

4G LTE Light Industrial M2M Router



The NetComm Wireless 4G LTE Light Industrial M2M Router (NWL-25) is a cost-effective future proof solution that delivers wireless communications to industrial applications. Feature rich and user-friendly, the powerful router enables quick installation and is ideal for M2M and industrial IoT deployments.



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Overview

Machine-to-Machine (M2M) communications is to industrial automation and management what the internal combustion engine was to the automobile industry. It is revolutionary, and even disruptive, creating new ways to improve productivity and increase profits by enabling the industrial Internet of Things (IoT). Whether you are an end-user, a system integrator or an IoT service manager, your design toolbox will benefit from the simple integration of the 4G LTE Light Industrial M2M Router (NWL-25).

QUICK FACTS

- Rugged enclosure, multiple wall mount options and a wide range of input power options making it ideal for use in harsh environments
- Powerful cellular connectivity supporting 4G LTE
- A serial port software selectable to support either 9 wire RS232 or RS485/RS422
- 3 x multipurpose I/O pins to connect to external sensors or relays
- A Fast Ethernet (100Mbps) port to connect to a local device or network
- USB-OTG for additional interfaces or extra storage
- Ignition sense capability for graceful shutdown and startup in vehicle applications
- Configurable power save mode with minimum current draw when in sleep mode
- Supports PPPoE, RIP, VRRP, DDNS, MAC/NET address filtering and DHCP/DHCP relay
- VPN support for establishing a secure connection over public cellular networks using: OpenVPN, PPTP, IPsec or GRE Tunneling
- Powerful processor and spare storage capacity ideal for applications requiring edge processing

The robust and intelligent NetComm Wireless 4G LTE Light Industrial M2M Router (NWL-25) provides real-time M2M data connectivity, even in harsh environments. The NWL-25 creates reliable point-to-point or point-to-multi-point WAN connections for a variety of mission critical applications such as primary broadband, video surveillance, retail, payments and in-vehicle communications.



IDEAL INDUSTRIAL IOT DEVICE

The industrial IoT industry is expanding at a rapid rate as businesses realise the enormous value of remote asset management enabled through M2M communications. The NWL-25 has the custom capacity needed to adapt to varied M2M implementations; and is a future proof cost-effective 4G device that ensures a low total cost of ownership and the highest possible rate of return.



CARRIER GRADE MANAGEMENT

The NWL-25 supports a wide range of telecommunication standards based remote management protocols such as LWM2M, TR-069 and SNMP to allow quick and easy integration with a wide range of remote device management and application management platforms.



ENTERPRISE GRADE PERFORMANCE AND RELIABILITY

Certified for use on Verizon Wireless' Private Network, the NWL-25 is ideal for business critical applications where secure integration with the enterprise's existing IP network is essential. Verizon Wireless Private Network extends customers' IP networks to connected devices by segregating the data from the public Internet, significantly reducing security risks.

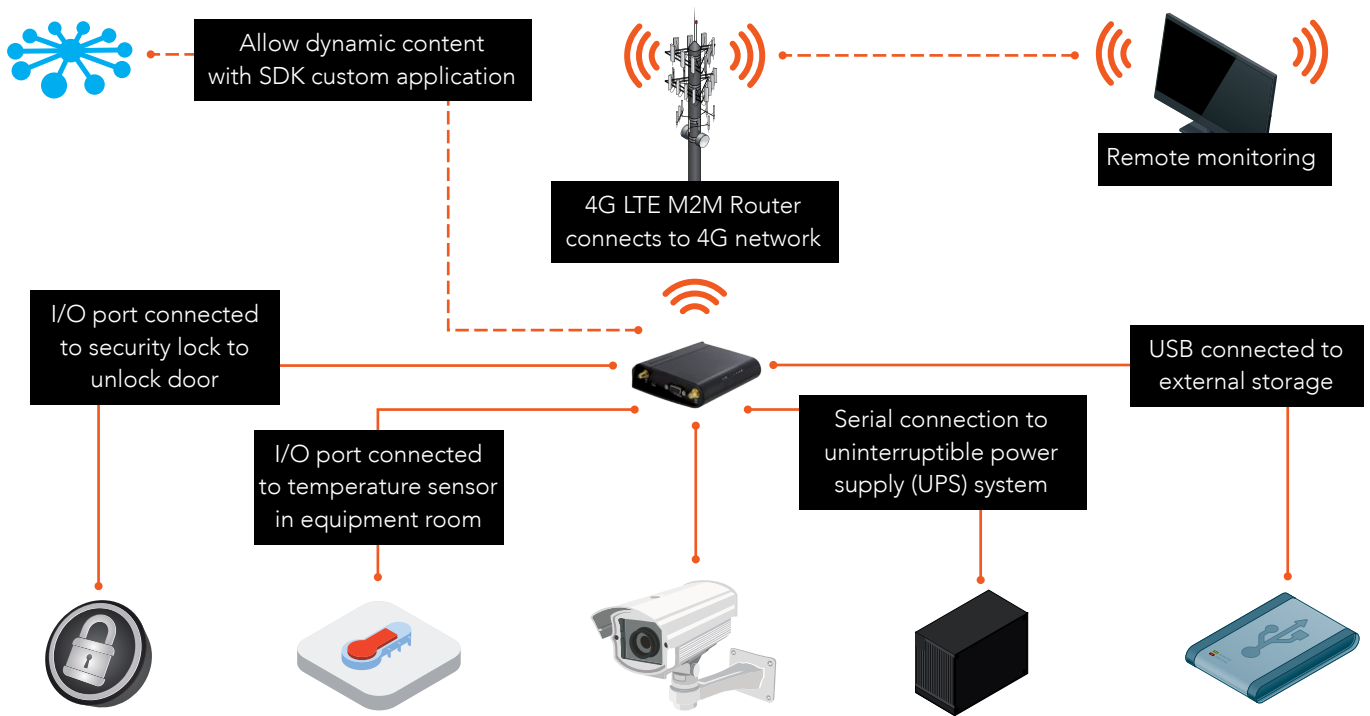


POWERFUL EDGE PROCESSOR

The NWL-25 is a software rich intelligent 4G router with the additional benefit of being software expandable. It has an open embedded Linux OS, empowering solution architects and system integrators to create their own applications using NetComm Wireless' Software Development Kit (SDK).

Application Example

Wireless surveillance camera



Device Features

At a glance



- 1 Cellular antenna connectors
- 2 SIM card slot (for USIM/SIM 2FF format)
- 3 SIM tray eject button
- 4 Serial port
- 5 Micro USB 2.0 OTG port (host or device mode)
- 6 Reset
- 7 6-way Terminal block connector (power, ignition input and 3 x I/O ports)
- 8 Fast Ethernet LAN port

Package Contents

What's in the box?*



1 x NetComm Wireless 4G LTE Light Industrial M2M Router (NWL-25-02)



2 x 4G LTE Cellular antennas



1 x DIN rail mounting bracket



1 x 1.5m yellow Ethernet cable



1 x 6 way termination block



1 x Quick start guide

Technical Specifications

PROCESSOR & STORAGE

- Powerful 450Mhz ARM9 processor with 128MB DDR2 RAM
- 256MB Flash memory storage (~120MB available on board space for user storage)

OPERATING SYSTEM

- Embedded Linux 3.6

PEAK DATA SPEED

- LTE Category 4

CELLULAR BANDS

- Multi-band FDD capable
- LTE:
 - Band 4 (AWS) (1700 / 2100 MHz)
 - Band 13 (700 MHz)

CONNECTIVITY

- 1x (RJ-45) 10/100Base-TX Port with Auto MDIX
- 1x RS232 Serial Port DB-9 female DCE supporting either 9 wire RS232 or RS485/RS422 (software selectable)
- Software controlled termination resistors for RS485
- Micro USB 2.0 OTG interface with 0.5A supply capability
- 3x Multipurpose I/O pins

I/O PINS

- NAMUR (EN 60947-5-6 / IEC 60947-5-6) compatible sensor input
- Analogue 0V to 30V input
- Digital input (through measurement of voltage above/below threshold)
- Open collector output

SIM CARD READER

- Lockable Tray Reader with Push-Button-to-Release
- Supports Mini USIM/SIM Format (2FF)

RESET BUTTON

- Reset button (recessed, requiring pen/paperclip) with three functions: Reboot, reboot into recovery mode, and reset unit to factory defaults

ANTENNA CONNECTORS

- 2x LTE SMA connectors (MIMO)

LED INDICATORS

- 7x tri-colour LEDs. Power, Network and 5x Signal Strength indicators
- Easy and clear LED status display for connection status, connected network type, and connection errors

CELLULAR

- Profile managed packet data connections
- NAT Disable for framed route configuration
- Transparent bridge mode using PPPoE to allow the router to transparently forward Public WAN IP address to a downstream device
- SIM Security Management (PIN configuration, enable and disable)
- Automatic cellular band selection
- Automatic operator selection

NETWORK & ROUTING

- Static Routing, RIP (v1/v2), Port Forwarding and DMZ
- Dynamic DNS
- VRRP for redundant router failover
- DHCP Server, including :
 - Address reservation by MAC address
 - Custom DNS server definitions
 - DHCP Relay
 - DHCP list display in Web-UI
 - Advanced DHCP Option configuration (Option 42 NTP, Option 66 TFTP, Option 150, Option 160)
- Data Stream Manager providing ability to create mappings between input and output ports (e.g. Serial Port, USB) and perform required translation or data processing by each virtual tunnel
- Modbus Server TCP/IP Gateway and Client TCP/IP Agent with up to 247 slaves connected to the Serial TCP/IP Gateway.
- Modbus RTU/ASCII frames support.

VPN

- Verizon Wireless Private Network Certified
- PPTP Client for VPN connectivity to remote PPTP VPN Server
- IPSec tunnel termination (for up to 5 tunnels)
- GRE Tunnelling
- OpenVPN (Client, Server and P2P)

ADMIN & CONFIGURATION

- Web-based User Interface (HTTP/HTTPS) for full device status and configuration
- Password protected configuration file backup and restore for quick device configuration and device cloning
- Telnet/SSH Command Line Interface for status monitoring, configuration and control
- SNMP v1/v2 including cellular specific MIB, config and firmware download
- TR-069 Client for remote device configuration, configuration backup and restore, and firmware upgrade
- Ping monitor watchdog (Reset connection on repeated ping failure)
- Diagnostic Log Viewer (remote and local)
- System Status and Security Logs
- NTP Server Support for network time sync of device's system clock
- Device User Guide stored on the device and accessible via the Web-based User Interface (HTTP/HTTPS)

FIRMWARE MANAGEMENT

- Firmware Upgrade locally via LAN or remotely Over-The-Air (HTTP/ HTTPS, SNMP, TR-069, LWM2M)
- Multiple firmware image storage on device and dynamic install

SOFTWARE DEVELOPMENT KIT

- Develop and install custom software applications
- Open Linux standard development environment
- Develop applications/scripting in standard ANSI C/Shell script and LUA
- Package manager built into Web-UI for Application installation/removal
- API (C, LUA and Shell libraries) to the unit's internal Runtime Database to allow full status monitoring configuration and control of the device from custom applications

TEMPERATURE

- Operating Temperature Range: -30°C ~ +70°C
- Storage Temperature Range: -40°C ~ +85°C

POWER SUPPLY

- Power input and I/O's via 6 way termination block receptacle
- Field terminable power input via screw type terminal block included
- DC Power (8 - 40V DC)
- 1x Dedicated ignition input on 6 way connector
- Power consumption 6W, recommended DC supply via terminal block (12V 1.5A)
- Vehicle compatible protection on DC Input Jack. (ISO7637 standard)

DIMENSIONS & WEIGHT

- Device dimensions (excluding external antenna): 140mm (L) x 103mm (W) x 30mm (D) / 193g

MOUNTING OPTIONS

- Wall mount support in multiple orientations via embedded mounting holes
- DIN Rail mount support via plastic bracket included in box (Top hat section rail TH 35 IEC60715)

CERTIFICATIONS

- FCC
- Verizon Wireless Network Approval
- Verizon Wireless Private Network Certified

