AEGIS™-XLT

Conventional Fire Alarm-Suppression Control Unit

Kidde Fire Systems

Effective: March 2023
K-84-300

FEATURES

- *Suppression Focused Control Unit*
- *Advanced Features for LP CO2, Spurt Mode and Water Mist Cycling*
- *Triple R Redundancy Provides Maximum Protection Against Inadvertent Release*
- *Agency Approvals:*
  - *FM Approved*
  - *UL Listed to ANSI 864, 10th edition*
  - *California State Fire Marshal*
  - *City of New York Fire Department*
  - *Compliant with NFPA 72*
  - *Licensed for entry into Kingdom of Saudi Arabia*
  - *United Arab Emirates (UAE) RoHS Compliant*
- *Listed for a Wide Range of Suppression Systems*
  - *Kidde® ECS HFC-227ea and FK-5-1-12*
  - *Kidde® ADS HFC-227ea and FK-5-1-12*
  - *Kidde® HP CO2*
  - *Kidde® LP CO2*
  - *Kidde® IG Argonite & Nitrogen*
  - *Kidde® FE-13*
  - *Fenwal® Spheres*
  - *Fenwal® BDCs*
  - *Sprinkler Supervisory Service*
  - *Deluge, Pre-Action, Foam, Foam-Water Systems*
- *Listed for use with Kidde®, Fenwal® and Chemetron® agent release devices including Control Heads and Initiators*
- *NEMA 1, 4 and 12 Enclosures*
- *Built-in Class A and Class B Circuitry*
- *Sophisticated Programmable NACs*
- *Independently Programmable Agent Releasing Circuits*
- *6 Abort Modes*
- *5.4 Amp Power Supply Unit*
- *120/240 V, 50/60 Hz AC Input*
- *Easy-to-Use User Interface and Display*
- *Password Protected*
- *Digital Release Countdown*
- *Battery Voltage and Charging Current Display*
- *Charging Capacity of 68 AH*
- *Extensive Diagnostics*

DESCRIPTION

The Kidde® AEGIS™-XLT is a Conventional Single Hazard Agent Releasing Unit which provides advanced configuration flexibility useful for Spurt, water mist cycling and LP CO2 applications and is available in NEMA 1, NEMA 4 and NEMA 12 variants for applications in commercial and industrial environments.

The AEGIS-XLT 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*
- *Fourth Detection Circuit Option for Contact Closure Devices**
- *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 NACs*
- *Two (2) Class B Agent Release Circuits*
- *Option to Use NAC 1 Circuit as Third Release Circuit*
- *Three (3) Programmable and 1 Trouble Form-C Relays*

* Fourth Detection Circuit must contain normally open contact closure device (not 2-wire smoke detector).

DETECTION CIRCUITS

The Detection Circuits support Conventional KC2 Series detectors, ESL/Interlogix 700 Series detectors, CPD-705x Ionization Smoke, PSD-715x Photoelectric Smoke and THD-705x Heat Detectors, 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 240 seconds in 1-second intervals or from 0 to 24 minutes in 1 minute intervals and also allows a choice of which of the 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. Additionally, the Supervisory 1 circuit can be configured to be the fourth detection circuit. This fourth detection circuit must contain normally open contact closure devices (not 2-wire smoke detectors).

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 per programmed time delay upon receipt of Manual Release input. Agent release can be temporarily delayed by activating the Abort Circuit. Subsequent activation of the Manual Release overrides an Abort in process. After a Manual Release has been activated, activating an Abort will have no effect. The Abort input can be programmed for 5 modes of operation or disabled entirely. These include the UL 10-second mode, the full-delay mode, the IRI mode or two NYC modes. Aborts can also be programmed to be applicable for either one (ARC 1) 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 regulated Notification Appliances. Each circuit is driven independently and is user configurable for First Alarm, Pre-Release, and Releasing. Several coded patterns are supported including 60 BPM, 120 BPM, Temporal, and Continuous.

The control unit supports appliances that 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 (using Cooper Wheelock notification appliances).

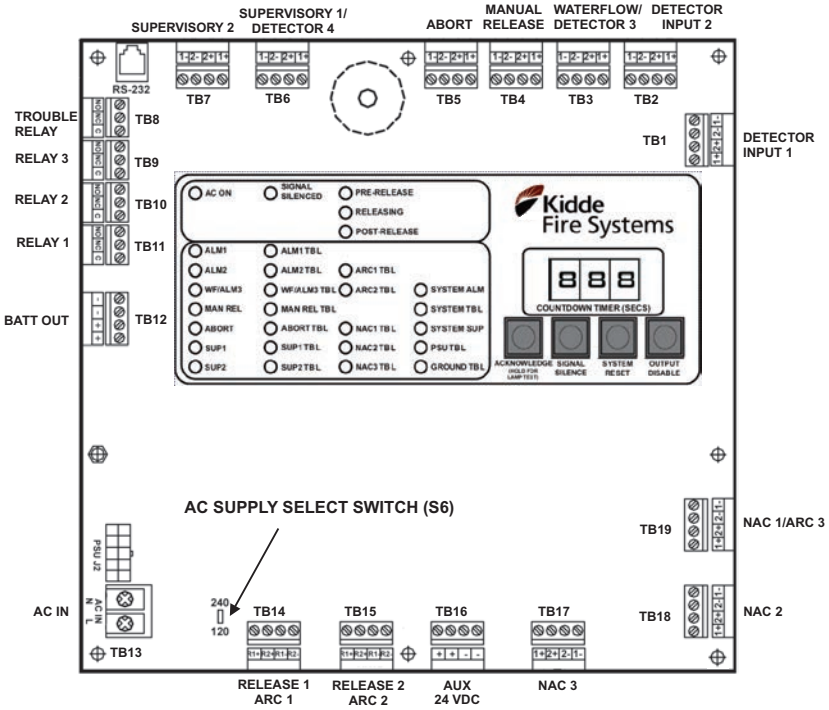

Figure 1. Printed Circuit Board (PCB)

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)

These 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®, Fenwal® or Chemetron® Continuous and Momentary Solenoid Control Heads
- 1 Kidde Actuator or Fenwal Initiators
- 1 Factory Mutual Release Panel Group 2 Solenoid (Any FM Approved Solenoid Valve rated 16.8W and below)

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

- 1 or 2 Control Heads on ARC 1 and 1 or 2 Control Heads on ARC 2
- 1 or 2 Control Heads on ARC 1 and 1 Actuator or Initiators on ARC 2 or vice-versa
- 1 or 2 Control Heads on ARC 1 and 1 FM Sprinkler Solenoid on ARC 2 or vice-versa
- 1 Actuator or Initiators on ARC 1 and 1 Actuator or Initiators on ARC 2
- 1 FM Solenoid on ARC 1 and 1 FM Solenoid on ARC 2

The control unit supports up to 3 ARCs by configuring NAC 1 as a third ARC. (Actuators or Initiators not supported on this circuit). 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 (ARCS)

The ARCs feature a triple failure redundancy safeguard system to protect them from inadvertent activation. 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).

SPURT MODE OPERATION

When programmed for Spurt mode, operation of the Detector 3 or Abort (programmable) Input allows the end user to selectively energize any or all of the three solenoid outputs instantaneously and continuously as long as the input is manually held in the activated condition. There is no automatic timing function associated with the Spurt option. Only momentary/spring-return type contact devices or normally-open contacts which automatically reset should be used. All Spurt events are non-latching and will return to the previous mode of operation upon deactivation of the Detector 3 or Abort (programmable).

WATERMIST CYCLING

When programmed for Watermist Cycling, any or all of the Agent Release Circuits may be configured for repetitions of Agent ON time followed by Agent OFF time. After the completion of those repetitions, followed by a wait time period, Watermist Cycling can be repeated a specified number of times.

POWER-LIMITED CIRCUITRY

All circuits are inherently power-limited. Agent Release Circuits (ARCs) can be configured for power-limited or non-power-limited operation. One in-line releasing device is required for each solenoid on a power limited ARC. Two (2) in-line releasing devices are included with the panel; additional in-line releasing devices should be ordered using part number 06-220023-001.

ROBUST POWER SUPPLY UNIT (PSU)

The AEGIS-XLT 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. The auxiliary power output is resettable.

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 Alarm and Trouble and Output circuit Trouble LEDs, the AEGIS-XLT 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

Setting the site-specific configuration is easily done using the digital display and user interface buttons. 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

The AEGIS-XLT is backwards compatible and listed for use with a full range of conventional detectors and alarm devices as well as suppression accessories from Kidde, Fenwal and Chemetron. Going forward, this will allow legacy panels to be replaced with relative ease.

EASY TO INSTALL NEMA 1 CABINET

The NEMA 1 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.

The NEMA 1 cabinet options include a flush mounting trim-ring and a dead-front plate (ordered separately).

NEMA 4 AND NEMA 12 ENCLOSURES

For Commercial, Outdoor (Weatherproof) and Industrial (Dust Tight and Oil Resistant) applications, the AEGIS-XLT is available in NEMA 4 and 12 versions. The NEMA 12 enclosure has a door mounted handle for easy access.

AEGIS-XLT (NEMA 4)

AEGIS-XLT (NEMA 12)

TECHNICAL SPECIFICATIONS

- **Hazards Protected**
  - One
- **Power Supply**
  - 120/240 V, 50/60 Hz (90 to 264 VAC, 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 Class B at 1 Amp at 18.8 - 27.6 VDC (resettable)
- **Three (3) or Four (4) Detection Circuits**
  - Compatible with ESL/Interlogix 700 Series detectors, CPD-705x, PSD-715x, and THD-705x detectors, as well as Normally Open contact closure type devices. Refer to documents K-70-100 and F-70-63 for details on compatibility and the maximum number of devices supported.
  - Configurable as Class A or Class 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
  - Option to use SUP 1 circuit as DET 4 circuit. *

  * Only contact-closure type, non-powered devices such as switches, pull stations and alarm contacts of 4-wire detectors to be used on this Detector 4 circuit (TB6 connector on PCB). Powered 2-wire automatic detectors must not be connected to this circuit and the circuit must not be used to power 4-wire detectors.
- **One (1) Manual Release Circuit**
  - Compatible with normally open contact-closure type devices
  - Configurable as Class A or Class B
  - Supervised for ground faults and open circuits
  - Power limited
- **One (1) Abort Circuit**
  - Compatible with normally open contact-closure type devices
  - Configurable as Class A or Class B
  - Supervised for ground faults and open circuits
  - Six (6) Abort Modes available
  - Power-limited
- **Two (2) Supervisory Circuits**
  - Compatible with normally open contact-closure type devices
  - Configurable as Class A or Class B
  - Option to use SUP 1 circuit as fourth detection circuit *
  - Supervised for ground faults and open circuits
  - Power-limited
- **Three (3) Notification Appliance Circuits (NACs)**
  - Compatible with polarized 24 VDC regulated Audible-Visual devices
  - Rated at 1.5 Amps each
  - Up to 35 synchronized appliances
  - Configurable as Class A or Class B
  - Supervised for ground faults, shorts, and open circuits
  - Power-limited
  - Common NAC/ARC output disable switch
- **Two (2) or Three (3) Agent Release Circuits**
  - Each compatible with 1 or 2 control heads, or 1 actuator/initiator, or 1 FM sprinkler solenoid
  - Circuits electrically capable of simultaneously releasing any combination of the above devices
  - Option to use NAC 1 circuit as ARC 3 circuit (Actuators or Initiators not supported on this circuit)
  - Factory configured as Class B
  - Supervised for ground faults and open circuits
  - Default setting: Power-Limited. Each power-limited ARC requires the use of an in-line releasing device, P/N 06-220023-001. Two 06-220023-001 devices are included.
  - Common NAC/ARC output disable switch
- **Four (4) Relays**
  - 3 independently programmable, normally de-energized Form-C Relays
  - 1 dedicated normally energized Form-C Trouble Relay
  - Relay contacts rated 3 Amps at 30 VDC (resistive)

TECHNICAL SPECIFICATIONS (CONT'D)

- **NEMA 1 Enclosure**

  - 18 gauge sheet steel with door
  - Red color
  - Suitable for semi flush and surface wall mounting
  - Indoor/Dry Use Only
  - Optional Trim Ring
  - Optional Dead Front Plate
  - Dimensions:
    14-1/4 in. W x 5 in. D x 19 in. H
    (362 mm x 127 mm x 483 mm)
  - Operating temperature range: 32°F to 120°F (0°C to 49°C)
  - Humidity: 93 ± 2% RH at 90 ± 3°F (32 ± 2°C) non-condensing

- **NEMA 4 Enclosure**

  - 16 gauge sheet steel with door
  - Red color
  - Suitable for wall mounting
  - Indoor/Outdoor Use
  - Dimensions:
    20 in. W x 6 in. D x 24 in. H
    (508 mm x 152 mm x 609 mm)
  - Operating temperature range: -20°F to 120°F (-29°C to 49°C)
    NOTE: Heater Needed For Use Below 32°F (0°C)
  - Humidity: 93 ± 2% RH at 90 ± 3°F (32 ± 2°C) non-condensing

- **NEMA 12 Enclosure**

  - 16 gauge sheet steel with door
  - Red color
  - Suitable for wall mounting
  - Industrial Use
  - Dust-tight and Oil Resistant
  - Dimensions:
    20 in. W x 6 in. D x 24 in. H
    (508 mm x 152 mm x 609 mm)
  - Operating temperature range: -20°F to 120°F (-29°C to 49°C)
    NOTE: Heater Needed For Use Below 32°F (0°C)
  - Humidity: 93 ± 2% RH at 90 ± 3°F (32 ± 2°C) non-condensing

EXPORT INFORMATION (USA):
Jurisdiction: EAR
US ECCN: EAR99
This document contains technical data subject to the EAR.

ORDERING INFORMATION

Description	Part Number
Control Units:	
Kidde AEGIS-XLT Control Unit, NEMA 1	84-70101793
Kidde AEGIS-XLT Control Unit, NEMA 4	84-10101510
Kidde AEGIS-XLT Control Unit, NEMA 12	84-10101508
MICRO 1-EV to AEGIS-XLT Retrofit Kit	84-20100248

Accessories and Spare Parts:	
Kidde AEGIS-XLT NEMA 1 Enclosure Only	84-70101537
Trim Ring (Red) for NEMA 1 Enclosure	76-600000-007
Bezel Assembly for NEMA 1 Enclosure	06-220151-001
Replacement PCB Assembly	84-70101664
Replacement Power Supply	06-118394-002
In-Line Releasing Device	06-220023-001
Installation/Configuration Kit	84-70000296
Replacement Hardware Installation Kit	06-220149-001
Large Capacity Battery Enclosure	76-100010-001
Spare Key (for NEMA 1 Control Unit and pull stations)	06-118013-001
NEMA 1 Control Unit Spare Lock w/2 Keys	06-239924-001
Dead Front Plate for NEMA 1 Enclosure	06-220175-001
EOL Resistors (10 pk)	06-220184-001
Corrosion Inhibitor	70120188
Key Maintenance Bypass Switch	76-600000-200

- **Packaging/Shipping**

- Enclosure, PCB, and PSU packaged in individual cartons. Field assembly is required.
- Accessories shipped include mounting hardware, battery leads, operating instruction sheet, and EOL resistor kit.
- Order in-line releasing device (required for power-limited ARCs), agent release key maintenance bypass switch and batteries separately.

For detailed installation, operation, and configuration information, refer to the Kidde AEGIS-XLT Conventional Fire Alarm-Suppression Control Unit Installation, Operation, and Maintenance Manual
P/N 06-237464-001.

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