



Actionpac LNS5 & Safeguard V5 Damper Interface Catalogue

Two Position & Three Position Smoke Fire Damper Interface

This product forms part of a life safety system. Failure to correctly store, handle, install and maintain the product will directly put at risk the lives of the occupants and the fabric of the building.



ALWAYS READ THIS DOCUMENT BEFORE
INSTALLATION. PLEASE RETAIN FOR
FUTURE REFERENCE.



Two Position Damper Interface

The Safeguard Damper Interface provides a complete Modbus communication device to control dampers.



ELECTROSTATIC SENSITIVE DEVICE

TWO POSITION SMOKE FIRE DAMPER INTERFACE OPTIONS:

SFDI - M

The Safeguard **Smoke Fire Damper Interface** provides a complete Modbus communication device to control any failsafe spring-return smoke fire damper actuator that incorporates two auxiliary switches.

FDI - M

The Safeguard **Fire Damper Interface** provides a complete Modbus communication device to failsafe, via an electromagnet, any spring-return fire damper. Monitoring of the open and/or closed position is optional.

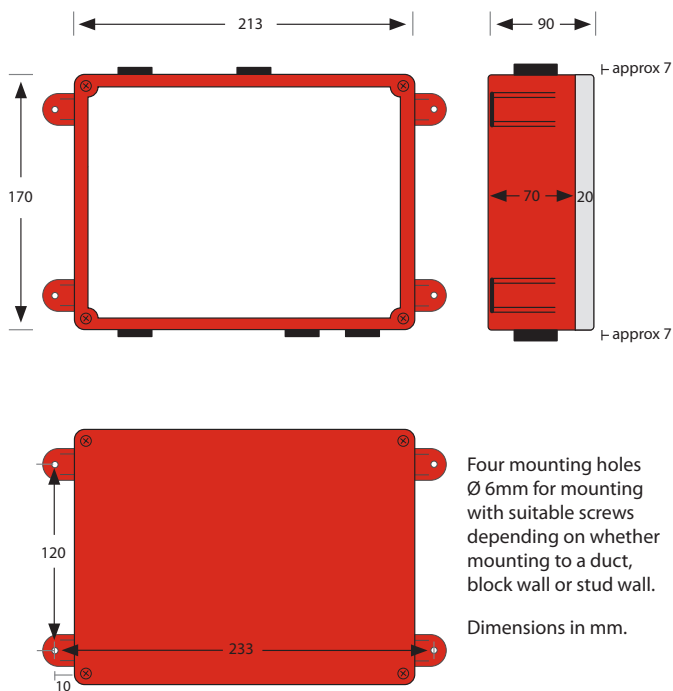
SDI - M

The Safeguard **Smoke Damper Interface** provides a complete Modbus communication device to control any open/closed smoke damper actuator that incorporates two auxiliary switches.

Please note: Each interface is available in 24V or 230V. Please specify a voltage at time of order.

TWO POSITION SMOKE FIRE DAMPER INTERFACE (SFDI-M / FDI-M / SDI-M)

Mounting Diagram



Dimensions and Mounting

The compact and robust design of the interface enclosure allows the unit to be mounted to a duct, block wall or stud wall.

Ensure the Interface is located close enough to the actuator/damper it is controlling/monitoring. Normally, actuator/electromagnet leads are 1m in length. Also, ensure the Interface is accessible for future maintenance purposes.

Please note:

- 150mm clearance required for lid removal and at cable entry points.
- Unused cable entries should be sealed with blind washers.
- Do not drill the enclosure as this will affect its IP rating.

Preparation

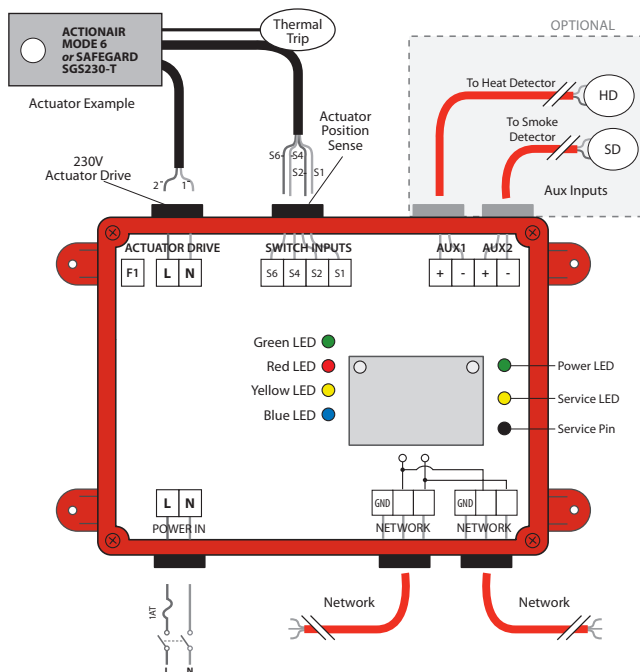
- Only trained and qualified personnel should be allowed to install, replace or service this equipment. Installation should be in accordance with the relevant local safety standards.
- The connectors can accommodate cable diameters up to 2.5mm². It is recommended that all wires be crimped to ease installation and replacement of the product.
- The mains wiring should comply with IEC 60227 or IEC 60245.
- A switch or circuit breaker should be included as part of the installation.
- The switch or circuit breaker should meet the relevant requirements of IEC 60947-1 and IEC 60947-3.
- The switch or circuit breaker should be in close proximity to the equipment and be within easy reach of the operator.
- The switch or circuit breaker should be marked as the disconnecting device for the equipment and should disconnect both poles of the supply

Installation

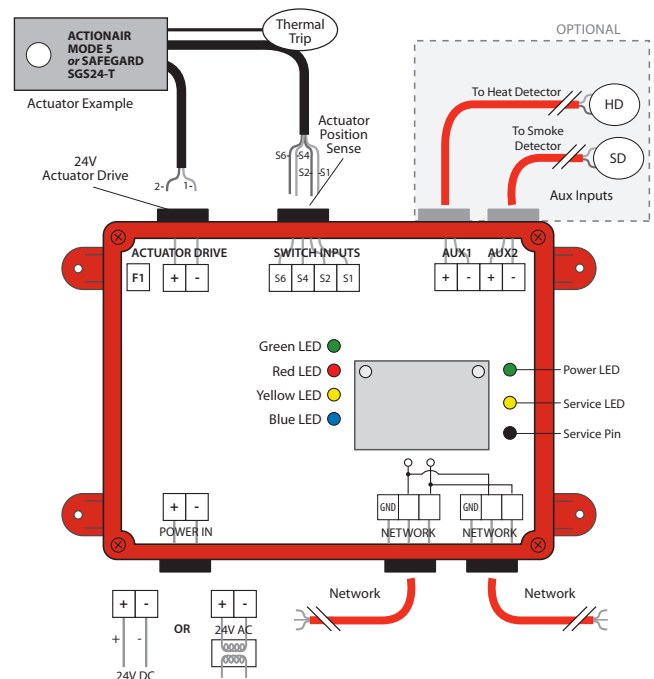
1. Disconnect the local supply before commencing any work on the Interface.
2. Wire the interface in accordance with the wiring diagrams shown following. If the actuator is to be located more than 5m from the Interface then contact Safeguard Systems for technical assistance.
3. Please be aware that the switch and auxiliary inputs are not optically isolated. It is recommended that the optional detectors (smoke or heat) use failsafe open contacts to guarantee their detection in the event of a fault condition. It is also recommended that the network cables are not run alongside any high voltage or high frequency sources. Also, network cables must not be mixed on an individual network as they have very different electrical characteristics and could render the system unreliable.
4. If FDI-M, the electromagnet failsafe release is optional. If used, the electromagnet must be protected by a suitable snubber device.
5. If FDI-M, the monitoring of the damper positions is optional.
6. Once wiring is complete, apply power to the DI-M. The green power LED should illuminate to indicate the presence of power.
7. The Interface is now ready to be configured using a standard Modbus tool or the Safeguard system.

TWO POSITION SMOKE FIRE DAMPER INTERFACE (SFDI-M / FDI-M / SDI-M)

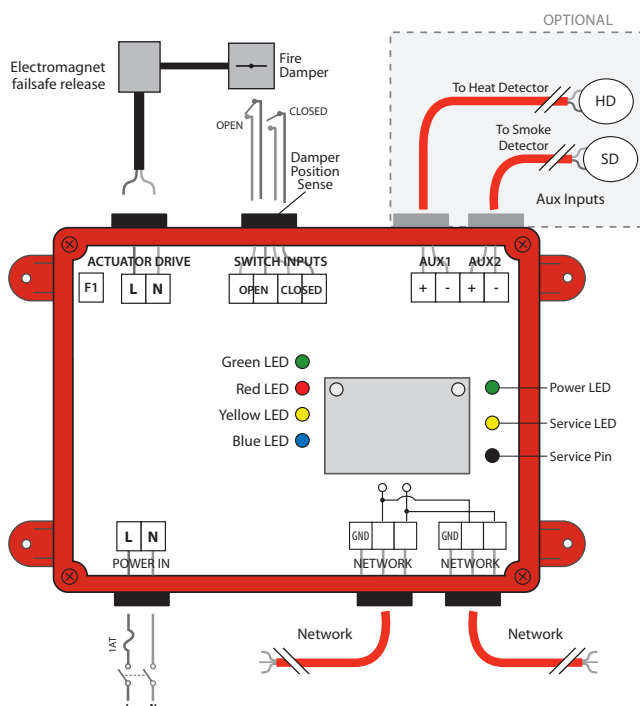
SFDI-M Wiring: 230V



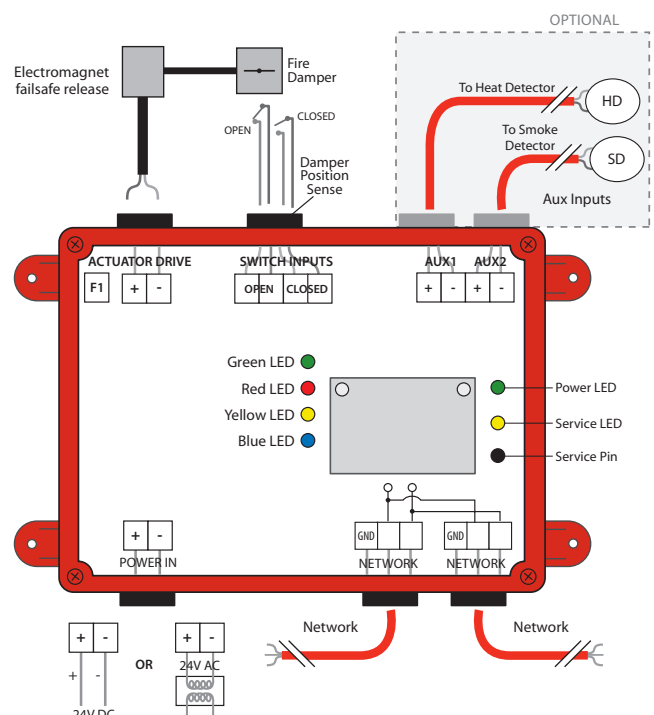
SFDI-M Wiring: 24V



FDI-M Wiring: 230V

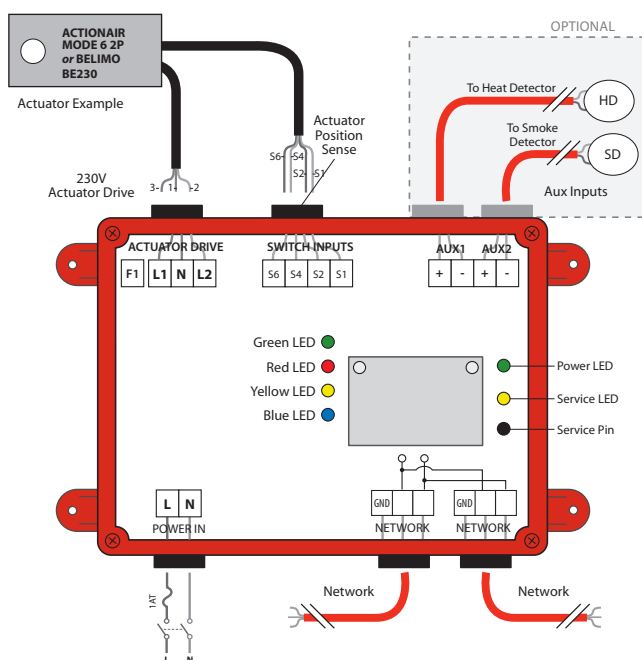


FDI-M Wiring: 24V

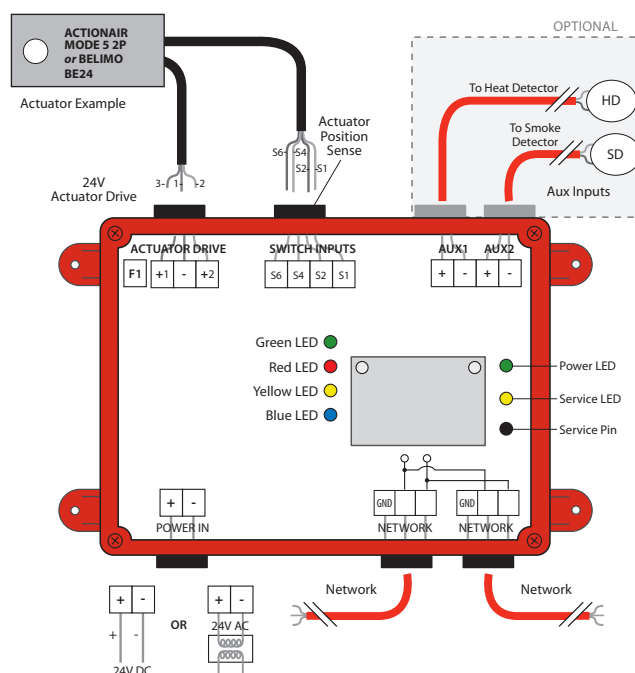


TWO POSITION SMOKE FIRE DAMPER INTERFACE (SFDI-M / FDI-M / SDI-M)

SDI-M Wiring: 230V



SDI-M Wiring: 24V



Maintenance

24V AC/DC version

5 x 20mm, Time-Lag Fuse, 2A rated (see F1 on wiring diagrams); for example Littlefuse 215 series

120/230VAC versions

5 x 20mm, Time-Lag Fuse, 1A rated (see F1 on wiring diagrams); for example Littlefuse 215 series

LED Behaviour

| FUNCTION | GREEN | RED | YELLOW | BLUE |
|------------|----------|----------|----------|----------|
| Open | On | Off | | |
| Closed | Off | On | | |
| Travelling | Flashing | Flashing | | |
| Fault | | | Flashing | |
| Ping | | | | One-shot |
| Offline | On | On | On | On |

Wink function: Service LED flashes for 5s

TWO POSITION SMOKE FIRE DAMPER INTERFACE (SFDI-M / FDI-M / SDI-M)

Specifications

Modbus

| | |
|-------------------|-----------------------------|
| Chip | Arm Cortex-M3 |
| Service functions | Service pin and service LED |

Supply

(please specify at time of order)

| | |
|----------------|---|
| Input voltages | (230 ± 23) V AC, 50 Hz (120 ± 12) V AC, 60 Hz (24 ± 4.8) V AC, 50 Hz (24 ± 2.4) V DC |
|----------------|---|

| | |
|---------------------------|-------|
| Maximum power consumption | 2.5 W |
|---------------------------|-------|

Output

| | |
|--------------|--------------------------------|
| Contact type | DPCO mechanical relay contacts |
|--------------|--------------------------------|

| | |
|-----------------------|-------|
| Maximum switched load | 25 VA |
|-----------------------|-------|

Inputs

| | |
|--------------|---------------------------|
| Contact type | Non-isolated dry contacts |
|--------------|---------------------------|

| | |
|---------------|-------|
| Sense current | 10 mA |
|---------------|-------|

Environmental

| | |
|-----------------------|-----------------------------|
| Operating temperature | -5 °C to 70 °C |
| Storage temperature | -20 °C to 70 °C |
| Humidity | 25 % RH to 90 % RH at 70 °C |
| Maximum altitude | 2000 m |

Conformance

| | |
|-----------------|--|
| Agency Listings | CE |
| EMC | EN60730-1:00+A1:04+A2:08 +A16:07 CISPR 22 / FCC part 15, cl. B |
| LVD | EN60730-1:2005 + ...+ A2:2008 |

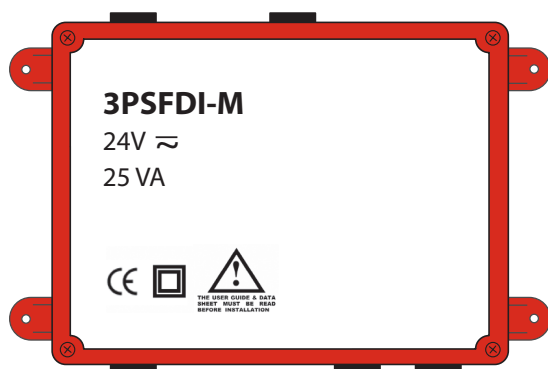
Enclosure

| | |
|--------------|--|
| Material | ABS base with polycarbonate lid |
| IP rating | IP 54 |
| Flammability | UL 94V-0 |
| Pollution | Category 2 |
| Dimensions | 213 mm x 170 mm x 90 mm (L x W x D) |

Note:

Optional HDIE available: 300°C for 2 hour or 400°C for ½ hour applications.

Please refer to Hot Enclosures Catalogue or contact Safegard Systems for details.



Three Position Damper Interface

The Safeguard Systems 3PSFDI-M provides a complete Modbus communication device to control a single modulating actuator that incorporates two auxiliary switches.



ELECTROSTATIC SENSITIVE DEVICE

THREE POSITION SMOKE FIRE DAMPER INTERFACE OPTIONS:

Auto Mode

Damper can be set from the Actionpac or Safeguard 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 Safeguard smoke control system will take control away from the BMS and react according to the input(s).

Please note: The interface is available in 24V or 230V supply (both driving a 24V actuator).
Please specify a voltage at time of order.

THREE POSITION SMOKE FIRE DAMPER INTERFACE (3PSFDI-M)

Dimensions and Mounting

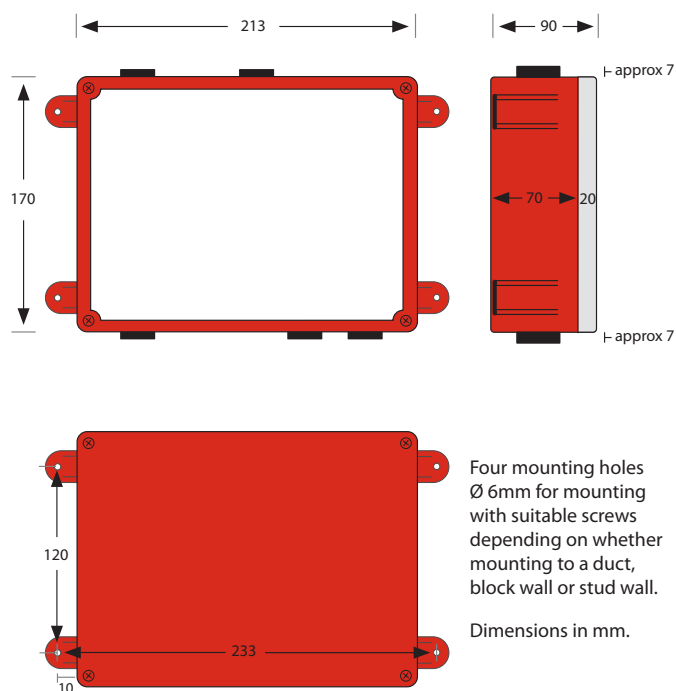
The compact and robust design of the interface enclosure allows the unit to be mounted to a duct, block wall, or stud wall.

Ensure the interface is located close enough to the actuator it is controlling/monitoring. Normally actuator leads are 1 m in length. Ensure the interface is accessible for future maintenance purposes.

Please note:

- 150mm clearance required for lid removal and at cable entry points.
- Unused cable entries should be sealed with blind washers.
- Do not drill the enclosure as this will affect its IP rating.

Mounting Diagram



THREE POSITION SMOKE FIRE DAMPER INTERFACE (3PSFDI-M-24)

24V supply driving 24V actuator

Preparation

- Only trained and qualified personnel should be allowed to install, replace, or service this equipment. Installation should be in accordance with the relevant local safety standards.
- The connectors can accommodate cable diameters up to 2.5 mm². It is recommended that all wires are crimped to ease installation and replacement of the product.

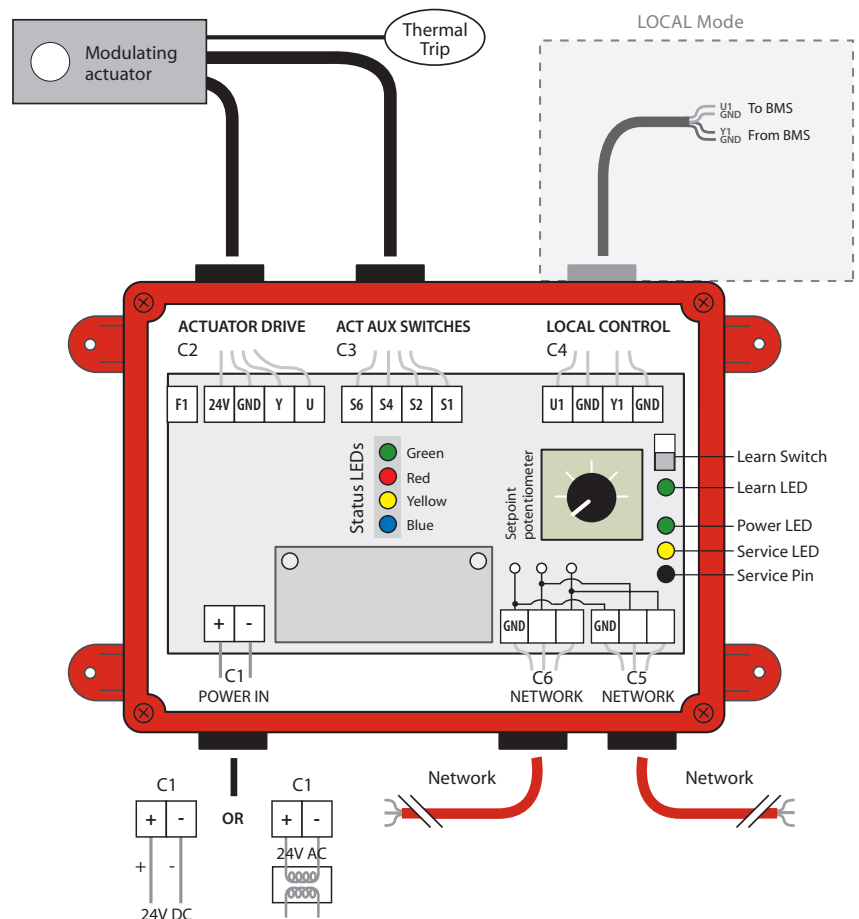
Installation

- Disconnect the local supply before commencing any work on the interface.
- Wire the interface in accordance with the wiring diagram shown across. If the actuator is located more than 5 m from the interface, then contact Safegard Systems for technical assistance.
- It is recommended that the network cables are not run alongside any high voltage or high frequency sources. Network cables should not be mixed on an individual network as they have very different electrical characteristics and could render the system unreliable.
- Once the wiring is complete, apply power to the interface.
- The interface is now ready to be configured using the Safegard Builder installation tool.

Replacement Fuse

2 A time-lag fuse (see F1 on wiring diagram).
Suggested replacement: Littelfuse 215 series.

Wiring Diagram enclosure without lid

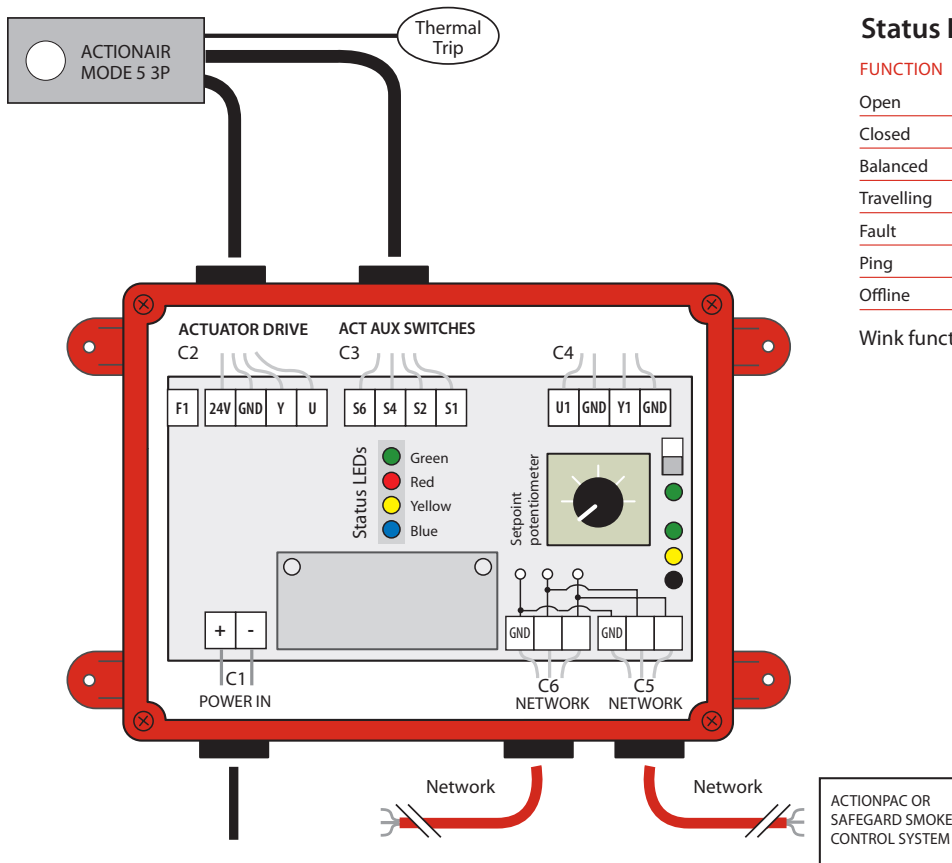


| CONNECTOR | DESCRIPTION | CONNECTOR | DESCRIPTION |
|-----------|-------------------|-----------|--------------|
| C1-1 | 24V + | C4-4 | U1 to BMS |
| C1-2 | 24V - | C4-3 | GND to BMS |
| C2-4 | Actuator 24 V | C4-2 | Y1 from BMS |
| C2-3 | Actuator GND | C4-1 | GND from BMS |
| C2-2 | Actuator Y signal | C5-1 | GND |
| C2-1 | Actuator U signal | C5-2 | Network |
| C3-4 | S6 | C5-3 | Network |
| C3-3 | S4 | C6-1 | GND |
| C3-2 | S2 | C6-2 | Network |
| C3-1 | S1 | C6-3 | Network |

THREE POSITION SMOKE FIRE DAMPER INTERFACE (3PSFDI-M-24)

24V supply driving 24V actuator

Auto Mode



Status LEDs

| FUNCTION | GREEN | RED | YELLOW | BLUE |
|------------|----------|----------|----------|----------|
| Open | On | Off | | |
| Closed | Off | On | | |
| Balanced | On | On | | |
| Travelling | Flashing | Flashing | | |
| Fault | | | Flashing | |
| Ping | | | | One-shot |
| Offline | On | On | On | On |

Wink function: Service LED (yellow) flashes for 5s

24V supply driving 24V actuator

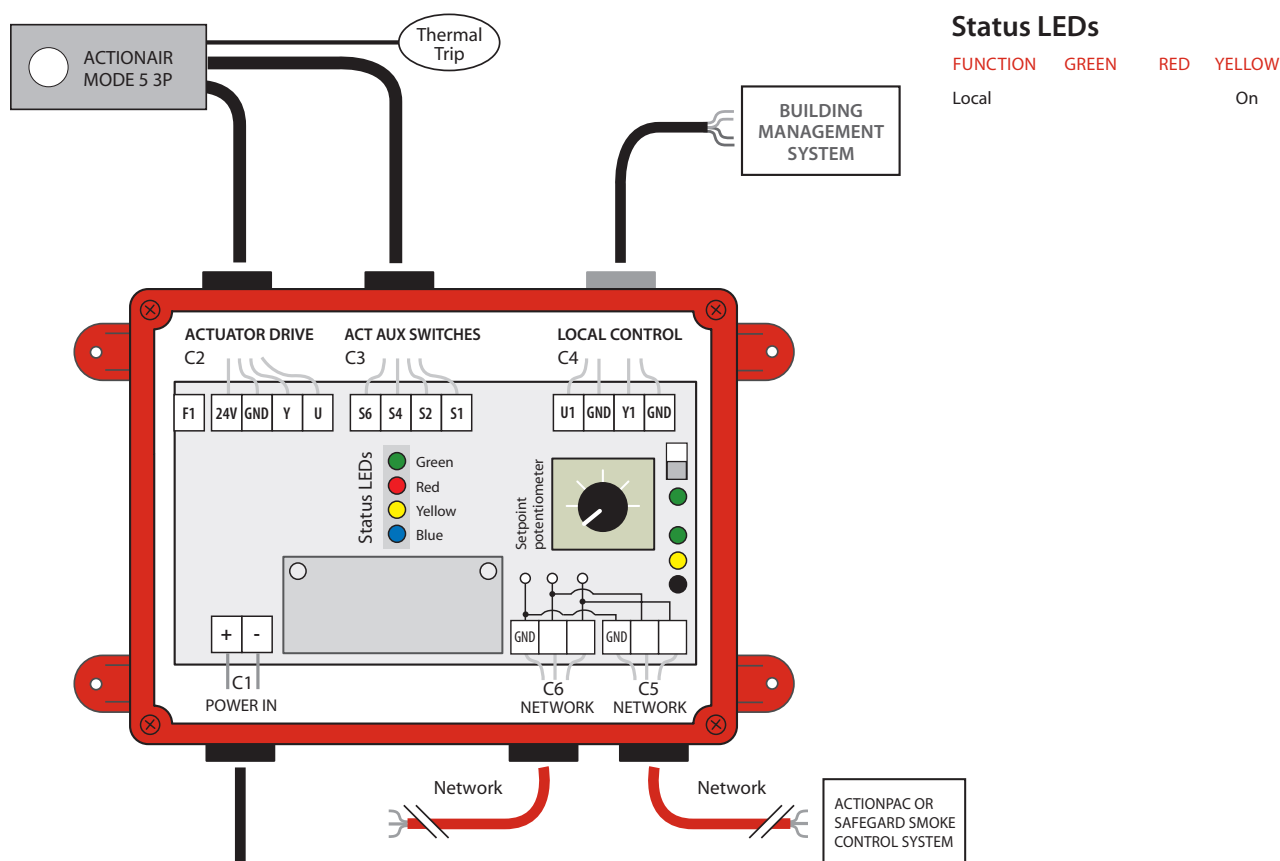
| FUNCTION | GREEN | RED | YELLOW |
|----------|-----------------|-----|--------|
| Learn | On/Off ↔ On/Off | | |

- 1 Learn Switch on - - - - -
- 2 Rotate the potentiometer to 0% to fully close the damper
- 3 Use the potentiometer to balance the damper in the required position
- The Learn LED illuminates when the actuator is within 2° of the setpoint
- 4 Service Pin (hold for 1 sec)
- 5 Learn Switch off - - - - -

**ACTIONPAC OR
SAFEGARD SMOKE
CONTROL SYSTEM**

24V supply driving 24V actuator

Local Mode



THREE POSITION SMOKE FIRE DAMPER INTERFACE (3PSFDI-M-230)

230V supply driving 24V actuator

Preparation

- Only trained and qualified personnel should be allowed to install, replace, or service this equipment. Installation should be in accordance with the relevant local safety standards.
- The connectors can accommodate cable diameters up to 2.5 mm². It is recommended that all wires are crimped to ease installation and replacement of the product.

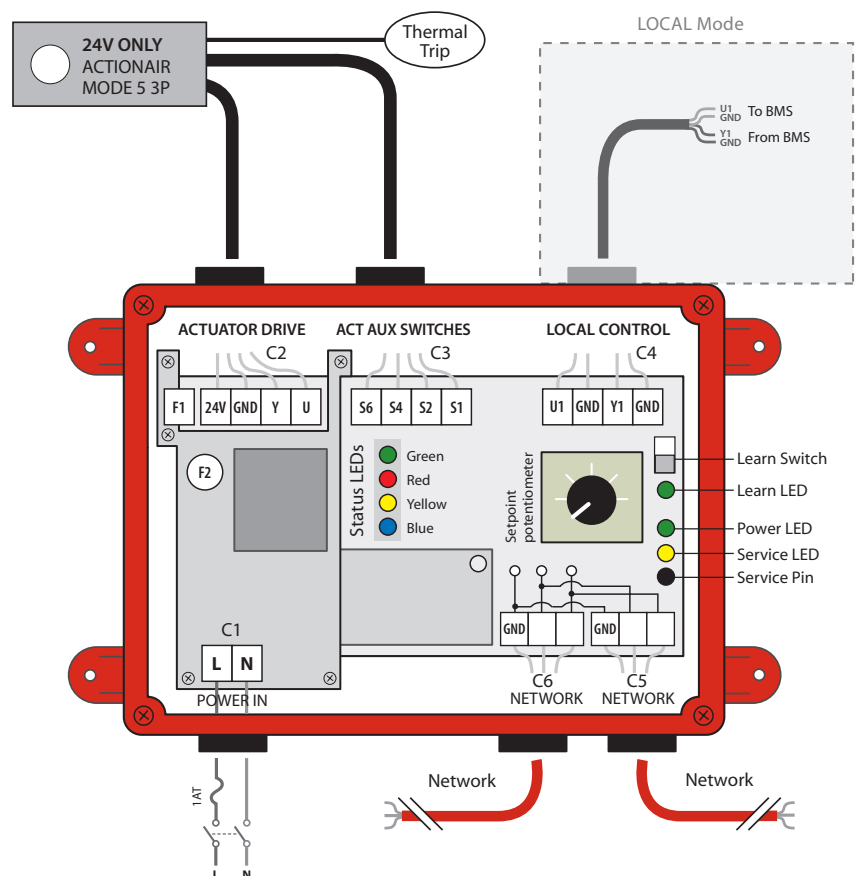
Installation

- Disconnect the local supply before commencing any work on the interface.
- Wire the interface in accordance with the wiring diagram shown across. If the actuator is located more than 5 m from the interface, then contact Safegard Systems for technical assistance.
- It is recommended that the network cables are not run alongside any high voltage or high frequency sources. Network cables should not be mixed on an individual network as they have very different electrical characteristics and could render the system unreliable.
- Once the wiring is complete, apply power to the interface.
- The interface is now ready to be configured using the Safegard Builder installation tool.

Replacement Fuses

2 A time-lag fuse (see F1 & F2 on wiring diagram).
Suggested replacement: Littelfuse 215 series.

Wiring Diagram enclosure without lid

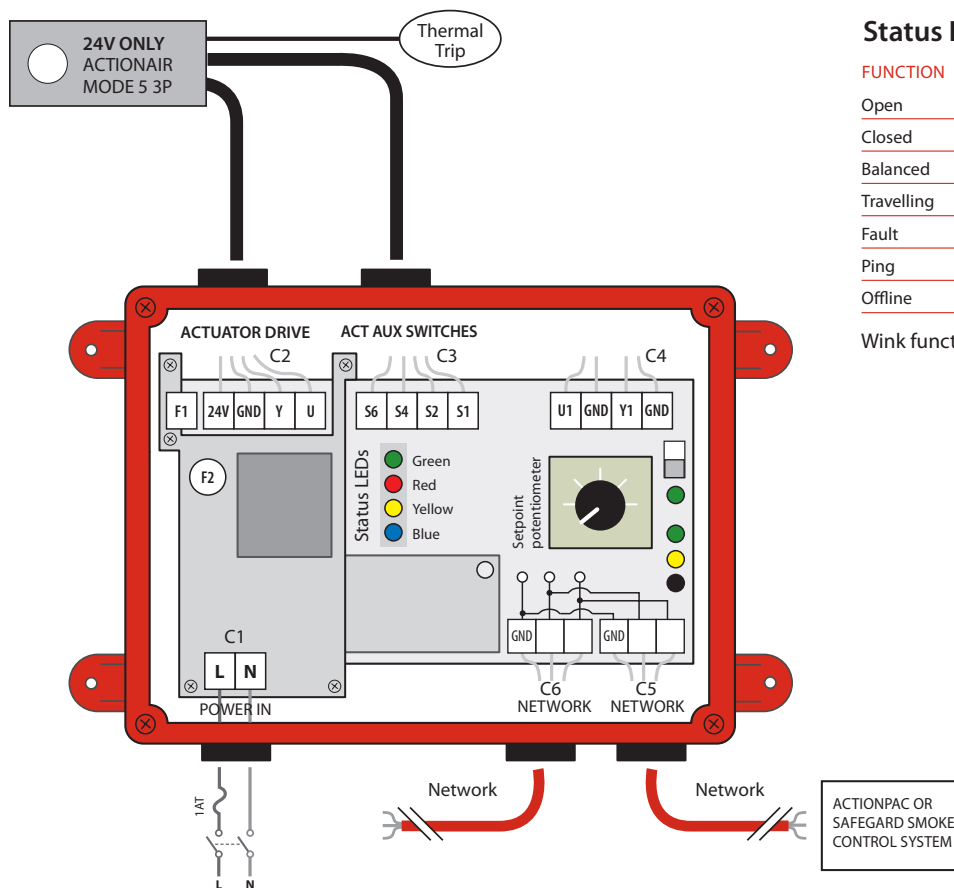


| CONNECTOR | DESCRIPTION | CONNECTOR | DESCRIPTION |
|-----------|-------------------|-----------|--------------|
| C1-1 | 230 V power L | C4-4 | U1 to BMS |
| C1-2 | N | C4-3 | GND to BMS |
| C2-4 | Actuator 24 V | C4-2 | Y1 from BMS |
| C2-3 | Actuator GND | C4-1 | GND from BMS |
| C2-2 | Actuator Y signal | C5-1 | GND |
| C2-1 | Actuator U signal | C5-2 | Network |
| C3-4 | S6 | C5-3 | Network |
| C3-3 | S4 | C6-1 | GND |
| C3-2 | S2 | C6-2 | Network |
| C3-1 | S1 | C6-3 | Network |

THREE POSITION SMOKE FIRE DAMPER INTERFACE (3PSFDI-M-230)

230V supply driving 24V actuator

Auto Mode



Status LEDs

| FUNCTION | GREEN | RED | YELLOW | BLUE |
|------------|----------|----------|----------|----------|
| Open | On | Off | | |
| Closed | Off | On | | |
| Balanced | On | On | | |
| Travelling | Flashing | Flashing | | |
| Fault | | | Flashing | |
| Ping | | | | One-shot |
| Offline | On | On | On | On |

Wink function: Service LED (yellow) flashes for 5s

230V supply driving 24V actuator

24V ONLY ACTIONAIR MODE 5 3P

Thermal Trip

FUNCTION GREEN RED YELLOW

Learn On/Off ↔ On/Off

ACTUATOR DRIVE

ACT AUX SWITCHES

Status LEDs

Setpoint potentiometer

Service Pin (hold for 1sec)

Learn Switch on

Rotate the potentiometer to 0% to fully close the damper

Use the potentiometer to balance the damper in the required position - The Learn LED illuminates when the actuator is within 2° of the setpoint

Learn Switch off

1AT

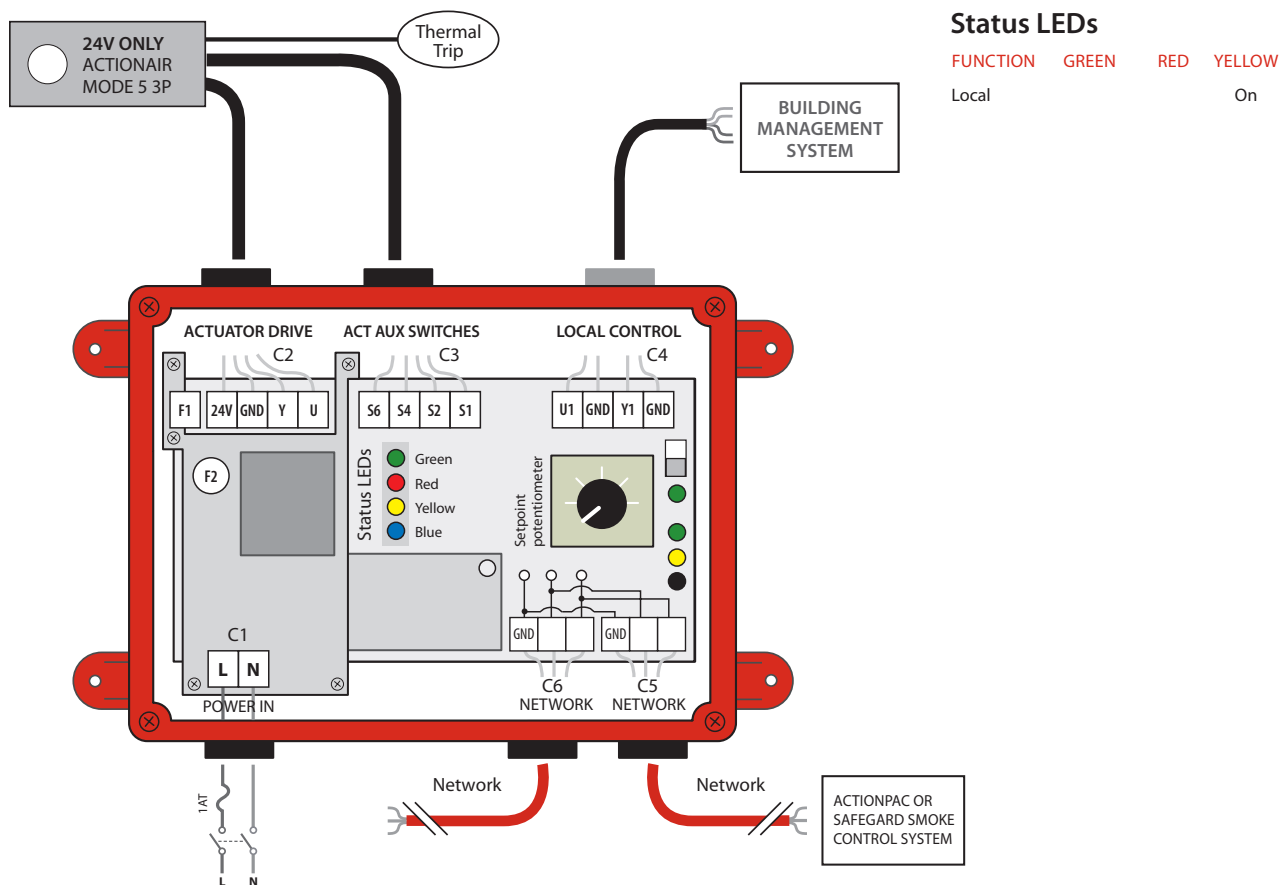
Network

ACTIONPAC OR SAFEGARD SMOKE CONTROL SYSTEM

THREE POSITION SMOKE FIRE DAMPER INTERFACE (3PSFDI-M-230)

230V supply driving 24V actuator

Local Mode



THREE POSITION SMOKE FIRE DAMPER INTERFACE (3PSFDI-M)

Specifications (utilises 24V actuator only)

Modbus

| | |
|-------------------|-----------------------------|
| Chip | Arm Cortex-M3 |
| Service functions | Service pin and service LED |

Supply

| | |
|---------------|---|
| Input voltage | (230 ± 23) V AC, 50 Hz (24 ± 4.8) V AC, 50 Hz (24 ± 2.4) V DC |
|---------------|---|

| | |
|-----------------------|-------|
| Max power consumption | 1.3 W |
|-----------------------|-------|

Output

| | |
|--------------|-------------------------------|
| Contact type | SPST mechanical relay contact |
|--------------|-------------------------------|

| | |
|-------------------|-------|
| Max switched load | 25 VA |
|-------------------|-------|

Inputs

| | |
|---------------|---------------------------|
| Contact type | Non-isolated dry contacts |
| Sense current | 10 mA |

Environmental

| | |
|-----------------------|-----------------------------|
| Operating temperature | -5 °C to 70 °C |
| Storage temperature | -20 °C to 70 °C |
| Humidity | 25 % RH to 90 % RH at 70 °C |
| Maximum altitude | 2000 m |

Conformance

| | |
|-----------------|----------------------------------|
| EMC | EN 60730-1:00+A1:04+A2:08+A16:07 |
| LVD | EN60730-1:2005 + ...+ A2:2008 |
| Agency listings | CE |

Enclosure

| | |
|--------------|--|
| Material | ABS base with polycarbonate lid |
| IP rating | IP 54 |
| Flammability | UL 94V-0 |
| Pollution | Category 2 |
| Dimensions | 213 mm x 170 mm x 90 mm (L x W x D) |

Note:

Optional HDIE available: 300°C for 2 hour or 400°C for ½ hour applications.
Please refer to Hot Enclosures Catalogue or contact Safeguard Systems for details.

 Complies with European standards

WARNING: The responsible body shall be made aware that, if the equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.

*The information herein is subject to change without notice. We do not assume any liability arising out of the use of this product. Purchase of goods and services is subject to Safeguard Systems standard terms and conditions.
Product warranty 12 months from date of delivery.*

Actionair and Safeguard are brand names of Swegon Air Management and Safeguard Systems respectively and both companies are part of the Swegon Group.

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