NTC-500 Series

5G INDUSTRIAL IOT ROUTER

The **NTC-500 Series** is a robust, high-speed industrial-grade 5G router, engineered to meet the demands of critical and complex Ethernet based applications. It delivers ultra-reliable, enhanced broadband wireless internet connectivity and routing protocols, making it ideal for challenging environments such as industrial automation, transportation, smart cities, and more.

RELIABLE CONNECTIVITY

The NTC-500 Series supports the latest 3GPP Release 16 5G features including 5G Non-standalone (NSA), 5G Standalone (SA) and Dynamic 5G Slicing which enables complex end-to-end, on-demand quality of service solutions in partnership with leading carrier networks.

RUGGEDIZED DESIGN

The NTC-500 Series features a compact, rugged, industrial-grade metal enclosure engineered for durability and dependable performance in harsh environments, including extreme temperature ranges. Its versatile design also supports multiple mounting options for flexible installation.

PRIVATE 5G NETWORK COMPATIBLE

The NTC-500 Series is a versatile and ideal solution for Private 5G Networks deployed in industrial, mining or construction settings.

ACCESSIBLE HIGH-PERFORMANCE INDUSTRIAL CONNECTIVITY

The NTC-500 Series sets a new standard by delivering advanced 5G wireless connectivity at a breakthrough price point—making high-performance industrial connectivity more accessible than ever.

Feature Highlights:

- 5G NR 3GPP Release 16, eMBB & uRLLC
- 5G Standalone (SA) / Non-Standalone (NSA) with failover to 4G
- Private Network support incl n48-CBRS, n77/78 EMEA
- 2.5 Gbps Ethernet Port
- Robust ruggedised industrial-grade metal housing
- Wide operating temperature range
- Clear LED display for connection and network status.

Markets:

Security

Traffic Control

Enterprise

Digital Signage

LANTRONIX

Technical Specifications

DEVICE CATEGORY

5G NR
› Uplink: MIMO 2x2 Single Carrier up to 100MHz, 256QAM
› Downlink: MIMO 4x4 Dual Carrier up to 120MHz, 256QAM

4G LTE
› Uplink: Cat 18, 2CA Single TX, 256QAM
› Downlink: Cat 19, 5CA MIMO 4x4. 256QAM

PEAK DATA SPEEDS*

5G NR SA Sub-6
› 2.4 Gbps (DL) / 900 Mbps (UL)

5G NR NSA Sub-6
› 2.5 Gbps (DL) / 550 Mbps (UL)

4G LTE
› 1.6 Gbps (DL) / 200 Mbps (UL)

ANTENNA CONNECTORS

SMA connectors
› 4 x Cellular ports for external cellular antennas

INTERFACES
› 1 x 2.5 Gbps LAN port
› 1 x USB-C (debug port)

LED INDICATORS
› 1 x Power, 1 x SIM, 1 x 4G, 1 x 5G, 3 x Signal strength, and 2 x Custom indicators

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

CELLULAR
› Profile managed packet data connections
› Profile Routing
› Data Profile IP Passthrough
› SIM Security Management
› Automatic and manual cellular band and operator selection
› Configurable automatic SIM switching between external and optional internal SIM
› 5G and LTE Cell Lock
› Up to 6 APN configurations
› Up to 8 Bearers and Traffic Classes

NETWORK AND ROUTING
› Static Routing, RIP (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
› VLAN Management
› IPS Firewall to protect against DoS attacks
› Network Service Assurance
› 5G Dynamic Slicing

VPN
› IPSec tunnel support
› GRE tunnel support
› OpenVPN (Client, Server and P2P)

ADMINISTRATION AND 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 v3 including cellular specific MIB, config and firmware download
› TR-069 and LWM2M for remote device configuration, configuration backup and restore, and firmware upgrade
› Ping monitor watchdog
› Diagnostic Log Viewer (remote and local)
› System Status and Security Logs
› NTP Server Support for network time sync of device's system clock
› Site and location settings
› Field test information for LTE and 5G
› MQTT client for device data reporting to Microsoft Azure & AWS cloud services
› Cumulocity support
› Advanced Diagnostics and Control via SMS

FIRMWARE MANAGEMENT
› Firmware Upgrade locally via LAN or remotely Over-The-Air (HTTPS, SNMP, TR-069, LWM2M)
› Triggered firmware upgrade via SMS

TEMPERATURES
› Operating Temperature Range: -30°C to +70°C
› Storage Temperature Range: -30°C to +85°C
› Operating Humidity Range: 0-95%

POWER SUPPLY
› Power input via 2-way termination block receptacle
› Field terminable power input via screw type terminal block included
› DC Power (8 - 40V DC)
› Recommended DC supply via terminal block (12V 1.5A)

DIMENSIONS, WEIGHT AND MOUNTING
› Device dimensions (excluding external antennas): 143.5mm (D) x 110.5mm (W) x 30mm (H) / 445g
› Wall mount support in multiple orientations via embedded mounting holes
› DIN Rail mount support via plastic bracket included in the box

ENCLOSURE
› IP41 rated

* Theoretical only - actual values depend on network conditions

Model Variants

MODEL	NTC-501-01-01	NTC-502-01-01
Region	North America	Global
Certifications / Approvals	FCC, ISED, PTCRB AT&T, BELL, T-Mobile, US Cellular	CE/RCM
5G NR Bands	n2, n5, n7, n12, n13, n14, n25, n26, n29, n30, n38, n41, n48, n66, n71, n77, n78	n1, n3, n5, n7, n8, n20, n28, n38, n40, n41, n75, n76, n77, n78
4G LTE Bands	B2, B4, B5, B7, B12, B13, B14, B17, B25, B26, B29, B30, B38, B41, B42, B43, B46, B48, B66, B71	B1, B3, B5, B7, B8, B20, B28, B32, B38, B40, B41, B42, B43

Optional Accessories		
Part Number	**Description**	
Power Supply: PSU-0079	12VDC 1.5A Standard Temperature PSU w7 Interchangeable Plugs without DC connector fitted (+/-2KV)	
5G L-Hinged Antenna: ANT-0100	Frequency (MHz): 617-960 / 1710-6000; Maximum Gain (dBi): 1/3; VSWR: ≤ 3.5; Connector: SMA; Height (mm): 171.	

Learn More at lantronix.com/NTC-500

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