



VIGILANT MX1

Fire Detection and Alarm System

- Greater Connectivity, Lesser Complexity
- Panel to Panel IP Networking
- FPANZ Listed
- Get Up and Running in Seconds
- Open Protocol
- Freedom to Choose
- 100 Years of Excellence
- Designed with the Future in Mind
- Saves You Time and Hassle
- Smarter Detection, Smaller Footprint

In-Built Intelligence

The VIGILANT *MX1* fire detection and alarm system is the panel of choice for virtually every application. It is simple to use, cost-effective, and offers a range of advanced features commonly found in only large and complex systems.

The *MX1* supports the latest 850 Series *MX VIRTUAL* analogue addressable detectors whilst continuing to support the 814 Series fire detectors.

Detectors such as the 850PH Photo/Heat incorporate multiple sensors which may operate independently, or may be used in combination for faster response to a fire, allowing optimum detection, and enhanced nuisance alarm suppression.

Detection Technology For Every Application

For specific applications, single-sensor *MX* analogue addressable photoelectric smoke detectors, high sensitivity smoke detectors (VESDA), heat-only detectors, flame detectors and intrinsically safe Ex rated devices are also available.

The *MX DIGITAL* communications protocol used on the addressable loops is designed to provide high reliability and fault tolerance, with operation possible over many cable types. This often permits system upgrades using existing cable.

For large areas, or diverse layout applications, networking of up to 250 *MX1* panels is possible. This provides enormous scope for system expansion across one, or multiple sites.

Non-Proprietary Interfaces

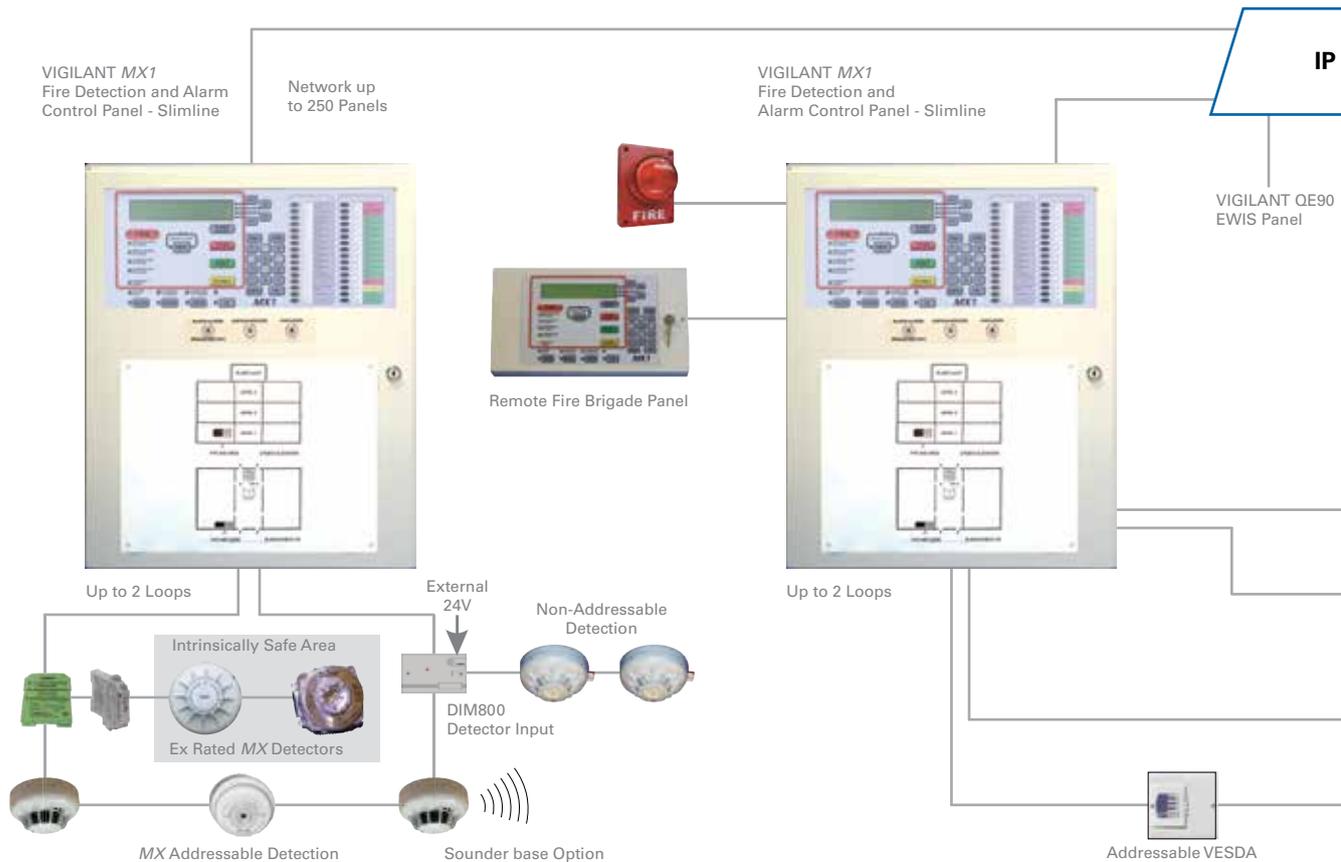
The VIGILANT *MX1* can be serviced, installed, and programmed by any fire alarm company whose technicians have undertaken training provided by Johnson Controls.

Access to *MX1* programmers is licenced, ensuring only qualified personnel modify these important life safety systems, while allowing flexibility of choice for the end user in the service company they select.



Networking Made Easy

Powered by the Smart
MX1 TECHNOLOGY



Easy to Operate

Operation is straightforward as the VIGILANT MX1 4-line x 40 character alphanumeric display provides clear alarm information including zone and point numbers, type of alarm, and a description of the alarm location. The display allows easy scrolling through the 99 event alarm buffer. Current faults, disabled zones/points, and tests in progress can also be separately recalled. A non-volatile history log stores the previous 999 events, which can be recalled to the LCD.

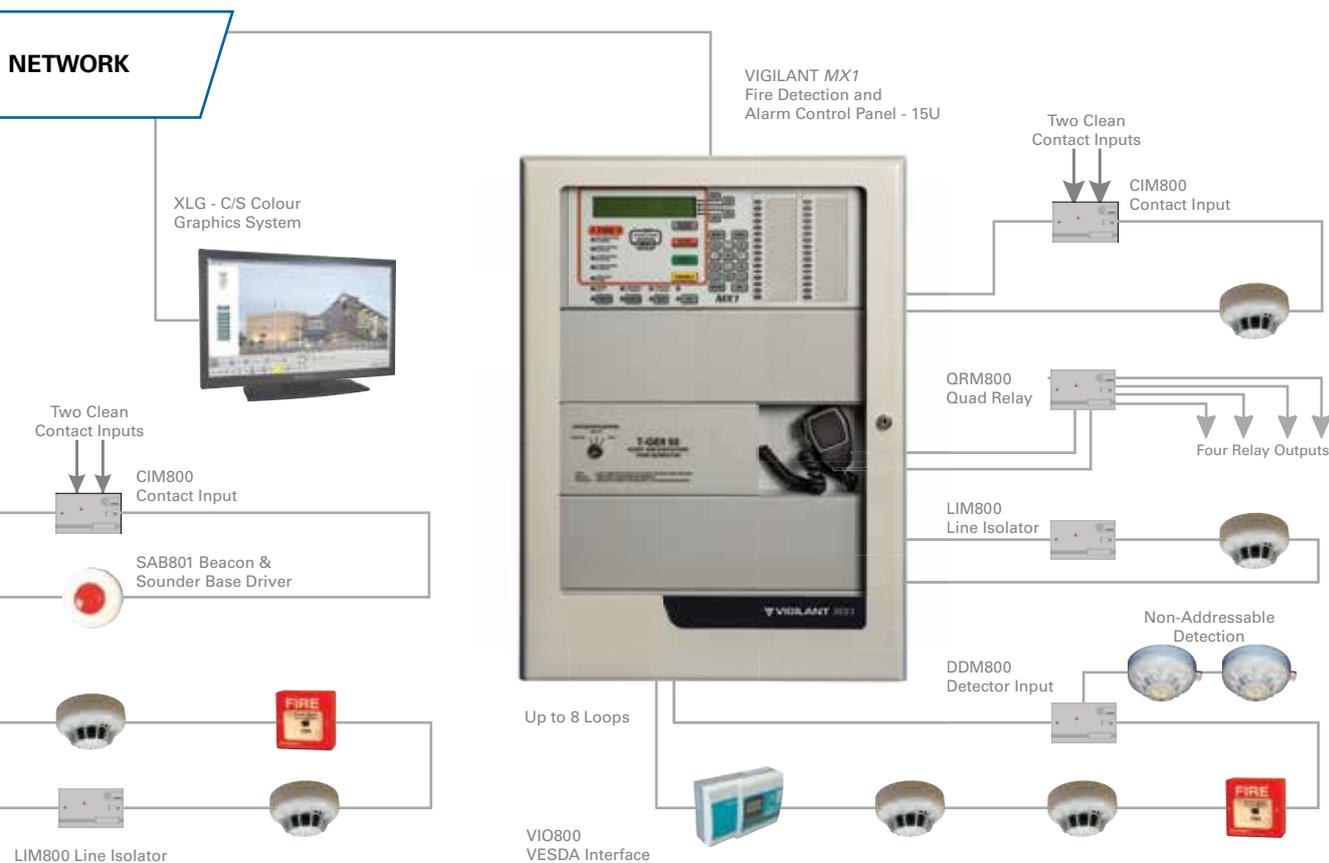
Easy to Program

The task of programming the MX1 is made straightforward by SmartConfig, a WINDOWS based programming tool with templates that preset most of the settings to the correct values. Using commands via the front panel keypad, the MX1 lists all the devices found on a specific MX loop, and will detect and help identify the location of a break or short in that loop. The list of MX points can be captured and imported directly into SmartConfig, further streamlining the programming and pre-commissioning process.

Selectable profiles such as Residential, Day/Night, Flow Switch, etc., simplify the programming of complex functions and further enhance the MX1's programmability. Powerful user-programmable Boolean logic with special functions and timers; programmable outputs for warning devices; and ancillary controls makes the MX1 configurable to almost any fire detection requirement. The panel's site-specific database is duplicated, reducing downtime and increasing reliability.

Detection algorithms can be programmed for each detector to allow the detection capabilities of the system to be further optimised.

MX FASTLOGIC is a fuzzy-logic expert rule-based algorithm applied to the photoelectric smoke signal with optional heat enhancement. It is designed to discriminate between the smoke and temperature patterns of real fires and typical causes of nuisance alarms.



SMARTSENSE is a field-proven, reliable detection algorithm, providing nuisance alarm reduction, compensation for ambient conditions and a wide range of programmable sensitivity settings. Both algorithms provide:

- Detector pre-alarm sensing for early warning of a potential alarm
- Compensation for soiling and changes in ambient conditions
- Logging "detector dirty alert" when compensation limits are about to be exceeded, to highlight the need for maintenance to be carried out
- Heat sensor able to be programmed to act independently as a heat detector.

Easy to Maintain

Whilst the MX1 requires minimum maintenance, it has been designed to allow the maintenance procedures of NZS 4512 to be carried out quickly and efficiently.

The in-built battery testing and power supply monitoring will identify battery problems, should they occur.

The sensitivity and condition of smoke and CO detectors can be displayed or downloaded to a PC. Outputs can be operated from the keypad to test interfaces to other systems.

To simplify replacement of dirty or faulty detectors, an unaddressed replacement is automatically addressed when it replaces a disabled detector on the MX loop.

An Auxiliary MX Loop connection is provided on the MX1 Controller to check and re-address detectors.

The Auto Reset mode allows detectors to be tested by one person. Commissioning mode speeds up system testing by bypassing filtering delays and algorithms. Individual detectors can be easily located in the field by forcing the LED indicator on.

Specifications

System Capacity

Analogue Loop *MX DIGITAL*, 2-wire, 2km max., O/C tolerant, S/C isolators
 Addressable points Up to 250 per *MX* Addressable loop, 8 loops in total, 2000 *MX* devices
 Zone indications Optional, up to 31 using control panel, 191 total with extra modules.
 Separate alarm LED, combined Fault/ Disable LED. Up to 999 zones total.
 Fire Fan Controls Optional, up to 126 controls in larger 19in cabinet, network operation.
 Remote FBP One Remote Fire Brigade Panel (RFBP)
 Networking Up to 250 *MX1* panels in total over IP, using a dedicated LAN or existing LAN.
 I-HUB: ring arrangement of up to 64 panels using 2-core or fibre optic cable
 PIB: ring/star arrangement of up to 64 panels over IP using 2-core or fibre optic cable. I-HUB and PIB rings can be combined for larger networks.
 Note: Not all possible network configurations are Standards-compliant.

Physical

15U Cabinet	Slimline Cabinet
15U 19 inch Rack, IP30	IP41
Cabinet Size (mm) 750H x 550W x 210D	590H x 480W x 140D
Cabinet Material 1.2mm Mild Steel, zinc coated	1.2mm Mild Steel, zinc coated
Finish Baked epoxy powdercoat finish	
Style Surface or inset wall mounting. Window mount option (Slimline) Outer door & window covering keyboard & displays (15U)	

Shipping Weight	24kg (approx.)	10kg (approx.)
Temperature	0°C to +45°C operating (tested to +55°C, as per AS 7240.2)	
Humidity	Up to 95% RH at 40°C (non-condensing)	

Power Supply

Mains Supply	230Vac (192-253Vac), 1.2A rms, 50/60Hz	
Internal Battery	2 x 12V SLA up to 40Ah	2 x 12V SLA up to 17Ah (24Ah side-on)

Internal PSU 27.3V (nominal), 5A regulated, temperature-compensated
 Battery Monitoring Battery low/ fail, supervision of battery connection and condition
 Fused Outputs 3 x +VBF, +VRZDU, +VNBF, all fused 3A (slow-blow), supervised
 Current Consumed 150mA (Base panel, system normal)

Inputs

MX Loop Up to 250 *MX* detectors and input/output modules per loop.
 Total of 2,000 *MX* devices (500 *MX* devices for Slimline cabinet)
MX Loop Card(s) Optional card adds up to 250 *MX* detectors and I/O modules.
Up to 8 loops max. (15U) **Up to 2 loops max. (Slimline)**
Other Inputs Two programmable supervised, transient protected inputs at control panel for sprinkler evacuation, etc. Unused relay supervision inputs may also be used for external wiring.
 16 programmable unsupervised inputs available for internal (cabinet) use

Outputs

Monitoring Service Alarm, Fault, Disable: clean-contact changeover relays
 SGD Interface: 10-Way FRC connection to VIGILANT GP SGD or SSGD
MX Loop Up to 1A loop power. The 5A PSU will provide up to 3A total *MX* Loop power
Ancil. Relay 1 2A, 30Vdc resistive. Programmable operation; pre-configured for T-GEN 50
Ancil. Relay 2 2A, 30Vdc resistive. Voltage free changeover contacts or load-supervised switched 24V. Programmable operation
Ancil. Relay 3 5A, 30Vdc resistive. Voltage free changeover contacts or reverse polarity supervision of diode isolated loads. Up to 3 branches. Programmable operation suitable for Occupant Warning System (OWS) with Mini-Gen/Strobe Driver
GP Output1 & 2 500mA transistor pulldown (1.1V). Transient protected for field wiring
 Programmable operation, load supervised. Can be used for supervised inputs
Other Outputs 16 x 50mA unsupervised unprotected transistor pulldown (1.1V)
 Programmable operation for panel indicators or relay outputs
RZDU Comms Comms port for connection to repeater panels or HLI to QE90 and/or IO-NET
Printer/ Program 2x RS232, male DB9 configured as DTE

Device Compatibility

MX1 is compatible with the range of VIGILANT *MX* analogue addressable detectors and I/O modules including:

- 850PC CO/Photo/Heat detector
- 850PH Photo/Heat detector
- 850P Photo detector
- 850H Heat detector
- 801PC CO/Photo/Heat detector
- 814PH Photo/Heat detector
- 814P Photoelectric detector
- 814CH CO/Heat detector
- 814H Heat detector
- 801F Flame detector
- FV411f, FV412f, FV413f Triple IR Flame detectors
- S271i+ I.S. Triple IR Flame detector
- S271f+ Triple IR Flame detector
- 801Ex series I.S. detectors & MCP
- IF800Ex I.S. Single Input Device
- VLC-800MX VESDA Smoke detector
- 1841MX Addressable Manual Call Point
- CIM800 Contact Input Module
- DDM800 Loop Powered Fire & Gas Detection Module
- DIM800 Dual Detector Input Module
- LPS800 Loop Powered Sounder driver
- SAB801 Sounder/Relay base driver with LED Beacon
- SAM800 Sounder/Relay base driver
- SIO800 Single Input/Output Module
- MIM800 Mini Input Module
- MIM801 Mini Input Module (NC)
- MIO800 Multi-I/O Module (3 in, 2 out)
- QIO850 Quad Input/Output Module
- QMO850 Quad Monitored Output Module
- QRM850 Quad Relay Output Module
- RIM800 Relay Interface Module
- SNM800 Sounder Notification Module
- LIM800 Line Isolator Module (3 port)
- 4B-C Continuity base
- 4B-1 & 5BI Isolator base
- 4B, 5B & MUB Universal base
- 814RB Relay base
- 802SB Sounder base (Loop powered)
- 901SB Sounder base (external power)

Approved

MX1 complies with New Zealand Standard NZS 4512:2010 "Fire detection and alarm systems in buildings".

FPANZ Listing Number VF/118

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VIGILANT, a respected regional brand of Johnson Controls, is a technology leader in the Australian and New Zealand fire detection markets with AS and NZS product approvals. The VIGILANT product line includes a comprehensive range of *MX TECHNOLOGY* fire detection products and the market-leading QE90 voice evacuation systems. VIGILANT product is widely supported throughout Australia and New Zealand by a network of installation companies, service companies and distributors.

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