Billion M120N

Advanced Industrial/In-Vehicle LTE Router

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Overview

The Billion M120N Advanced Industrial/In-Vehicle LTE Router is a high performance all-in-one fixed/mobile wireless communications platform with advanced software enabling high availability, reliable and secure connectivity for mission critical applications. The compact rugged design integrates dual SIMs, four-port Gigabit Switch, Wi-Fi Access Point, embedded multi-GNSS receiver for GPS or GLONASS, and ignition sensing for in-vehicle applications. The M120N is specifically designed to support a wide range of applications in Smart Bus and M2M segments.

High Availability and Network Resilience

The M120N is a feature-rich industrial-grade router coupled with robust network processing and Multi-WAN connectivity, purpose built for network reliability and business continuity. In the event of a connectivity failure of the primary WAN interface, traffic is automatically redirected to the secondary WAN interface, it will perform failback when the primary interface connection is restored. The M120N also supports dual SIMs for a redundancy between carriers networks. The M120N features four Gigabit Ethernet ports, a RS-232 Serial port and 802.11n AP to enable LTE data connectivity.

Designed for Industrial Environments

The M120N supports an extended operating temperature range from -40 to 60° C (-40 to 140° F) and a flexible power input voltage range of 10-56V DC making it suitable for diverse environments and applications. To enable simple, reliable and efficient integration, the ultra-compact and lightweight design incorporates highly flexible mounting options to ensure that the device and can be easily mounted anywhere.

High performance & reliability and easy to manage and access
- Offer 4G/LTE broadband connectivity (3G Fallback is optional)
- Multi-WAN interfaces: Dual SIMs and GbE WAN for network resilience and reliable connectivity
- Network expandability - load balancing and reliable connectivity - auto-failover/failback
- Embedded GNSS option for real-time asset tracking and location data-based applications*[4]
- Local and Remote management via Web GUI, SNMP or CWMP(TR-069)

Serial Port (DCE, DB-9 female)
- RS-232
- Support Modbus/TCP, Telnet Server, SSH Server, UDP Server/Client, TCP Server/Client

Compact and unobtrusive design
- Small form factor with optional mounting kits, easily installed by a single person
- Ignition power control option when mounted within vehicles

Secure VPN Connections
- Embedded IPSec, PPTP, L2TP, GRE and OpenVPN secure VPN connection with powerful encryption

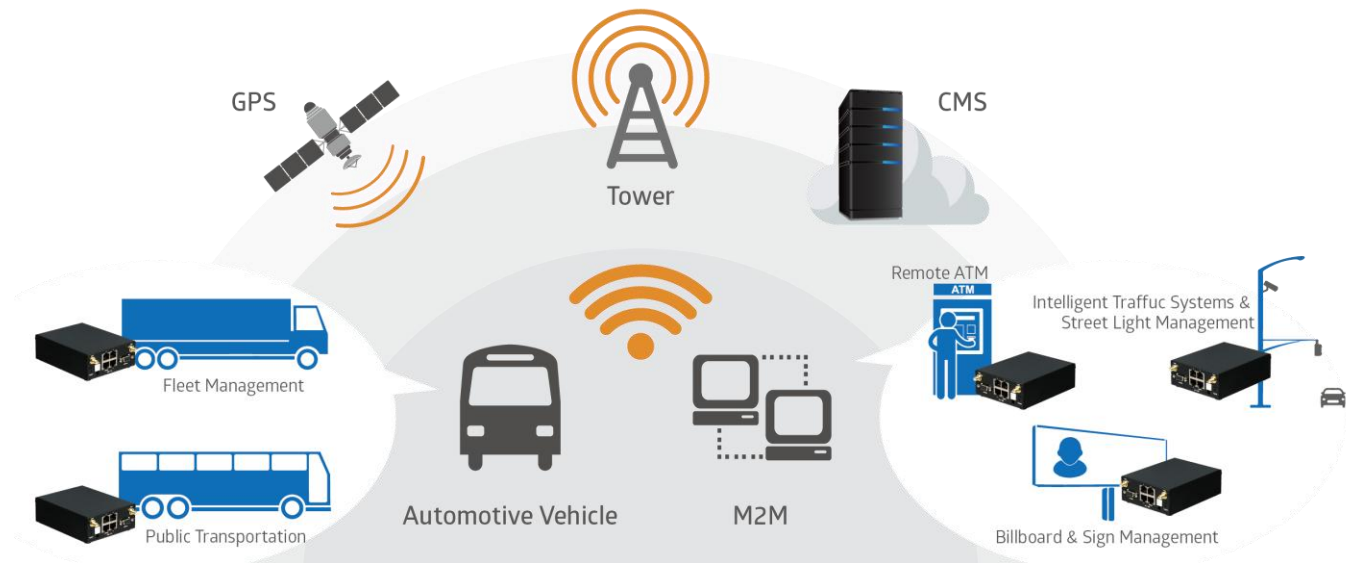### Designed for challenging / rugged deployments
- Hardened enclosure with Industrial-graded components
- Designed to withstand heat, humidity and protect from shock, vibration, etc.

Ideal Solution for
- Business Continuity, Logistics/Transportation and Fleet, Public Safety/ FirstNet applications.

Application Diagram

Features & Specifications

■ Availability and Resilience
- Dual SIMs
- Dual-WAN Interfaces (LTE, GbE WAN)

■ Embedded 4G/LTE[1]
- Embedded high performance 4G/LTE module
- Primary WAN LTE: FDD and TDD
  (Bands depend on module configuration)

■ Network Protocols and Features
- Dual WAN Failover/ Failback
- Dual WAN Load Balancing
- IPv4, IPv6, IPv4/IPv6 dual stack[2]
- Dual APN[3]
- Keep Alive
- IP Pass-Through
- NAT, Virtual Server and DMZ
- Static Routing, Dynamic Routing
  (RIP v1/v2, OSPF, BGP)
- SNTP, DNS relay and DDNS
- Universal Plug and Play (UPnP) compliant
- Supports DHCP server/client/relay

■ Firewall
- Built-in NAT Firewall
- Stateful Packet Inspection (SPI)
- Prevents DoS attacks including Land Attack,
  Ping of Death, etc.
- Access Control
- IP Filtering, MAC Filtering, URL Filtering
- VPN Pass-through

■ Virtual Private Network (VPN)
- IPSec
- PPTP
- L2TP
- GRE
- OpenVPN

■ Wireless LAN
- Compliant with IEEE 802.11n standard
- Up to 300Mbps wireless operation rate
- WPS (Wi-Fi Protected Setup) for easy setup
- 64/128 bits WEP supported for encryption
- Wireless security with WPA-PSK, WPA2-PSK,
  Mixed WPA/WAP2-PSK
- AP and WDS Operational Modes
- Multiple SSID (4 SSIDs), BSSID
- Wireless MAC Filtering
- Wireless Client Isolation
- Wi-Fi Hotspot with Captive Portal
- Support RADIUS authentication
- Wi-Fi client rate-limiting

■ Serial RS-232
- DCE, DB-9 female
- Modbus/TCP, Telnet Server, SSH Server,
  UDP Server/ Client, TCP Server/ Client

■ Global Navigation Satellite System(GNSS)[4]
- Embedded multi-GNSS engine for GPS or GLONASS
  system

■ Management
- Password protection for system management
- Web-based GUI for remote and local management
- Firmware upgrade and configuration data upload and
  download via web-based GUI
- CWMP(TR-069)[2], SNMP
- 4G/LTE or 3G Usage Allowance
- Remote System Log monitoring
- Scheduling Auto-Reboot
- Physical layer/protocol diagnostic test tool

■ Hardware Specifications
Physical Interface
- WAN: 4G/LTE (and/or GbE WAN)
- Ethernet LAN: four(4) port 10/100/1000Mbps
  auto-crossover (MDI/ MDI-X) switch
- RS-232(DCE, DB-9 female): one(1) port
- SIM Card: two(2) slots
- Reset Button
- Power Connector: 4-pin connector with ignition
  sensing
- LED Indicators
- Antenna:
  - 4G/LTE: two(2) detachable antennas
  - GPS: one(1) detachable active antenna (option)
  - Wireless: two(2) detachable antennas

Power Specifications
- Input: DC 10V~56V

Physical Specifications
- Dimensions: 4.92"(W) x 1.49"(H) x 3.85"(D)
  (125 mm x 38 mm x 98 mm)
- Weight: 0.62kg (1.36lbs)

Operating Requirements
- Operating: -40°C to 60°C (-40°F to 140°F)
- Humidity: 20 ~ 95% non-condensing

Notes:
1. The 4G LTE is dependent on your local service provider.
2. Only upon request for Telco/ ISP tender projects.
3. Dual APN is not supported on some specific SKU, please confirm it with our sales.
4. The support for GPS and/or GLONASS functions depends on the equipped module's capabilities.
5. Specifications in this datasheet are subject to change without prior notice.

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