FAAST FLEX™ DOUBLE KNOCK AND REDUNDANCY APPLICATION NOTE

September 2023
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Preface

This Application Note outlines the use of FAAST FLEX Aspirating Smoke Detector (ASD) for double knock (coincidence detection) and redundancy configurations.

Note!

The information contained in this Application Note should be used in conjunction with local fire codes and standards.

Where applicable, other regional industry practices should also be adhered to.

Contents

1 Introduction

The FAAST FLEX detector Dual Channel Model (FLX-020 EN, FLX-020-NF and FLX-020-CH China) can be arranged for double knock (coincidence detection) or redundancy configurations. The double knock configuration is used to provide verification of alarm signals to avoid unwanted false alarms and unnecessary discharge of extinguishing agent whereas redundant designs provide supplementary detection to ensure that the loss of one detector does not remove protection from the risk.

It is important to differentiate the two requirements (coincidence and redundancy) to ensure selection of the most appropriate methodology.

2 Double Knock / Redundant Designs

Subject to meeting the requirements of local installation and commissioning codes and standards for the Aspirated Smoke Detectors, the **FAAST FLEX detector Dual Channel Model** may be deployed for double knock (coincidence) or redundancy detection applications. The examples of common arrangements are shown below:

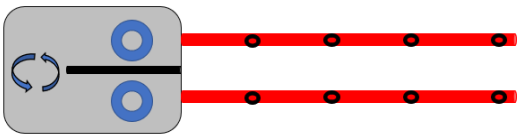

Figure 1: Double Knock Configuration

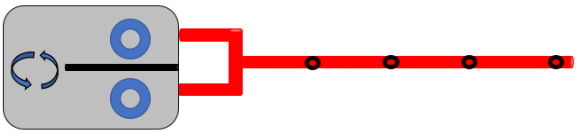

Figure 2: Redundant Configuration

- Figure 1 – Double Knock (Coincidence) Detection: independent detector modules and sampling pipes with sampling holes adjacent to each other on both pipes.
- Figure 2 – Redundant Detection: two detector modules connected to a common sampling pipe.

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3 Applications

- Suppression release applications
- Art storage / Museums
- Electrical Rooms
- High Value Storage Warehouse
- Pharmaceutical Storage
- Dry Pipe Sprinkler Systems
- Hospital Operating Theatres
- Indoor Live Fire (Ammunition) Facilities
- Portable Switch Rooms
- Small Data Rooms
- Record Rooms

4 Commissioning and Maintenance

The Commissioning process is designed to check and validate the FAAST FLEX system such as the performance and sample pipe network integrity. Smoke tests are used to test the following:

- System performance for both smoke detection and suppression actuation.
- Verification of ASPIRE smoke transport times or pre-engineered designs.
- Alarm (Fire, fault) signal relay to Fire Indicating Panels (FIP).

5 Further Support

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