Network and Graphics

Tyco Expert Graphics (TXG)
Network Interface Modules
CCU3 Interfaces
MZX BACnet Converter

Network & Graphics

MZX technology offers a range of panels from a single loop to 32 loops. Each panel can address upto four thousand addresses and is configurable up to 240 zones. Panels can be easily networked by adding a network card. An MZX network can be extended up to 99 panels with panels interacting with each other where required. The network is a true peer to peer network which remains unaffected by a single node failure. Furthermore failure of any panel's main processor will not inhibit transmission of any fire alarm or fault signal from that panel across the network to a designated panel's zonal display. Networks can be created using a wide range of cable types or fibre optics.

The network will support the Tyco Expert Graphics (TXG), Emergency Management System and Graphical User Interface. The system provides annunciation, status display and control for the MZX network either to a single or multiple stations. Multiple stations are connected as true clients of the dedicated primary station, (server) and can be on the clients own network if desired. TXG is windows based system which uses a combination of symbols, floor plans, pictures, text, voice messages and video input to display events and create actions for the operator. TXG is user friendly and simplifies the operator's actions, saving valuable time in an emergency.

Third Party Interfaces

When Fire alarm systems have to be interfaced to a third party's system such as BMS, there are no specials with MZX technology. The MZX to BACnet interface provides high level communication between the fire alarm and building automation systems. The BACnet client will display both point and zone events together with various system statuses and analogue detector values. The system also supports commands thereby providing a seamless bidirectional interface.

A MODBUS interface also exists for the MZX network allowing connection via a number of protocols to the third party system. Multiple units can be interconnected within a single system. The module has on-board relays which can be configured as inputs to the MZX Technology system plus a number of supervised inputs whose status can be read from the MODBUS map.

Tyco Expert Graphics (TXG)

Tyco Expert Graphics is a new client/server emergency management system and fire detection graphical user interface.

TXG is based on a Tyco graphical alarm monitoring system that has been installed on hundreds of large fire detection and alarm monitoring systems around the world and offers the ability to integrate all Fire Panels with MZX technology, such as PROFILE and MZX series with improved functionalites

Tyco Expert Graphics provides annunciation, status display, and control for various fire detection and alarm systems including MZX networks incorporating the latest MZX Technology™ fire detection systems. It also supports the predecessor Minerva fire detection systems thus ensuring that future updates from Minerva to MZX Technology can be accommodated. Additional support is provided for Simplex 4100 range, Zetfas and Fast2000\ PBS (Token ring format).

TXG is a Microsoft Windows® based graphical interface with a high resolution colour display. Responsive touch-screen (optional) buttons with realistic icons and keyboard provide control switches specific to the operation being performed.Utilising a combination of symbols, floor plans, pictures, text, voice messages and video input, TXG displays the precise location and gives instructions on what emergency action should be taken.

The display can be configured to track detector inputs by changing the colour of areas in response to changes in analogue value. A detailed map of the area affected can be printed automatically for use by personnel responding to an emergency. Prompt response to a fire emergency, with the correct action, provides the opportunity to reduce financial loss and greatly improves safety.

Much of the work involved in configuring TXG has been simplified through the automatic import of panel configurations, AutoCAD® graphics, including data points, and the ability to use a wide range of input data file types including GIF, JPG, bitmap, Vector and WAV files.

Features

- Provides annunciation, status display, and control in both normal and emergency situations
- Developed specifically to provide monitoring and control of fire protection life safety systems
- Supports a range of fire detection systems:
- PROFILE and MZX, Simplex 4100 range 4100, 4120,4020,4100U with upgrade paths to 2120 Zettler Zetfas, Wormald PBS16, Tyco Fast 2000
- Multiple workstations can be configured for specific functions or redundant operation
- Single monitor or two monitor (text and graphics) support at each workstation

Additional Features:

- Link up with I.P. CCTV camera systems, no additional wiring, reduced installation cost for a fully integrated fire\CCTV system
- Compatible with Flamevision® FV300 array based IR flame detectors with built in CCTV
- MZX Hotspot, chromatic analogue display, Programmable tracking of analogue values, Changes display colour in response to changes in analogue value from a selected number of MZX devices
- Trending diagrams of analogue values helps reduce maintenance time and cost
- Export analogue values to Excel for in depth analysis
- Audio descriptions of screens can be played when they are displayed or played when an event occurs
- High level user interface allows end user to make changes to point attributes and layout further reducing lifetime cost of ownership
- Centralised security administration means that operator accounts are administered through the TXG client's common database
- Mouse, keyboard or touch-screen control with full multimedia compatibility
- Dual language switching
- The ability to display live video when specific predefined alarm conditions occur
- Easy to configure and set-up. No special networking or PC training required
- Facilities and maintenance management report and analysis tools are available

System maintenance can be carried out via the high level user interface with the ability to edit the position and attributes of point icons as well as make changes to drawing layouts. As well as simplifying maintenance, being a true client server application means that any number of on-site or off-site workstations can interrogate the database with pre-defined security levels to facilitate any required combination of access and control.

The IP Video feature allows real-time images of the area at risk to be displayed in the event of an alarm or fault. Video capture of the affected area appears on the screen automatically, allowing the severity of the situation to be assessed quickly and the appropriate executive action to be taken.

For less serious incidents, expensive and unnecessary plant shut downs can be avoided. In more critical situations, accurate information can be quickly and efficiently communicated to the response team. Icons representing the devices being monitored will change colour dependant on status (Alarm, normal, fault, isolate etc).

Selected areas can be highlighted using the chromatic analogue display feature, MZX HOTSPOT. As the analogue value of a monitored point changes the chromatic analogue display will change the highlight colour through a pre-defined range.

For example a heat detector assigned MZX HOTSPOT could transit the highlight from blue to red. The number of chromatic steps is dependent on the resolution of the graphics card used, 16, 24 or 32 bits

Notification by email

Events, whether they are real or false alarms are handled most efficiently when information can be quickly and accurately communicated. TXG allows users to set up email groups and notification texts linked to predetermined events. These are automatically transmitted ensuring that the appropriate resource is deployed.

Additional features and functions

- Response buttons with configurable icons or text provide control switches specific to any operation being performed
- Uses a combination of symbols, floor plans, pictures, text and video to communicate events
- Standard MZX and Minerva symbol libraries supplied
- Instructions given on emergency action to be taken
- Maps and instructions printed to assist response teams
- History logging recallable or printable by event, dates, device, or a host of other available filters
- An advanced filter allows history reports to be specifically limited to a particular range or date
- Commands to control outputs from the Graphical User Interface
- Events can be accepted individually or can be "auto-accept"
- Supports all standard PC image file types (i.e. GIF, JPG, BMP), AutoCAD® & Vector file types

Availability and order process

TXG can be downloaded from the tycoemea.com website and can be used with a time restriction for demonstration or training purposes. TXG can also be ordered from our Letchworth and Echt distribution centres.

Customers can fax or e-Mail an order form which details the software options required, to customer service at Letchworth. Original order forms can be obtained from http://www.ZettlerFire.com/. This form will allow customer service to prepare and allocate a license code that will activate the required features. Customers will also be required to place an order on JDE for each part number on the form.

A media pack containing CD with license number, dongle, multi language manuals on CD and original order form will be dispatched to the customer.

On receipt, the software can be loaded and the license number entered to make available the requested software features.

Order Codes

508.040.100	TXG USB Server Dongle/License/ Software
508.040.001	TXG001-Single Client with 1 panel (Requires TXG USB)
508.040.002	TXG004-Single Client with 2 to 4 panels (Requires TXG USB and TXG001)
508.040.003	TXG010-Single Client with 5 to 10 panels (Requires TXG USB, TXG001 and TXG004)
508.040.004	TXG020-Single Client with 11 to 20 panels (RequiresTXG USB, TXG001, TXG004 and TXG010)
508.040.005	TXG999-Single Client with 21 or above panels (Requires TXG USB, TXG001, TXG004 TXG010 and TXG020)
508.040.011	TXG-C Additional Client license
508.040.021	TXG-MIN80 Minerva driver license
508.040.025	TXG-OPC - OPC Alarm / Event & Data Access Server Licence
508.040.027	TXG-CPP - SIMPLEX CPP driver
508.040.033	TXG-PBS/FAST2000 DRIVER

TXG IS TOTALLY SCALABLE

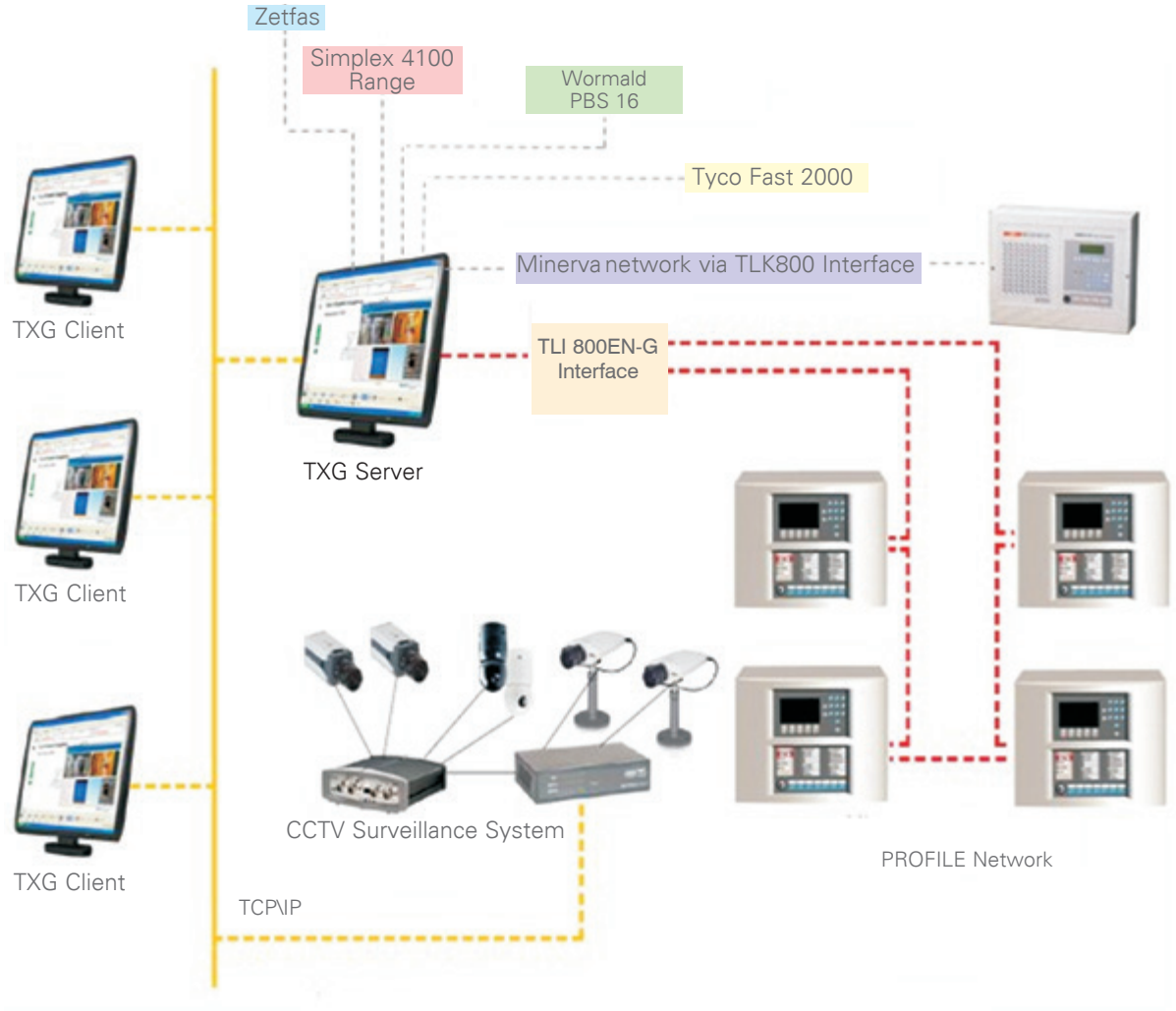
TXG with direct connection to a single PROFILE panel

.....FROM A SINGLE FIRE ALARM PANEL CONNECTED TO A TXG SERVER.....

The modest additional cost of a single TXG client/server is easily justified when the benefits that a Graphical User Interface bring are considered.

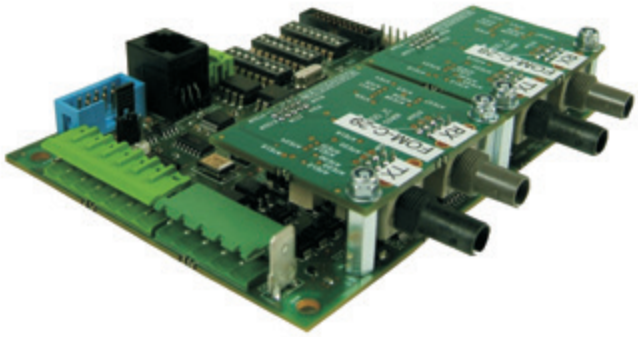
.....TO A COMPLEX INSTALLATION WITH MULTIPLE DIVERSE NETWORKS AND DISTRIBUTED CLIENTS

Large multi-building facilities may have a number of fire detection networks, possibly installed over an extended period of time. TXG can be used as a hub to integrate these systems with a number clients providing annunciation and control where it is needed.



TXG with multiple fire detection networks and CCTV integration

TLI800EN Network Interface Module and FOM800 Fibre Optic Module



Inter-controller Network

The use of the MZX Technology Network allows the fragmentation of a number of fire controllers to be drawn into a network system. Because every installation is different, the MZX Technology Network has been designed to be highly flexible, allowing for a wide range of different systems applications. With a large network system the amount of data and information passing between fire controllers can become high during an emergency condition. The MZX Technology Network communication protocol has been specifically designed with this in mind and ensures that each event message passed around the network is acknowledged by the receiving controller in the fastest possible time.

Operation

The network is totally flexible and enables from 2 to 99 fire controllers to be seamlessly linked together.

System Overview

The MZX Net communications network comprises a collection of network interface modules and peripheral equipment that together form a fault resistant, and flexible peer-to-peer network for the MZX Digital addressable fire systems controllers.

Features

- Allows MZX Technology Fire Controllers to be "seamlessly" networked together
- Dual ARM 7 RISC processors
- Support for Emergency Mode Indication
- True peer-to-peer communications; no host or master controller required
- Highly resilient, node failure open and short circuit does not affect remaining network
- Approved to EN54-13 and EN54-2
- Up to 99 controllers may be used on the network
- Wide range of cable topography supported
- Network can use a variety of cable types with up to 2500m between nodes (cable dependent), 1200m using standard 1.5 mm MICC cable
- FOM800 Plug on fibre optic module provides up to 5000m between nodes using 62.5/125 multimode fibres
- Easy to install and programme
- Simple to operate

Order Codes

557.202.080	TLI800EN Network Card and cable
557.202.081	FOM800 Fibre Optic Module
557.200.039	TLI800EN Network Interface in Housing c/w PSU
557.180.219	PC to TLI800 EN Network Card connection Cable

Master operating stations use the standard MZX or PROFILE Fire Controller hardware. In this application, the controller changes its personality; and enables additional information from each controller on the network to be displayed.

Cable Parameters		
Maximum wire to wire capacitance		Resistance
Baud rate	Capacitance	Maximum resistance = 40 Ohm for EN54-13 compliant installation. Maximum resistance = 65 Ohm for proper function without compliance.(all baud rates)
38400	0.3 uF	
19200	0.6 uF	
9600	1.2 uF	
2400	1.2 uF	
1200	1.2 uF	

Mode of Operation

The MZX Technology Network employs a token passing communications protocol that treats each node on the network equally. Loss of one or more nodes does not affect the operation of the remainder of the network.

Data is regenerated at each node in the network enabling maximum distance between nodes. In the event of a short/open circuit on the network between any two nodes, isolation will automatically occur and the network will re-configure communications and continue to allow communication between all nodes physically connected.

The MZX Technology Network offers a high level of system integrity, allowing safety critical actions to be passed across the network from one Fire Controller to another. This very high level of system integrity enables the MZX Technology Network to meet the requirements of EN54-13 and EN54-2.

In the event of loss of communication with the host controller, the TLI800EN will use its secondary processor to monitor the controllers fire outputs and if necessary can activate the controllers emergency fire input. In addition it can support a LED annunicator for network panel fire indication, this is wired to a MPM800 via the TLI800EN's integral RBus RS485 port.

Fibre Optics

Fibre optics can also be supported on the MZX Technology Network system by fitting one or two FOM800 modules to the TLI800EN network card, this uses either type 62.5/125 or 50/125 multi-mode fibres between nodes on the network. Use of fibre permits a maximum distance between nodes of up to 5000 metres in either bus or ring topology.

Technical Information

TLI800EN Network Card

Mechanical

Dimensions:	116 x 90 x 20 mm
Weight:	0.10 Kg
Housing:	The TLI800 Network PCB is mounted directly onto the MZX CPU800 within the panel enclosure

Electrical

Power Consumption:	74 mA @ 24 Vdc & 20 mA @ 5 Vdc
Network Connections:	2 x RS 485
Network Diagnostic:	9 x on board LED's / RS232 port for system analysis and fault finding
Cable Type:	2 Core MICC, Shielded or Twisted pair
Connectors:	Screw terminals, will accept 2.5 mm^2 cable

Network Parameters

Number of nodes:	99 (max)
Distance between nodes:	1000 to 5000 metres (dependent upon cable type)
Communications type:	RS485
Baud Rates:	9.6K to 115.2K
Transport Type:	Token passing, non-collision protocol

Environmental

Operating Temp:	-10°C to + 55°C
Storage Temp:	-10°C to + 70°C
Relative Humidity:	95% (100% intermittent)

FOM800 Fibre Optic Network Interface

Mechanical

Dimension:	50 x 58 x 12 mm
Weight:	0.015 Kg
Housing:	The FOM800 is mounted directly onto the TLI800EN Network card

Electrical

Supply Voltage:	Powered from TLI800EN
Network Connections:	2 x ST Fibre optic connections
Cable Type:	62.5/125 or 50/125 multi-mode fibre optic cables

Environmental

Operating Temp:	-10°C to + 55°C
Storage Temp:	-10°C to + 70°C
Relative Humidity:	95% (100% intermittent)

TLI800EN-G Housed Network Card with PSU

Mechanical

Dimension:	300 x 200 x 85 mm
Weight:	3.85 Kg

Electrical

Supply Voltage:	220 to 250 VAC
Power Consumption:	160 mA

Environmental

Operating Temp:	0°C to +55°C
Relative Humidity:	95% max

CCU3 Interface Module

Technical Information

Input Voltage:	18-30 Vdc
Current:	150 mA at 24 Vdc
Dimensions:	140 x 105 x 15 mm

Order Code

557.202.046	MZX CCU3/C-MZXMB MZX to MOD Bus Interface

The CCU3/C-MZXMB provides a MODBUS interface to a number of MZX panels on an MZXNet. CCU/IO boards may also be connected to provide general I/O devices accessed through the MODBUS interface.

The CCU3/C-MZXMB connects to panels on the MZXNet via a TLI800EN (TPI) interface card using RS232 (PL2 socket). It connects to MODBUS via either an RS232, RS485 (default) or RS422 connection. Another port allows up to 8 CCU/IO boards to be connected. Each CCU/IO has 8 relay outputs that can be used as inputs to the panel. These contacts are controlled via WRITE commands to the MODBUS map. Each CCU/IO also has 8 supervised inputs whose status can be read from the MODBUS map.

MZX BACNet Interface

Features

- High level interface to building automation systems
- Meets interfacing requirements for large integrated projects
- Low cost solution – no need for expensive bespoke integration solutions
- Sales opportunities in the integrated solutions market

Order Code

557.202.082	Moxa UC-8112-ME-T BACnet Interface
557.202.083	RJ12 Cable for connection to TLI800EN/FIM800

The BACnet interface (UC-8112-ME-T-LX) replaces the old MZX BACnet interface (UC-8112-LX). It is backward compatible and can be used with the current range of MX, ZX, MZX and PROFILE Fire detection panels.

The BACnet UC-8112-ME-T-LX is a 12 to 36V DC input voltage unit and is needed when powered by the panel auxiliary output or PSU. It will launch with firmware version 3.0 and support MX Speak up to version 6.0.

Please note that firmware 3.0 is incompatible with the BACnet UC-7101 LX unit, therefore firmware version 2.03 is required.

For stand-alone MX, ZX, MZX and Profile Phase 1 panels, the new BACnet interface can take serial data directly from FIM800. For a networked system, the new interface requires a dedicated TLI-800EN network card.

For a stand-alone Profile Flexible, the BACnet interface requires a PNI800 and a dedicated TLI-800EN network card (can't be connected directly to PFI800 nor PNI800)

The documentation and Firmware 3.0 that needs to be installed onto the BACnet interface (UC-8112-ME-T-LX) device will be provided by Technical Support, email: techservices-detection@tycoint.com