

# ZETTLER MZX

System 800 Fire Detection Hazardous Areas

## ZETTLER

**System 800 Fire Detection: Hazardous Areas.** There is a risk of fire or explosion in all areas containing flammable substances in the form of liquids, gases, dust or materials. Where these combustible materials are mixed with air in sufficient concentration they form flammable atmospheres and the areas containing them are designated Hazardous Areas. When a source of ignition, such as a spark, is applied in a hazardous area, an explosion could take place.

Electrical equipment supplied for use in Hazardous Areas must comply with requirements to ensure that its introduction into the area does not increase the existing risk. We have designed Intrinsically Safe (I.S.) systems and equipment for use in Hazardous Areas which can be connected to Fire Detection Systems installed in Safe Areas.



### Features

- ATEX/IECEX certified intrinsically safe system
- Suitable for use in Zone 0, 1, 2, 20, 21 and 22
- Fully intrinsically safe MZX Digital addressable system 800 with MINERVA® MZX Fire Controllers
- Allows flexible installation and system design
- Detector circuit and sounder circuit monitoring maintained throughout the system
- Unrivalled range of I.S. field devices for MZX Digital addressable applications
- Complies to
  - EN54-7 for Smoke Detectors,
  - EN54-5 for Heat Detectors,
  - EN54-10 for Flame Detectors,
  - EN54-11 for Call Points and
  - EN54-18 for I/O Devices

## 801PHEX Smoke & Heat Detector

The 801PHEX Intrinsically Safe Optical Smoke & Heat Detector forms part of the 800Ex Intrinsically Safe Series of MZX Addressable Fire Detectors. The detector plugs into a 5BEX base.

The detector is designed to transmit to a remote MINERVA® MZX fire controller, digital signals which represent the status of the optical smoke and heat elements of the detector. Software within the controller is used to interpret the returned optical and heat values to raise an alarm or other appropriate response according to the type of detector configured in 'MZXCONSYS'.

The mode of detector may be:

- Optical smoke only detector (sensitivity High, Normal or Low)
- HPO smoke detector (sensitivity High, Normal or Low)
- Heat only rate-of-rise (A1R) detector (no sensitivity selection)
- Heat only fixed temperature 60°C (A2S) (no sensitivity selection)
- Optical (sensitivity High, Normal or Low) combined with heat fixed temperature 60°C (A2S)
- HPO (sensitivity High, Normal or Low) combined with heat fixed temperature 60°C (A2S)



These detectors are designed to comply with IEC 60079-0:2011, IEC 60079-11:2011 and for intrinsically safe apparatus. They are certified:

- ATEX Code: Ex II 1GD
- ATEX: EN 60079-0:2012 + A11: 2013  
EN 60079 -11: 2012  
Cenelec Code: Ex ia IIC T5 Ga  
Ex ia IIIB T100°C Da

## 801CHEX CO & Heat Detector

The 801CHEX Intrinsically Safe Carbon Monoxide plus Heat Detector forms part of the 800Ex Intrinsically Safe Series of MZX Addressable Fire Detectors. The detector plugs into a 5BEX base. The detector is designed to transmit to a remote MINERVA® MZX fire controller, digital signals which represent the status of the Carbon Monoxide and heat elements of the detector. Software within the controller is used to interpret the returned Carbon Monoxide and heat values to raise an alarm or other appropriate response according to the type of detector configured in 'MZXCONSYS'.

Maybe used in dusty environments instead of the 801PHEX Detector

The mode of detector may be:

- Heat only detector (A1R or A2S) (no sensitivity selection)
- Compensated Carbon Monoxide detector (sensitivity: High, Normal or Low)
- Compensated Carbon Monoxide detector (sensitivity: High, Normal or Low) combined with heat (A1R)
- Carbon Monoxide Detector (sensitivity: High, Normal or Low)



These detectors are designed to comply with IEC 60079-0:2011, IEC 60079-11:2011 and for intrinsically safe apparatus. They are certified:

- ATEX Code: Ex II 1GD
- ATEX: EN 60079-0:2012 + A11: 2013  
EN 60079-11: 2012  
Cenelec Code: Ex ia IIC T5 Ga  
Ex ia IIIB T100°C Da

## 801HEx Heat Detector

The 801HEx Intrinsically Safe Heat Detector forms part of the 800Ex Intrinsically Safe Series of MZX Addressable Fire Detectors. The detector plugs into a 5BEX base. The detector is designed to transmit to a remote MINERVA® MZX fire controller, digital signals which represent the status of the heat element of the detector. Software within the controller is used to interpret the returned heat values to raise an alarm or other appropriate response according to the type of detector configured in 'MZXCONSYS'.

The mode of detector may be:

- EN54-5 A1R, rate-of-rise normal ambient
- EN54-5 A2S, fixed 60°C
- EN54-5 CR, rate-of-rise high ambient

These detectors are designed to comply with IEC 60079-0:2011, IEC 60079-11:2011 and for

They are certified:

- ATEX Code: Ex II 1GD
- ATEX: EN 60079-0:2012 + A11: 2013  
EN 60079-11: 2012
- Cenelec Code: Ex ia IIC T5 Ga  
Ex ia IIIB T100°C Da



## CP 840Ex Break Glass Callpoint

The CP840Ex Intrinsically Safe Weatherproof Break Glass Callpoint is designed to monitor and signal the condition of the switch contact associated with the break glass. The callpoint is designed to comply with IEC 60079-0:2011, IEC 60079-11:2011 and for intrinsically safe apparatus They are certified:

- ATEX Code: Ex II 1GD
- ATEX: EN 60079-0:2012 + A11: 2013  
EN 60079-11: 2012
- Cenelec Code: Ex ia IIC T5 Ga  
Ex ia IIIB T100°C Da



## IF800Ex Interface Module

The Intrinsically Safe IF800Ex Interface Module is designed to monitor fire contacts such as extinguishing system controls, ventilation controls, fire door controls etc.

The IF800Ex is contained within a grey compression moulded glass filled polyester box with 3 x 20 mm cable gland holes. The electronic components are mounted on a double sided printed circuit board built into a potted module formed from a plastic moulding. Connectivity is via two terminal blocks fitted to the PCB.

The Interface Module is designed to comply with IEC 60079-0:2011, IEC 60079-11:2011 and for intrinsically safe apparatus They are certified:

- ATEX Code: Ex II 1GD
- ATEX: EN 60079-0:2012 + A11: 2013  
EN 60079-11: 2012
- Cenelec Code: Ex ia IIC T5 Ga  
Ex ia IIIB T100°C Da



## EXI800 Interface Module & Galvanic Isolator

The EXI800 Interface Module, used with a galvanic isolator, provides a path for an MZX Panel to transparently communicate to slave devices (800Ex Detectors, IF800Ex Interface Module or CP840Ex Addressable Break Glass Callpoint) connected to the Intrinsically Safe loop. The interface reduces the standard MZX loop supply voltage and signalling currents to levels that are acceptable for hazardous areas.



The EXI800 can detect a short circuit on the left-loop, the right-loop, or the IS loop and will isolate the offending loop connections from the other loop connections. The IS loop output of the EXI800 interfaces with the Pepperl+Fuchs KFD0-CS-Ex1.54 Galvanic Isolator, supplying loop voltage and signalling currents to the Intrinsically Safe loop.

## I.S. Barrier Enclosures

A range of polycarbonate enclosures to suit the sounder driver, EXI800 and the Galvanic Isolator. The enclosures provide see-through lids and can accommodate barriers in the safe area. The enclosures are impact resistant, flame retardant and dustproof to IP65.



## Technical Information

To preclude the risk of an explosion, equipment in the Hazardous Area must not be capable of causing ignition under normal operating, or specific fault conditions. Limiting the energy which can be stored in, and released by the electronic circuitry and cables in the Hazardous Area is achieved by using Intrinsically Safe equipment and by placing restrictions on the cable parameters. Intrinsic safety is a technique for ensuring that the electrical energy and temperature rise occurring during normal operation and during all probable fault conditions are not able to cause ignition.

Intrinsic safety relies on limiting the voltage and current in the circuit so that if a fault occurs the power available in the circuit is insufficient to cause ignition.

To complete the explosion protection concept of a circuit a Safety Barrier must be connected between the Hazardous Area equipment and the source of power in the Safe Area. The electrical power which may be supplied or drawn from a Safe Area (i.e. an area with no definable hazard) is limited by using Galvanic Isolators or Isolating I.S. Interface Units. The main advantage of intrinsic safety over other methods of protection is the fact that the majority of maintenance operations can be carried out whilst the system is live.

## Intrinsically Safe Systems

System 800 ATEX Certificate: Baseefa 03Y0265  
The System 800 ATEX system certificate allows the M800 Ex MZX Digital addressable fire sensors to be fitted into category 'ia' for gas group IIC in Zone 0, Zone 1, Zone 2, Zone 20, Zone 21 and Zone 22 hazardous areas.

## Product Codes

516.800.530	801PHEx MZX Addressable Optical Smoke + Heat Detector
516.800.531	801CHEx MZX Addressable Carbon Monoxide + Heat Detector
516.800.532	801HEx MZX Addressable Heat Detector
516.800.066	801FEx MZX Addressable Infra Red Flame Detector
514.800.513	CP840EX MZX Addressable Breakglass Callpoint
514.001.062	IF800Ex MZX Addressable Interface Module
514.001.063	EXI800 MZX IS Loop Interface
517.001.259	P&F KFDO-CS-EX1.54 Galvanic Isolator
517.001.304	MTL5525 I.S. Sounder Driver
517.050.610	MUBEx Base For Use with Ex Detectors
517.001.245	MTL 5021 Isolating Sounder Driver
517.001.248	DX070 Enclosure For MTL5000 Barriers
517.001.247	DX170 Enclosure For MTL5000 Barriers

ZETTLER, is a leading brand of fire detection products in the European market. The ZETTLER fire detection product line includes a wide range of EN54 CPD approved fire detection products carrying approvals and cross-listings, including VdS and NF. The ZETTLER product lines are available through ZETTLER Authorised Distributors as well as many Johnson Controls offices around the world.

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