

# VELOX 4000 INT SERIES

VELOX Integrated Fire Alarm, Voice Alarm & Public Address, Fire Telephone, and Smoke Management System

## Features

- Kite Mark approved to EN54 part 2 & 4
- Modular 2, and 4 loops configuration
- Up to 200 peer to peer redundant network of panel
- Up to 1000 zones in a network
- Up to 1000 event logs
- Up to 240 devices on a single loop
- Automatic and Manual Addressing of the loop devices
- User friendly menu and navigation keys.
- Complex Cause & Effect for large size installation.
- Fully integrated with the ATEIS Public Address and Voice Alarm
- Fully Integrated Fire Telephone System
- Fully Integrated Mimic Panel and Smoke Management

## Both Decentralized and Centralized Intelligence

The VELOX fire detection and alarm system, with its unique features reside at the apex of detection technology in the market. While the true intelligent analogue addressable detectors and devices connected to its loop, with its own decentralized intelligence; the VELOX panels gathers all the analogue values of these devices, and decide how to manage the alarm and 'cause & effect' part of the entire installation.

The panel shall capture all the detector and devices parameters such as, smoke obscuration, any faults reported by the detectors, temperature values, and process all these information against the programmed 'cause & effect' to decide how the action shall take place.

## Powerful Construction

Each panel consist of a module 2, and 4 loop cards. Each VELOX panel is equipped with all the necessary



KM 591678

sounder circuits' outputs, auxiliary relays. Apart from that, each panel is equipped with powerful logic inputs and outputs that can be configured as needed to control external equipment or to pick up activation switches, further enhancing the integration features of each panel.

Each panel can host several external peripherals connected on the on-board RS485 port. This shall allow extra local integrations when needed.

Each panel is equipped with powerful EN54 part 4 power supply capable of delivering 500mA per loop drive. Hence, all the devices such as detectors, modules, sounders, are powered from the same loop. Powerful event memory of 1000 events can be stored on each Fire Alarm Control Panel.

All the range of VELOX panels can be fitted with thermal printer.

## **ATEIS Integrated Public Address and Voice Alarm System (PAVA)**

The VELOX 4000 INT is a fully integrated solution. The touch screen PSS-AS is the latest addition touch screen. With a colored touch control, the user can control up to 256 zones of PAVA of ATEIS latest technology. The control shall include paging, routing music from selected music source on the network to the selected zone or group of zones.

The entire PAVA is monitored from this modules, and the address of the fault such as speaker circuits, or amplifier, or any fault on the PAVA network shall be indicated on the same touch screen.

Each touch screen module consist of touch screen, paging mic, indicating LED's, and inbuilt speaker which shall monitor the zone selected, and hence able to listen to the messages played in this particular zone.

\* please refer to ATEIS PAVA catalog and data sheets for more knowledge on the PAVA network capabilities.

### **Integrated Fire Telephone System**

The VELOX 4000 INT / TEL is fully integrated Fire Man's telephone system. Two models can be integrated on the same 4000 INT enclosure.

The VCC5 which is standalone 5 line telephone system, which is used typically for staircases or smaller telephone installation, were VCM is the bigger modules for medium to large installation where 256 telephone lines are required.

The VCM is a modular system and connected to the VCX-8 exchanger on a dedicated redundant network, were each exchanger can cater for 8 lines and up to 32 exchanger on a single network can be connected.

### **Integrated Smoke Management System**

The VELOX flexibility, is all about offering different system configuration capability with total integration. The smoke management control is another flexible feature on the VELOX 4000 INT series.

The system can comprise 8-50 input / output configuration to build up a small size smoke management system. The control is fully transparent to the network, meaning, can control virtually any Input / Output on the system either individually or group / zone wise. VELOX recognize that not all projects and sites are similar, hence fully customized solutions is offered.

The VELOX range network if needed can handle as large as 200 smoke management panels on a single network, for mega installation.

## **Mega Installations Demands Mega Network Capability**

The powerful VELOX secure network can drive 200 panels, repeater panels, mimic panels, smoke management control panels on a single 20Km ring topology on a peer-to-peer communication sharing 1000 zones across the network. This powerful feature insure that only one zone number is available on the network, this shall minimize any confusion on zone numbering across a large network structure.

With this powerful network, programming of 'cause & effect' can't be simpler. Peer-to peer communication means that information about the compete network will be available on all the panels if programmed as master panels, however option is also available to have master-slave configuration between two or more selected panels.

Each panel can be spaced up to 1.5km using 2 core copper cable, and if single mode fiber optic cables is used up to 40km between panels can be achieved.

### **Cost Effective Installation is Added Benefit**

Subject to the loop load calculations, 240 devices can be connected on the VELOX 2Km loop length using 1.5mm<sup>2</sup> cable, were all the devices are powered from the same loop. This exceptional feature shall drop the cost dramatically, and make the installation faster and easier to achieve.

### **Zero Downtime**

Each device on the VELOX loops is equipped with in-built short circuit isolator, in case of a single fault, no device shall be lost on the loop. This shall only provide higher reliability to the performance as well easy installation to comply with the latest standards and regulations.

### **Commissioning is Never Easier**

VELOX wants to make it easy to the installer, no dip or rotary switches are required to address the detectors nor barcode scanners or other difficult methods of installation are needed.

Automatic addressing is an added benefit to the many other of VELOX technology, where the fire alarm control panel addresses each device in a sequential manner, and make sure that no duplicate addresses are allowed. Furthermore when needed to assign an address in a non-sequential fashion, the manual programming via the VELOX detector programming tool is utilized.

The VELOX panel is equipped with advanced diagnostic features, such as measuring the in and out voltage drop and current consumption on each loop card, as

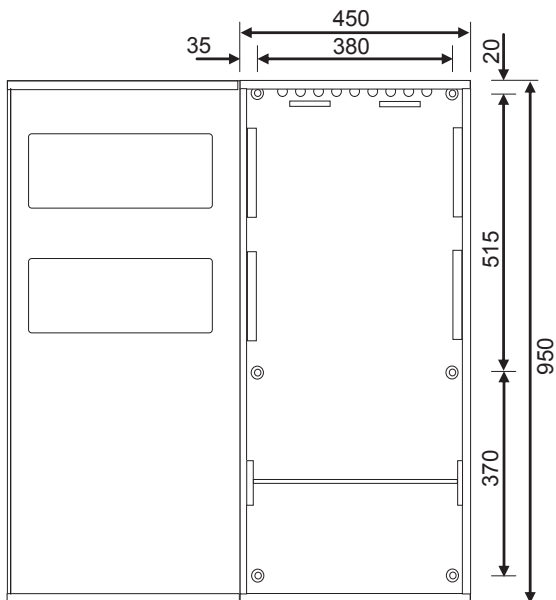
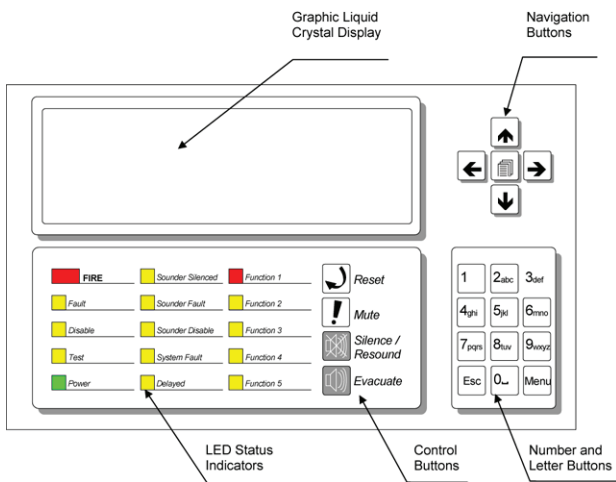
well measuring the exact earth leakage whether its positive or negative. As well, communication diagnostics features of the loop communication shall provide at glance all the necessary information to the commissioning engineer.

**Powerful Cause and Effect**

Each VELOX panel shall support up to 200 zones and 200 groups per panel. Functions such as day – night sensitivity change, unlimited delay blocks for the different outputs, linking the groups / zones virtually via the network are all standard features of the VELOX technology.

Add to it, complex three tier of AND / OR / NOR logic design are fully programmable. Different styles of sounder programming, as well as each output on the VELOX network is individually controlled, such as sounders, input / output modules, as well as remote alarm on each detector.

**General Overview**



**Physical Construction and Assembly**

The VELOX 4000 panels are supplied with metal enclosures, and it is either with front transparent protection door or without. As well two main sizes to fit the 24 hour battery or 72 hour battery backup as and when needed.

The VELOX 4000 INT, host several integrated systems all in one, such as Fire Telephone System, the ATEiS legendary Public Address and Voice Alarm Systems. All the enclosures can be flushed or surface mounted.

**Approvals & Compliance to Standards**

The VELOX 4000 range is fully approved and certified to EN54 part 2 and 4, and it is holding the Kite Mark Certificate of quality. All the VELOX panels and peripherals has passed rigid testing and certification programs to ensure that high performance of the equipment during the toughest alarm conditions.



**FIRE ALARM PANEL WITH SMOKE MANAGEMENT SYSTEM**



**FIRE ALARM PANEL WITH PSSAS**

## Technical Specifications

Item	4200 INT	4400 INT
Base Technology	Dual Flash based Processors with Real Time Clock, 'Trace' diagnostics, 'PuLsE' communications & programmable languages	
Display	Backlit 240x64 Graphical LCD	
LED Indicators	3 Red (2 x Fire, 1 x Alarm), 1 Green (Power) & 12 Amber (Fault & System)	
Controls	Alpha Numeric Keypad, Navigation Keys & System Keys for Reset, Mute, Silence/Resound & Evacuate	
Protocols	VELOX	
Number of Fire Zones	1000	
Number of Loops	1 – 2. Expandable via individual plug-in loop driver	1 – 4. Expandable via individual plug-in loop driver
Devices per loop	240	
Loop Current	500mA	
On Board Sounder circuits	2 x 1 Amp Programmable	4 x 1 Amp Programmable
On Board Relays	2 x 1 Amp 30v AC/DC Programmable	
Auxiliary Supply	1 x 24v 500mA	
Open Collector / Logic Outputs	8 x Programmable	
Programmable Switch Inputs	8 Volt Free Digital Inputs	
On Board Power Supply	4 Amp High Efficiency Switched Mode	5 Amp High Efficiency Switched Mode
Mains Supply	110 - 230 V AC (+10%, -15% tolerance) 50 / 60 Hz 1.9 Amp	110 - 230 V AC (+10%, -15% tolerance) 50 / 60 Hz 1.7 Amp
Battery Capacity	24v 18 Ah internal. 24v 48Ah external	
Charger Current	2.0 Amp DDP monitored, temperature compensated integral charger	2.2 Amp DDP monitored, temperature compensated integral charger
Serial ports	1 RS232 Onboard for PC, Modem or External Printer	
Programming	Via on-board Keypad or PC running Windows Tools	
Event Log	1000 Fire & Event + Diagnostic	
Networking	Optional plug in Network card	
Printer (Option)	Optional on-board or External Serial Printer	
Enclosure / Colour	RAL 7016 / Anthracite Grey	
Cable Entry	20mm Knock-outs. 18 x top, 9 x top rear and 2 x bottom	
Size H x W x D mm / Weight	950x 450 x 188 / 23 Kg	
Metalwork Options	Flushing Bezel, Ancillary Enclosure & Battery Box	
Approvals	BS EN 54 Part 2:1997 +A1 & AC and BS EN 54 Part 4:1998 +A1 & A2 , / KM 591678	

**Technical Specifications (Fire Telephone System)**

Item	VCM	
Power Supply	Source	230V AC + 20%
	Voltage	11mA
	Current	12V SLA 3.2AH
Processing	Architecture	AVR RISK
	Clock	16MHz
	Memory	4K RAM 20K EEPROM 128K Flash
	Monitoring	125mS Asynchronous Watchlog Checksum on EEPROM & Flash
Network Cables	Grade	Enhanced Cable (per leg)
	Cable (per leg)	1 off four Pair (eg Draka 91 -0245)
	OR	2 off four core 1 mm CSA Soft Skin
	OR	4 off 1 Pair MICC Twisted
	Distance (per leg)	500M Soft Skin types, 300 M MICC
	Monitoring	Data & Phantom Voltage
Indication & Controls	Fault LEDs	4 off yellow (General, Panel, Supply & Exchange)
	Status LEDs	4 off green (healthy, AC, DC & Network)
	LCD	High Contrast Green/ Black LCD, four line twenty-character 5 x 8 pixel format
	Keyboard	12 Key Telephone Style
	Navigation	3 Keys (down/left, Accept, up/right)
Standards Compliance	EMC	EN55103-1, EN55103-2
	Product Family	BS5839-Part 9, BS5588-Part

Item	VCC5	
Power Supply and Charger	AC input	230VAC +/- 10% 50/60Hz
	Internal power supply	14VDC
	Supply & battery	Monitored Open, Short, Fuses
	Protection	Deep discharge, Short, Thermal
	Temperature compensation	YES
	Battery size and type	240V 2A HRC
	Mains fuse	1 x 12V 4.2Ahr
	Battery fuse	1A PTC
	Max Charge current	250mA
Inputs	Number of lines	5
	Remote enable	Short to use
	End of line	10KΩ
Outputs	Number	2, Fault & In use
	Type	Volt free relay
	Contact	30V DC 1A
Controls	Buttons	6, five lines 1 fault ack
	Zone LEDs	5 status / 5 Fault status
	Fault LEDs	3, AC, DC General
Outstation Cables	Type	Enhanced
	Cores	2 core 1mm or 1.5mm
	Distance	500m

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## Technical Specifications (PSSAS)

Item	PSSAS	
Battery power supply	Voltage	18 - 26 VDC
	Power consumption	250 mA
Performance	Frequency response	-3 dB @ 200 Hz to 8 kHz
	THD	< 1% @ 1 kHz
	Output level Max	6 dBu
	Noise gate threshold	-84 dBu – 24 dBu
	Attack time	8 ms
	Release time	100 ms
	Output impedance	100 Ohm
Monitoring speaker	Impedance	4 Ohm
	Output power	1 W @ 1 Khz
	Frequency response	-3 dB @ 200 to 12 kHz
Headset	Connector	3.5 mm mini-jack
Cable	Cable type	CAT-5 (FTP)
	Length	100 m

## Order Codes

Part No.	Description
4200INT	1-2 loop (integrated with telephone and microphone)
4200INT/TEL	1-2 loop (integrated only with telephone)
4200INT/PSSDT	1-2 loop (integrated only with microphone)
4400INT	1-4 loop (integrated with telephone and microphone)
4400INT/TEL	1-4 loop (integrated only with telephone)
4400INT/MP	1-4 loop (customized with Mimic Panel)
4400INT/sm	1-4 loop (customized with smoke management control)
4800INT	2-8 loop (integrated with telephone and microphone)
4800INT/TEL	2-8 loop (integrated only with telephone)
4800INT/MP	2-8 loop (customized with Mimic Panel)
4800INT/sm	2-8 loop (customized with smoke management control)
4001	Loop driver card
<b>CARDS &amp; ACCESSORIES (NETWORK CARDS)</b>	
4420	Standard network card
4421	Fault-tolerant network card
<b>CARDS &amp; ACCESSORIES (PERIPHERAL CARD)</b>	
<b>OUTPUT CARDS</b>	
4042	2-way programmable relay output card
4048	8-way programmable relay output card
<b>Input Card</b>	
4148	8-way programmable relay input card
<b>Peripheral Bus Adaptor Card</b>	
4060	Peripheral bus interface adaptor
<b>General Routing Interface Card</b>	
4061	Fire alarm routing interface card (monitored I/O)

Programmable Relay Card	
4064	4-way relay card
4065	4-way relay card with 1.5A PSU (boxed)
Programmable Sounder Card	
4062	4-way sounder card
4063	4-way sounder card with 4A PSU (boxed)
MIMIC PANELS (Boxed Mimic and Evacuation Control Units)	
4727	100 zone panel mounted mimic for 4200 /4400. Artwork required.
4720	100 way remote LED mimic enclosure (type 1). Artwork required
4721	100 way remote LED mimic enclosure (type 2). Artwork required
4722	Fault Tolerant 100 way remote LED mimic enclosure (type 1)
4723	Fault Tolerant 100 way remote LED mimic enclosure (type 2)
4745	50 way network I/O controller boxed (type 2) c/w psu
4746	50 way fault-tolerant network I/O controller boxed (type 2) c/w psu
MIMIC PANELS (LED Indicators and Switch Inputs for Boxed Mimic Units)	
4726/F	High Intensity red LED for Boxed Mimic and Evac Control Units - Fitted
4726/Y	High Intensity yellow LED for Boxed Mimic and Evac Control Units - Fitted
4726F/G	High Intensity green LED for Boxed Mimic and Evac Control Units - Fitted
4731/2T	2-Position key switch trapped for 4745 and 4746 - Fitted
4731/2U	2-Position key switch un-trapped for 4745 and 4746 - Fitted
4731/3U	3-Position key switch un-trapped for 4745 and 4746 - Fitted
4733	Non-illuminated push button for 4745 and 4746 - Fitted
4733/R	Illuminated (red) push button for 4745 and 4746 - Fitted
4733/G	Illuminated (green) push button for 4745 and 4746 - Fitted
4752	Mimic driven 10-way relay output card
4752/D	Mimic driven 10-way relay output card in din-rail carrier
MIMIC PANELS (Key switches and push buttons for 50-way network I/O controller )	
4700	100 way remote LED mimic driver (un-boxed)
4700/FT	Fault Tolerant 100 way remote LED mimic driver (un-boxed)
4705	50 way network I/O controller (un-boxed)
4705/FT	50 way fault-tolerant network I/O controller (un-boxed)
4706	High Intensity red LED & 600mm Lead for Boxed Mimic and Evac Control Units
4706/Y	High Intensity yellow LED & 600mm Lead for Boxed Mimic and Evac Control Units
4706/G	High Intensity green LED & 600mm Lead for Boxed Mimic and Evac Control Units