3G M2M Router Plus

The intelligent and versatile NetComm Wireless 3G M2M Router Plus (NTC-6200) is designed for universal deployment and seamless integration, enabling remote monitoring and management across diverse applications in areas such as asset management, security and surveillance, building automation, point of sale, healthcare and smart city initiatives.

NTC-6200
Specification Sheet

3G M2M Router Plus
Overview

Industrial M2M applications are becoming more advanced, more complex and more diverse. Whatever the industry sector, the challenge is to achieve business objectives through the efficient management of remote assets, equipment and systems. The NetComm Wireless 3G M2M Router Plus (NTC-6200) offers an easily integrated solution that is simple to manage, configure and customise. Designed to enable diverse M2M applications, the NTC-6200 connects to 3G networks worldwide and, depending on the selected model, comes equipped with GPS and multipurpose interfaces including I/O, Serial, Ethernet and USB ports.

QUICK FACTS

- Penta-band 3G and quad-band 2G auto-fallback for undisrupted communications

- Connect to global 3G HSPA+ networks reaching speeds up to 14.4 Mbps (downlink)

- Fast Ethernet port (100Mbps)

- Connect legacy devices using the Serial (RS232/RS422/RS485) port and USB 2.0 OTG port

- Track assets with built-in GPS supporting an active GPS antenna via external SMA connector *(selected models)*

- Three multi-purpose I/O ports and one dedicated ignition sensing input *(selected models)*

- Intelligent, tri-Colour LED display for clear, easy to read modem status

- Remote device management with support for LWM2M, TR-069, web GUI and full feature management with SMS

- Save power using low power 'sleep' mode (~5mA at 12V)

- Flexible mounting suitable for industrial applications with built-in wall mount and DIN rail mounting options

- Device dimensions (excluding external antenna): 143mm (L) x 107mm (W) x 34mm (D) / 221g (254g with bracket)

- Browser-based device management and on-board processing capabilities for customised software and all-in-one monitoring and communications functionality

The robust and intelligent NetComm Wireless 3G M2M Router Plus (NTC-6200) provides real-time M2M data connectivity, even in harsh environments. The NTC-6200 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, in-vehicle communications and industrial automation.

UNLIMITED CONNECTIVITY
Connect and manage remote assets across the globe. NTC-6200 delivers speeds reaching 14.4Mbps over 3G networks worldwide; and feature Ethernet, Serial (RS232/422/485) and USB 2.0 ports to seamlessly connect virtually any piece of equipment, anywhere.

SEAMLESS INTEGRATION
NTC-6200 routers integrate with application service enablement platforms, and provide developers with a variety of real-world interfaces, offering complete integrated solutions for any application.

MONITOR MOBILE ASSETS (SELECTED MODELS ONLY)
Track and monitor vehicles and other mobile assets from any location using NTC-6200 models that feature built-in GPS; and gather information about the physical environment using the three multipurpose I/O ports to collect data from sensors, monitors and other input devices. One I/O port is a dedicated ignition input that can power the router when a vehicle is started, providing powering flexibility.

REMOTE MANAGEMENT
M2M deployments in remote locations can be managed from a central location in real time to reduce site visits and manual maintenance costs. Technicians can receive status alerts, log into the system, extract and analyse data, upload firmware and change configuration from virtually any location using management interfaces including OMA LWM2M, TR-069, SNMP, HTTP/HTTPS, Telnet/CLI, and SMS. SMS can be used to access, control and monitor the router, and send and receive text messages while protecting from 3G/2G IP network outages using GSM networks.
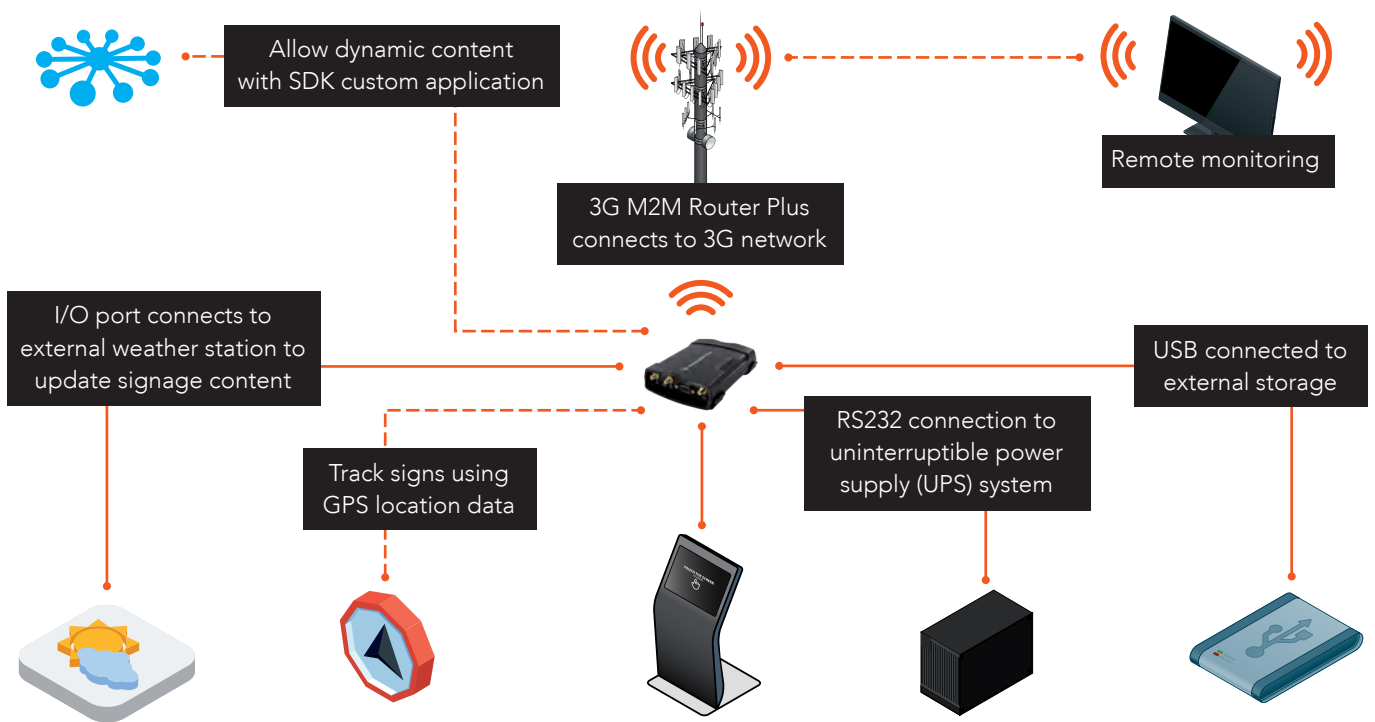
CUSTOM SOFTWARE APPLICATIONS
NTC-6200 routers are software rich intelligent 3G routers with the additional benefit of being software expandable. They feature an open embedded Linux Operating System empowering solution architects and system integrators to create their own apps using NetComm's Software Development Kit (SDK).

Application Example
Wireless 3G connectivity to digital signs

Allow dynamic content with SDK custom application

3G M2M Router Plus connects to 3G network

Remote monitoring

I/O port connects to external weather station to update signage content

USB connected to external storage

Track signs using GPS location data

RS232 connection to uninterruptible power supply (UPS) system

Device features
At a glance

1 Cellular antenna connectors

2 GPS antenna connector

3 RS-232/422/485 port

4 SIM card slot (for USIM/SIM 2FF format)

5 SIM tray eject button

6 Mini USB 2.0 OTG port (host or device mode)

7 Reset button

8 6 way connector (power, ignition input and 3 x I/O ports)

9 Fast Ethernet LAN port

Package Contents
What's in the box?

1 x NetComm Wireless 3G M2M Router Plus (NTC-6200)

1 x DIN rail mounting bracket

2 x Cellular antennas

1 x six-way terminal block

1 x 1.5m yellow Ethernet cable

1 x SIM card tray cover

1 x Torx screw for SIM card tray cover

1 x Quick start guide

Technical 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

PEAK DATA SPEED
- HSDPA/HSUPA data rates: DL: 7.2 / 14.4 Mbps, UL: 2.0 / 5.76
- Mbps (Concurrent data rate: DL: 7.2 Mbps, UL: 5.76 Mbps)
- UMTS data rates: DL: max. 384 kbps, UL: max. 384 kbps
- EDGE class 12: DL: max. 237 kbps, UL: max. 237 kbps
- GPRS class 12: DL: max. 85.6 kbps, UL: max. 85.6 kbps
- CSD data transmission 14.4 kbps, V.110

CELLULAR BANDS
- UMTS/HSDPA/HSUPA: 800/850/900/2100/1900 MHz
- GSM/GPRS/EDGE: 850/900/1800/1900 MHz

CONNECTIVITY
- 1x (RJ45) 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
- Mini USB 2.0 OTG interface with 0.5A supply capability

I/O PINS (only available on some models)
- 3x Multipurpose 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 SMA connectors for 2G/3G (1x Main and 1x RX Diversity)
- 1x SMA connector for GPS (only available on some models)

LED INDICATORS
- 8x tri-colour LEDs. Power, Network, a GPS/customizable LED 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 and manual cellular band selection
- Automatic and manual operator selection
- GPS (only available on some models)
- 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 or forward over IP
- Odometer reading available via Web-UI, CLI and SDK

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, SMS, 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
- 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)

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

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
- 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
- Module Manufacturer's Recommended Operating Temperature Range: -40°C ~ +85°C
- Storage Temperature Range: -40°C ~ +85°C
- Operating Humidity Range: 0-95%

POWER SUPPLY
- Power input 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 and 3 x I/O ports on 6 way connector (only available on some models)
- Power consumption 6W, recommended DC supply via terminal block (12V 1.5A)
- Vehicle compatible protection on DC Input Jack. (ISO7637 standard)

DIMENSIONS, WEIGHT & MOUNTING
- Device dimensions (excluding external antenna): 143mm (L) x 107mm (W) x 34mm (D) / 221g (254g with bracket)
- 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)

MODEL	NTC-6200-02			NTC-6200-12	NTC-6200-13
GPS	Yes			Yes	No
3 x Multipurpose I/O ports	Yes			Yes	No
1 x Ignition sensing port	Yes			Yes	No
Regulatory Certifications	• CE (Europe) • RCM (Australia / New Zealand) • E-Mark (Europe) • TRA (UAE) • iDA (Singapore) • GCF (Europe)	• RoHS • IC (Canada) • FCC (USA) • PTCRB (USA) • NBTC (Thailand) • SIRIM (Malaysia) • SDPPI (Indonesia)	• SRRC/CCC/NAL (China) • ICASA (South Africa) • MIC (Vietnam) • CB Compliant • IP41	• JRF (Japan) • JPA (Japan)	• JRF (Japan) • JPA (Japan)
Carrier Approvals	• AT&T • Rogers	• Spark • Telstra		• NTT DoCoMo	

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