AFEX
FIRE SUPPRESSION SYSTEMS

MFP AUTOMATION ENGINEERING

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DETECTION

OVERVIEW

Industry-wide, heavy-duty mobile equipment faces the devastating impacts of fire risks daily during operation. Depending on the specific application, some mobile equipment are susceptible to added risks from combustible materials or hazardous operating environments, increasing the need for automatic fire suppression systems.

AFEX automatic fire suppression systems work with industry-standard detection devices, such as spot detection sensors or heat sensing wire. Both of these options have preset temperature limits that monitor for fire conditions in high-risk areas of a machine. In the event of a fire, the detection devices will send a signal to the AFEX Control Unit to begin system actuation.

Early detection of a fire can provide an alert to the operator, allowing critical time to shut down the equipment and safely evacuate. Since detection devices are installed in high-risk areas of the machine that are often not visible to an operator, such as the engine compartment, fire suppression systems provide peace of mind during day-to-day operations. And, the combined use of the Control Unit with heat-detecting sensors or wire provides continuous monitoring of equipment, even when not in operation.

SCAN ME

SYSTEM COMPONENTS

A729000 CONTROL UNIT

The industry-leading Control Unit detection panel offers continuous monitoring of two detection circuits, configurable delay timers, multiple language options, and up to 1-year of stand-alone battery power. The Control Unit uses an LCD display for easy set-up, quick troubleshooting, and clear status updates, assuring the machine operator that their equipment is being actively monitored for fire. In the event of a fire, an on-screen message combined with audible and visual alarms will notify the operator. Each event is stored on the Control Unit's internal data log, easily accessible during service or maintenance intervals.
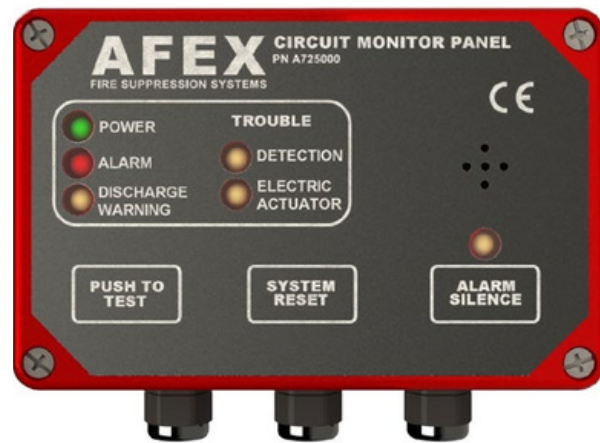
- Programmable LCD display available in multiple languages
- Real-time clock
- Audible and visual alarms
- Downloadable internal event log
- Up to 1-year stand-alone power

- Countdown to discharge when configured with a delay
- Up to two simultaneous detection circuits with adjustable delay
- Compliant with ISO 13766 and IP-65 rated
- Third-party tested and approved by FM HDME, Activfire and CE

CONTROL UNIT HARNESSES - A729200 BASIC HARNESS, A729400 ADVANCED HARNESS

A basic or advanced harness is required to connect the Control Unit to the fire suppression system circuits and an external power source. A basic harness will provide connections to one detection circuit, one actuation circuit, and external power. The advanced harness provides up to two detection and actuation circuits and external power, with the option for alarm and problem relays allowing the Control Unit to connect telematically and to other external signaling devices.

A725000 CIRCUIT MONITOR PANEL (CMP)

The CMP is a basic control panel that monitors continuity of the detection circuit, actuation circuit, and power supply. The CMP uses LEDs, buttons, and a horn to convey the fire suppression system status. In the event of a fire, audible and visual alarms on the CMP will notify the operator of a fire condition. A delay timer can be set up to 30 seconds. Once the delay has been reached, the CMP will actuate the system. The CMP is compatible with all AFEX detection devices.
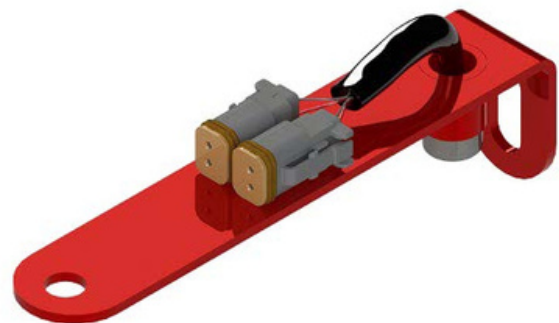
A704000 HIGH TEMPERATURE WIRE

The high temperature wire is a specially designed and constructed two conductor 16AWG wire used along with automotive style electrical connectors for the various electrical connections of the fire suppression system. Mechanical protection is provided by a tin plated copper wire braid, high temperature insulation, and an outer jacket.

A700105 SENSOR

Spot sensors are provided as a detection method for AFEX fire suppression systems. The sensor consists of a normally open bi-metallic thermostatic switch mounted to a carbon steel bracket. They are typically located in and adjacent to the hazardous areas of the equipment. When the sensor is exposed to continuous temperatures of 300°F (149°C), the switch snaps closed and sends a signal to the Control Unit or CMP. The sensor will reset at 275°F (135°C). The sensor includes two pre-assembled 2-pin plug connectors.

Note: Legacy sensors shipped prior to 2019 included a 4-pin plug connector.
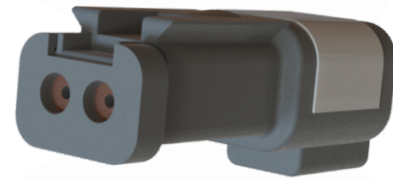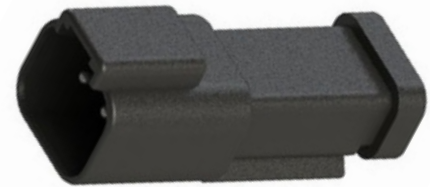
A703000 LINEAR DETECTION WIRE

Linear detection wire is available as an option. It is a two conductor wire with a special heat sensitive polymer barrier. When the linear detection wire is exposed to temperatures of 356°F (180°C), the heat sensitive polymer melts, creating a short. Linear detection wire is compatible with the A729000 Control Unit and A725000-6 CMP.

AFEX recommends the use of A609550 coil guard for additional protection of the linear detection wire.

END OF LINE RESISTORS

The end of line (EOL) resistor allows the Control Unit or CMP to monitor the detection circuit. The Control Unit requires a 100 kΩ resistor and the CMP requires a 4.7 kΩ resistor. The resistors are integrated within a 2-pin receptacle connector.

ELECTRICAL CONNECTORS

IP-65 Deutsch electrical connectors should be used to make all necessary electrical connections and for any necessary splices within and between wires.

MAINTENANCE INTERVALS

CONTROL UNIT

Every 1 year
- Replace the Control Unit (V1.4+) battery pack (A729011).

Every 6 months
- Replace the Control Unit (V1.0 - V1.3) batteries (A729010).

SPECIFICATION CHARTS

COMPONENTS & PART NO.	DIMENSIONS	DESCRIPTION	SHIPPING WEIGHT
A729000 Control Unit	6.25" x 2.5" x 5" (16 x 6 x 13 cm)	Detection panel used with automatic systems	0.5851 kg (1.29 lb)
A729200 Basic Harness	3 ft long	Used with Control Unit, 1 detection circuit, 1 electric actuator	0.0302 kg (0.067 lb)
A729400 Advanced Harness	3 ft long	Used with Control Unit, 2 detection circuits, 2 electric actuators, alarm and problem outputs	0.0302 kg (0.067 lb)
A725000 Circuit Monitor Panel	5" x 2.25" x 4" (13 x 6 x 10 cm)	Panel monitors presence of power in system	1.0704 kg (2.36 lb)
A704000 High Temperature Wire	Length varies	Constructed of two conductor 16 AWG	0.0175 kg (0.0385 lb)
A700105 Sensor	6.5" x 1.25" x 1.5" (15 x 3 x 4 cm)	Heat sensor used with automatic systems	0.1863 kg (0.4107 lb)
A703000 Linear Detection Wire	Length varies	Used with automatic systems	0.0136 kg (0.3 lb)
A609550 Coil-Linear Detect Guard	20 ft increments	For linear detection wire	0.022 kg (0.049 lb)

END OF LINE RESISTORS

COMPONENTS & PART NO.	RESISTANCE	DESCRIPTION	SHIPPING WEIGHT
A724021 End of Line Resistor	4.7 kΩ	Grey resistor for Circuit Monitor Panel	0.0045 kg (0.0099 lb)
A729031 End of Line Resistor	100 kΩ	Black resistor for Control Unit	0.0045 kg (0.0099 lb)

ELECTRICAL CONNECTORS

COMPONENTS & PART NO.	DESCRIPTION	SHIPPING WEIGHT
A700300 Connector-Plug 4Pin	Electrical connector 4-pin plug	0.0068 kg (0.01499 lb)
A700310 Connector-Recept 4Pin	Electrical connector 4-pin receptacle	0.0091 kg (0.02 lb)
A700320 Connector-Socket	Electrical connector socket	0.0005 kg (0.0011 lb)
A700330 Connector-Pin	Electrical connector pin	0.0023 kg (0.005 lb)
A700340 Connector-Plug Wedge 4Pin	Electrical connector 4-pin wedge	0.0023 kg (0.005 lb)
A700350 Connector-Recept Wedge 4Pin	Electrical connector 4-pin receptacle wedge	0.0005 kg (0.0011 lb)
A700360 Connector-Plug 2Pin	Electrical connector 2-pin plug	0.0045 kg (0.0099 lb)
A700370 Connector-Recept 2Pin	Electrical connector 2-pin receptacle	0.0045 kg (0.0099 lb)
A700380 Connector-Recept Wedge 2Pin	Electrical connector 2-pin plug wedge	0.0005 kg (0.0011 lb)
A700390 Connector-Plug Wedge 2Pin	Electrical connector 2-pin receptacle wedge	0.0005 kg (0.0011 lb)

APPROVALS & CERTIFICATIONS

AFEX fire suppression systems have been tested by:

- Factory Mutual - FM HDME (Heavy Duty Mobile Equipment)
- Australian Standards - AS 5062 (Fire protection for mobile and transportable equipment)
- European CE standard

ADVANTAGES OF CHOOSING AFEX

- Commitment to top-notch, personable customer service - when you call, you speak to a real person who cares!
- Forward-thinking, innovative company that keeps current with heavy equipment trends
- Timely and professional shipment of orders
- Employment of American workers in an American manufacturing plant
- ISO 9001 certifies standardization and quality assurance

ORDERING INFORMATION

We appreciate our customers and are committed to providing the industry's best service and support. That's part of what makes us the number one manufacturer of vehicle fire suppression systems.

Order all system components through your local distributors.

Corporate Office:

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