

CHECKFIRE 110-D Detection and Actuation System

Features

- Supervised power, detection, and release circuits
- LED system status indicators
- External primary power with an internal reserve power source
- Selectable release time delay
- Automatic and manual actuation
- Electric "DELAY/Reset/Silence" button
- "PUSH To Activate / Alarm When Lit" electric manual activation button
- Cables provide quick installation and easy replacement
- 85 dB internal sounder
- System isolate feature
- Dust and water tight (IP68 rated)
- Designed for harsh environments
- Compact size
- Adjustable mounting bracket

Application

The CHECKFIRE 110-D Detection and Actuation System is typically used with an ANSUL® A-101 or LVS Vehicle Fire Suppression System for 24 hour protection of equipment. The system is designed for vehicles and equipment in extreme environmental and physical conditions.

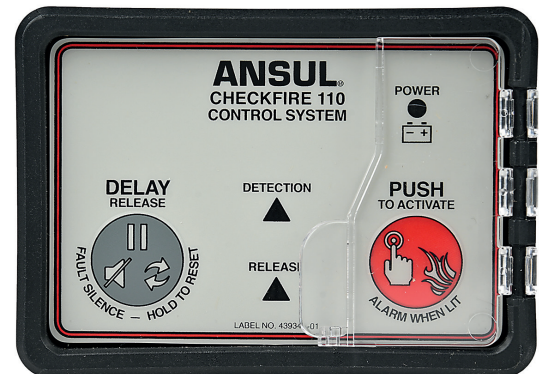
Industries where vehicles use CHECKFIRE 110-D Systems:

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|-------------------------|------------------|
| ■ Forestry | ■ Land fills |
| ■ Agriculture | ■ Waste disposal |
| ■ Construction | ■ Mining |
| ■ Public Transportation | |
| ■ Public Utilities | |

Description

The CHECKFIRE 110-D Automatic Detection and Actuation System provides supervised input/output circuits to activate an ANSUL® fire suppression system. Upon detecting a fire condition, the control module activates the release circuit resulting in the discharge of an expellant gas cartridge initiating fire suppression system operation.

Operating components include the control module; linear detectors; electric manual actuators; protruding actuation device (PAD); electric-pneumatic actuators; and power, detection, and release cables. The entire system is electronics based for supervision, communication, and control of system components.



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Typical System Connection

The CHECKFIRE 110-D Control Module includes four cable leads with pre-installed connectors for ease of installation.

System Cabling:

- Enables communication and control of components.
- IP68 connections
- Integral connectors on each end of cable
- Multiple lengths for versatility
- Temperature rating: -40 °F to 140 °F (-40 °C to 60 °C)

Detection Circuit Lead: Permits multiple-detection options using detection circuit cable and "h" cables for the main detection trunk and branch lines.

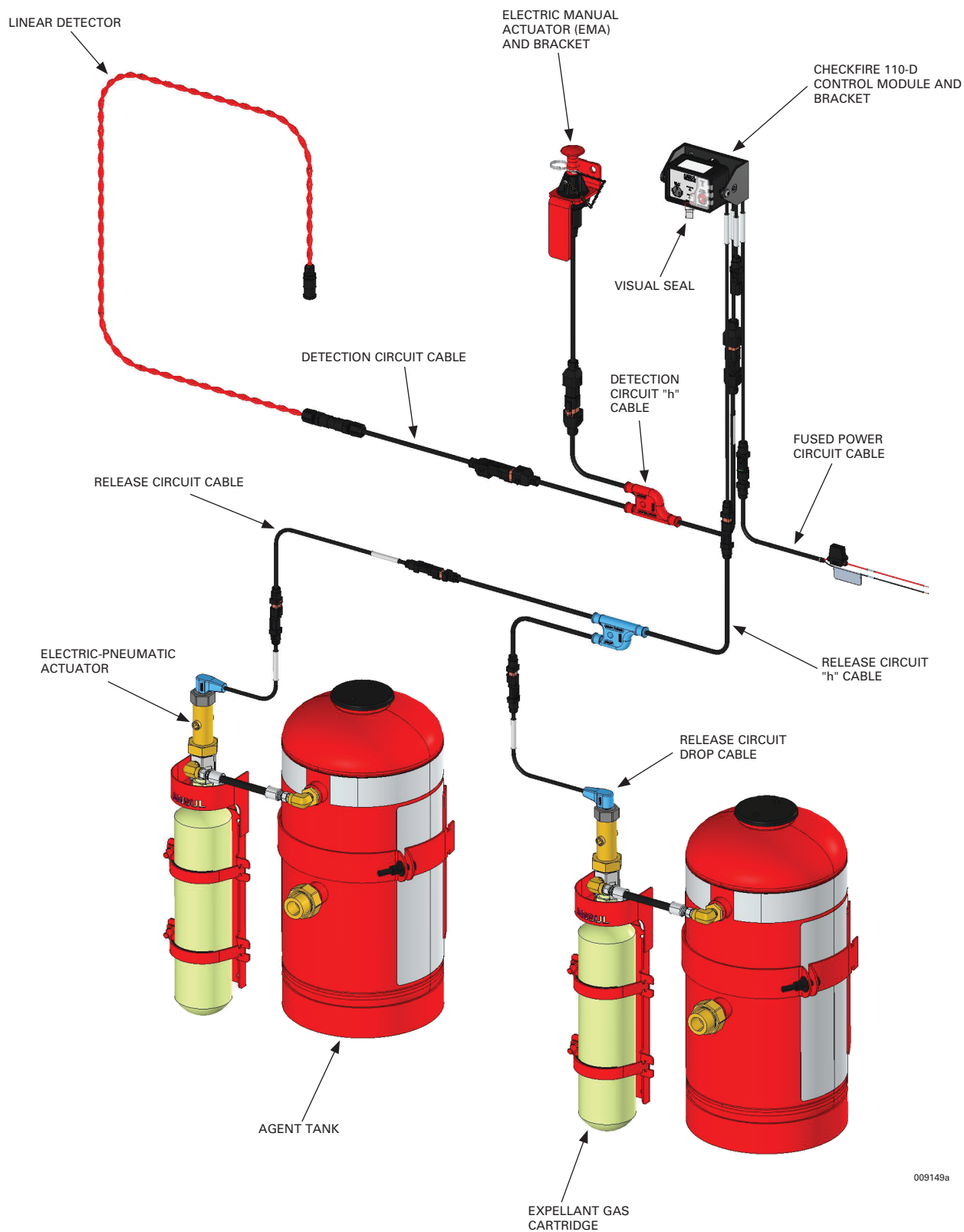
- Electric manual actuators
- Linear detectors

Release Circuit Lead: Connects to a maximum of 2 electric-pneumatic actuators installed on agent tank expellant gas cartridges using release circuit cables, release circuit "h" cable (needed on second tank), and release circuit drop cables.

External Power Circuit Lead: Provides a direct connection to the vehicle power source using power circuit cables and a single fused power circuit cable.

Alarm Output Lead: Connects to vehicle electronics (by others) as needed.

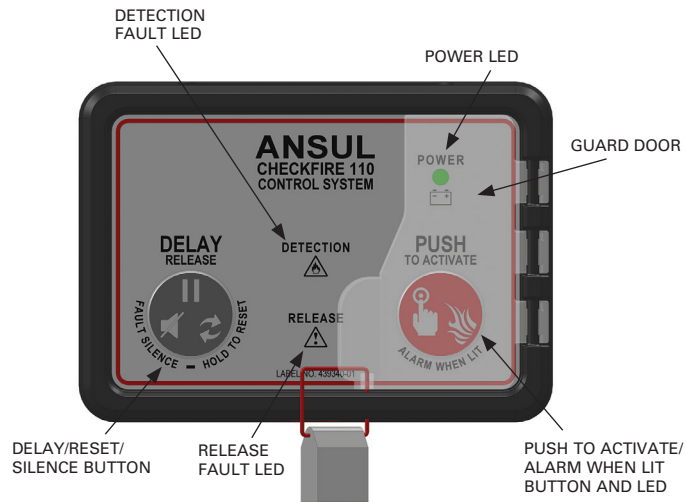
CHECKFIRE 110-D SYSTEM - SAMPLE CONNECTIONS



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Control Module

The CHECKFIRE 110-D Control Module communicates through the cable system to supervise and control components. Installation within reach of the operator provides easy access to operator controls. Indicator LEDs and internal sounder notify operator of system status.



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- Four lead cables are accessible at back of control module
- Durable high-strength glass-filled nylon material
- Surface or bracket mounted
- Two index pins on the back for secure mounting
- Ambient temperature range: -40 °F to 140 °F (-40 °C to 60 °C)
- LED indicators provide notification of system status (internal sounder matches LED pulse rate)
- "PUSH To Activate / Alarm When Lit" manual-activation button and LED
 - Provides manual actuation (immediate release)
 - Indicates alarm condition
- Guard door with visual seal to protect manual-activation button
- "DELAY/Reset/Silence" button
 - Restarts Time DELAY sequence when initiated before release function activates
 - Resets control module
 - Silences audible notifications during fault conditions

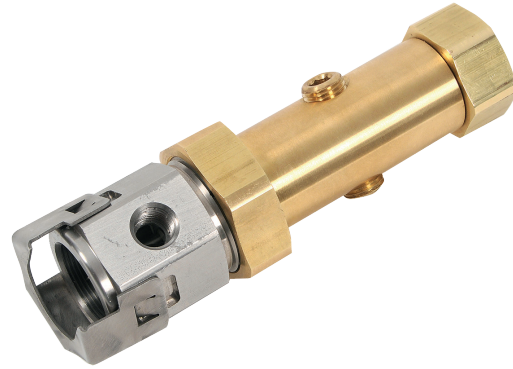
Detection

A Linear Detector with a predetermined temperature rating provides fire detection in the protected area. Color coded temperature ratings offer quick identification of linear cable selection. 356 °F (180 °C) cables are red, while 220 °F (105 °C) cables are white.

Electric-Pneumatic Actuator

With a focus on ease of installation and safety, the Electric-Pneumatic Actuator reduces system complexity. The protracting actuation device (PAD) directly actuates the electric-pneumatic actuator pin and eliminates the need for pneumatic actuation.

The PAD with plug-in spade connectors is easy to install and replace without tools. After plugging the PAD into the release circuit drop cable, the cable attaches to the top of the electric-pneumatic actuator.



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Electric Manual Actuator

The Electric Manual Actuator (EMA) provides electrical activation of the fire suppression system. Pull the pin and strike the red button to send a signal to the control module for immediate actuation of the electric-pneumatic actuator.

Upon actuation, the expellant gas cartridge initiates fire suppression system operation.



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EMAs are accessible from ground level and/or in a path of egress. An index nub ensures that the EMA remains at the correct angle for access to the pull pin.

System Specifications

Control Module Power:	12/24 VDC nominal vehicle Primary power (24 hour operation) and Internal 72 hour reserve power
Operating Temperature Range:	- 40 °F to 140 °F (- 40 °C to 60 °C)
Shock:	In accordance with UL1254
Vibration:	In accordance with UL1254
Electromagnetic Compatibility:	Automotive EMC Directive Compliant (2004/104/EC)

System Specifications (Continued)



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Part No.	Description
System Components	
A16381C9PH	Control Module, CHECKFIRE 110-D
439564	Mounting Bracket, CHECKFIRE 110/210
439569	Electric-Pneumatic Actuator
Detection Circuit Cables	
A16381EW49	100 ft (30.5 m) Bulk Detection/Relay Circuit Cable Box
A16381EW45	500 ft (152.4 m) Bulk Detection/Relay Circuit Cable Spool
A16381C9PN	2 ft (0.61 m) Cable, Detection Circuit
A16381CBOF	3 ft (0.91 m) Cable, Detection Circuit
A16381CBOG	5 ft (1.53 m) Cable, Detection Circuit
A16381CB62	10 ft (3.05 m) Cable, Detection Circuit
A16381CB63	20 ft (6.10 m) Cable, Detection Circuit
A16381CB64	30 ft (9.15 m) Cable, Detection Circuit
A16381CB65	50 ft (15.24 m) Cable, Detection Circuit
A16381CD32	"h" Cable, Detection Circuit
A16381C9PM	Electric Manual Actuator (EMA)
440537	Electric Manual Actuator Bracket
426520	End-of-Line Resistor
426461	End-of-Line Resistor (10 Pack)
A16381CB66	EOL (End-of-Line) Device, Detection Circuit
A16381CB6Y	Branch Terminator, Detection Circuit
428375	In-Line Splice Kit
A16381TK26	Discharge Pressure Switch
Linear Detectors (Red)	
071230	100 ft (30.5 m) Red Bulk Linear Detection Wire 356 °F (180 °C)
Linear Detectors (White)	
A16381ULBP	100 ft (30.5 m) White Bulk Linear Detection Wire 220 °F (105 °C)

Part No.	Description
Release Circuit Cables	
A16381EW4B	100 ft (30.5 m) Bulk Release/Power Circuit Cable Box
A16381EW47	500 ft (152.4 m) Bulk Release/Power Circuit Cable Spool
A16381CB70	2 ft (0.61 m) Cable, Release Circuit
A16381CB71	3 ft (0.91 m) Cable, Release Circuit
A16381CB72	5 ft (1.53 m) Cable, Release Circuit
A16381CB73	10 ft (3.05 m) Cable, Release Circuit
A16381CB74	20 ft (6.10 m) Cable, Release Circuit
A16381CB7D	30 ft (9.15 m) Cable, Release Circuit
A16381CB7E	50 ft (15.24 m) Cable, Release Circuit
A16381CB7H	38 in. (0.97 m) Cable, Release Circuit Drop
A16381CD33	"h" Cable, Release Circuit
A16381CB7J	Connector, Terminator, Release Circuit
439448	Protracting Actuation Device (PAD)
Power Circuit Cables	
A16381EW4B	100 ft (30.5 m) Bulk Release/Power Circuit Cable Box
A16381EW47	500 ft (152.4 m) Bulk Release/Power Circuit Cable Spool
A16381CB7K	2 ft (0.61 m) Cable, Power Circuit
A16381CB7L	3 ft (0.91 m) Cable, Power Circuit
A16381CB7M	5 ft (1.53 m) Cable, Power Circuit
A16381CB7P	10 ft (3.05 m) Cable, Power Circuit
A16381CB7T	20 ft (6.10 m) Cable, Power Circuit
A16381CB8K	30 ft (9.15 m) Cable, Power Circuit
A16381CB8M	50 ft (15.24 m) Cable, Power Circuit
A16381CB9P	3 ft (0.91 m) Cable, Fused Power Circuit, (w/ In-line Fuse Holder)
Bulk Circuit Connector Kits	
A16381TK21	2-Pin Connector Kit, 1 pack Release/Power Circuits
A16381TK20	2-Pin Connector Kit, 5 pack Release/Power Circuits
A16381TK1Y	6-Pin Connector Kit, 1 pack Display/ Detection/Relay Circuits
A16381TK1V	6-Pin Connector Kit, 5 packs Display/ Detection/Relay Circuits
Cable Mounting Hardware	
448174	Bulkhead Cord Grip (50 Pack)
440737	Double Loop Cable Tie (50 Pack)
447931	2-Hole Grommet (25 Pack)
447928	3-Hole Grommet (25 Pack)
447321	Linear Detector Grommet (25 Pack)

Safety Data Sheets (SDS) are available at www.ansul.com

Note: The converted values in this document are provided for dimensional reference only and do not reflect an actual measurement.

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