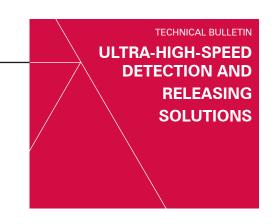


Ultra-High-Speed Flame Detection and Releasing Systems Technical Summary

This bulletin provides a summary of the technical specifications and capacities of the four different Det-Tronics ultra-high-speed flame detection and releasing system (Ultra FDRS) models.



he manufacturing of energetic materials and other specialized applications may require a flame detection and releasing system that is capable of a high-speed (not more than 500 milliseconds) or ultrahigh-speed (not more than 100 milliseconds) response.

Det-Tronics offers several pre-designed, listed detection and releasing systems for ultra-high-speed flame detection and releasing (Ultra FDRS) applications.

Three standardized system models are available to meet the needs of the small, medium and large ultra-highspeed system users. These models utilize the listed Eagle Quantum Premier® (EQP) Fire and Gas detection and releasing system.

Each model includes an appropriately sized cabinet housing an EQP Controller, one or more high-speed deluge modules (HSDM), one input/output module (EDIO), physical disconnect switches and field wiring termination terminals.

Features and Technical Specifications

Model 2400

- Red painted (RAL 3020) steel enclosure, locking key handle door, fixed window, mounting feet, NEMA 4
- 24"(H) x 20"(W) x 8"(D) | 610mm x 508mm x 203mm
- One (1) EQP Safety System Controller
- Up to six (6) inputs from flame detectors (Class B)
- Up to six (6) 24Vdc ultra-high-speed outputs (Class B)
- Up to seven (7) non-high speed inputs or outputs
- · Lockable physical disconnect switches
- Interposing terminals to accommodate field wiring
- FM/CSA/IECEx approved for indoor, non-hazardous areas
- Certified SIL 2 capable
- Compliance with NFPA 72® and NFPA 15 (Chapter 12)

Model 3600

- Red painted (RAL 3020) steel enclosure, locking key handle door, fixed window, mounting feet, NEMA 4
- 36"(H) x 24"(W) x 8"(D) | 914mm x 610mm x 203mm
- One (1) EQP Safety System Controller
- Up to eighteen (18) inputs from flame detectors (Class B)
- Up to eighteen (18) 24VDC ultra-high-speed outputs (Class B)
- Up to seven (7) non-high speed inputs or outputs
- Lockable physical disconnect switches
- Interposing terminals to accommodate field wiring
- FM/CSA/IECEx approved for indoor, non-hazardous areas
- Certified SIL 2 capable
- Compliance with NFPA 72® and NFPA 15 (Chapter 12)

Model 4800

- Red painted (RAL 3020) steel enclosure, locking key handle door, fixed window, mounting feet, NEMA 4
- 48"(H) x 24"(W) x 10"(D) | 1219mm x 610mm x 254mm
- One (1) EQP Safety System Controller
- Up to thirty (30) inputs from flame detectors (Class B)
- Up to thirty (30) 24VDC ultra-high-speed outputs (Class B)
- Up to seven (7) non-high speed inputs or outputs
- Lockable physical disconnect switches
- Interposing terminals to accommodate field wiring
- FM/CSA/IECEx approved for indoor, non-hazardous areas
- Certified SIL 2 capable
- Compliance with NFPA 72® and NFPA 15 (Chapter 12)

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Remote Input/Output (RIO) Model

This system component allows for the installation of any of the 2400, 3600, or 4800 models in one area while the RIO is installed in a different area located physically closer to individual work areas. The RIO is ordered as needed in a quantity sized to meet the needs of the particular application.

Features and Technical Specifications

The RIO model is ordered as needed in a quantity that is sized to the needs of the particular application.

- Red painted (RAL 3020) steel enclosure, locking key handle door, mounting feet, NEMA 4
- 36"(H) x 24"(W) x 8"(D) | 914mm x 610mm x 203mm
- Up to eighteen (18) inputs from flame detectors (Class B)
- Up to eighteen (18) 24VDC ultra-high-speed outputs (Class B)
- Up to seven (7) non-high speed inputs or outputs
- Lockable physical disconnect switches
- Interposing terminals to accommodate field wiring
- FM/CSA/IECEx approved for indoor, non-hazardous areas
- Certified SIL 2 capable
- Compliance with NFPA 72® and NFPA 15 (Chapter 12)



Figure 1: Example of the timeline from detection of an ignition source to releasing the mitigation system.

Standard Capacities

The following table summarizes the specific capacities and dimensions of the different standard Ultra FDRS models. Other non-standard configurations are available. These non-standard options may incur higher costs and longer lead times.

Table 1: Ultra-High-Speed Flame Detection and Releasing System (Ultra FDRS) Models and Capacities

	Enclosure Specifications				System Capacities (Inputs/Outputs)			Hardware Capacities (Quantity)			
Model	Size (H x W x D)	Window	Rating	Finish	Flame Detector Inputs (Class B)	Ultra-High- Speed Outputs (Class B)	Non-High- Speed I/O	EQP Controller	HSDM Modules	EDIO Modules	Physical Disconnect Switches
Ultra FDRS 2400	24" x 20" x 8" 610mm x 508mm x 203mm	Yes	NEMA 4	Red Painted (RAL 3020)	6	6	7	1	1	1	2
Ultra FDRS 3600	36" x 24" x 8" 914mm x 610mm x 203mm	Yes			18	18	7	1	3	1	6
Ultra FDRS 4800	48" x 24" x 10" 1219mm x 610mm x 254mm	Yes			30	30	7	1	5	1	10
Ultra FDRS RIO	36" x 24" x 8" 914mm x 610mm x 203mm	No			18	18	7	0	3	1	6

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Corporate Office 6901 West 110th Street Minneapolis, MN 55438 USA www.det-tronics.com

Phone: +1 952.941.6665 Toll-free: +1 800.765.3473 Fax: 952.829.8750 det-tronics@carrier.com

