

## Introduction

The DDM800 – Universal Fire & Gas Detector Module is an *MX* addressable module designed to monitor and signal alarms from:

- One or two conventional 2-wire detector circuits, or
- One or two 4-20 mA sensors (MX4428) <sup>1</sup>

The DDM800 module may be used to connect two circuits of conventional 20V detectors and interface them with an *MX* addressable fire alarm system.

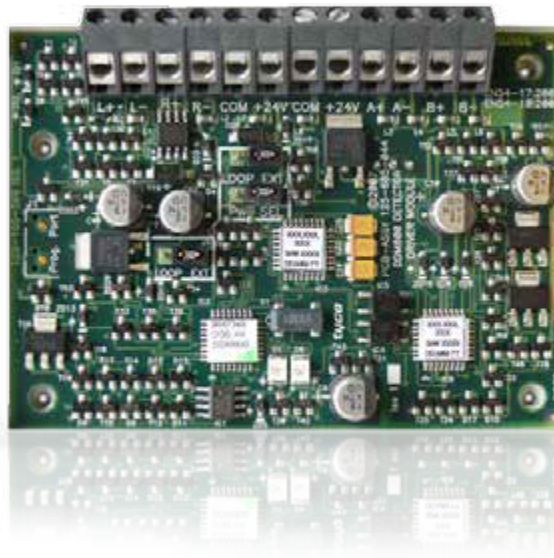
These circuits are compatible with a wide range of detectors, and include support for fast alarms on 15V/Indicating Manual Call Points (MCP), Intrinsically Safe isolators and detectors, and AVF on smoke detectors <sup>1</sup>.

The DDM800 can be *MX* Loop-powered or use an external 24Vdc power supply. When loop-powered a special low voltage mode can be used with the Tyco 614 series detectors for operation over the full voltage range of the *MX* Loop.

Using an external 24V supply allows a wide range of detectors to be connected, and for the detector circuits to be electrically isolated from the *MX* Loop.

In 4-20mA mode the DDM800 can support a single 4-20mA source (e.g., gas sensor, flame sensor) on each circuit, operating in either current sink or current source mode <sup>2</sup>. The DDM800 has an insertion loss of 4V, providing compatibility with a wide range of sensors from a 24V supply.

**Figure 1: DDM800**



## Features

- Compatible with MX Addressable Loop on SIMPLEX 4100ESi, VIGILANT MX1 and VIGILANT MX4428 fire panels
- Interface for two zones of conventional detectors
- Programmable inputs as smoke/heat/CO detectors and MCP for fast alarms <sup>2</sup>
- Loop powered or external 24Vdc
- Built-in loop short-circuit isolator
- Wide range of compatible detectors
- AS ISO 7240.17 Listing Short Circuit MX Loop Isolator
- AS ISO 7240.18 Listing Input/Output Module

Callout	Description
1	4-20mA mode supported by MX4428 only. Refer to <i>Panel Design</i> manuals for details
2	Available options depend on panel type used. Refer specific panel manuals

# Specifications

**Table 1: Specifications**

Item	Description		
MXLoopVoltage			
Standard Loop pwr.	28-40Vdc		
LVmode and Ext. pwr.	20-40Vdc		
DetectorCircuit	22V±1V		
Max.Cct. Resistance	34 Ohm(NZ), 50 Ohm(Au)		
Detector Quiescent Current (max. per input)			
I.S.mode	1.0mA		
LVmode	1.5mA		
other modes	2.5mA		
External Power Supply			
Voltage	21.9- 29V		
Quiescent Current	10mA + Detector Load		
Alarm/Short Current	52mA		
Dimensions (HWD)	61 x 84 x 25 mm		
Weight	100g		
Ambient Temperature	-25°C to +70°C		
Storage Temperature	-40°C to +80°C		
Relative Humidity <i>Indoor Applications only</i>	10% to 95% (non cond.)		
ActivFireListing	afp-3173		
FPANZ Listing	VF/666		
Standards	AS ISO 7240.17:2021		
	AS ISO 7240.18:2018		
Compatible Panels	4100ESi	MX1	MX4428
4-20mA	-	-	Y
AVF	-	Y	Y
I.S. Detection	-	Y	Y
15V MCP/Fast Alarm	-	Y	Y
Low-Voltage	Y	Y	Y

**Table 2: Part numbers**

Part number	Description
577.800.006	DDM800 Universal Fire and Gas Detector Module
517.035.007	M520 Ancillary Cover
517.035.010	K2142 Back Box
547.004.002	DIN Rail Mntg Brkt
557.201.401	D800 Ancillary Housing
FP1027	MX1 Loop/MX Module Brkt
FP1062	MX Module x4 Mountg Brkt
FP1063	4x DDM800 Mntd on FP1062

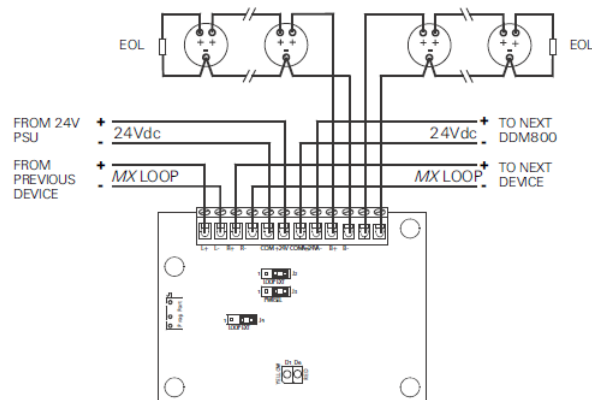
The DDM800 has an integral *MX* loop short-circuit isolator. When a section of the *MX* loop adjacent to the DDM800 is shorted, the isolator trips, isolating the shorted section and illuminating the yellow LED.

The DDM800 may be fitted to the M520 cover and K2142 back box, D800 Ancillary housing, or DIN rail bracket, or for *MX1*; 2 modules can be fitted to FP1027 or 4 fitted to FP1062.

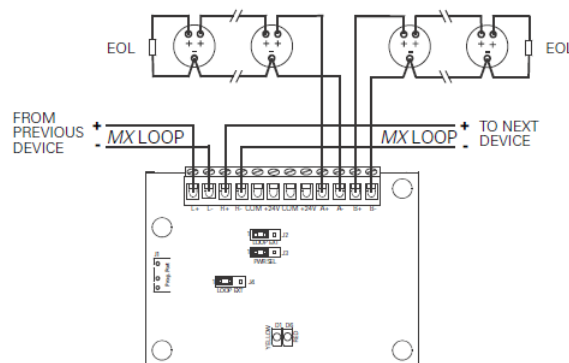
A pre-wired bracket with 4x DDM800 fitted and wired for *MX1* is available as FP1063. Alternatively the DDM800 may be custom mounted on stand-offs.

# Wiring

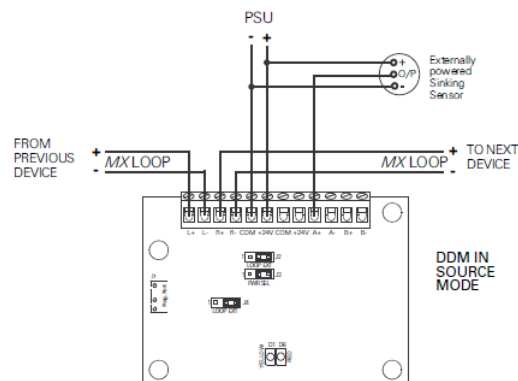
**Figure 2: Conventional detectors - external 24 V supply**



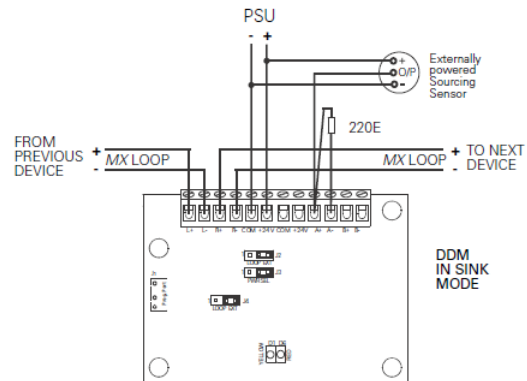
**Figure 3: Conventional detectors - loop powered**



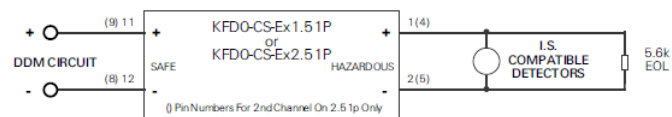
**Figure 4: 4-20 MA current sinking sensor (MX4428 only)**



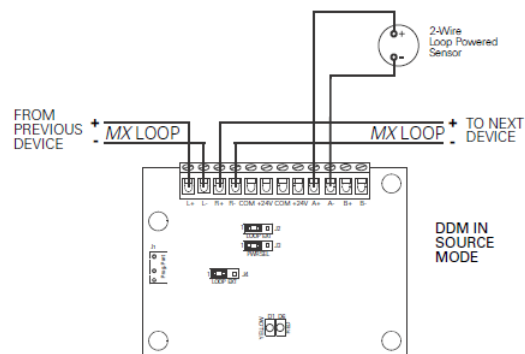
**Figure 5: 4-20 MA current sourcing sensor (MX4428 only)**



**Figure 6: Intrinsically safe detectors with current repeater**



**Figure 7: Wire loop powered 4-20 MA sensor (MX4428 only)**



## Contact information

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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 QE20/QE90 voice evacuation systems. VIGILANT product is widely supported throughout Australia and New Zealand by a network of installation companies, service companies and distributors.

