G520 Series is the Next-Generation IoT Cellular Gateways Designed for Industry 4.0, Security and Transport Applications.

The G520 series offers LTE Cat 4 and 5G cellular gateways to protect your long-term IoT application investment. Designed for industrial applications with built-in security to help prevent cyber-attacks, the G520 delivers a robust and reliable solution for the most mission-critical applications.

The G520 series devices come pre-enabled with the easy-to-use ConsoleFlow™ device management and cellular Connectivity Services cloud platform applications to increase operational efficiency directly. The rugged, compact, highly secure, industrial-grade cellular IoT gateways address the demands of application-specific use cases.

**The G520 Series**
The G520 series IoT cellular gateways provide a robust solution for many industrial applications and are available in three application-specific SKUs.

**G526 Industrial Gateway**
- LTE Cat 4 Ethernet, Serial, I/O, Fieldbus conversion and other industrial protocols
**G527/G528 Security Gateway**
- LTE Cat 13 & 5G, Built-in cryptographic secure element and PSE-PoE
**G526 Transportation Gateway**
- LTE Cat 4, GNSS, accelerometer, CAN Bus reading, and other tracking features

**High-Speed Cellular Communication**
With LTE Category 13 uplink and Cat 7 downlink, the G527 Security Gateway is ideal for high throughput CCTV applications. The G528 provides a future migration path with 5G for your longer-term deployments.

**Built-in Security Framework with Lantronix InfiniShield™**
The highest level of security for mission-critical applications is key to preventing growing cyber security threats. InfiniShield™ Security is a comprehensive suite of built-in device security, including a secure element chip to prevent unauthorized access of confidential information.

**Industrial Design and Protocols**
The G520 Series is designed specifically for industrial applications with Ethernet, Serial, I/O, and a protocol conversion suite. Connect virtually any factory equipment or vehicle using fieldbus protocols and CAN Bus.

**Lantronix Software Services**
ConsoleFlow - secure cloud platform to manage remote IoT gateways through a single pane of glass. https://www.lantronix.com/consoleflow/

Connectivity Services - North American and global cellular data plans and VPN security with an easy-to-use cloud platform to manage your SIMs and services. https://www.lantronix.com/connectivity-services/

**Perfect For:**
- Industry 4.0
- Security
- Transport & Mobility
- Smart City

**G520 Series Highlights**
- High-speed LTE and 5G support
- Fieldbus protocols conversion suite
- Industrial-grade design
- Secure crypto element

**InfiniShield™ Security**
- Secure boot
- Secure firmware updates
- Secure storage
- Secure communications
- Secure network attach
G520 Series

Hardware

Cellular
- LTE Cat 4 with 3G and 2G fall-back modes on industrial pack
- LTE Cat 13 (uplink) / 7 (downlink) with 3G fall-back mode on security pack only
- 5G, Sub-6 GHz with both LTE Cat 13 (uplink) / Cat 20 (downlink) and 3G fall-back mode

Wi-Fi & Bluetooth Operation
- 2T2R Wi-Fi, via an RP-SMA antenna connector
- Bluetooth 5.1; via Wi-Fi: rightmost RP-SMA antenna connector
- Optional 2T2R Wi-Fi 6/6E

Ethernet
- 1/10/100 base Ethernet: One LAN port and one WAN port, user-reconfigurable as second LAN port via RJ-45 headers fitted with two LEDs

PSE-PoE+
- Power gateway only – 30 W per LAN port – requires U301 accessory

Serial Communication
- RS-232 Full implementation; via a 9-pin sub D header
- RS-485 via 5-pin COMBICON header

USB
- One (1) USB host port; via a Type-A header

I/Os
- I/Os (2) with common ground; via a 3-pin COMBICON header and a tool-less plug; (I/O header and plugs are not provided)
- User-configurable, each one independently from the other, as (i) analogue input; or (ii) analogue input suited to current loop (aka 4 mA – 20 mA) sensors; or (iii) digital output
- INPUT: 0 V DC -> 2.5 V DC ⇒ ZERO; 3 V – 50 V DC ⇒ ONE
- OUTPUT: open collector; 200 mA max; 50 V dc max.

Dual SIM
- Dual SIM / Single standby; via two **mechanically secure mini-SIM holders**

Location Services & 3 Axis Accelerometer
- Qualcomm® IZat® location services, gen. 8c/9c or u-blox M8 (transport pack)
- Concurrent GPS and GLONASS (security gateway 5G model)
- 3-axis accelerometer from STMicroelectronics LIS31DLH

Memory & Data Storage Security Chip

RAM
- DDR2 SDRAM 256MB

SPI Flash Memory
- 8MB

User Data Storage
- Internal via the 256 MB of parallel NAND Flash memory
- External: via a user-accessible microSD card (not provided), and USB Flash drive (not provided)
- Secure Element from MICROCHIP ATEC608 on security variant

MFF SIM(s)
- Combination of (i) ‘MFF + mini’; or (ii) ‘mini + MFF’; or (iii) ‘MFF + MFF’ SIMs, substituted for the standard two mini-SIM trays. Contact us for the options.

Physical Description
- Brushed aluminum alloy
- Weight: approximately 300g
- Operating Status LEDs: Nine as green for (i) POWER; blue for (ii) SIM; (iii) Wi-Fi; amber for (iv) Activity; (v) Network; (vi) Signal; yellow for user-programmable (vii) LED #1; (viii) LED #2, red for (ix) ALERT

Temperature & Humidity Ranges
- Operating: -30 °C ~ +70 °C; up to 95% RH
- Storage: -40 °C ~ +85 °C; up to 95% RH

CPU
- ARM926EJ-S-based CPU running at 600 MHz
- Built-in 32 KB instruction cache and 32 KB data cache

Power
- Input voltage: 10.8 ~ 60 V DC
- 3-pin Nano-FIT™ header
- Last Gasp: 100 second long, approximately 2.96 mWh Li-ion batteries (not functional below -10 °C)
- Digital Input (Ignition): One (1) digital input, on the third pin of the 3-pin header
- Input: 0 V DC – 2.5 V DC ⇒ ZERO; 3 V DC – 50 V DC ⇒ ONE
- Power off Timekeeping: Dedicated RTC with 100-day data retention period, approximately 15 mWh lithium manganese battery (not functional below 20 °C)

Software Suite

Administration & Network Protocols
- Web-based user interface, setup wizard, console log viewer, save / load configuration, NTP, SMS / OTA remote configuration, TR-069-capable

Redundancy
- Ethernet, Cellular, Wi-Fi – configurable as failover or load balancing

Resilience
- Network connectivity watchdog (configurable), internal application watchdog

Wi-Fi
- Client or Access point (approx. 12 users), WEP, WPA, WPA-PSK / WPA2-PSK security modes

Device Management Services
- Lantronix ConsoleFlow platform or third-party platforms

SDK
- Use G520 SDK to create custom packages and build custom firmware images.

Performance & Fault Management
- Real-time processor load and interface (WAN / LAN / Wi-Fi), traffic analysis, ICMP, trace-route, NS lookup

Routing
- DMCP, static routing, port forwarding, traffic routing, static /dynamic DNS, DNS proxy, NAT, STP

VPN & Tunneling Protocols
- PPTP client, L2TP, OpenVPN client / server / passsthrough, GRE, IPsec up to 4 channel

Security
- Zone-based firewall, VLAN, DMZ, HTTPS local and remote connection, SIM PIN

Industrial Protocols
- Following industry protocols supported on MH:
  - EtherCAT
  - DMXC client
  - DNP3 Outstation
  - Modbus master
  - IEC104 slave and IEC 101 master
- And more protocols to come. Contact us or visit our website for the most up-to-date product specifications. www.lantronix.com/products/g520

Essential Accessories
- Visit the www.lantronix.com/products/G520 for a full listing of Accessories and Ordering Information
- Power Supply
  - POE+Power Supply 5 W industrial power supply
- Power Cord
  - Power Cord - KDC32 (provided) or KDC33 (with one more stripped wire for Ignition)
- DiRail Clip
  - BR250 or BR351, single mount 101/7 U width, or
  - BR775, dual mount 714 U / 114 U widths; doubles as a 4-hole mounting bracket
- IO Plugs
  - 3 Pin Pluggable Terminal Blocks: Fmc 0.5/3-St2.5
  - 5 Pin Pluggable Terminal Blocks Fmc 0.5/5-St2.5
- SnapCap Converter
  - 6.5 mm-wide, 17 mm-high, 9-pin sub-D plugs that convert G520 series’ RS-232 DB9F serial port
- 4G & GNSS Antennas
  - Remote (3m), adhesive, IP67-rated
  - 3-in-1 LTE + LTE + GNSS A33MO or A33H
  - 2-in-1 LTE + LTE A32MO or A32H, if GNSS were deemed unnecessary

Product SKU

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
</tr>
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<tbody>
<tr>
<td>G526GP12S</td>
<td>Industry Pack LTE Cat 4 Router For EMEA, Asia Pacific</td>
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<tr>
<td>G526GP1AS</td>
<td>Industry Pack LTE Cat 4 Router For Canada, USA</td>
</tr>
<tr>
<td>G526GP17S</td>
<td>Industry Pack LTE Cat 4 Router For Japan, South Korea</td>
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<tr>
<td>G526GP1CS</td>
<td>Industry Pack LTE Cat 4 Router For China, Thailand, India</td>
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<td>G527GP22S</td>
<td>Security Pack LTE Cat 7-13 Router For EMEA, Asia Pacific</td>
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<tr>
<td>G527GP22S</td>
<td>Security Pack LTE Cat 7-13 Router For America</td>
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<tr>
<td>G528GP2FS</td>
<td>Security Pack 5g Sub 6ghz Worldwide</td>
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</tbody>
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Americas
800.422.7055 americas_sales@lantronix.com
www.lantronix.com NASDAQ: LTRX

Europe
+31 (0) 76.52.36.74 eu_sales@lantronix.com

Asia/Pacific
+65 3365 0218 asiapacific_sales@lantronix.com
China: +86 21 6237 8868
India: +91 994-551-2488

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