



Vigilant MX1

Fire Detection and Alarm System



250-device 1A
addressable loops



IP networking
and XL graphics



Configurable as an
addressable gas
releasing panel



Easy to configure
and program
using SmartConfig

Key features

- Greater connectivity, less complexity
- Panel-to-panel IP networking
- ActivFire 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 MX Gen 6 850P, 850PH, 850PC, 850H detectors and legacy analogue addressable detectors while continuing to support the 814 Series fire detectors. Detectors such as the 850PC CO₂/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.

Networking made easy.
Powered by smart
MX1 technology

Detection technology for every application

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

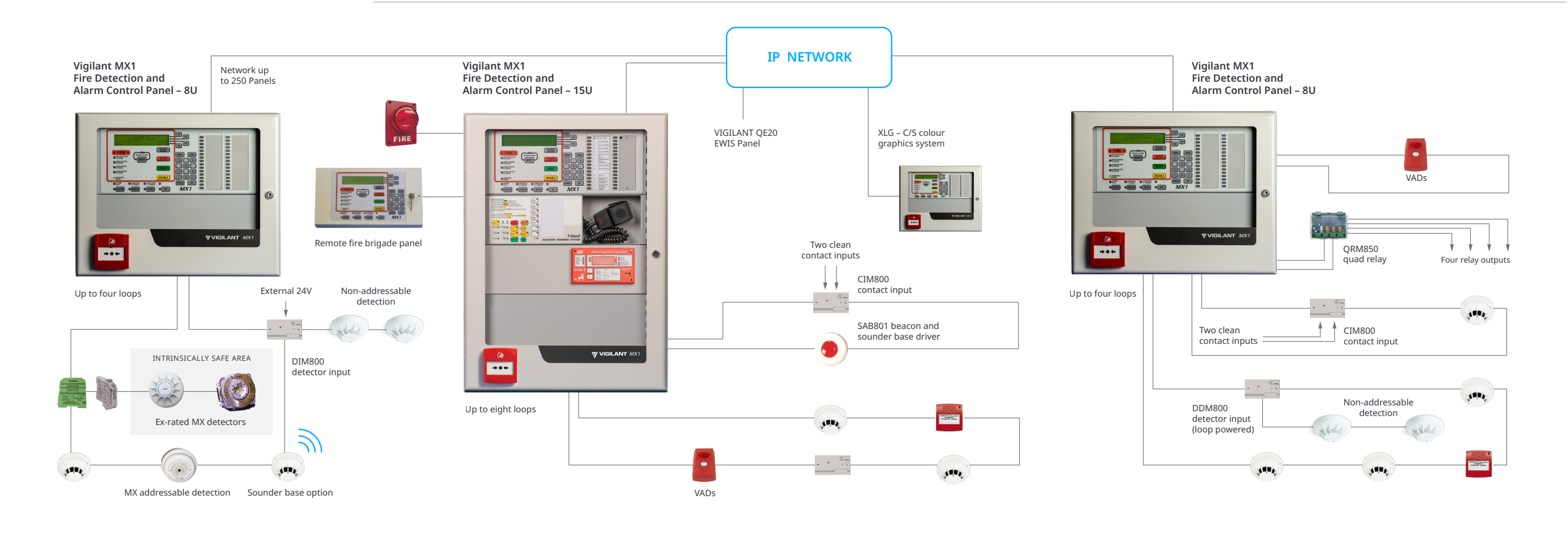
The MX digital communications protocol used on the addressable loops is designed to provide high reliability

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 company whose technicians have undertaken training provided by Johnson Controls. Access to our programmers is safeguarded, 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.



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
While the MX1 requires minimum maintenance, it has been

designed to allow the requirements in AS 1851 'Maintenance of Fire Protection Systems and Equipment' 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, eight loops in total, 2,000 MX devices
Zone indications	Optional, up to 32 using control panel, 192 total with extra modules. Separate alarm LED, combined fault/disable LED. Up to 999 zones total
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 network configurations are standards compliant or ActivFire Listed.

Physical	15U Cabinet	8U Cabinet
Cabinet style	15U 19in. rack, IP30	8U 19in. rack, IP30
Cabinet size (mm)	750H x 550W x 210D	440H x 550W x 210D
Cabinet material	1.2mm mild steel, zinc coated	1.2mm mild steel, zinc coated
Finish	Baked epoxy powdercoat finish, DULUX® Titania Ripple	
Style	Surface or inset wall-mounting Outer door and window covering keyboard and displays	
Shipping weight	24kg (approx.)	17kg (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
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
MX loop card(s)	Optional card adds up to 250 MX detectors and I/O modules. Up to eight loops maximum (15U) Up to four loops maximum (8U)
Other inputs	Two programmable supervised, transient protected inputs at the control panel for sprinkler evacuation, etc. Unused relay supervision inputs may also be used for external wiring. Sixteen programmable unsupervised inputs available for internal (cabinet) use

Outputs

Monitoring service	Alarm, fault, disable: clean-contact changeover relays ASE port: 2-wire connection to Centaur ASE
MX loop	Up to 1A loop power. The 5A pse will provide up to 3A total MX loop power
Ancil. relay 1	2A, 30Vdc resistive. Programmable operation; pre-configured for T-Gen2
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 three branches Programmable operation suitable for occupant warning system (OWS) with Mini-Gens/strobe driver
GP output 1 and 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	
Communications	Communications port for connection to repeater panels or HLI to QE90/QE20 and/or IO-NET
Printer/Program	2x RS232, male DB9 configured as DTE

Device compatibility

MX1 is compatible with the range of current and legacy Vigilant MX analogue addressable I/O modules and visual alarm devices, including:

- 850PC CO/photo/heat detector
- 850PH photo/heat detector
- 850P photo detector
- 850H heat detector
- FV411, FV412, FV413, FV421 flame detectors
- 801Ex series IS detectors and MCP
- IF800Esx IS single input device
- MCP820 isolator manual call point
- MCP830 isolator IP67 MCP
- 4B, 4B-C, 4B-I bases

For a full list of compatible devices, see LT0001 Compatibility Guide at www.tycosafetyproducts-anz.com

Approved

MX1 is certified to AS ISO 7240.2-2018 and AS ISO 7240.4-2018:

"Fire detection and alarm systems";
AS 4428.3-2020: "Fire detection, warning, control and intercom systems – Control and indicating equipment – Fire brigade panel". ActivFire Listed afp-2320

BTO

28U 19in. rack IP30 1330H x 575W x 388D 1.6mm steel
40U 19in. rack IP30 1863H x 575W x 388D 1.6mm steel Shipping weight 25kg (and depending on configuration)

Mains supply
same 230Vac – 2A rms
Power supply
27,3V 14A regulated,
temperature compensated
Fused outputs
Four-way fused distribution board
Battery capacity
Up to 75Ahr **28U** and 150Ahr
40U cabinet

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