AFEX
FIRE SUPPRESSION SYSTEMS

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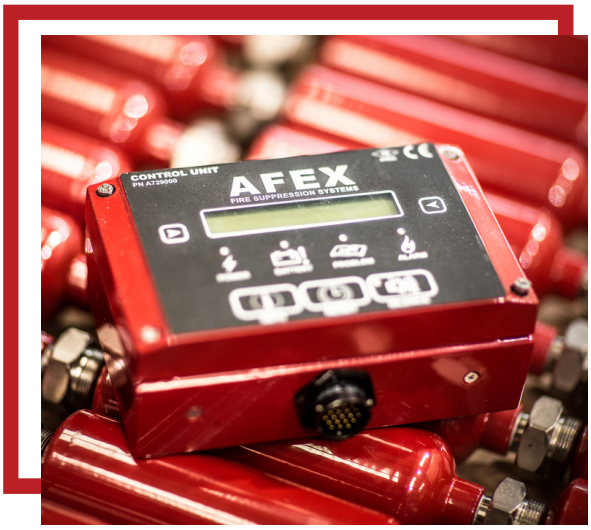
DETECTION

OVERVIEW

Automatic systems have heat detection devices installed in and adjacent to the fire hazard areas. In the event of a fire, these automatic detection devices should not be relied upon as the sole means of system actuation. Manual actuation of the system by the operator is required as soon as possible when a fire condition is realized. Equipment that works with hazardous materials, combustible materials, or on machines that have the engine compartment behind the operator should be actively monitored by automatic systems for maximum efficiency and safety. If detection is not part of the system or if it has been disabled the system must be manually actuated.

FEATURES

- FM 5970 Approved
- Australian Standards AS 5062
- Provides configuration flexibility in a compact unit
- Purpose built for heavy equipment
- Remote system monitoring
- Remote system discharge



APPLICATIONS

The AFEX fire suppression system is a pre-engineered dry chemical, liquid agent, or dual agent system. It is designed to suppress fires that occur on heavy duty mobile equipment. Typical applications are found on machines used in surface mining, logging, landfill, agriculture, resource recovery, oil and gas, slag operations, buses and transportation applications, and special uses such as conveyor belts, compressors and generators.

The fire system described is a suppression system only and is not designed or intended to suppress all fires.

DESCRIPTIONS

A729000 CONTROL UNIT

The Control Unit is an advanced monitor panel for use with automatic AFEX fire suppression systems.

It features:

- Programmable LCD display
- Multiple languages
- Internal event log
- Capable of up to one year of standalone operation
- Dual detection capability
- Dual actuation circuits
- ISO 137666 compliant
- IP65 rating

CONTROL UNIT HARNESSES - A729200 BASIC HARNESS / A729400 ADVANCED HARNESS

The Control Unit harness connects the Control Unit to the fire suppression system's detection and actuation circuit(s), the external power circuit, and the external alarm/problem signaling device (A729400 harness only). Automotive type electrical connectors are included with the harnesses.

A725000 CIRCUIT MONITOR PANEL

The circuit monitor panel (CMP) monitors the presence of power to the fire suppression

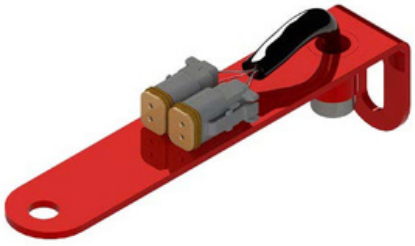
system, the continuity of the detection loop, and the integrity of the electric actuator circuit.

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

Sensors are provided as the standard 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 hazard 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.

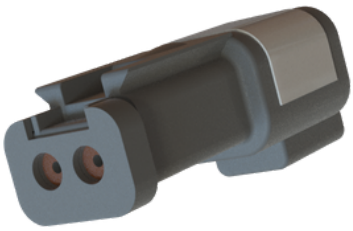


A703000 LINEAR DETECTION WIRE

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, closing the circuit and sends a signal to the control unit.

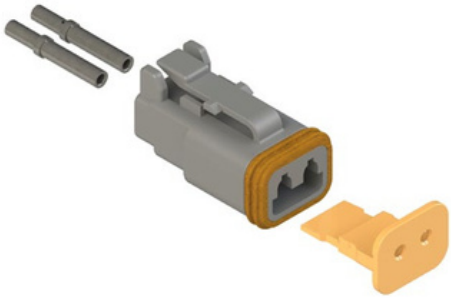
END OF LINE RESISTORS

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



ELECTRICAL CONNECTORS

Water-resistant Deutsch electrical connectors are used to make all necessary electrical connections, and for any necessary splices within and between wires.



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SPECIFICATION CHART

DETECTION COMPONENTS

COMPONENTS & PART NUMBERS	*DIMENSIONS*	*DESCRIPTION*	*SHIPPING WEIGHT*
A729000 CONTROL UNIT	6.25"x2.5"x5" (16x6x13cm)	CONTROL UNIT USED WITH AUTOMATIC SYSTEMS	0.5851kg (1.29lb)
A729200 BASIC HARNASS	3ft. long	BASIC HARNESS USED WITH CONTROL UNIT	0.0302kg (0.067 lb)
A729400 ADVANCED HARNESS	3ft. long	ADVANCED HARNESS USED WITH CONTROL UNIT	0.0302kg (0.067 lb)
A725000 CIRCUIT MONITOR PANEL	5"x2.25"x4" (13x6x10cm)	CIRCUIT MONITOR PANEL (CMP) MONITORS PRESENCE OF POWER IN SYSTEM	01.0704 kg (2.36 lb)
A704000 HIGH TEMPERATURE WIRE	Length Varies	HIGH TEMPERATURE WIRE CONSTRUCTED TWO CONDUCTOR 16AWG	0.0175 kg (0.0385lb)
A700105 SENSOR	6.5"x1.25"x1.5" (15x3x4cm)	HEAT SENSOR USED WITH AUTOMATIC SYSTEMS	0.1863 kg (0.4107 lb)
A703000 LINEAR DETECTION WIRE	Length Varies	LINEAR DETECTION WIRE USED WITH AUTOMATIC SYSTEMS	0.0136 kg (0.3 lb)

COMPONENTS & PART NUMBERS	*RESISTANCE*	*COLOR*	*DESCRIPTION*	*SHIPPING WEIGHT*
END OF LINE RESISTORS				
A724021 END OF LINE RESISTOR	4.7 kΩ	GREY	END OF LINE (EOL) RESISTOR FOR CMP	0.0045 kg (0.0099 lb)
A729031 END OF LINE RESISTOR	100 kΩ	BLACK	END OF LINE (EOL) RESISTOR FOR CONTROL UNIT	0.0045 kg (0.0099 lb)

COMPONENTS & PART NUMBERS	*DESCRIPTION*	*SHIPPING WEIGHT*
ELECTRICAL CONNECTORS		
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 (0.0099lb)
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)

MAINTENANCE INTERVALS

CONTROL UNIT

EVERY 6 MONTHS

- Replace the Control Unit (V1.0-V1.3) batteries (A729010), if equipped.

EVERY 1 YEAR

- Replace the Control Unit (V1.4+) battery pack (A729011), if equipped.

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SYSTEM TYPES

MANUAL SYSTEMS

These systems do not have heat detection circuits and require human action to identify a fire condition and take appropriate actions to initiate the system's discharge sequence.

MAIN INDUSTRY USES
These types of actuation systems are primarily used in steel & slag industries due to the high ambient temperature of the environment in which they operate

AUTOMATIC SYSTEMS

Automatic systems feature a detection circuit that senses heat in the protected areas of the machine and then automatically initiate the discharge sequence. All automatic systems are required to have a manual override method of initiating the discharge sequence.

MAIN INDUSTRY USES
These types of actuation systems are primarily used in mining, forestry, oil, gas & energy, coal, waste handling, and agriculture industries

APPROVAL

AFEX fire suppression systems have been tested by Factory Mutual in accordance with FM Standard 5970, "Heavy Duty Mobile Equipment Protection" and Australian Standards AS 5062 "Fire protection for mobile and transportable equipment," and have been found to comply with all applicable requirements.

ADVANTAGES OF CHOOSING AFEX

- You will be working with a company that is committed to top-notch, personable customer service. When you call us, you speak to a real person who cares.
- You will be supporting an American manufacturer and American workers.
- You will benefit from working with a forward-thinking, innovative company that keeps current with heavy equipment trends
- You will receive timely and professional shipping of your order.

ORDERING INFORMATION

We appreciate our customers and are committed to providing the industry's best service and support. That's part of what makes AFEX the #1 manufacturer of vehicle fire suppression systems in the Americas.

Order all system components through your local distributors.

Corporate office:
6031 Oak Forest Drive
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