



Light Industrial M2M Router Plus



Perfect for

- Point-to-point or point-to-multipoint machine-to-machine IP connectivity
- Controlling and monitoring of connected machines from remote locations
- Collection and analysis of data from connected machines
- Commercial and Industrial deployments in harsh environments

KEY FEATURES

- ⌚ Dual-band CDMA (BC0/BC1), 800/1900MHz
- ⌚ CDMA data speeds up to 3.1 Mbps DL
- ⌚ 1 X10/100 Ethernet port
- ⌚ RS232/RS485/RS422 Port and USB 2.0 OTG port
- ⌚ Built in GPS supporting an active GPS Antenna via external SMA connector
- ⌚ Three multi-purpose I/O ports
- ⌚ One dedicated Ignition Input
- ⌚ Intelligent, Tri-Colour LED display for clear, easy to read modem status information
- ⌚ Extensive device management with support for TR-069, Web GUI and full feature management with SMS
- ⌚ Optimized web configuration UI
- ⌚ Flexible mounting suitable for in-home use or industrial applications with built-in wall mount, and DIN rail mounting options



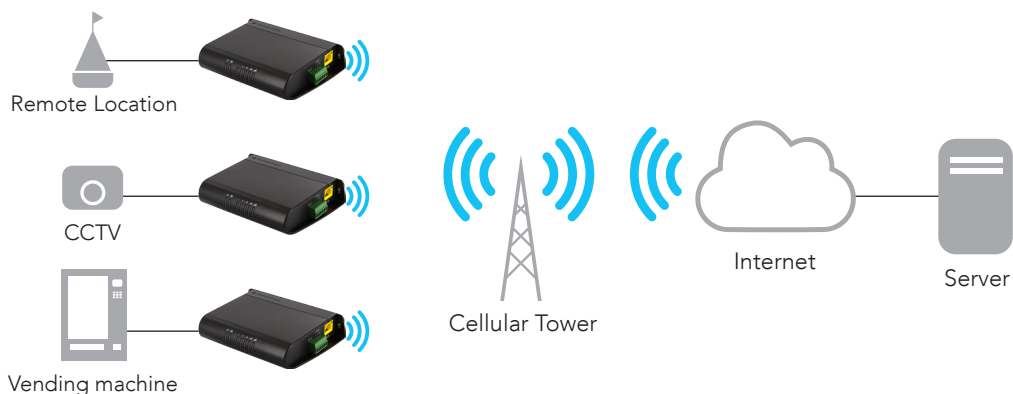


Light Industrial M2M Router Plus

The NWL-15 router is a high performing dual band CDMA Router that delivers the high speed and wide coverage afforded by Verizon's CDMA network. Designed for plug and play Ethernet IP connectivity, its lightweight, compact design makes it suitable for a broad range of industry applications. The device incorporates state-of-the-art M2M features; a powerful external antenna with an additional antenna providing diversity assistance; flexible mounting options and a wide operating temperature range. The device enables you to remotely connect your assets, premises or equipment to gather real-time business insight and streamline your business operations. The router's open Linux operating system and Software Development Kit

(SDK) offers the capability to install custom software applications within the substantial onboard flash memory. The device also allows remote system monitoring, remote diagnostics, remote configuration and firmware updates over the air. Featuring Ethernet, Serial (RS232/422/485), and USB 2.0 connectivity, the NWL-15 router can interface with a diverse range of equipment used in a wide variety of vertical applications. The NWL-15 router also features built in GPS support and a dedicated ignition input making it ideal for vehicle applications. The device features multipurpose digital and analogue I/O ports and is compatible with the NetComm Wireless Software Development Kit allowing you to customize their functionality to your needs.

APPLICATION EXAMPLES



SPECIFICATIONS

PROCESSOR & STORAGE

- Powerful 450MHz ARM9 processor with 64MByte DDR2 Ram
- 256MByte Flash memory storage (~120MB available on board space for user storage)

OPERATING SYSTEM

- Embedded Linux 3.6

DATA RATES

- EV-DO Rev.A data rates: FL max. 3.1Mbps, RL max. 1.8Mbps
- 1xRTT Advanced data rates: FL max. 307.2kbps, RL max. 307.2kbps

CELLULAR BANDS

- CDMA (BC0/BC1), 800/1900MHz

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 RS422 (software selectable)
- Software controlled termination resistors for RS485
- Mini 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

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 SMA connectors for 2G/3G (1x Main and 1x RX Diversity)
- 1x SMA connector for GPS

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

- 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

NETWORK & ROUTING

- Static Routing, RIP (v1/v2), Port Forwarding and DMZ
- Dynamic DNS
- VRRP for redundant router failover
- DHCP Server, including :

- o Address reservation by MAC address
- o Custom DNS server definitions
- o DHCP Relay
- o DHCP list display in Web-UI
- o 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, SMS, GPS, 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

GPS

- Embedded GPS receiver (1575.42Mhz)
- SMA Connector for external active GPS Antenna
- Active antenna voltage: 3.05V
- Maximum current: 50mA
- Short circuit protection
- Tracking sensitivity under open sky: -159dBm
- Acquisition sensitivity under open sky: -149dBm
- Cold start sensitivity: -145dBm
- Time to first fix (TTFF): Cold 25s, Warm 10s, Hot 3s
- Supports NMEA-0183 (v2.3)
- Redirect NMEA stream to serial for forward over IP
- Odometer reading available via Web-UI, CLI and SDK

VPN

- PPTP Client for VPN connectivity to remote PPTP VPN Server
- IPsec tunnel termination (for up to 5 tunnels)
- GRE Tunneling
- OpenVPN (Client, Server and P2P)

ADMINISTRATION & 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
- SMS Client (Send/Receive) including inbox, outbox
- 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)

- Advanced Diagnostics and Control via SMS
 - o Query status information – such as Signal Strength, WAN IP, Uptime, and many more
 - o Configure device remotely via SMS – such as APN, authentication settings, and many more
 - o Execute commands via SMS – such as reboot, reset to defaults, go offline, and many more
 - o Secure SMS management using sender whitelisting and password management
 - o SMS acknowledgement replies for queries and commands

FIRMWARE MANAGEMENT

- Firmware Upgrade locally via LAN or remotely Over-The-Air (HTTP/HTTPS, SNMP, TR-069)
- Multiple firmware image storage on device and dynamic install
- Triggered firmware upgrade via SMS (initiate download & install from HTTP/HTTPS)

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: -40°C – +80°C
- Storage Temperature Range: -40°C – +85°C

POWER SUPPLY

- DC Power input via 6 way connector (8 - 40V DC)
- 1x Dedicated ignition input on 6 way connector
- Power consumption 6W, recommended DC supply via terminal block (12V 1.5A)
- Field terminable power input via screw type terminal block included
- 60v load dump protection on DC Input Jack

DIMENSIONS & WEIGHT

- Device dimensions (excluding external antenna): 140mm (L) x 103mm (W) x 30mm (D) / 180g

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)

REGULATORY COMPLIANCE

- FCC, ISO/7637