M2M SERVICES

MX03-LTE-M-FIRE-LAN-EN54

Dual-Path/Sole-Path Communicator

Installation and Operations Manual

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About this document

This document was prepared and wholly owned by M2M Services. It is intended to provide trained personnel with the installation of the MX03-LTE-M-FIRE-LAN-EN54. M2M Services reserve the right to edit and revise this manual without notice.

Agency Listings and Approvals

EN 54-21:2006
Fire detection and fire alarm systems - Part 21: Alarm transmission and fault warning routing equipment that meets the following conditions:
(1) This device may not cause harmful interference, and
(2) This device must accept any interference received.

EN 50131-1:2006 + A2:2017 Alarm systems. Intrusion and hold-up systems System requirements

EN 50136-1:2012 + A1:2018 Alarm systems. Alarm transmission systems and equipment General requirements for alarm transmission systems

EN 50136-2:2013 Alarm systems. Alarm transmission systems and equipment Requirements for Supervised Premises Transceiver (SPT)

EN 50131-10:2014 Alarm systems. Intrusion and hold-up systems Application specific requirements for Supervised Premises Transceiver (SPT)

The MX03-LTE-M-FIRE-LAN-EN54 unit meets the requirements for Grade 4, DP4, SP5

Limited Liability

The user agrees that although the Device could reduce the risk of fire, theft, burglary, or other dangers, it does not guarantee against such events. M2M Services will not take any responsibility regarding personal, property or revenue loss while using the Device. M2M Services responsibility according to local laws does not exceed the value of the purchased system. M2M Services is not affiliated with GSM operators providing cellular services; therefore it is not responsible for network services, coverage, or its operation.

Manufacturer Warranty

The Device carries a non-transferable hardware limited warranty by the manufacturer M2M Services. This warranty does not cover any postal or labor costs for the removal and reinstallation of the Device. This warranty does not cover any subscriber agreements or failure of services provided under the terms of such subscriber agreements, or failure of cellular, GPRS, LAN or other related networks functions and services. The warranty is not valid if the device has been modified or used in a manner contrary to its intended purpose and does not cover damage to the Device caused by installation or removal of the Device or any of its components. This warranty is void if the Device has been damaged by improper maintenance, SIM card removal, accident or unreasonable use, negligence, acts of God, neglect, improper service, or other causes not arising out of defect in materials or build. This warranty does not cover the elimination of externally generated electrostatic fields or noise, or the correction of problems with the antenna or weak signal reception, damage to software, accessories or alarm system external components, cosmetic damage or damage due to negligence, misuse, abuse, failure to follow operating instructions, accidental spills or cleaners applied by the customer, damage due to environmental causes such as floods, airborne fallout, chemicals, salt, hail, windstorms, moisture, lightning or extreme temperatures, damage due to fire, theft, loss or vandalism, damage due to improper storage and connection to equipment of another manufacturer, modification of existing equipment, faulty installation or short circuit.

M2M Services will not be liable in any event of incidental, special or consequential damages (including loss of profits), and the Client shall have no claim against M2M Services for termination of contracts, indemnification, compensation for loss of customers, loss of profits, prospective profits, distribution rights, market share, goodwill, investments made or any similar losses that may result from any faults in the operation of the Device and the services provided by M2M Services.

Safety Instructions

- ✓ This unit must be checked by a qualified technician once a year.
- ✓ The MX03-LTE-M-FIRE-LAN-EN54 device contains a radio transceiver operating over LTE CAT-M1 band.
- ✓ Do not use the Device with medical devices, in places or where it could interfere with other devices and cause any potential danger.
- ✓ Do not expose the Device to high humidity, chemical environment, or mechanical impacts.
- ✓ Do not use the Device in hazardous environment. Do not store or install the Device in overheated, dusty, wet or overcooled places.
- ✓ The Device should be mounted in areas with restricted access. Any system repairs must be done only by qualified, safety aware personnel. Do not disassemble or refit the Device. Do not attempt to personally repair it.
- ✓ Mains power must be disconnected before any installation starts. The device installation or maintenance must not be done during stormy conditions.
- ✓ The device must be powered by DC 12-29V power supply.
- ✓ Blown fuses or any other components of the Device must not be replaced by the user.
- ✓ Keep the Device dry. Any liquid, i.e., rain, moisture, may destroy or damage the internal circuitry.
- ✓ Handle carefully. Do not shake it violently.
- ✓ Do not clean it with chemicals or detergent.
- ✓ Please read the user manual carefully before installing or operating on the Device. Otherwise, it may not work properly or be damaged.

Technical Support

For support in Europe, contact M2M Services Technical Support at:

- Telephone: +359 88 560 7160
- Email: support@m2mservices.com
- Website: support.m2mservices.com

Product Description

The MX03-LTE-M-FIRE-LAN-EN54 is a commercial fire alarm dual path communicator. It represents the latest communication technology for the security industry. The communicator is equipped with dual-SIM each of them supporting multiple operators per country.

This communication solution is a complete communication platform for data transfer from alarm systems at remote sites to Central Monitoring Stations (CMS). The platform allows bi-directional data transmission by using LTE CAT-M1 network and LAN.

Main Features

- ✓ Universal Panel Compatibility
  - Supporting Contact ID, SIA
  - Programable Inputs
  - Serial port connection supporting popular FACP communication protocols
- ✓ Exceptional Redundancy – Dual-SIM device
- ✓ Connection monitoring – adjustable fault reporting time.
- ✓ High reliability due to multiple transmission channels (LTE CAT-M1/LAN) and redundant servers.
- ✓ Web-based software and a smartphone app for device configuration and diagnostics. Remote firmware updates.
- ✓ End-user smartphone app – supports push and email notifications.

Specifications

Characteristics	Technical Specifications
Supply Voltage	+12 to +29 VDC
Consumption	Standby 60 mA Peak 200 mA
Frequency	LTE CAT-M1 700/850/1700/1900/2100 MHz
GSM Providers	Multiple cellular operators per country
Dimensions	63 x 90 x 32 mm
Weight	73g without antenna
Environmental	Operating temperature: 0°C to 49°C Humidity: 0 to 85% relative humidity, non-condensing

Mounting and Wiring

- **The wiring should be done only when the panel is powered down.**
- **For Dry/Indoor use only.**

Wiring for FACP Relay Trigger Input Reporting (supervised inputs) *

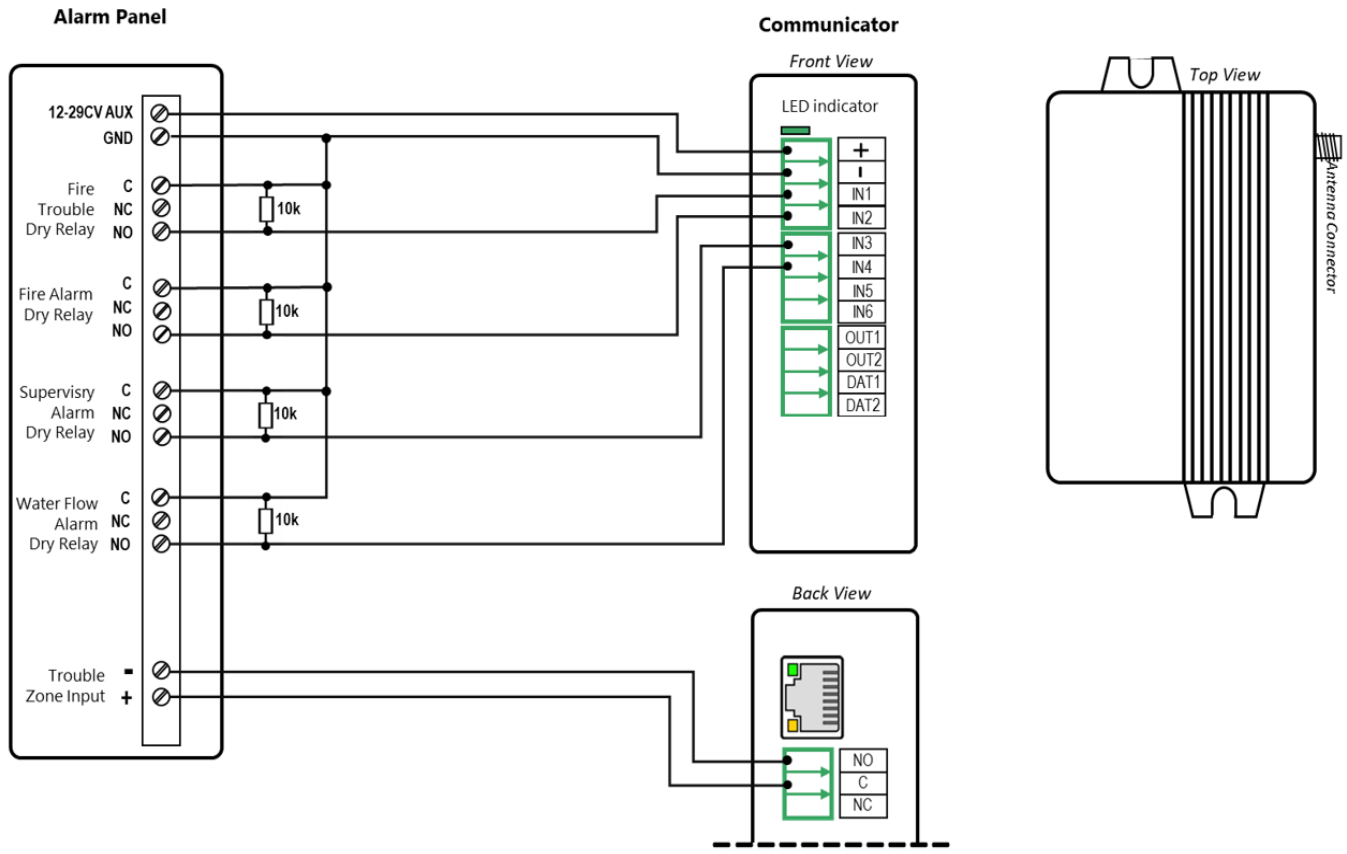


Figure 2: Wiring Diagram

(+)	Connect to AUX + of the panel.
(-)	Connect to the AUX – (GND) of the panel.
IN1	Connect to a Trouble Relay Output.
IN2	Connect to a Fire Alarm Relay Output.
IN3	Connect to a Waterflow Alarm Relay Output.
IN4	Connect to a Supervision Alarm Relay Output.
Relay OUT*	Connect to a Trouble Zone Input

*Note: The Relay OUT indicates loss of both cellular and LAN connections.

IN5 and IN6 can be connected to other FACP relays for additional signals. Wiring is the same as for IN1 - IN4

Wiring for FACP Relay Trigger Input Reporting (not supervised inputs)

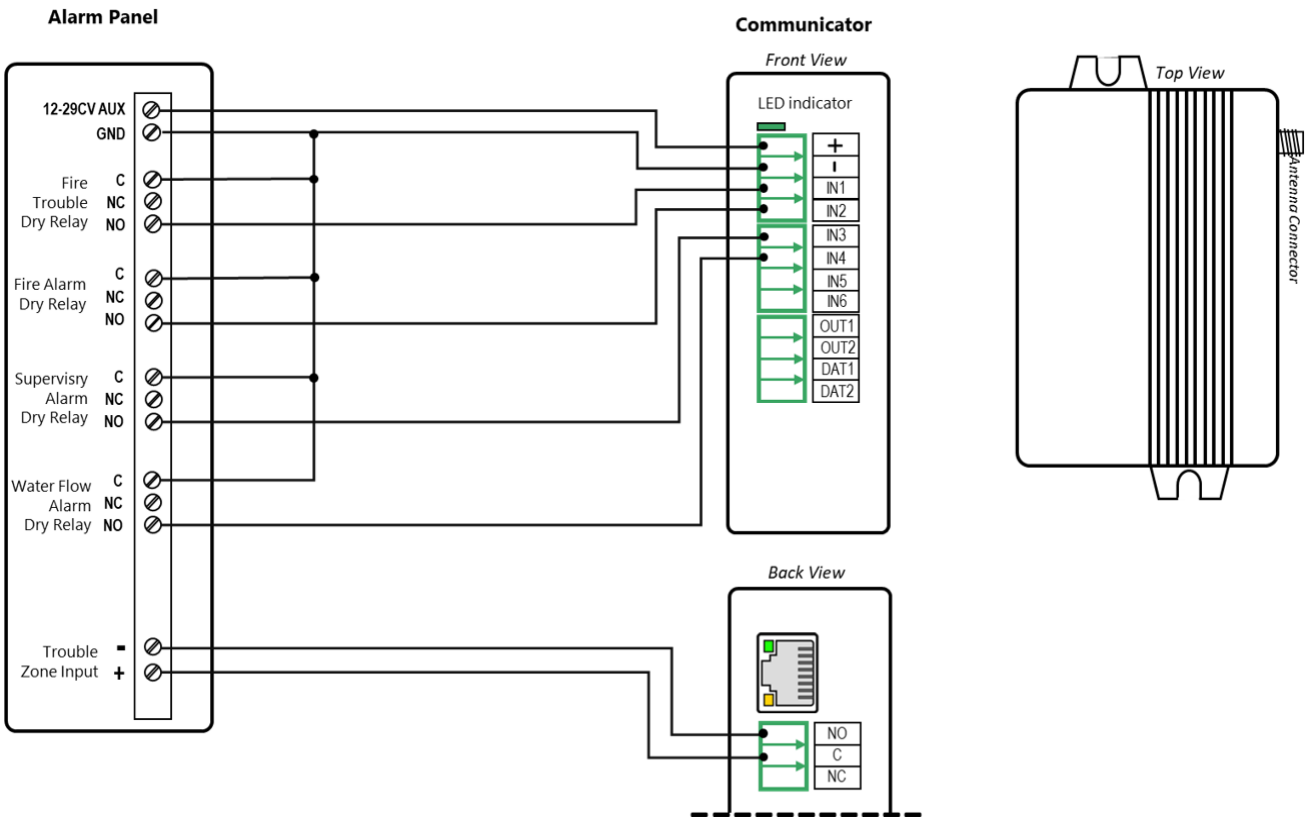


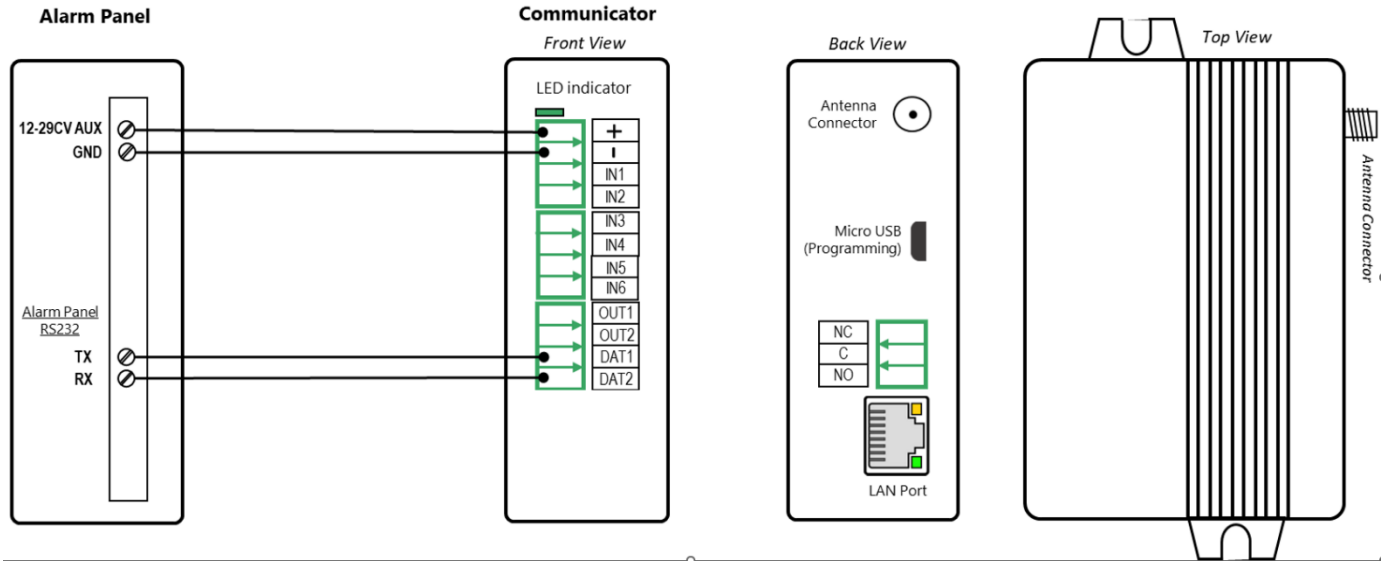
Figure 3: Wiring Diagram

(+)	Connect to AUX + of the panel.
(-)	Connect to the AUX – (GND) of the panel.
IN1	Connect to a Trouble Relay Output.
IN2	Connect to a Fire Alarm Relay Output.
IN3	Connect to a Waterflow Alarm Relay Output.
IN4	Connect to a Supervision Alarm Relay Output.
Relay OUT	Connect to a Trouble Zone Input

*Note: OUT1 indicates loss of both cellular and LAN connections.

IN5 and IN6 can be connected to other FACP relays for additional signals. Wiring is the same as for IN1 - IN4

Wiring for FACP Serial Port Communication (Panels Supporting ESPA)



Mounting the Communicator

This communicator comes fully assembled with all the components mounted, except for the external antenna. The device comes with standard external antenna with 1m cable..

The communicator can be installed within the alarm panel's box or in separate fire rated enclosure. All the wiring must be routed through a conduit.

There are several steps in installing MX03-LTE-M-FIRE-LAN-EN54

1. Connect the antenna to the communicator.
   The antenna is supplied with an SMA connector, that allows for easy connection to the communicator. The body of the antenna has a magnet in the bottom and can be attached to the wall of the metal alarm panel box or use double sided adhesive tape to securely attach the antenna to the box. The antenna should be placed perpendicularly to the ground, either right side up or upside down. Try to keep the antenna away from sources of RF interference or where metal objects can block the cellular radio RF signal.
2. Connect the LAN port of the communicator to a router **(Optional)** . If you have DHCP enabled in your network, the communicator will connect automatically via Internet.
3. Power up the panel.
4. The communicator's LED indicator will turn on and start blinking. The steady light will indicate a good connection.

The device LED has the following states:

LED Status	Indication	Action
The LED is Off	The unit is not connected to the panel. The power from the panel is out. The unit is damaged	Verify the wiring, refer to the wiring diagram. Measure the AUX output of the panel. Replace the unit
Slow flashing	Trying to establish connection. There is no signal available	Reposition the antenna
Constantly On, blinking every 5 secs	Connection established at low signal level	Reposition the antenna
Constantly On	Connection established at good signal level	
Fast flashing	Transferring data	

5. If the device is connected to a local area network with DHCP enabled, it will automatically get a dynamic IP address. External IP address or router port redirections are NOT needed. If static IP is required refer to M2M Services Administrative platform section "LAN Settings".

The RJ45 Connector LEDs have the following states:

Yellow LED RJ45 Connector	Indication	Action
The LED is Off	The LAN cable is not plugged into the communicator	Verify the wiring, refer to the wiring diagram. Measure the AUX output of the panel Replace the unit
The LED is Constantly On	Connection established	
Green LED RJ45 Connector	**Indication**	**Action**
The LED is Off	The router is not providing an IP via DHCP. The device is configured with static IP that is already in use in the network. There is no internet access.	If using DHCP, check your DHCP server settings. If using static IP, make sure that the IP is not already in use. Check if you have access to the internet using another device in the same network. Check your router settings.
The LED is Blinking	Transferring data	
The LED is Constantly On	Cable and communication with the router are OK	

When the wiring and deployment of the unit are completed, proceed with the programming of the panel (refer the alarm panel installation and programing manual).