NTC-220

IoT Gateway

4G LTE CAT 1 INDUSTRIAL IOT ROUTER

The NTC-220 is a robust cost-effective device. Supporting 4G LTE Category 1, the NTC-220 is ideal for use-case scenarios requiring reliable, yet highly secure connectivity.

RELIABLE CONNECTIVITY

The NTC-220 supports 4G LTE Category 1, which enables the next generation connectivity for a number of mission critical applications.

Supporting all major 4G bands, the NTC-220 is the perfect device choice for deployments across the globe.

EXPANDING CAPABILITIES WITH CUSTOM SOFTWARE APPLICATIONS

The NTC-220 features the Linux based Lantronix OS, empowering solution architects and system integrators to create their own applications using Lantronix's Software Development Kit (SDK).

RELIABLE ASSET TRACKING*

Built-in high-performance GPS enables the NTC-220 to track and monitor vehicles, trucks, heavy construction machines and other mobile assets from any location.

**GPS not available on NTC-223*

REMOTE MANAGEMENT

IoT deployments in isolated locations can be managed remotely in real time to reduce site visits and manual maintenance costs. Technicians can receive status alerts, extract and analyse data, upgrade firmware over the air, configure and update the NTC-220 from headquarters or any other location using a wide range of management protocols, including OMA LWM2M, TR-069, SNMP, HTTP/HTTPS, Telnet/CLI and SMS.

Feature Highlights:

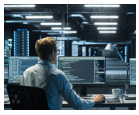
- 4G LTE Cat 1 (10 Mbps)
- Software development capability (SDK)
- Integrated GPS for reliable asset tracking *(not available on NTC-223)*
- An Ethernet port, a serial port and software configurable I/O ports for connection flexibility
- USB OTG port to connect a local storage device
- Ignition sense capability and a wide input voltage range for vehicular applications
- Rugged industrial design for harsh environments
- Easy and clear LED status display for connection status, connected network type, and connection errors
- Remote device configuration, management and firmware upgrade

Markets:

Security

Smart City

Transport and Mobility



Enterprise

LANTRONIX

Technical Specifications

PEAK DATA SPEED (MODEL DEPENDENT)

LTE FDD:
- Max10 Mbps (DL) / Max 5 Mbps (UL)

LTE TDD:
- Max 8.96 Mbps (DL) / Max 3.1 Mbps (UL)

DC-HSPA+:
- Max 42 Mbps (DL) / Max 5.76 Mbps (UL)

UMTS:
- Max 384 Kbps (DL) / Max 384 Kbps (UL)

EDGE:
- Max 236.8 Kbps (DL) / Max 236.8 Kbps (UL)

GPRS:
- Max 85.6 Kbps (DL) / Max 85.6 Kbps (UL)

ANTENNA CONNECTORS

- 2 x SMA connectors for 4G/3G/2G (1 x Main and 1 x RX Diversity)
- 1 x SMA connector for GPS (not available on NTC-223)

ANTENNA SPECIFICATIONS

- Frequency (MHz): 698-2700

Maximum Gain (dBi):
- 4.71 (NANT-00001)
- 3.24 (NANT-00006)

- VSWR: < 3.0:1
- Height (mm): 201
- Radome diameter (mm): 17

INTERFACES

- 1 x 100Base-T Ethernet RJ45 port
- 1 x RS232 Serial Port DB-9 female DCE supporting either
- 9 wire RS232 or RS485/RS422 (software selectable)
- Software controlled termination resistors for RS485
- 1 x Micro USB 2.0 OTG interface with 0.5A supply capability

I/O terminal block providing:
- 3 x 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

1 x Recessed multifunctional reset button
- Reboot
- Reboot into recovery mode
- Reset to factory default settings

LED INDICATORS

8 x 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

GPS (NOT AVAILABLE ON NTC-223)

- GPS
- GLONASS
- BeiDou
- Galileo
- QZSS

SIM CARD READER

1 x SIM card slot
- Supports Mini USIM/SIM Format (2FF)
- Optional soldered-down SIM (ETSI MFF2 DFN-8 USIM)

PROCESSOR AND STORAGE

- 1 GHz ARM Cortex A8 processor with 256 MB RAM
- 512 MB flash memory storage

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
- 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 & CONFIGURATION

- Secure web-based user interface (HTTPS) for full device status and configuration
- Password protected configuration file backup and restore for quick device configuration and device cloning
- SSH Command Line Interface for status monitoring, configuration and control
- SNMP v1/v2/v3 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 secure web-based user interface (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

LANTRONIX

Spec Sheet Heading

FIRMWARE MANAGEMENT

- Firmware Upgrade locally via LAN or remotely Over-The-Air (HTTPS, SNMP, TR-069, LWM2M)
- Multiple firmware image storage on device and dynamic install
- Triggered firmware upgrade via SMS (initiate download & install from 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 to +70°C
- Storage Temperature Range: -40°C to +85°C
- Operating Humidity Range: 0% to 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)
- 1 x 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): 143 mm (L) x 107 mm (W) x 34 mm (D) / 221 g (254 g 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)

ENCLOSURE

- IP41 rated

Technical Specifications

MODEL	NTC-221-01-01	NTC-222-01-01	NTC-223-01-01	NTC-224-01-01	NTC-225-01-01	NTC-227-0-01
Region / Carrier	4G LTE IIoT Router for Australia and New Zealand	4G LTE IIoT Router for Europe	4G LTE IIoT Router for Japan	4G LTE IIoT Router for AT&T (US)	4G LTE IIoT Router for Verizon Wireless (US)	4G LTE IIoT Router (Global)
Frequency Bands:						
LTE FDD Bands	Band 1 (2100 MHz) Band 2 (1900 MHz) Band 3 (1800 MHz) Band 4 (1700 MHz) Band 5 (850 MHz) Band 7 (2600 MHz) Band 8 (900 MHz) Band 28 (700 MHz)	Band 1 (2100 MHz) Band 3 (1800 MHz) Band 5 (850 MHz) Band 7 (2600 MHz) Band 8 (900 MHz) Band 20 (800 MHz)	Band 1 (2100 MHz) Band 3 (1800 MHz) Band 8 (900 MHz) Band 18 (850 MHz) Band 19 (850 MHz) Band 26 (850 MHz)	Band 2 (1900 MHz) Band 4 (1700 MHz) Band 12 (700 MHz)	Band 4 (1700 MHz) Band 13 (700 MHz)	Band 1 (2100 MHz) Band 2 (1900 MHz) Band 3 (1800 MHz) Band 4 (1700 MHz) Band 5 (850 MHz) Band 7 (2600 MHz) Band 8 (900 MHz) Band 12 (700 MHz) Band 13 (700 MHz) Band 18 (850 MHz) Band 19 (850 MHz) Band 20 (800 MHz) Band 25 (1900 MHz) Band 26 (850 MHz) Band 28 (700 MHz)
LTE TDD Bands	Band 40 (2300 MHz)					Band 38 (2600 MHz) Band 39 (1900 MHz) Band 40 (2300 MHz) Band 41 (2500 MHz)
WCDMA Bands	Band 1 (2100 MHz) Band 2 (1900 MHz) Band 5 (850 MHz) Band 8 (900 MHz)	Band 1 (2100 MHz) Band 5 (850 MHz) Band 8 (900 MHz)		Band 2 (1900 MHz) Band 4 (1700 MHz) Band 5 (850 MHz)		Band 1 (2100 MHz) Band 2 (1900 MHz) Band 4 (1700 MHz) Band 5 (850 MHz) Band 6 (800 MHz) Band 8 (900 MHz) Band 19 (800 MHz)
GSM Bands	Band 2 (1900 MHz) Band 3 (1800 MHz) Band 5 (850 MHz) Band 8 (900 MHz)	Band 3 (1800 MHz) Band 8 (900 MHz)				Band 2 (1900 MHz) Band 3 (1800 MHz) Band 5 (850 MHz) Band 8 (900 MHz)
Power Supply						
Part Number	**Description**					
PSU-0079	12VDC 1.5A Standard Temperature PSU w7 Interchangeable Plugs without DC connector fitted (+/-2KV)					

Learn More at lantronix.com/NTC-220

LANTRONIX