Kidde Fire Protection

VEGA

Analogue Addressable Control Panels

Representing the future of fire alarm control technology, Vega's modular concept enables the tailoring of system design for the smallest to the largest system. Designed to comply with EN54 parts 2 and 4, the Kidde Fire Protection Vega analogue addressable control panel range represents the ultimate in detection and alarm technology.

- Modular design
- Microprocessor-based distributed intelligence
- Supports Apollo XP95 or Hochiki ESP protocols
- Expandable from 1 to 16 loops in single loop increments
- On-site programmability via text and graphical display
- 4 to 16 programmable sounder circuits
- Optional plug-in cards for on-site configuration

Vega's microprocessor-based distributed intelligence enables systems to be tailored to the exact requirements of a wide range of system configurations. Offering flexibility in design and operation, Vega is ideal for installations protecting hotels, office complexes, manufacturing sites, hospitals, schools, residential or commercial complexes. In fact, any area where quality of performance and reliability are paramount.

Versions of Vega are available to support Apollo XP95, Discovery or Hochiki ESP protocols and both have the capacity for expansion from 1 to 16 loops in single loop increments. Each loop is fully monitored and supports

the relevant range of devices covered within the protocol ranges. The 8-line, 40-character text and graphical display allows ease of on-site programmability, especially when scrolling through menus and entering data. A fast action printer is available as an option. From 4 to 16 programmable sounder circuits and volt-free changeover contacts are incorporated, plus the selection of a range of plug-in option cards to ease on-site configuration.

Vega's front panel membrane is constructed of smooth, antistatic polycarbonate and incorporates many control features in addition to LED and LCD displays. The controls include: silence buzzer, scroll, silence alarms, reset, delay override, evacuate (a manual operation to activate all panel and loop driven sounder circuits), and numeric keys 0 – 9 (to enter passwords and select menu options).

Alarm management

A new range of software features has been designed to minimise false alarms; "Day Mode" allows any loop input device to be assigned a day mode selection parameter. These parameters can either alter the sensitivity setting or isolate the allocated device. This feature can help to prevent false alarms in areas which are occupied during daytime hours. Time delays can also be built in to allow alarm confirmation before an automatic call is sent to the fire service. The second level of alarm management allows an operator up to 60 seconds to acknowledge an alarm. This will then allow the operator a further 10 minutes to return to the panel to effect a reset, before a full alarm is raised. Features within the 2nd level of alarm management can be summarised as:

- *Positive alarm sequence* – allows time for fire investigation to take place before panel outputs are activated (see above)
- *Loop current check* – allows user to view loop current drawn
- *Forward and Reverse loop scan* – enables ease of location of open or short circuit fault
- *Loop integrity* – allows user to view number of times a loop has experienced interference
- *Autolearn* – allows for a new loop configuration to be recognised
- *Panel Test* – allows for the visual and audible indications to be tested
- *Device Test* – allows single device to be electronically tested from the panel location
- *Output Group Test* – allows output programming to be verified
- *Alarm Simulation Test* – combines the device and output   group test options, to check correct alarm function
- *Device Fault Codes* – allows ease of

fault-finding from panel location. Users can report specific fault information to the service company

- *Event Log* – stores and records each event which occurs on the control panel, with date, time and event number. A maximum of 512 events can be stored

Full on or off site programming is possible either via a PC using the VIPER software package or the panel membrane.

Power supplies

Designed, manufactured and tested to ISO 9001, Vega incorporates a 110v/220v/240v switch mode power supply with space for sealed lead acid batteries. A range of power supplies, which incorporates battery temperature charging compensation, is available to meet system load requirements.

Options

The basic unit incorporates options within the European standard EN54 including:

- Output delay functions
- Coincidence detection
- Fault signals from devices
- Output to fault warning equipment
- Disablement of addressable devices

Vega supports an extensive range of options including:

- Bezel for flush mount installation
- Fast action integral printer (24 character per line)
- Glazed lockable viewing door
- Repeater panels
- Plug-in option cards
- Networking interface

Programmability

The "Control by event programming"

feature is configured by connecting a PC to a communication port on the main control processor pcb. Using the proprietary (DOS based) software package, site configurations can be uploaded or downloaded as required. Vega has a minimum of 4 fully monitored sounder circuits and 4 VFCO relays, which are fully programmable.

Dependent upon the protocol used, an extensive range of fully programmable loop output devices will be available, making full use of the devices' sub address facilities.

Zonal indications

Visual indications are provided for fire (red) or fault (yellow) via LEDs for each zone. The basic Vega panel incorporates 24 LEDs. Higher capacity versions are available in multiples of 32, up to 120 zones. Each input and output, panel, input/output (I/O) bus and/or loop device(s) can have specific text allocated for identification purposes. All input loop devices have the facility to be allocated to a specific zone, with respective zonal text and specific device text.

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Inputs and outputs

Vega has the ability to expand up to 120 fire and fault zonal LED indications and up to 64 plant zones comprising LED confirmation only. Each individual input device can be assigned to a fire zone or plant zone. All inputs can be assigned a priority level between 0 and 9, depending on the criticality of the required input signal. Up to four 4-way mothercards can be accommodated, each of which can accept a range of plug-in option cards for ease of on-site configuration.

Plug-in card options include:
• 8 way relay output
• 8 way sounder output
• 16 way input
• 16 way output
• 8 way monitored input

The mothercards and the associated option cards are fully monitored and have their functionality controlled by the main processor.

LCD Indications

The LCD will indicate the following information for alarm and fault conditions:

• First zone in alarm
• Last zone in alarm
• Option to scroll intermediate zones
• Option to view devices associated within each zone
• On-screen prompts
• Time and date
• Company logo

Controls and functions

The following controls are located on the front panel:

• Silence local buzzer – silences the internal buzzer for alarm and fault conditions
• Scroll – enables viewing of multiple alarm and fault conditions

• Silence alarms – silences the control panel and loop-driven sounder circuits
• Reset – resets all alarm and fault conditions
• Delay override – manually overrides any programmed delays
• Evacuate – a manual operation to activate all panel and loop driven sounder circuits
• Numeric keys 0-9 – used to enter passwords and select numeric values in menu options
• Enter – used to select the required menu functions and to interrogate activations
• Cancel – used to deselect the menu functions and/or exit from menus
• Up, down, left and right keys used to scroll through multiple zone alarms, faults, devices and to scroll through the menu options

Repeater panels

Two types of Vega Repeater are available:
• Passive (Type 1) – LCD only
• Active (Type 2) – LCD, controls and status/zonal LEDs

Up to 15 active and 49 passive repeater panels can be connected to a Vega panel. Each repeater is fully monitored for communications from the Vega. Active repeaters also have the facility to take control of the system via entry of the relevant password.

For more details refer to Vega Repeaters datasheet (E9832-318).

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Specification

Vega panel	1 loop control and indicating panel. Capable of being expanded to a maximum of 16 loops in single loop increments
Display	8 line by 40 character Liquid Crystal Display – Backlit Viewing adjustable via 'R2' on PCB 44782-K071
Indications	14 status indications defined by EN54 part 2 24 Fire and Fault zonal indications. Expandable in blocks of 32 indications to give the options of 56, 88 and 120 64 plant indications (optional)
Loop Card	Maximum output current per loop of 220 mA
Printer	24 volt dot matrix Fast Action printer (optional)
Current Consumption	
1 Loop control panel	Quiescent = 350mA: Alarm = 730mA
4 Loop control panel	Quiescent = 570mA: Alarm = 940mA
8 Loop control panel	Quiescent = 800mA: Alarm = 1100mA
16 Loop control panel	Quiescent = 1800mA: Alarm = 2400mA
Power Supply Unit	(4 and 8 amp versions available)
2.5 amp PSU	110 – 270 Volt AC mains input voltage sensing
Battery Charging	Flat – 27.7v @ 2.5 amps ± 0.4 volts DC Load shed – 20.4 to 21.4 volts DC ± 0.4 volts DC
Physical	Standard 1 to 4 loop enclosure with 24 zonal indications
Dimensions	400mm high by 500mm wide by 140mm deep
Enclosure Finish	Semi Gloss Ash Grey – BS4800 00A01 (other colours optional)
Cable Entry	20mm Pre formed knockouts top and bottom
Weight	9.86Kg – Unpacked (standard enclosure 400x500x140) 11.84Kg – Packaged (standard enclosure 400x500x140)
IP Rating	IP31
Battery Capacity	Space for 2 x 12 volt 12 AH SLA batteries
Protocol	Each zone may contain up to a maximum of 32 detectors and between each zone a short circuit isolator is required
Apollo	Series 90 and XP95 protocols. Maximum of 126 devices per loop
Hochiki	ESP protocol only. Maximum of 127 devices per loop
Inputs	
Detection Loop(s)	4 way terminal – Loop In "+/-", and Loop Out "+/-"
Power Supply	Live, Neutral and Earth
Repeater (optional)	RS485 signal – 4 way output "+/-".2 separate cores
Service Port	RS232 DIN socket (SKT 1) for connection to PC using the MT0021 communications lead
Outputs	
Monitored Outputs	4 programmable monitored reverse polarity sounder circuits each rated at 1 amp @ 17 to 28.5 volts DC – Maximum output for all circuits is 2 amps.10 k ohm EOL resistor per circuit
Relay Outputs	4 programmable volt free change over relay contacts each rated at 1 amp (resistive) @ 30v DC maximum 1 off Fault volt free change over relay contact rated at 1 amp (resistive) @ 30 volts DC maximum. Energised upon power up. De-energises for any fault condition
Internal Buzzer	80dB output

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Approved Cables

Detection Loops	MICC or Pirelli FP200
	1 Km maximum for 1.5mm Cross Sectional Area
	2 Km maximum for 2.5mm Cross Sectional Area
Sounder Circuits	Any screened cable which is approved by the current British Standard for "Prolonged Operation in a fire condition"
Repeater Panel	MICC or equivalent (2 core)
	1 Km maximum for 1.5mm Cross Sectional Area
	2 Km maximum for 2.5mm Cross Sectional Area
	Belden 9729 or Equivalent (2 core)
	1 Km maximum

Environmental

Temperature	Operating	0 to +40°C
	Storage	0 to +40°C
Relative Humidity	93%	
Shock and Vibration	Operational	10 Hz to 150 Hz sinusoidal, 0.1g in all 3 planes
	Endurance	10 Hz to 150 Hz sinusoidal, 0.5g in all 3 planes
Electrostatic Discharge	8kV.	
Electromagnetic Interference	10 v/m, 27 MHz sinusoidal	
Electrical Fast Transients	1 – 2 kV on power input cables	

Design Standards	Designed under Quality standard BS EN ISO 9001
Vega Design Standard	To meet the requirements of EN 54 parts 2 and 4. European Directive on Electromagnetic Compatibility (89/336/EEC)

Ordering Information	Part No. (A = Apollo/E = Hochiki ESP protocol)
Single Loop Control Panel LCD display, 24 zone indications, 2.5 Amp PSU, 4 Alarm outputs and 4 relay outputs. Enclosure 400 x 500 x 140. Space for 2 x 12 A/Hr batteries and 1 x option motherboard	V01\1\024*\2\ (P)
Two Loop Control Panel LCD display, 24 zone indications, 2.5 Amp PSU, 4 Alarm outputs and 4 relay outputs. Enclosure 400 x 500 x 140. Space for 2 x 12 A/Hr batteries and 1 x option motherboard	V02\1\024*\2\ (P)
Three Loop Control Panel LCD display, 24 zone indications, 2.5 Amp PSU, 4 Alarm outputs and 4 relay outputs. Enclosure 400 x 500 x 140. Space for 2 x 12 A/Hr batteries and 1 x option motherboard	V03\1\024*\2\ (P)
Four Loop Control Panel LCD display, 24 zone indications 2.5 Amp PSU, 4 Alarm outputs and 4 relay outputs. Enclosure 400 x 500 x 140. Space for 2 x 12 A/Hr batteries and 1 x option motherboard	V04\1\024*\2\ (P)
Four Loop Control Panel LCD display, 56 zone indications, 4 Amp PSU, 4 Alarm outputs and 4 relay outputs and printer. Enclosure 550 x 500 x 140. Space for 2 x 12 A/Hr batteries and 1 x option motherboard	V04\2\056*\4\ (P)
Five Loop Control Panel LCD display, 56 zone indications, 4 Amp PSU, 8 Alarm outputs and 8 relay outputs and printer. Enclosure 550 x 500 x 225. Space for 2 x 24 A/Hr batteries	V05\3\056*\4\ (P)
Six Loop Control Panel LCD display, 56 zone indications, 4 Amp PSU, 8 Alarm outputs and 8 relay outputs and printer. Enclosure 550 x 500 x 225 Space for 2 x 24 A/Hr batteries	V06\3\056*\4\ (P)
Seven Loop Control Panel LCD display, 56 zone indications, 4 Amp PSU, 8 Alarm outputs and 8 relay outputs and printer. Enclosure 550 x 500 x 225 Space for 2 x 24 A/Hr batteries	V07\3\056*\4\ (P)
Eight Loop Control Panel LCD display, 56 zone indications, 4 Amp PSU, 8 Alarm outputs and 8 relay outputs and printer. Enclosure 550 x 500 x 225 Space for 2 x 24 A/Hr batteries	V08\3\056*\4\ (P)
Nine – Twelve Loop Control Panels LCD display, 88 zone indications, 8 Amp PSU,12 Alarm outputs and 12 relay outputs and printer. Enclosure 550 x 1000 x 225 Space for 2 x 38 A/Hr batteries	Vxx\4\088*\8\ (P) (xx denotes no. of loops 09, 10, 11 or 12)
Thirteen – Sixteen Loop Control Panels LCD display,120 zone indications, 8 Amp PSU,16 Alarm outputs and 16 relay outputs and printer. Enclosure 550 x 1000 x 225 Space for 2 x 38 A/Hr batteries	Vxx\4\120*\8\ (P) (xx denotes no. of loops 13, 14, 15 or 16)
Note: The size of the power supply unit will require calculating with respect to current loads which are drawn from the loops, sounder and any additional equipment provided.	Note: Printer optional on 1-4 loop panels Use suffix P if printer required.