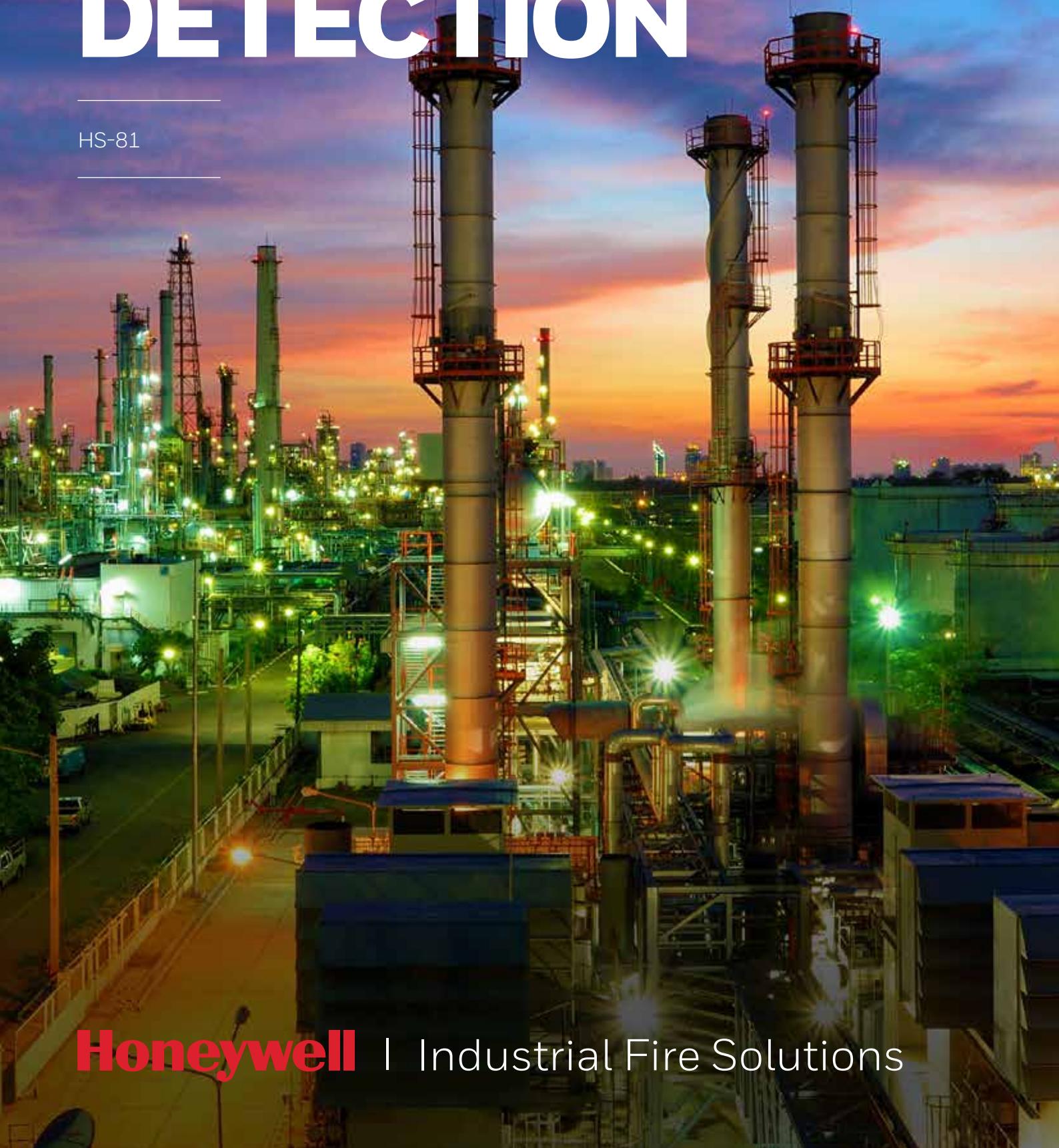


# SIL CERTIFIED ADDRESSABLE FIRE AND GAS DETECTION

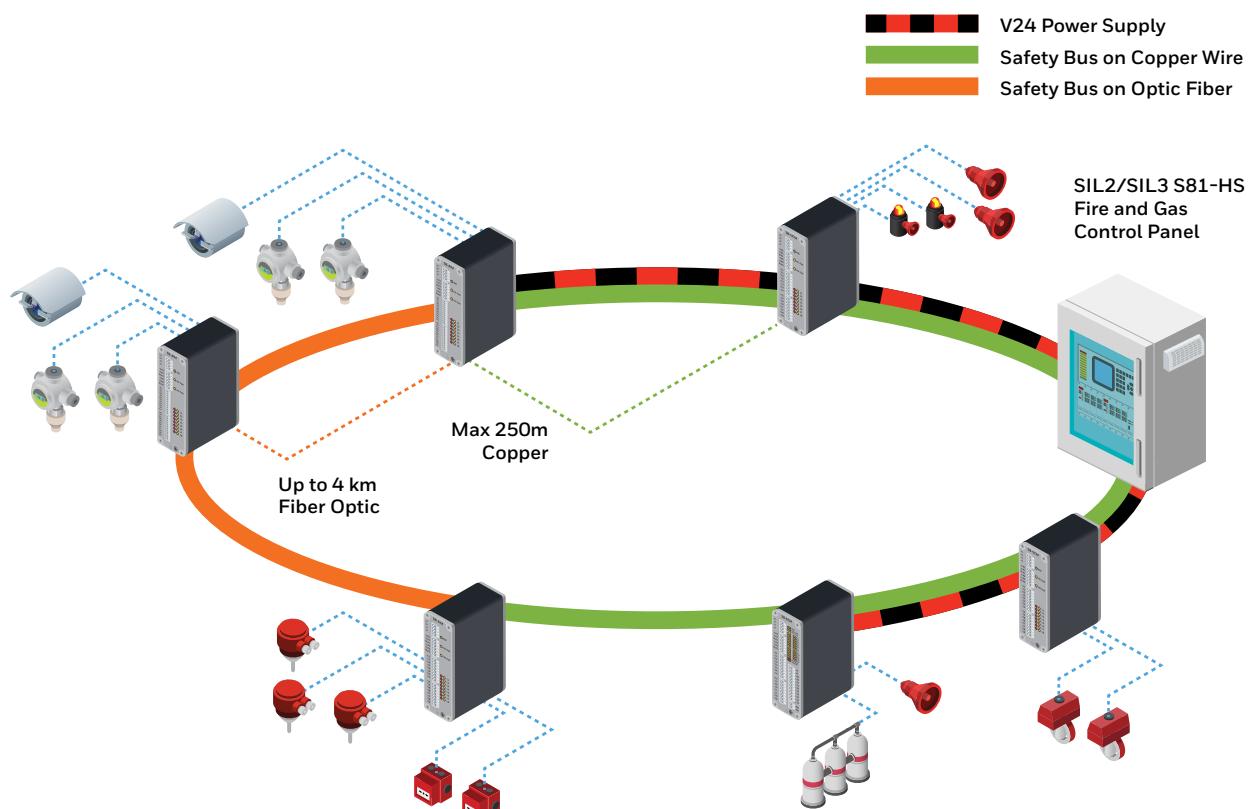
HS-81



**Honeywell** | Industrial Fire Solutions



The Safety Bus system allows the fire detection and the firefighting control through dedicated SIL Certified bus assuring a high safety level of communication. The system is composed by one or two control cards, that are integrated in the panel HS-81, and up to 64 addressable remote modules installed in the field. The communication between the control cards and the addressable modules is based on CAN protocol (Controller Area Network) with ring architecture to guarantee the best functionality in fault condition and high communication speed.



## SAFETY BUS VALUE

- **Addressable system with remote I/O** – saves installation costs in cables and conduits. Isolated I/Os, power supply and communication bus allow for installation of local independent power supplies without the need to home run power cables.
- **Safety Integrity Level** – designed to meet the most imperative industrial safety standards, certified up-to SIL3 level ensures the highest reliability in execution of critical Fire & Gas detection and Extinguishing functions.
- **Safety Functions** – Fire and Gas detection, automatic fire extinguishing/release, actuation of Notification Appliances, integration with other safety systems (such as ESD, DCCS, emergency EVAC) and HVAC systems.
- **Fault tolerant** – the safety addressable bus uses a closed ring tolerant to a single fault in the loop (Short/Open Circuit).
- **I/O density** – with 8 I/O per remote module, up to 64 modules per control card and up to 130 control cards per panel, matches the size of virtually any installation site.
- **Modular Design and scalability** – can be configured to match what is needed now and then easily expanded later.
- **No constraint on device brands or type** – compatible with standard 4-20mA input, high current range for conventional input and output. Any type of Flame/Gas detector, conventional detector or actuating device can be connected. Avoids lock-in with one single vendor for field devices.
- **Easy configuration** – configuration of modules and field devices is as easy and flexible as with any other I/O within the same HS-81 panel. Menu driven pull-down programming speeds configuration and commissioning work.

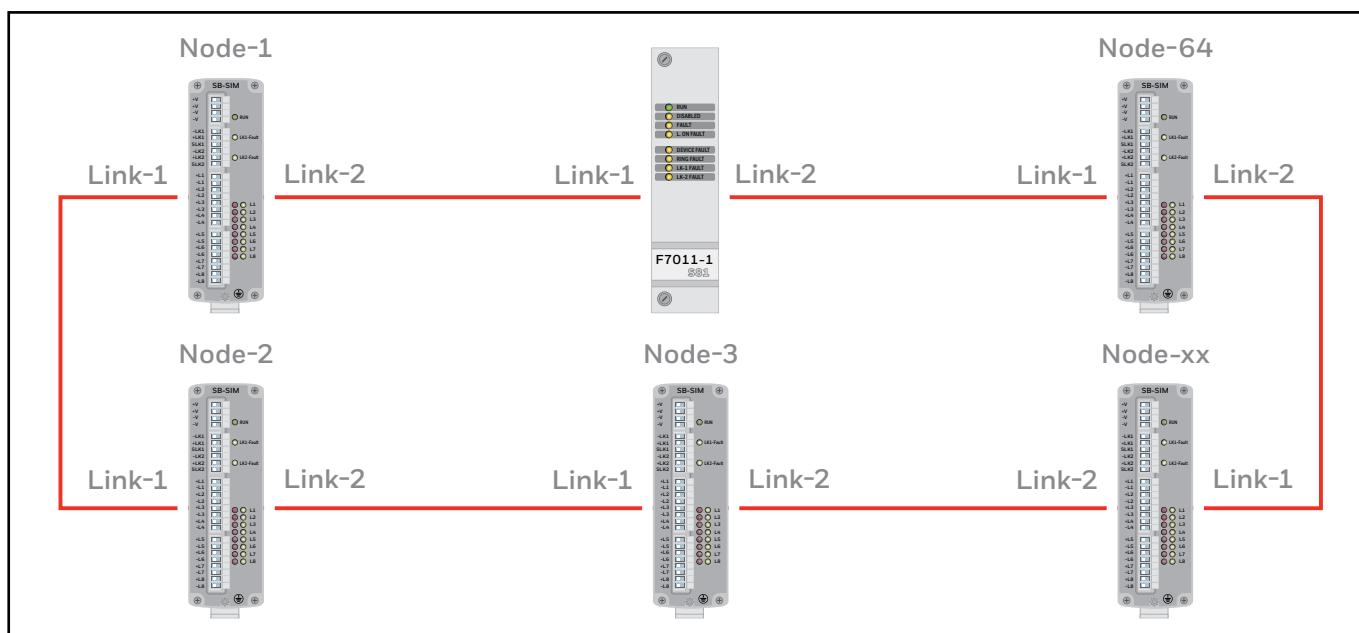


# SYSTEM ARCHITECTURE

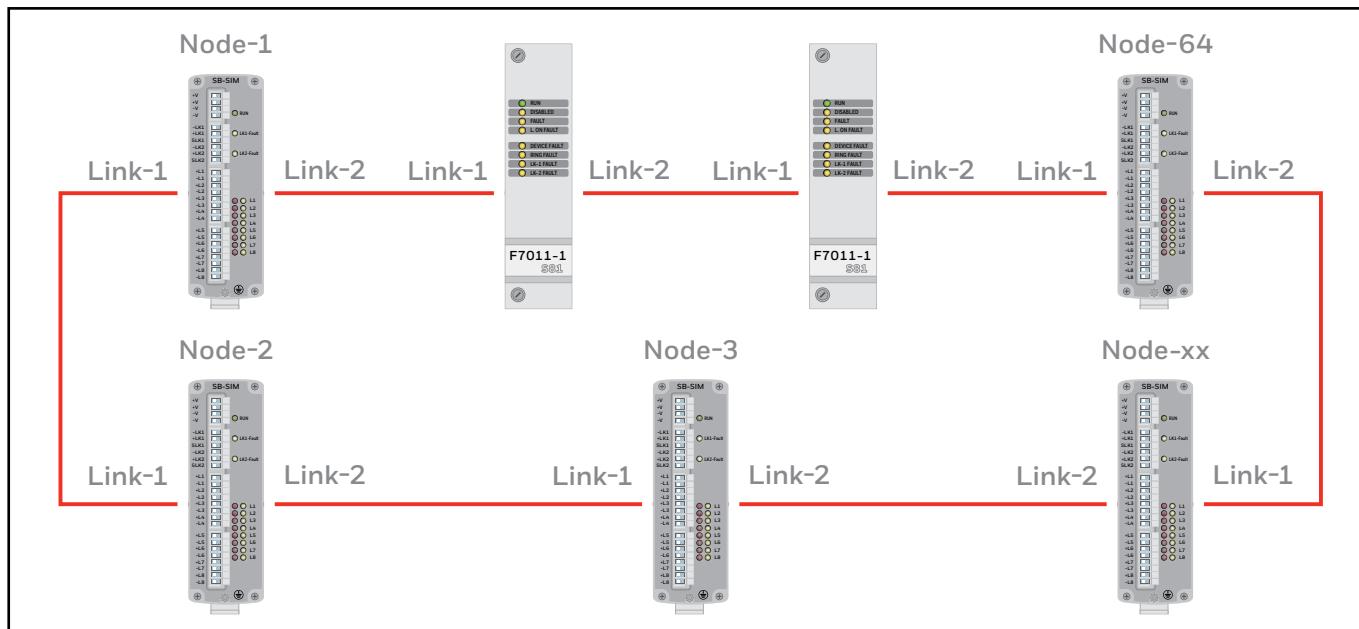
The system is composed by one or two control cards F7011 installed in a HS-81 panel and a number of I/O addressable modules connected in a closed fault tolerant looped ring. Control cards carry out complete monitoring of devices to detect possible fault conditions of modules or ring. The I/O modules communicates with the control cards on a safety bus giving all information on channels I/O status and diagnostics.

Messages from/to the modules are properly prioritized to guarantee immediate signalling of alarm conditions. Both control cards and modules are equipped with two independent communication links: link 1 connected to the succeeding module, link 2 connected to the preceding module. Both links are galvanic isolated to the power supply voltage.

System architecture with mono configuration



System architecture with duplex configuration



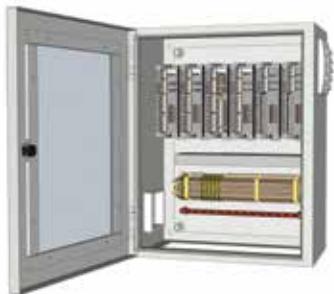
## FEATURES AND BENEFITS

- Fire optic network for wide area coverage
- Modular system for easy additions of inputs / outputs in existing systems
- Reliable and safe with SIL3 certifications
- High availability with redundant network and hardware
- ATEX options for classified area installations
- SIL3 certified extinguishing to increase the reliability and safety





MODEL	COMPACT PANEL	WALL MOUNT 1 RACK	WALL MOUNT 2 RACK	FREE STANDING
MOUNT	Compact wall mount (500 x 250 x 700h mm)	Wall mount (600 x 400 x 700h mm)	Wall mount (1100 x 400 x 700h mm)	Floor standing single door (800 x 800 x 2100h mm) or Floor standing double door (1600 x 800 x 2100h mm)
RACKS	1 compact rack	1 rack	Up to 2 racks	Up to 10 racks
CARDS	Up to 8 cards	Up to 13 cards	Up to 26 cards	Up to 130 cards
OTHER				Integrated marshalling cabinet

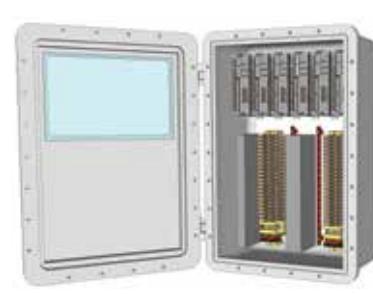


### SAFETY BUS ENCLOSURE SB-ENCLT5/B5

- IP66 transparent or blank door
- Up to 5 SB modules
- Cable trays
- Field terminals
- Earth bar
- Stainless steel option
- UL listed option

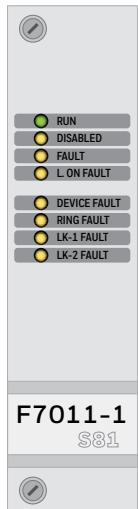
### SAFETY BUS ENCLOSURE SB-ENCLT7/B7

- IP66 transparent or blank door
- Up to 7 SB modules
- Redundant power supplies and battery charger
- Cable trays
- Field terminals
- Earth bar
- Stainless steel option



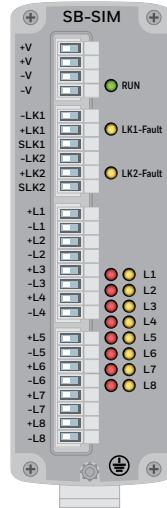
### SAFETY BUS ENCLOSURE SB-ENCLT5-EXD

- Explosion proof enclosure
- Up to 5 SB modules
- Cable trays
- Field terminals
- Earth bar



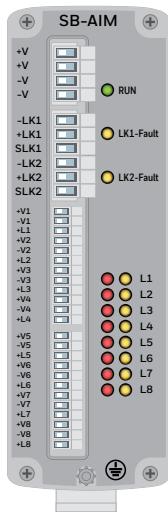
## SAFETY BUS CONTROL CARD F7011

Control cards are integrated in the HS-81 panel. Controls the **SIL3 Safety Communication Protocol**, detects possible fault conditions of modules or in the ring. Can be installed in redundant configuration.



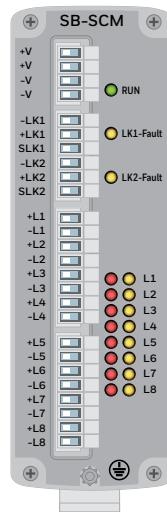
## MODULE SB-SIM

Controls 8 supervised inputs for conventional devices with safety related feature. Two individually programmable thresholds for each channel to connect any device type: **fire** and **gas**.



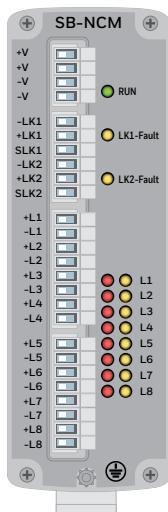
## MODULE SB-AIM

Controls 8 analog inputs 4-20mA, with safety related feature. Alarm on three individually programmable thresholds. Combustible, toxic, and oxygen **gas** detection. Temperature and flame **fire** detection.



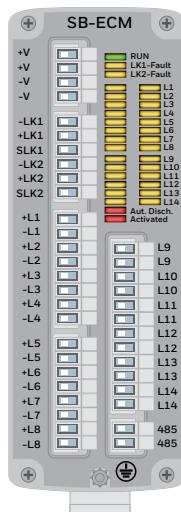
## MODULE SB-SCM

Controls 8 outputs with 500mA each to drive **releasing solenoids** or other safety related **actuators**. All channels are individually supervised to detect short/open circuits.



## MODULE SB-NCM

Controls 8 outputs with 250mA to drive **notification appliances**. Channels are supervised with polarity reversal monitoring to detect short/open circuits.



## MODULE SB-ECM

Manages automatic fire **extinguishing release** system. Controls 8 supervised safety related inputs and 6 supervised safety related outputs. Works as part of the system or as a stand-alone release controller.



## TYPICAL APPLICATIONS

- Oil & gas tanks / wellheads
- Pipelines
- Platforms
- Tunnels
- Remote areas
- Hazardous areas

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INDUSTRIAL FIRE SOLUTIONS