



# 5G Industrial Indoor Router

## MII5242

MII5242 is M.gear's flagship 5G NR industrial router designed specifically for Industrial IoT (IIoT) networked applications, offering secure wireless broadband connectivity and diverse features including URLLC for mission critical operations. Dual micro-SIM card slots enable configurable, secure connectivity to the customer's private 4G/5G network, while also providing failover to a public cellular network. The integrated dual band Wi-Fi 6 provides greater flexibility in connecting Wi-Fi clients within an industrial premise.

MII5242 is equipped with a high-performance CPU and memory, enabling localized data analytics and real time analytics. A single Gigabit WAN port and four Gigabit LAN ports, offer customers the flexibility to connect various IIoT devices and sensors with CAT-5/6 standard ethernet cables.

MII5242 also features high-precision GNSS positioning, providing accurate location information for IIoT devices to meet remote real-time monitoring and asset tracking based use cases. It is built with a RS-485 interface and supports the Modbus RTU (Remote Terminal Unit) protocol, serving as a critical, secure 4G/5G bridge between legacy industrial devices used with SCADA Systems, Distributed Energy Resources (DERs), Programmable Logic Controllers (PLCs), sensors and actuators, and modern IP-based networks.

Additionally, MII5242 can operate stably within an extreme temperature range from -40°C to +70°C, making it suitable for delivering reliable 5G broadband connectivity in complex, harsh environments and climatic conditions. LED indicators display data transmission and network connection status. High-performance wireless network SoC processor enabling localized data analytics and processing.

### Features

1. Key features of the MII5242 include: High-performance wireless network SoC processor enabling localized data processing and processing.
2. Dual Micro SIM card slots for enhancing network connection stability.
3. Dual-band Wi-Fi 6 (802.11ax) 2T2R 2.4GHz/5GHz providing enhanced wireless broadband local-area access for smart factory and manufacturing automation, IIoT sensor networks, edge computing and real-time analytics and asset management.
4. Multi-functional interface ports: RS-485, Digital Input/ Digital Output (DI/DO) for Modbus communication with PLCs, Remote Terminal Units and sensors
5. GNSS functionality provides accurate location information for IIoT devices and connected asset tracking.
6. LED indicators display signal strength and network connection status in real-time for easy monitoring.
7. Compatible with M.gear detachable SMA LTE/Wi-Fi/GNSS antennas for expanded coverage and reliability.
8. Stable operation in extreme temperature range from -40°C to +70°C prevalent in industrial settings.

## Specifications

### General

#### Cellular Interface

- 5G: NR NSA/SA
- 4G: LTE FDD/TDD

### Hardware Interface

- 1 x 10/100/1000 Base-T WAN port with LED
- 4 x 10/100/1000 Base-T LAN ports with LED
- 2 x Micro SIM slots
- 1 x USB 2.0
- 1 x Reset Button
- 1 x RS-485 (D+/D-/GND)
- 1 x DI (Isolated), 1 x DO (Isolated)
- Terminal Block Power Input : 8~26 VDC

### Wireless Interface

- 2T2R IEEE 802.11ax 2.4GHz/5GHz
- Wireless security with WPA2/WPA3 mixed mode
- Wireless MAC filtering for enhanced security
- Wireless client isolation to prevent peer to peer device connectivity

### Antenna

- 4 x SMA connectors for detachable LTE/5G antenna
- 2 x SMA connectors for detachable Wi-Fi antenna
- 1 x SMA connector for detachable GNSS antenna

### Physical Characteristics

**Enclosure** : Metal case

**Dimensions (W x H x D)** : 138.9mm x 131mm x 38mm

**Weight** : 600g

**Installation** : Wall mounting, DIN-rail mounting, Desktop

**LED Display** :

- 1 x Power status
- 1 x LTE/5G
- 1 x Wi-Fi
- 3 x Signal status

### Power Supply

**Power Input** : AC 100 ~ 240 V

**DC Output** : 12V/ 2A(MAX)

### Software

#### Network Protocols

- IPv4, IPv6, IPv4/IPv6 dual stack, DHCP server and client
- Static IP, SNTP, DNS proxy, Modbus TCP to Modbus RTU
- Static routing and RIP v1/v2

#### VPN

OpenVPN, IPSec(DES, 3DES, AES128, AES196, AES256, MD5, SHA1, SHA128, SHA192, SHA256)

#### Firewall

- NAT, Virtual server, Port trigger, DMZ
- MAC and URL filter, Stateful packet inspection, DOS attack

**Alarm**: SMS, VPN/WAN disconnect, SNMP trap

**Others**: DDNS, QoS(SCM), SMS Action, USB Storage, Diagnostics

**Management**: Web GUI with HTTPS/HTTP, Dual image, Syslog, SNMP, SSH v2

### Environment

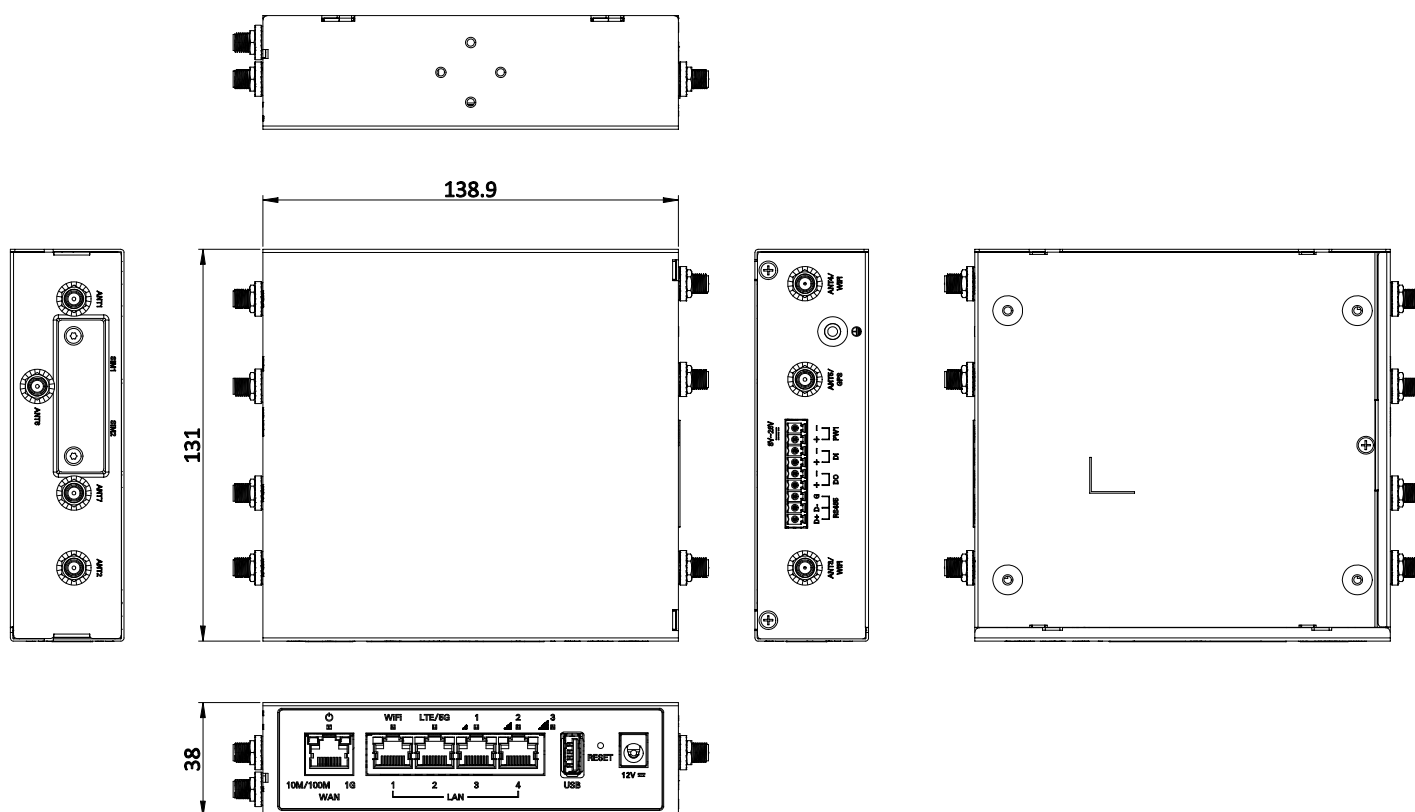
**Operating Temperature**: -30 ~ +70°C

**Storage Temperature**: -40 ~ +85°C

**Ambient Relative Humidity**: 10 ~ 95% (Non-condensing)

**Humidity**: 0 ~ 95% (Non-condensing)

## Enclosure Drawing



## Application Example

