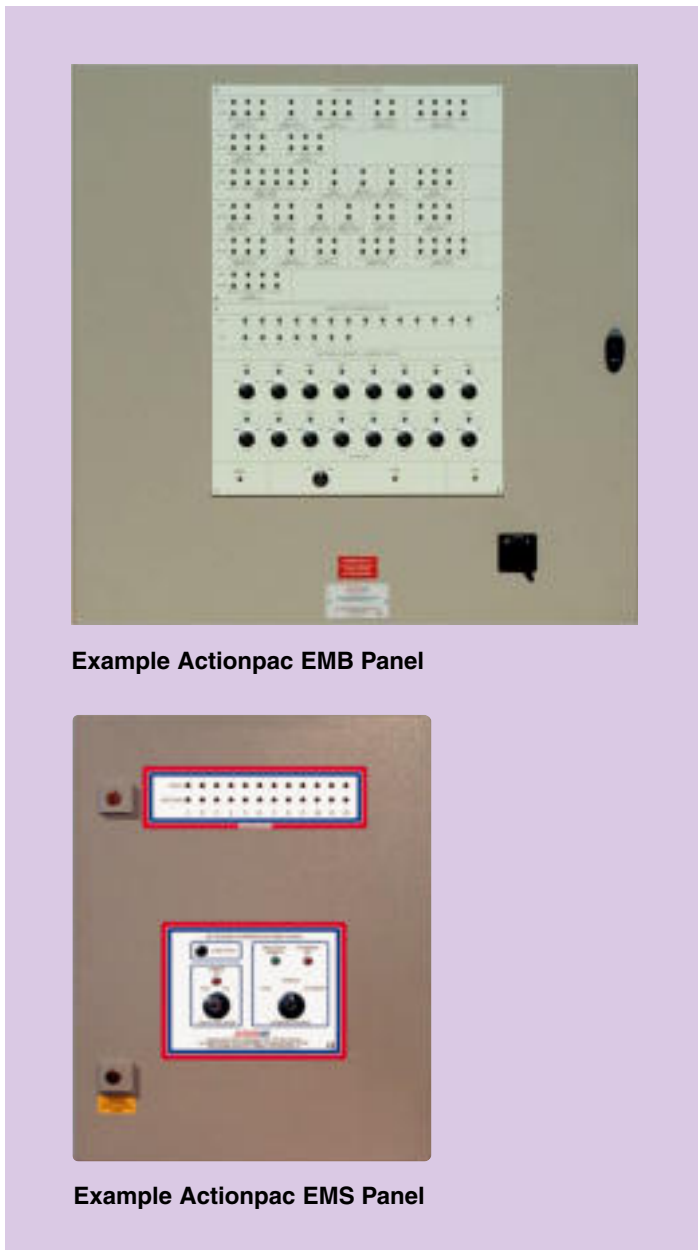
- Fan Control Panel.
- Fireman's Control Panel.
- Mimic Panel.

Please Note:

Actionpac LNS3 is recommended when greater numbers of Smoke/Shield Dampers are to be controlled / monitored.

Sometimes, depending on project requirements, it may also be advantageous to utilise Actionpac LNS3 on smaller numbers of Smoke/Fire Dampers.

Please refer to Actionair Sales Office.



Example Actionpac EMB Panel

Example Actionpac EMS Panel

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no compromise...

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