AEGIS™

Conventional Fire Alarm-Suppression Control Unit

INDOREED THE LEADING OF FIRE COMPANY PROVIDERS

Kidde Fire Systems

A UTC Fire & Security Company

Effective: November 2007

K-84-100

FEATURES

- ***Agency Approvals***
  - ***cFMus Approved to NFPA 72, ANSI 864, 9th edition and ULC-S527-99***
  - ***CSFM Approved***
  - ***MEA Approved***
  - ***cULus Listed to ANSI 864, 9th edition and ULC-S527-99***
- ***Suppression focused Control Unit***
- ***Listed for a Wide Range of Suppression Systems***
  - ***Kidde FM-200®, FE13™, CO_2, 3M™ Novec 1230™ Fire Protection Fluid, Argonite™, and Halon Clean Agents***
  - ***Kidde IND™ Dry Chemical & WHDR™ Wet Chemical Systems***
  - ***Sprinkler Supervisory Service***
  - ***Deluge, Preaction, Foam, Foam-Water Systems***
- ***Combination Clean Agent plus Pre-Action System***
- ***Built-in Class-A and Class-B Circuitry***
- ***Sophisticated Programmable Notification Appliance Circuits***
- ***Independently Programmable Agent Releasing Circuits with Triple-R Protection***
- ***Input and Output***
  - ***3 Detection Circuits***
  - ***2 Supervisory Circuits***
  - ***1 Manual Release Circuit***
  - ***1 Abort Input Circuit***
  - ***3 Notification Appliance Circuits***
  - ***2 Release Circuits***
  - ***4 Form-C Relays***
- ***Programmable Relays***
- ***Robust Power Supply***
- ***Elegant User-Interface***
- ***Simple Configuration***
- ***Password Protected***
- ***Digital Release Countdown***
- ***Battery Voltage and Charging Current Display***
- ***Extensive Diagnostics***
- ***Backwards Compatible***
- ***Improved and Enlarged Cabinet Design***
- ***5-Year Warranty***

DESCRIPTION

The Kidde AEGIS is the technologically most advanced Conventional Single Hazard Agent Releasing Unit available to the Fire-Alarm Suppression industry today. It combines the high quality, system reliability, and flexibility required by modern commercial, high-tech and industrial applications in an aesthetically pleasing and physically robust package.

The AEGIS is well equipped to handle all special hazard extinguishing systems due to the high degree of programming flexibility provided and the following full complement of input and output circuits:

- ***Three (3) Class A or Class B Detection Circuits***
- ***Two (2) Class A or Class B Supervisory Circuits***
- ***One (1) Class A or Class B Manual Release Circuit***
- ***One (1) Class A or Class B Abort Input Circuit***
- ***Three (3) Class A or Class B Notification Appliance Circuits***
- ***Two (2) Class B Agent Release Circuits***
- ***Four (4) Form-C Relays***

DETECTION CIRCUITS

The Detection Circuits can support up to 25 Conventional CPD-705x Ionization Smoke, PSD-715x Photoelectric Smoke, or THD-705x Heat Detectors each as well as Normally Open contact closure type devices. Two circuits are dedicated to the main suppression function and can be programmed to activate the release circuits by either single-shot or cross-zone input. The user-configuration allows automatic release via detection to be delayed from 0 to 60 seconds in 10-second intervals and also allows a choice of which of the two Agent Release Circuits to activate.

The third Detection Circuit is programmable for either Waterflow or as an independent Detection circuit. When programmed for Waterflow, Notification Appliance Circuits can be programmed as Non-Silenceable as required by certain jurisdictions.

SUPERVISORY CIRCUITS

The Supervisory Circuits accept Normally Open contact closure type devices such as pressure switches on the agent cylinders or on the water or air pipe network. The system configuration enables the supervisory input to be a participant in the suppression function. For example, low air supervisory can be included with detection for release of pre-action systems as required by certain jurisdictions.

MANUAL RELEASE AND ABORT CIRCUITS

Both the Manual Release and Abort Circuits accept Normally Open contact closure type devices. Activation of the Agent Release Circuits can either be instantaneous or delayed up to 30 seconds (maximum) upon receipt of Manual Release input. Agent release can be temporarily delayed by activating the Abort Circuit. The Abort input can be programmed for 5 modes of operation. These include the UL 10-second mode, the full-delay mode, the IRI mode, the NYC mode, or the abort can be disabled. Aborts can also be programmed to be applicable for either one or both Agent Release Circuits thereby allowing use with Deluge/Pre-Action systems.

NOTIFICATION APPLIANCE CIRCUITS (NAC)

The three Notification Appliance Circuits are rated 1.5 Amps each and accept polarized 24 Vdc Notification Appliances. Each circuit is driven independently and is user configurable for First Alarm, Pre-Release, and Releasing as well as for 60 BPM, 120 BPM, Temporal, or Continuous pattern.

The MT and NS series appliances provide the option to use silenceable horns and non-silenceable strobes on the same NAC. Multiple NAC circuits (connected to audible devices only) programmed with the same master code pattern are synchronized, regardless of any differing starting times that preceded their concurrent operation. The NACs configuration includes a user-selectable intelligent synchronization feature which allows a silenceable horn to be shut off while the strobe continues to flash in synchronized fashion.

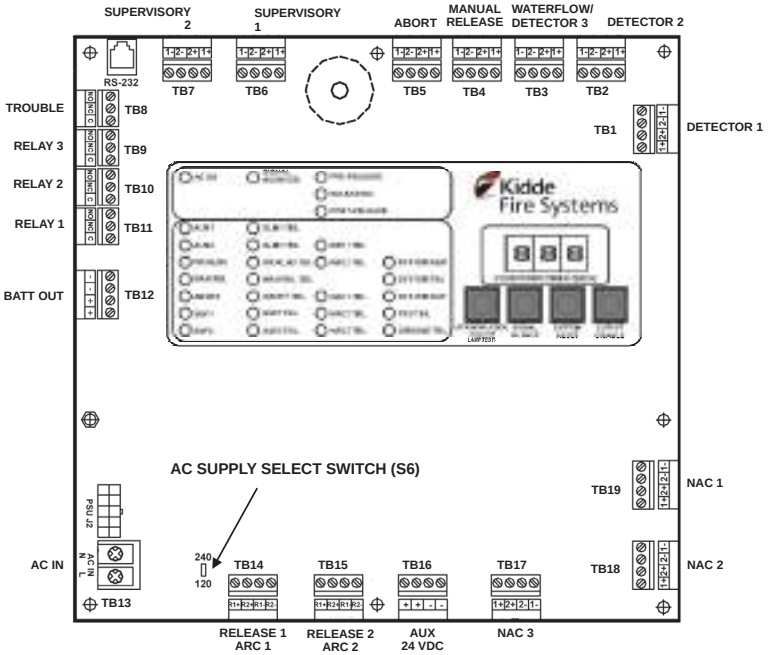

Figure 1. Printed Circuit Board (PCB)

BUILT-IN CLASS A AND B CIRCUITRY

For the input and NAC circuits, the choice of Class A or Class B supervision is made at site on the board itself by selecting the terminals used for wiring. Neither conversion boards nor additional hardware nor jumper selection is required for this purpose.

AGENT RELEASE CIRCUITS (ARC)

The two circuits can be programmed for activation by different inputs, with independent time delays and abort modes to fire combinations of two of the following releasing devices:

- 1 or 2 Kidde Continuous and Momentary Solenoid Control Heads
- 1 Kidde Initiator
- 1 Factory Mutual Group A, B, D, E, F, G, I, J, or K Solenoid

In other words, operating in tandem, the two circuits can release:

- 1 or 2 Control Heads on ARC1 and 1 or 2 Control Heads on ARC2
- 1 or 2 Control Heads on ARC1 and 1 Initiator on ARC2 or vice-versa
- 1 or 2 Control Heads on ARC1 and 1 FM Sprinkler Solenoid on ARC2 or vice-versa
- 1 Initiator on ARC1 and 1 Initiator on ARC2
- 1 FM Solenoid on ARC1 and 1 FM Solenoid on ARC2

This configurability is useful for those jurisdictions where the gaseous suppression agent is required to be supplemented with a pre-action system.

TRIPLE-R PROTECTION FOR AGENT RELEASING CIRCUITS (ARC)

The two ARCs feature a triple failure redundancy safeguard system to protect them from inadvertent activation by the main microprocessor. The Triple-R system requires that in order to activate an ARC, the main microprocessor issues two release commands of opposing polarity via separate channels and that these commands be combined with a third signal from the panel watchdog timer to confirm the microprocessor operation. The Triple-R system ensures that electrical transients or disturbances such as power surges that could interfere with the operation of the main microprocessor will not inadvertently activate the connected suppression system. The result is a more robust and reliable suppression-focused panel.

PROGRAMMABLE RELAYS

Of the 4 relays, three are user-programmable for a variety of alarm related conditions and the fourth is a dedicated trouble relay. All relay contacts are rated 3.0 Amps at 30 Vdc/120 Vac (resistive).

POWER-LIMITED CIRCUITRY

All circuits, excluding ARCs are inherently power-limited. Agent Release Circuits, except when firing Initiators, can also be made power-limited by a field located inline releasing diode device thereby allowing cost effective installation with all wiring in the same conduit.

ROBUST POWER SUPPLY UNIT (PSU)

The AEGIS features a universal 120/240 V, 50/60 Hz AC Power Supply Unit with a robust 5.4 Amps of 24 Vdc power. Input voltage selection is via a slider switch with no jumper cutting required. The on-board battery charger is able to charge 24 Vdc (2 x 12) batteries of capacity up to 68 Ah thereby allowing from 24 hours of supervision plus 5 minutes of alarm to 90 hours of supervision plus 10 minutes of alarm required by some jurisdictions.

AUXILIARY POWER SUPPLY

Up to 1 Amp of auxiliary power at 24 Vdc is available to power external 4-wire devices such as Flame Detectors, AlarmLine modules, Duct Detectors, etc.

ELEGANT USER-INTERFACE

The user-interface consists of an array of LED Indicators, Control Switches, a Digital Display, and Buzzer. Over and above the System, Power Supply status, Input circuit Fire and Trouble and Output circuit Trouble LEDs, the AEGIS annunciates its suppression state-of-alarm via three additional Pre-Release, Releasing and Post Release LEDs. Four switches are provided, one each for Acknowledge, Signal Silence, System Reset and Output Disable. The 3-digit display provides a countdown of impending agent release. On command from the user-interface switches, it also indicates the battery open circuit voltage and charging current.

SIMPLE SITE-SPECIFIC CONFIGURATION

Accessed via the digital display and user-interface switches, site-specific configuration is simple, yet detailed and can typically be performed in a matter of minutes. To prevent unauthorized use, the configuration menu is protected by a user-changeable password. Factory technical support can provide assistance with lost or forgotten passwords.

Apart from the input voltage selection performed on both the PSU and main board via a slider switch, no other on-board settings or jumper cuttings are required.

EXTENSIVE DIAGNOSTICS

Also initiated via the digital display and user-interface switches, the troubleshooting function displays diagnostic codes that assist in determining causes of trouble. A complete list of diagnostic codes and their meaning ships factory installed on the inside of the enclosure door for easy reference.

BACKWARDS COMPATIBILITY

Consistent with previous generation Kidde control equipment, the AEGIS is listed to be backwards compatible with the full range of Kidde-Fenwal conventional detectors, alarm devices and suppression accessories. Going forward, this will allow older generation panels to be replaced with relative ease.

IMPROVED AND ENLARGED CABINET DESIGN

The cabinet design allows for easy installation by fitting between the studs of a standard 16 inch studded wall. It is large enough to house two 12 Vdc, 12 Ah Batteries and provides up to 2 inches (51 mm) of wiring and finger space between the circuit board and the cabinet wall.

An optional door design features a Manual Release and Abort switch for applications with space constraints. Both switches incorporate guards that prevent their inadvertent activation.

Other cabinet options include a flush mounting trim-ring and a dead-front plate required for Canadian applications.

TECHNICAL SPECIFICATIONS

- Hazards Protected
  - One
- Power Supply
  - 120/240 Vac, 50/60 Hz (90 to 264 Vrms, 47 to 63 Hz) AC Main Input
  - 5.4 Amps at 27 Vdc Output
  - Battery capacity up to 68 Ah @ 24 Vdc
  - Auxiliary power output rated at 1 Amp at 18.8 - 27.6 Vdc (resettable)
- Three (3) Detection Circuits
  - Compatible with up to 25 CPD-705x, PSD-715x, and THD-705x detectors and normally open contact-closure type devices
  - Configurable as Class A/Style D or Class B/Style B
  - Supervised for ground faults and open circuits
  - Power limited
  - DET 1 and DET 2 used for suppression
  - DET3/WF configurable for detection or waterflow
- One (1) Manual Release Circuit
  - Compatible with normally open contact-closure type devices
  - Configurable as Class A/Style D or Class B/Style B
  - Supervised for ground faults and open circuits
  - Power limited

TECHNICAL SPECIFICATIONS (cont'd)

- One (1) Abort Circuit
  - Compatible with normally open contact-closure type devices
  - Configurable as Class A/Style D or Class B/Style B
  - Supervised for ground faults and open circuits
  - Power-limited
- Two (2) Supervisory Circuits
  - Compatible with normally open contact-closure type devices
  - Configurable as Class A/Style D or Class B/Style B
  - Supervised for ground faults and open circuits
  - Power-limited
- Three (3) Notification Appliance Circuits (NACs)
  - Compatible with polarized 24 VDC Audio-Visual devices
  - Rated at 1.5 Amps each
  - Configurable as Class A/Style Z or Class B/Style Y
  - Supervised for ground faults, shorts, and open circuits
  - Power-limited
  - Common NAC/ARC output disconnect switch
- Two (2) Agent Release Circuits
  - Each compatible with 1 or 2 control heads, or 1 initiator, or 1 FM sprinkler solenoid
  - Circuits electrically capable of simultaneously releasing any combination of two of the above devices
  - Factory configured as Class B/Style Y
  - Supervised for ground faults and open circuits
  - Non-power-limited. May be power-limited (except with initiators) and supervised for short circuit using inline releasing resistor-diode device
  - Common NAC/ARC output disconnect switch
- Four (4) Relays
  - 3 independently programmable, normally de-energized Form-C
  - 1 dedicated normally energized Form-C Trouble Relay
  - Relay contacts rated 3 Amps at 30 Vdc/120 Vac (resistive)

TECHNICAL SPECIFICATIONS (cont'd)

- Enclosure
  - NEMA 1 rated 18 gauge sheet steel with door
  - Red color
  - Suitable for wall and surface mounting
  - Optional Trim Ring
  - Optional Dead-Front Panel
  - Optional door with Manual Release and Abort switches
  - Dimensions:
    - **with Standard Door:**
      14-1/4 in. W x 5 in. D x 19 in. H
      (362 mm x 127 mm x 483 mm)
    - **with Switch Door:**
      14-1/4 in. W x 6 in. D x 19 in. H
      (362 mm x 152 mm x 483 mm)
- Environmental Criteria
  - Indoor/Dry use only
  - Operating temperature range: 32°F to 120°F (0°C to 49°C)
  - Humidity: 93 ± 2% RH at 90 ± 3°F (32 ± 2°C)
- Packaging/Shipping
  - Enclosure, PCB, and PSU packaged in individual cartons
  - Accessories shipped include mounting hardware, battery leads, IOM manual on CD-ROM, operating instruction sheet, and EOL resistor kit
  - Order inline releasing resistor-diode device (if required) and batteries separately

ORDERING INFORMATION

Description	Part Number
Kidde AEGIS Control Panel	84-732001-001
Kidde AEGIS Control Unit with Switches	84-732001-201
In-Line Releasing Diode (10K) Kit	06-220023-001
Trim Ring	76-600000-007
Dead-Front Panel*	06-220175-001
Battery Enclosure	76-100010-001
Kidde AEGIS Conventional Fire Alarm-Suppression Control Unit IOM Manual	06-236716-001
Kidde AEGIS User's CD	06-236727-001
Installation/Configuration Kit	06-220148-002
Operating Instructions	06-236719-002
Replacement Hardware Installation Kit	06-220149-001
Replacement Enclosure Assembly	06-220172-002
Replacement Enclosure Assembly (with Switches)	06-220174-002
Replacement Switch Kit	06-220176-001
Replacement PCB Assembly	06-220150-001
Replacement Power Supply	06-118394-002
Replacement Bezel Assembly	06-220151-001
Spare Key	06-118013-001
Spare Keylock with Keys	06-129924-001
EOL Backbox (Canadian applications only)	06-129963-002
Battery Harness	06-129925-002
*For Canadian applications, order Control Unit and Dead-Front Panel separately.	

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FE-13 is a registered trademark of DuPont.
3M™ Novec™ 1230 Fire Protection Fluid is a trademark of 3M.
Argonite™ is a registered trademark of Ginge Kerr.

For detailed installation, operation, and configuration information, refer to the Kidde AEGIS Conventional Fire Alarm-Suppression Conventional Unit Installation, Operation, and Maintenance Manual P/N 06-236716-001.

This literature is provided for informational purposes only. KIDDE-FENWAL, INC. assumes no responsibility for the product's suitability for a particular application. The product must be properly applied to work correctly.
If you need more information on this product, or if you have a particular problem or question, contact KIDDE-FENWAL, INC., Ashland, MA 01721. Telephone: (508) 881-2000.

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