# 4G LTE CAT 1 BIS INDUSTRIAL IoT ROUTER

## NTC-201

The **NTC-201** is a highly focused, industrial-grade **4G LTE Cat 1 bis router**. It is designed for critical and complex applications and provides ultra-reliable, cost-effective throughput even in extremely harsh environments.

### NEXT-GENERATION TECHNOLOGY

The **NTC-201** supports **4G LTE Category 1 bis**, which enables next-generation connectivity for several mission-critical applications. The **NTC-201** supports all global **4G LTE bands**, making it the perfect device for worldwide deployments.

### POWERFUL EDGE PROCESSING

The **NTC-201** features the highly acclaimed Linux-based NetComm OS, which allows custom applications created using the **NetComm Software Development Kit** (**SDK**) to run on the device processor, eliminating the need for an external Industrial-grade computer.

### REMOTE MANAGEMENT

**IoT deployments** in isolated unmanned locations can be managed remotely in real-time to eliminate costly site visits and reduce on-site maintenance costs. Technicians can receive status alerts, extract and analyse data, upgrade firmware over the air, and configure and update the **NTC-201** from their headquarters or any other location using a wide range of management protocols, including OMA LWM2M, TR-069, SNMP, HTTP/HTTPS, Telnet/CLI, and SMS.

NetComm

# DEVICE
## OVERVIEW

Connected Elevators & Escalators

Smart Building Systems

Vending & Ticketing Machines

Digital Signage

Access Control Systems

Surveillance Cameras

Traffic Lights Control

NetComm

— SIGNAL —

4G

## PERFECT FOR
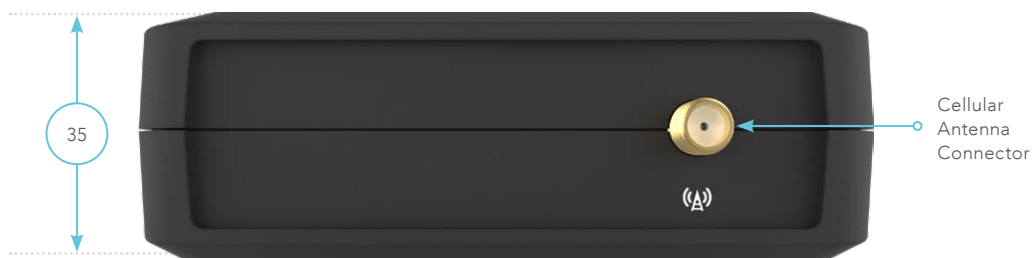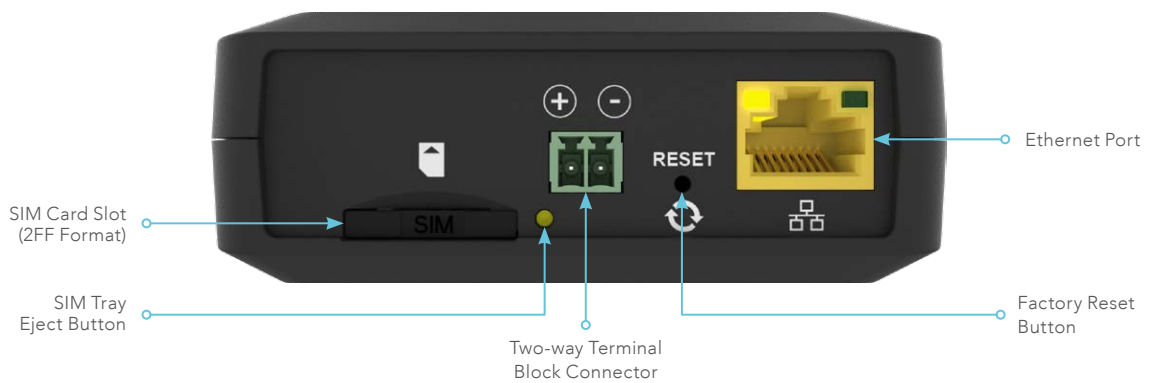
› Connected elevators / escalators
› Smart building systems
› Vending and ticketing machines
› Digital signs
› Access control systems
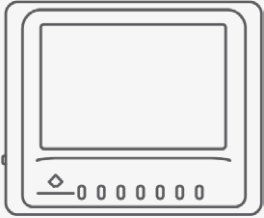› Surveillance cameras
› Traffic lights control

## FEATURES AT A GLANCE

› 4G LTE Cat 1 bis
› Software development capability (SDK)
› 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
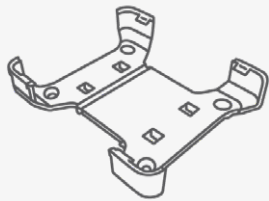
# DEVICE
## FEATURES

88

— SIGNAL —

**NetComm**

105



SIM Card Slot
(2FF Format)

SIM Tray
Eject Button

Two-way Terminal
Block Connector

RESET

SIM

Ethernet Port

Factory Reset
Button



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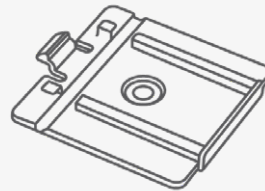Cellular
Antenna
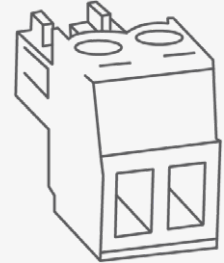Connector

# WHAT'S
# IN THE BOX
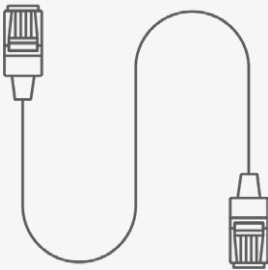


1x NTC-201 Router



1x DIN Rail Bracket



1x DIN Rail Adapter Bracket



1x Two-way Terminal Block



1x 1m Ethernet Cable



1x Compliance Leaflet



1x Welcome Card



1x Antenna

**Please note**: The box contents are negotiable for high volume opportunities to reduce cost and environmental waste.



## DIN RAIL MOUNTING BRACKET

The **DIN Rail Mounting Bracket** is a multi-purpose bracket for mounting the **NTC-201** to either a **DIN rail** (in different orientations), a flat surface (wall, ceiling or cabinet plate) or a pole (using cable ties).

Once the mounting bracket is installed, the **NTC-201** can be easily attached for installation or removed for maintenance without a screwdriver.

# OPTIONAL
## ACCESSORIES

## 12 V DC POWER SUPPLY
### PSU-0079 - SPECIFICATIONS

› International Efficiency Level VI Power Supply
› No-Load Power Consumption (115 V AC 60 Hz): 0.07 W
› No-Load Power Consumption (230 V AC 50 Hz): 0.1 W
› Maximum input voltage range: 90 - 264 V AC (100 - 240 V AC Normal)
› Maximum input frequency range: 47 - 63 Hz (50/60 Hz Normal)
› Output voltage range: 11.92 - 12.21 V DC (Typical 12 V DC)
› Maximum output current: 1.5 A
› Maximum ripple and noise: 83 mV peak-to-peak
› Maximum output overshoot: 2.7%
› Protection against overvoltage, overcurrent and short circuit
› Temperature range: 0°C to 40°C (Operating), -30°C to 70°C (Storage)
› Relative humidity range: 10% to 90%
› Altitude range: Sea level to 2,000 m
› Suitable regions: US/UK/EU/AU/SA/TW/CH/JP
› Safety certifications: UL60950-1, CSA C22.2 NO.60950-1, EN60950-1, AS/NZS 60950, GB4943, J60950, IEC 60950-1
› Lead length: 1.5 m

# TECHNICAL
## SPECIFICATIONS

## CELLULAR BANDS

### 4G / LTE 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 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)
› Band 34 (2000 Mhz)
› Band 38 (2600 MHz)
› Band 39 (1900 MHz)
› Band 40 (2300 MHz)
› Band 41 (2500 MHz)
› Band 66 (1700 MHz)

## DEVICE CATEGORY
› LTE FDD Cat 1 bis 3GPP Rel 13 compliant
  › **Downlink** up to 10 Mbps
  › **Uplink** up to 5 Mbps

## ANTENNA CONNECTORS
› 1 x SMA antenna connector

## INTERFACES
› 1 x 100Base-T Ethernet RJ45 port
› 1 x Recessed multifunctional reset button
  › Reboot
  › Reboot into recovery mode
  › Reset to factory default settings

## LED INDICATORS
› 1 x Power
› 1 x SIM
› 1 x 4G
› 3 x Signal strength
› 1 x Custom indicators

## SIM CARD SUPPORT
› 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
› Profile Routing
› SIM Management
› SIM Security (PIN configuration, enable and disable)
› Automatic and manual cellular band selection
› Automatic and manual operator selection
› Up to 6 APN configurations

## NETWORK & ROUTING
› Static Routing, 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)
› Firewall to protect against DoS attacks

## VPN
› IPSec tunnel termination (for up to 5 tunnels)
› GRE Tunnelling
› OpenVPN (Client, Server and P2P)

## ADMINISTRATION & CONFIGURATION
› Secure web-based user interface (HTTPS) for complete 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
› LWM2M and TR-069 client for remote device configuration, configuration backup and restore, and firmware upgrade
› Ping monitor watchdog (reset the connection on repeated ping failures)
› Diagnostic Log Viewer (remote and local)
› System Status and Security Logs
› NTP Server Support for network time sync of the device's system clock
› SMS over SGs support
› Advanced Diagnostics and Control via SMS
  › Query status information – such as Signal Strength, WAN IP, and Uptime.
  › Configure the device remotely via SMS – such as APN and authentication settings.
  › Execute commands via SMS – such as reboot and reset to defaults.
  › 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 (HTTPS, SNMP, TR-069, LWM2M)
› Multiple firmware image storage on the 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 complete status monitoring, configuration and control of the device from custom applications

## TEMPERATURE

› **Operating Temperature Range:** -40°C to +75°C
› **Storage Temperature Range:** -40°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 & MOUNTING

› **Device dimensions** (excluding external antennas): 105 mm (L) x 88 mm (W) x 35 mm (H)
› **Device dimensions with Mounting Bracket** (excluding external antennas): 111 mm (L) x 96 mm (W) x40 mm (H)
› Wall mount support in multiple orientations via mounting bracket
› DIN Rail mount support via mounting bracket (Top hat section rail TH 35 IEC60715)

## ENCLOSURE

› IP40 rated