VANTUM Series

Integrated Fire Alarm, PAVA, Emergency Lighting, Fire Telephone, and Smoke Management System.

New Era of Integration

The VELOX VANTUM integrated fire safety solution is engineered to deliver a comprehensive and highly efficient system for emergency management. Designed to consolidate multiple critical control systems within a single enclosure, VANTUM ensures optimal performance and reliability during emergency situations.

Operating in conjunction with the VELOX 5000 Series Fire Alarm Control Panel (FACP), the VANTUM panel provides a centralized platform for monitoring and managing Fire Alarm, Public Address & Voice Alarm (PAVA), Fire Fighters Telephone and Emergency Lighting systems.

The VANTUM solution includes all essential components required to implement a fully functional Voice Evacuation System, Fire Alarm Control System, and Emergency Lighting Monitoring System. The standard configuration comprises the VELOX 5000 Series FACP, PSS-AS Paging Console, DENALI-T Emergency Light Controller, and VFT8-NET Fire Telephone. However, the system is fully customizable based on specific project requirements. Additionally, depending on the application, it can be configured to include the VELOX 5754 – 16-Way Switch with 48 LED Indication Card, offering enhanced control, visibility, and dynamic zoning capabilities.

Main Features

- Compact all-in-one design integrating fire alarm control, emergency communication, and lighting management within a single panel
- Supports multiple command centres with flexible configuration tailored to site-specific safety requirements
- Configurable to include a paging console, emergency light controller, fireman's telephone panel, and VELOX-5754 (16-way Switch & 48 LED Card) for SMS (Smoke Management System Control)
- Advanced cause & effect programming suitable for complex and large-scale installations
- Available in 1, 2, and 4 loop configurations for fire alarm control systems
- Supports up to 240 addressable fire detection devices on a single loop
- Networkable architecture supporting up to 200 intelligent fire alarm panels
- Peer-to-peer communication with capacity for up to 2,000 fire zones
- Offers both automatic and manual addressing of loop devices for flexible commissioning
- One emergency Lighting control panel can manage up to 16 routers, with each router supporting 128 devices (2 groups of 64), enabling a total capacity of 2,048 devices within a single system

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The VANTUM panel is available in three core variants to suit different project scales, Single Loop, Two Loops and Four Loops. Each control centre is built into a compact and robust 20U enclosure, with a modular design that supports a wide range of optional components to meet specific project requirements. In addition to the standard configurations, VANTUM offers flexible customization options, enabling users to tailor the system to their exact operational needs.

The VELOX VANTUM Series is fully expandable from 1 to 4 loops and is supplied with 1, 2, or 4 loop cards. It also includes onboard sounder circuits, 20 programmable zonal LEDs with slide-in labels, and 25 system LEDs for status indication. Additionally, the panel features 4 or 8 programmable function buttons with LED indicators for confirmation of operation.

The inclusion of the VELOX 5754 – 16-Way Switch & 48 LED Card adds an expansion peripheral offering 16 inputs and 48 outputs, configurable via the VELOX PC Config Tool. This additional PCB provides a cost-effective solution for implementing 16 individually programmable push buttons for fire alarm control. Each LED output can be assigned to an output group, allowing full support for dynamic zoning and providing visual confirmation when a button has been activated.

Flexibility in System Configuration and Smoke Management

VELOX stands out for its exceptional flexibility, offering a wide range of system configuration capabilities with total integration. One of the key flexible features of the VELOX VANTUM series is smoke management control. The system can be configured to support even a small-scale smoke management setup while maintaining full compatibility with the broader network.

The control is fully transparent to the network, meaning it can manage virtually any input or output device on the system—either individually or by group/zone—without limitations.
Recognizing that no two projects or sites are the same, VELOX provides fully customized solutions tailored to specific requirements. When scalability is needed, the VELOX network can handle up to 200 smoke management panels on a single network, making it ideal for large-scale or mega installations.

- Fire telephone controller supports up to eight outstation lines per panel
- Inbuilt networking allows the fire telephone system to integrate into a VELOX network of up to 64 panels, supporting a total of 512 outstations
- The PSS Console with IDA8C controller is ideal for installations of all sizes—from compact systems with 256 speaker zones to complex systems with up to 8,192 zones
- High system reliability ensured through multi-level redundancy, including local and global network redundancy, backup amplifier switching/sharing, and system unit backup
- Supports multiple VELOX -5754 button configurations, with each VELOX -5754 unit featuring 16 individually programmable push buttons for smoke management and emergency response.

Integrated Public Address and Voice Alarm System (PAVA).

The VANTUM's built-in PSS-AS Paging Microphone features a touchscreen interface with a full-color display, allowing the user to control up to 8192 PAVA zones using latest technology. The control functions include paging, routing music from a selected network source to a chosen zone or group of zones.

VAICE (Voice Alarm Indication & Control Equipment) for VANTUM system are distributed on different location and interconnected by Fiber Optic cable or Copper Cable (CAT6) depending on require. VAICE can be Rack Mounted .
The entire PAVA system is monitored through these modules, and any faults—such as issues with speaker circuits, amplifiers, or the PAVA network—are displayed directly on the touchscreen interface in the VANTUM Panel. Each touchscreen module includes a touchscreen display, paging microphone, indicator LEDs, and a built-in speaker for zone monitoring. This allows users to listen to the messages being played in a selected zone for confirmation.
The VANTUM Series panel with integrated PAVA functionality is available with two interface options to ensure compatibility with various system architectures: PSS-AS, designed for seamless integration with the IDA8 system and its associated field amplifiers.

For more detailed information on the capabilities of the PAVA network, please refer to the PAVA catalog and data sheets.

In-built Integrated Fire Telephone System

The VELOX Fire Telephone System (VFT) is a fixed, secure, bi-directional, full-duplex voice communication system designed to assist firefighters during emergencies—particularly in high-rise buildings or large sites where radio communication may be unreliable due to interference from the fire corona.

The VELOX VFT-8-NET Master Station supports up to eight outstation lines. Its touchscreen interface features four buttons for quick access to main functions, while constantly displaying the number of active calls, alarms, and faults. Emergency Assist Alarm calls can be acknowledged by tapping the on-screen icon (as required by BS8300). If not reset within two minutes, the alarm will automatically return to its active state.

The system includes built-in networking capabilities, allowing it to operate as one of up to 64 panels within a VELOX network installation—accommodating a total of 512 outstations. Each panel can function either as a master station or as a VFT-8-EX Network Expander. The entire system can be configured from any master station, offering high flexibility and ease of control.

Advanced Networking and Configuration Flexibility

The powerful VELOX secure network supports up to 200 panels, including repeater panels, mimic panels, and smoke management control panels, all connected via a 20 km ring topology. The system operates on a peer-to-peer communication protocol, sharing up to 1000 zones across the network. This centralized zoning system ensures that each zone number is unique across the entire network, significantly reducing confusion in large-scale installations.

With Dynamix programming, many of the typical complexities associated with I/O relationship programming are simplified. Tasks such as two-stage activation, multi-pattern NAC (Notification Appliance Circuit) control, intelligent detector drift compensation, precision sensitivity mode settings, and flexible timing functions are made more efficient and intuitive.

The VANTUM Series Control Centres are fully field-programmable through the onboard graphical LCD display and alphanumeric keypad. Front-panel programming enables users to define input-to-output relationships, configure output circuit characteristics, assign zone and device text descriptions, and set multiple user-access passwords.

To further enhance the capability and flexibility of the VANTUM Integrated Panel, the VELOX Configuration Tool is available. This powerful, user-friendly software allows for advanced programming of virtually any I/O relationship using multiple criteria. With intuitive drop-down menus and point-and-click operation, the tool makes project commissioning and troubleshooting fast, accurate, and efficient.

In build Integrated Emergency Lighting System

The VELOX VANTUM Emergency Panel is a wired monitoring system designed to provide a comprehensive and efficient solution for managing DALI-compatible emergency lighting products. It enables users to monitor the status of emergency luminaires via a touch screen panel developed by VELOX, in conjunction with a robust router-based architecture.

The system is compatible with all VELOX and Dynamic Pro branded DALI-compatible emergency lighting units, including emergency lighting luminaires and emergency exit signs.

• Scalability: One control panel can manage up to 16 routers, with each router supporting 128 devices (2 groups of 64), enabling a total capacity of 2048 products within a single system.

• Remote Access: The LCD panel can be accessed via remote desktop or PC by connecting to an existing network through Wi-Fi or Ethernet.

• Automatic Reporting: When connected to the internet, the system can automatically email test reports to specified addresses. Reports can also be saved or printed directly using a USB device connected to the panel.

• Extended Wiring Capabilities: RS485 communication allows a maximum distance of 1200 meters between the control panel and each router. Each router supports up to 300 meters of wiring per output, allowing for a total wiring length of 10,800 meters across the system.

• Power Protection: The panel includes built-in battery protection. In the event of a power failure, it automatically shuts down safely within 10 seconds,

• Polarity-Free Wiring: Luminaires can be connected to the 2-wire line from the router without polarity, minimizing installation errors.

• Automatic Addressing: All connected devices are automatically addressed by the routers, significantly simplifying installation and configuration.

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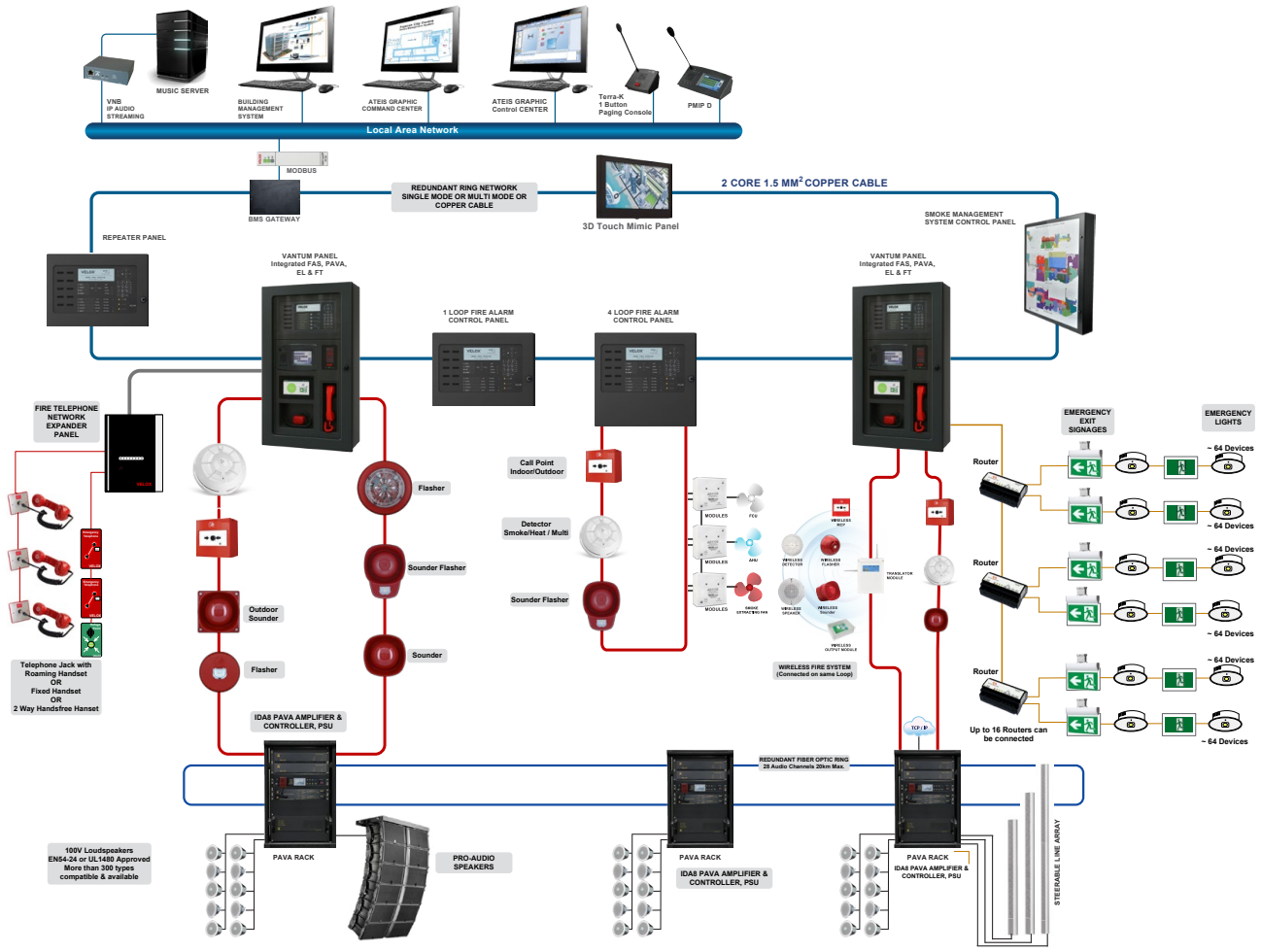
Simplicity in Design, Flexibility in Application

• User-Friendly Interface: The intuitive touchscreen interface enables quick navigation, real-time status updates, and effortless configuration, even for non-technical personnel.
• Unified Control: Centralized monitoring and control of all three systems reduce complexity during both emergency and maintenance scenarios.
• Plug-and-Play Installation: Pre-configured modules and streamlined wiring reduce installation time, cost, and errors.
• Modular Architecture: Easily scalable for projects of any size—from small facilities to large multi-building campuses.
• Customizable Logic: Programmable control logic allows adaptation to specific site requirements and evacuation strategies.
• Interoperability: Compatible with leading fire detection devices, loudspeakers, and emergency lights, ensuring smooth integration with existing infrastructure.
Designed with the technician in mind, every module of the VANTUM Integrated Panel is easy to install and maintain. Whether it's a high-rise, commercial complex, or industrial facility, the system adapts to your needs while maintaining simple and efficient operation. It is future-ready, code-compliant, and engineered for peace of mind.

Post-installation service is made even easier through the use of VELOX remote diagnostic tools, enabling fast and efficient support when it's needed most.

INTEGRATED DIAGRAM



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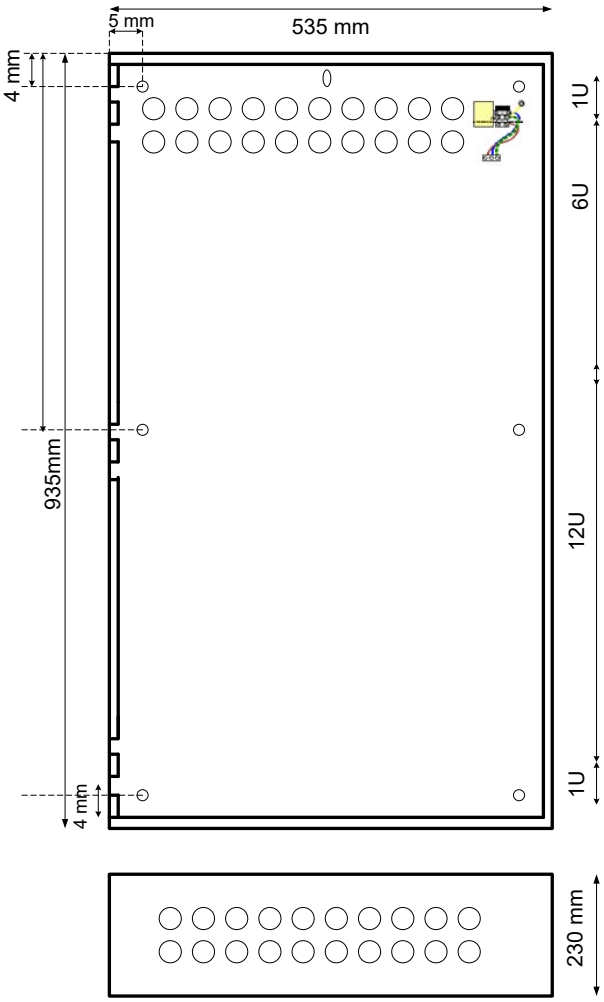
GENERAL OVERVIEW

VANTUM DIMENSIONS



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SPECIFICATIONS:	
Feature	Description
Fire Alarm Control Panel	
Base technology	Dual flash-based processors with real-time clock, trace diagnostics, programmable languages and character sets
AC Supply	200-240V AC 50 -60Hz Hz AC 1.0A max for Single Loop 1.4A max for 2 and 4 loops
Battery Capacity	For 2 Loops - 24V 4Ah Internal (min) 24V 12Ah Internal (max) For 4 Loops – 24V 4Ah Internal (min) 24V 18Ah Internal (max)
Charging Current	Single Loop - 1.0A Temp Compensated 2-4 Loops - 2.0A Temp Compensated
Deep discharge cut-off	20.0V
Power Supply	24V DC, 5A High Efficiency, Off-Line Switched Mode PSU
Output Voltage	18.0V-28.0V
Display	White backlit 240 x 64 graphical LCD
LED Indicators	22 red (1 x Fire, 1 x More Alarms, 20 x Zonal Programmable), 1 green (Power), 13 amber and 12 bi-colour (Fault & System)
Number of Fire Zones	200 per individual panel - 2000 when networked
Number of Fire Loops	1-4 loops (Depending on number of Loop cards)
Devices per Loop	240
Loop Current	500mA
Sounder Outputs	2 x 1A Programmable 4 x 1A Programmable
Programmable Inputs	8x Switch inputs, 1 x Hard wired input and Four x programmable push buttons c/w slide in labels
Event Log	5000 Event & Diagnostic + 500 Fire
Networking	Optional plug-in network card
USB/RS232	USB B type interface and RS232 for PC connection
Fire Telephone System	
AC input	230VAC +/- 10% 50/60Hz
Internal supply	5V, 16V, 27V DC
Supply	Supply Monitored Open, Short, Fuses, High
Impedance	Protection Deep discharge, Short, Thermal

Battery type	1 x 12V 7AH VRSLA
Mains fuse	240V 1A HRC
Battery fuse	750mA PTC
Charge current	400mA
Input Lines	8
Input Remote enable	Short to use
Input End of line	10KΩ
Output Number	2, Fault & In use
Output Type	Volt free relay
Output Contact	30V DC 1A
Buttons	3 Navigation keys
Touch-screen	4.3" 272 x 480 x RGB
State LED	1, RGB indicator
Fault LEDs	3, PSU, System, General
Supply LEDs	2, AC, DC present
Network Cables Type	Enhanced (Refer to BS5839-9:2011 for exceptions)
Network Cables Cores	2x2 core 1mm or 1.5mm
Network Cables Distance	500m
Emergency Light Control system	
Base technology	R TC (Real Time Clock)
Power Supply	230V AC 50/60 Hz
Battery	4.8V / 900mAh NiCd inside the Panel
Display	7-inch touch screen
TCP/IP Internet	1x RJ45 Ethernet
1x RS485 input:	for 16 x DALI Router connection (max. 2048 DALI compliant emergency lighting device)
ROUTER – power Supply	230V AC 50/60Hz
Router - 2x Outputs	Max. 128 x DALI compliant emergency lighting device connection
Router - 1x RS485 input:	For connection of touch screen control panel
Number of Router per controller	16
Number of Devices per Router	128

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Connection length Between Router and Panel	Max 1200m with RS485
Wiring length from Each router outlet	Max 300m
Max wiring length per system	Max 10.8m
Connection terminals wire cross section:	20-14AWG, 0.5-2.5mm²
Connections to the luminaire	2-wired line coming from the router without polarity.
Voice Alarm System	
AC input	230VAC +/- 10% 50/60Hz
Amplification	Rack Mounted, 250W to 10,000W per VAICE
Standard	EN54-4, EN54-16
System Options	IDA8 (Rack Mounted)
Monitoring Technique	18kHz or 20kHz Impedance Monitoring
Network	Fiber Optic (Multi Mode/2km or Single Mode/20km) or Copper (CAT6/100m)
Loudspeaker Compatibility	Any 100V or 70V Loudspeakers

ORDERING CODES AND OPTIONS:

542101	Four Loop Vantum Integrated Panel with paging console, Emergency Light and Fire Telephone system compatible with IDA8
542011	Four Loop Vantum Integrated Panel with paging console, SMS and Fire Telephone system compatible with IDA8
542000	Four Loop Vantum Integrated Panel with paging console compatible with IDA8
542100	Four Loop Vantum Integrated Panel with paging console and Emeregency light compatible with IDA8
542010	Four Loop Vantum Integrated Panel with paging console and SMS system compatible with IDA8
542001	Four Loop Vantum Integrated Panel with paging console and FT system compatible with IDA8

As our policy is one of constant product improvement the right is therefore reserved to modify product specifications without prior notice
Ref. VANTUM-INT/R1/V1/190625

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