VIGILANT

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MX1

Fire Detection and Alarm System

// Greater Connectivity, Lesser 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 VIRTUAL* analogue addressable detectors such as the 814PH (Smoke & Heat) and 814CH (CO & Heat) fire detectors.

Each of these detectors incorporates multiple sensors which may operate independently, or may be used in heat enhancement mode for faster response to a flaming fire, allowing optimum detection with the best 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.
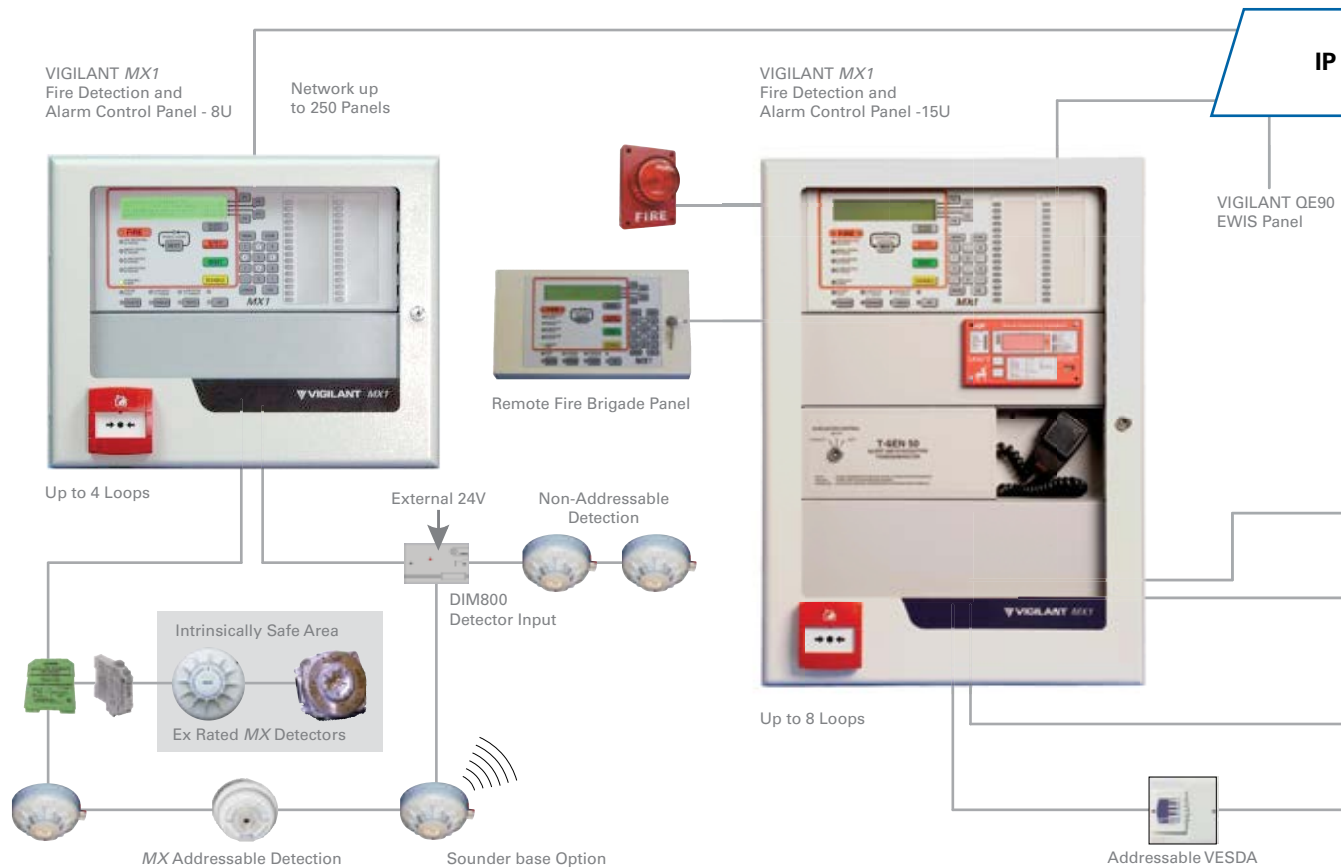
Non-Proprietary Interfaces

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

Networking Made Easy
Powered by the Smart *MX1* Technology

VIGILANT *MX1*
Fire Detection and
Alarm Control Panel - 8U

Network up
to 250 Panels

VIGILANT *MX1*
Fire Detection and
Alarm Control Panel -15U

IP

VIGILANT QE90
EWIS Panel

Remote Fire Brigade Panel

Up to 4 Loops

External 24V

Non-Addressable
Detection

DIM800
Detector Input

Intrinsically Safe Area

Ex Rated *MX* Detectors

Up to 8 Loops

MX Addressable Detection

Sounder base Option

Addressable VESDA

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
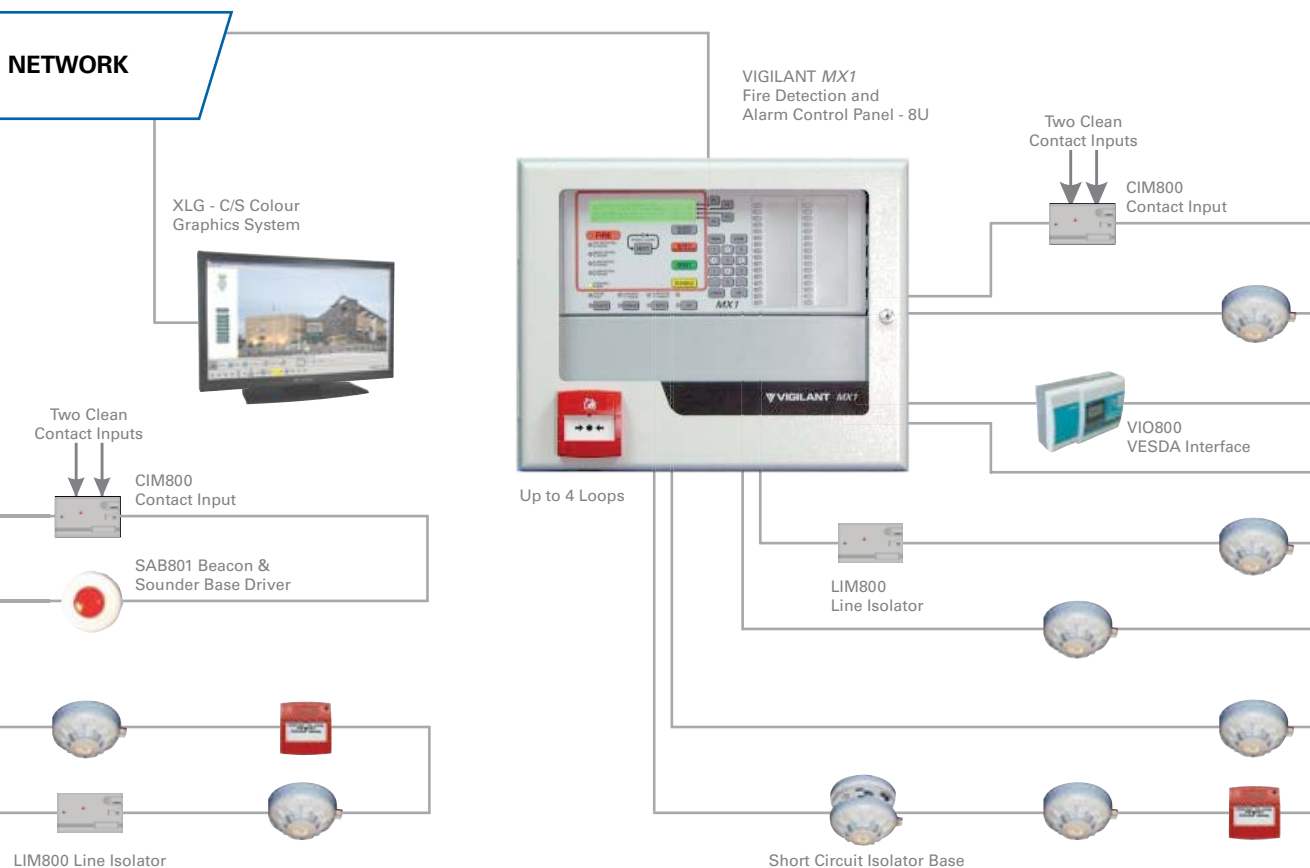previous 999 events, which can be recalled to the LCD.

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.

NETWORK

XLG - C/S Colour
Graphics System

VIGILANT *MX1*
Fire Detection and
Alarm Control Panel - 8U

Two Clean
Contact Inputs

CIM800
Contact Input

Two Clean
Contact Inputs

CIM800
Contact Input

SAB801 Beacon &
Sounder Base Driver

Up to 4 Loops

VIO800
VESDA Interface

LIM800
Line Isolator

LIM800 Line Isolator

Short Circuit Isolator Base

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 requirements in AS 1851 'Maintenance of Fire Protection Systems & Equipment' to be carried out 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.

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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 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 19 inch Rack, IP30	8U 19 inch 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 & window covering keyboard & 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 2000 *MX* devices
MX Loop Card(s)	Optional card adds up to 250 *MX* detectors and I/O modules. Up to 8 loops maximum (15U) / Up to 4 loops maximum (8U)
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. 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 p.s.e. will provide up to 3A total *MX* Loop pwr.
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-Gens/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 Tyco *MX* analogue addressable detectors and I/O modules including:

- 814PH Photo/Heat detector
- 814P Photoelectric detector
- 814CH CO/Heat detector
- 814H Heat detector
- 801F Flame detector
- 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
- CP820 Manual Call Point
- CP830 IP67 Manual Call Point
- MCP820 Isolator Manual Call Point
- MCP830 Isolator IP67 Manual Call Point
- CIM800 Contact Input Module
- DIM800 Dual Detector Input Module
- LPS800 Loop Powered Sounder driver
- SAB801 Sounder/Relay base driver with LED Beacon
- SAM800 Sounder/Relay base driver
- MIM800 Mini Input Module
- MIM801 Mini Input Module (NC)
- MIO800 Multi-I/O Module (3 in, 2 out)
- RIM800 Relay Interface Module
- SNM800 Sounder Notification Module
- LIM800 Line Isolator Module (3 port)
- 5BI Isolator base
- 814RB Relay base
- 802SB Sounder base (Loop powered)
- 901SB Sounder base (external power)

Approved

MX1 is certified to AS 7240.2 - 2004 and AS 7240.4 - 2004: "Fire detection and alarm systems";
AS 4428.3 - 2004: "Fire detection, warning, control and intercom systems - Control and indicating equipment - Fire brigade panel"; and AS 4428.10 - 1998: "Fire detection, warning, Control and intercom systems - Alarm investigation".
ActivFire Listed afp-2320

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Fire Protection Products

Safer. Smarter. Tyco.™