PEGAsys™ LV

Kidde Fire Systems
A UTC Fire & Security Company

Fire-Alarm/Suppression System Control Unit

FEATURES

- **Distributed Intelligence to Sensor Level**
- **Fully-Digitized Communications Protocol**
- **Up to 255 Points without Device-Type Restrictions**
- **FailSoft™ Operation**
- **Peer-to-Peer Networkable**

- **Seamless Integration with ORION® XT HSSD**
- **UL Listed/FM Approved for Releasing**
- **Inherently Power Limited**
- **Simple Programming**

DESCRIPTION

The PEGAsys™ LV Fire-Alarm/Suppression System Control Unit is a compact control unit suitable for either stand-alone operation or peer-to-peer networked applications in small to medium sized facilities. The control unit provides one signaling line circuit, two notification-appliance circuits, and three on-board relays, two of which are fully-programmable. One of the two notification-appliance circuits is user-configurable to actuate one solenoid valve for control of a special-extinguishing system or a pre-action/deluge sprinkler system. A robust 4 Amp, filtered and regulated power supply provides charging capabilities for batteries of up to 99 AH.

The PEGAsys LV annunciates alarm, trouble and supervisory events via an 80-character, backlit LCD display with integral status LEDs. Event acknowledgment, alarm silence and system reset are accomplished with dedicated control keys. Basic user and maintenance operations, such as viewing history or isolation status of initiating points and system outputs, are also performed through operational control keys. A security password prevents unauthorized access to the system.

SIGNALING LINE CIRCUIT

The signaling line circuit communicates with up to 255 SmartOne® automatic initiating devices, monitor modules and control modules via a highly-efficient, fully-digitized protocol. The SmartOne communications protocol imposes no limitations on the mix of automatic initiating devices and monitor/control modules on the signaling line circuit. Each SmartOne initiating device has a microprocessor, memory, and decision making algorithms to interrupt normal control unit communications and initiate an alarm signal. This distributed intelligence to the sensor level ensures rapid response to all types of initiating signals, and is far superior to the various round-robin communication schemes employed by other manufacturers that burden the control unit with the process of making alarm decisions. SmartOne smoke detectors manage their individual drift-compensation routines, and have pre-alarm and alarm thresholds that are configurable in 0.1 %/ft. increments throughout the entire range of Listed
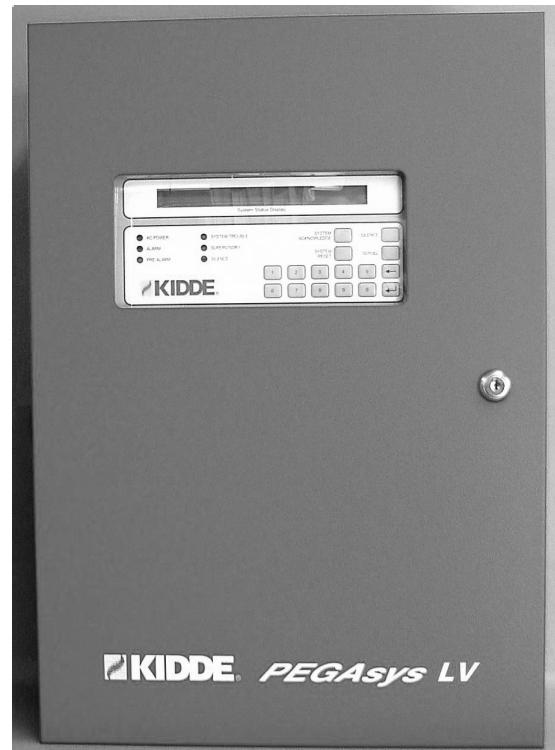
sensitivities. SmartOne heat detectors also have pre-alarm and alarm thresholds that are programmable in 1F° intervals.

The signaling line circuit can be wired for Class-A, Style-6 or Class-B, Style-4 operation. Optional isolator modules can be used for a Class A, Style-7 circuit. The PEGAsys LV is capable of transmitting general alarm signals in the unlikely event of failure of the main system microprocessor, the microprocessor that drives communications with the SmartOne field devices, or both microprocessors concurrently. Degraded-mode alarms are transmitted via a redundant, conventional-style initiating circuit known as the FailSoft operational feature that greatly enhances the overall system reliability. Both notification appliance circuits are automatically activated when any alarm signal is received during FailSoft operating conditions.

NOTIFICATION-APPLIANCE CIRCUITS

The PEGAsys LV has two Notification-Appliance Circuits (NACs) located on the main component board. Each circuit can provide up to 2 Amps @ 24 Vdc for horns, strobes, chimes or other notification appliances. Power for the notification appliances is fully filtered and regulated. Each NAC is programmable, and supports continuous and master-coded outputs for audible devices. The control unit can be programmed to sound different codes on the same NAC to notify of progressively-more-serious conditions.

One of the NACs is also user-configurable for special extinguishing system actuation or pre-action/deluge sprinkler system actuation. The NAC can be used to actuate various Kidde control heads for FM-200 cylindrical agent storage containers, or solenoid valves that fall within the Factory Mutual System Groups A, B, D, E and G. An intelligent logic circuit prevents a NAC configured for releasing from actuating during a FailSoft operating condition.

ON-BOARD RELAYS AND AUXILIARY POWER

The PEGAsys LV has three Form-C relays on the main circuit board for monitoring alarm, supervisory, and trouble conditions. Each relay is rated for 1 Amp @ 28 Vdc. Two auxiliary power outputs are provided on the power supply module, each with a capacity of up to 1.5 Amp. The auxiliary power outputs are user configurable for resettable or continuous power.

NETWORKING CAPABILITIES

Up to 32 PEGAsys LV Control Units can be integrated into a peer-to-peer networked system for common event reporting, operator intervention, occupant notification, and output control. One or more control units in the network can also be grouped to allow these operations to be vectored to the specific areas effected by various fire events.

A Network Interface Card (NIC) that plugs into a receptacle on the main circuit board allows the integration of two or more control units in a networked configuration. Each control unit regenerates the network communications, allowing distances between control units of up to 4,000 feet when using twisted-wire pair.

Network messages and broadcasts are transmitted over single- or dual-channel communications connections. Dual-channel connections offer a redundant communications path that allows network broadcasting and inter-control-unit functionality with an open- or short-circuit fault or ground fault on one of the channels.

INTEGRATION WITH ORION XT HIGH-SENSITIVITY SMOKE DETECTORS (HSSD)

The PEGAsys LV is designed to integrate seamlessly with ORION XT HSSD via one or more PEGAsys Addressable Loop Modules (PALM).

The PALM permits an HSSD to be connected to the signaling line circuit and report pre-alarms and alarms in an addressable manner analogous to a SmartOne smoke detector.

PROGRAMMING

The PEGAsys Configuration Software (PCS) configuration tool is used to program the PEGAsys LV for each individual, site-specific application. This configuration tool can create both control-by-event and real-time-clock programs. Programming consists of entering a series of conditional control statements that logically join initiating points to control-unit-based outputs and remote control modules. Each SmartOne field device can be assigned a location message of up to 39 characters via the PCS configuration tool. A front-panel-activated AutoLearn routine can be executed that will create a general-alarm, one-input-activates-all outputs application to speed the system-configuration process.

OPTIONAL MODULES REMOTE LCD ANNUNCIATOR

The PEGAsys LV supports up to 15 remote LCD annunciators called Remote Display Control Modules (RDCMs). This remote annunciator uses the same 80-character, backlit LCD display found on the main control unit. The RDCM permits remote event acknowledgment, alarm silencing, and system reset, and is secured with a key lock. User and maintenance level functions are also possible from the remote annunciator.

GRAPHIC-ANNUNCIATOR DRIVER

The Model ATM-L Annunciator Driver Module provides the PEGAsys LV Control Unit with up to 32 programmable, supervised LED outputs for graphical or tabular annunciators, along with six system-level LED outputs and five system-level inputs circuits for functional switches.

The system-level LEDs correspond to the following general conditions: Module Power, Alarm, Pre-Alarm, Alarm Silence, Supervisory and Trouble.

The input circuits for functional switches provide for the following operator intervention: System Reset, Event Acknowledgment, Alarm Silence, Fire Drill, and Lamp Test.

The PEGAsys LV supports up to 16 graphic annunciator-driver modules.

SPECIFICATIONS

Dimensions	**Enclosure only:** 14-1/4 in. W x 20-1/2 in. H x 5-1/2 in. D **Enclosure with door:** 14-1/2 in. W x 20-13/16 in. H x 5-5/8 in. D
Input Power Supply	120 Vac, 1.90 A maximum 240 Vac, 0.95 A maximum
Output Power	4.0 Amp @ 24 Vdc nominal Filtered and Regulated Inherently Power Limited
Signaling Line Circuit	1 SLC, 255 Devices maximum, Style 4, 6 or 7 (with Isolator Modules)
Notification Appliance Circuits	2 NACs, Class-A, Style-Z or Class-B, Style-Y 24 Vdc nominal, 2.0 Amp maximum per circuit
Releasing Output	NAC No. 1 User Configurable for Releasing 1 Solenoid Valve maximum
System Status Relays	2 Programmable, 1 Trouble Form-C, 1 Amp @ 28 Vdc
Auxiliary Power	2 Programmable for Resettable or Continuous 24 Vdc nominal, 1.5 Amp maximum each output Unsupervised, power-limited
Battery Capacity	99 AH maximum capacity 12 AH fits within enclosure
RS-232 Serial Ports	1 Bi-Directional, 1 Uni-Directional 9600 Baud, 8 Data Bits, 1 Stop Bit, No Parity
RS-485 Communications Port	1 Port, Maximum 31 Remote Addresses (RDCM and ATM-L)
Networking	32 Control Units maximum Single or Dual Channel 4,000 ft., twisted, unshielded wire pair between control units maximum
Optional Modules	RDCM Remote Display Module ATM-L Annunciator Driver Module NIC Network Interface Card

ORDERING INFORMATION

Part Number	Description
76-100000-506	PEGAsys LV Control Unit
76-100020-002	Trim Ring for Semi-Flush Mounting

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