



RUGGED LTE & 5G IOT CELLULAR GATEWAYS



G520 Series is the Next-Generation IoT Cellular Gateways Designed for Industry 4.0 and Security 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 PercepXion™ IoT Edge Platform 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 are available in two application-focused categories, each offering models tailored to specific industrial and security needs.

Industrial

- G526 LTE Cat 4 Ethernet, Serial, I/O, Fieldbus conversion and other industrial protocols

Security

- G527 LTE Cat 13 & 5G, Built-in cryptographic secure element and PSE-PoE
- G528 TAA compliance; 5G, Sub-6 GHz with both LTE cat. 13 (uplink) / cat. 20 (downlink) and 3G fall-back modes

High-Speed Cellular Communication

The G528 gateway delivers 5G connectivity for long-term, future-proof deployments, while the G527 offers a cost-effective solution with LTE Cat 13 uplink and Cat 7 downlink, ideal for high-throughput CCTV applications.

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.

PercepXion™ Ready

Accelerate your time to market and simplify your user experience — all through a single pane of glass.

The G520 Series comes enabled with PercepXion secure IoT edge solutions platform that provides comprehensive device life cycle management, application integration and data analytics, so you can focus on your business.

- Device Updates provides remote updates at scale using device groups to deliver software enhancements and security patches worldwide, reducing time, effort and cost.
- Device Servicing accesses remote devices in real-time through a secure connection to diagnose issues promptly, reducing critical downtime and costly on-site support logistics.
- Device Monitoring automates monitoring with real-time alerts, enabling rapid identification of critical system issues for proactive remediation, reducing manual oversight.

Perfect For:



Industry 4.0



Security



Infrastructure & Utilities



Smart City

G520 Series Highlights

- Pre-configured with PercepXion IoT Edge solution platform
- 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

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 5; via an RP-SMA antenna connector
- Bluetooth 5.1; via Wi-Fi's rightmost RP-SMA antenna connector

Ethernet

- 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+

- Security gateway only - 30 W per LAN port – (requires a sufficiently powerful power supply).

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
- Concurrent GPS and GLONASS (security gateway 5G model)
- 3-axis accelerometer from STMicroelectronics LIS331DLH

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 ATECC608 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
- Size: (mm) 131.5 x 81.27 x 25 without connectors
- 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 PercepXion™ 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

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

VPN & Tunneling Protocols

- PPTP client, L2TP, OpenVPN client / server / passthrough, GRE, IPsec up to 4 channel

Security

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

Industrial Protocols

The G520 supports a wide range of industrial protocols:

- EtherCAT
- DLMS 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

Ordering Information

Visit www.lantronix.com/products/G520 for a full listing of part numbers and accessories.

- Power
 - POE+Power Supply MEANWELL SDR-75-48_PS, 48VDC, 75Watt
 - Power Supply ACC-520-0165-00
- Antennas
 - Remote (3m), adhesive, IP67-rated
 - '3-in-1' LTE + LTE + GNSS A33M0
 - '2-in-1' LTE + LTE A32M0. If GNSS were deemed unnecessary

Product SKU

Part Number	Description
G520 Industrial Series	
G526GP12S	Industry Pack LTE Cat 4 Router For EMEA, Asia Pacific
G526GP1AS	Industry Pack LTE Cat 4 Router For Canada, USA
G526GP1ASG	Industry Pack LTE Cat 4 Router For AMER TAA
G526GP17S	Industry Pack LTE Cat 4 Router For Japan, South Korea
G526GP1CS	Industry Pack LTE Cat 4 Router For China, Thailand, Indonesia, India
G520 Security Series	
G527GP22S	Security Pack LTE Cat 7-13 Router For EMEA, Asia Pacific
G527GP2AS	Security Pack LTE Cat 7-13 Router For AMER
G527GP2ASG	Security Pack for AMER LTE Cat 7-13 TAA
G528GP2FS	Security Pack 5G Sub 6ghz LTE Cat 13 Worldwide
G528GP2FSG	Security Pack 5G Sub 6ghz LTE Cat 13 WW TAA
G528GP2FSGC	Security Pack 5G Sub 6ghz LTE Cat 13 WW TAA C-Band