

# G520 Series

IoT Cellular Gateway



## RUGGED LTE & 5G IOT CELLULAR GATEWAYS



LANTRONIX  
Connectivity Services

### 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 PercepXion™ IoT Edge Platform 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.

##### Industrial

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

##### Transport

- G526 LTE Cat 4, GNSS, accelerometer, CAN Bus reading, and advanced tracking features

##### 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

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

PercepXion - This secure cloud platform provides comprehensive, ready-to-use device life cycle management, application integration and analytics through a single pane of glass.

<https://www.lantronix.com/percepXion/>

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

- 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
- Optional: 2T2R WiFi6/6E

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 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 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](http://www.lantronix.com/products/g520)

Ordering Information

Visit [www.lantronix.com/products/G520](http://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 or A33H
  - '2-in-1' LTE + LTE A32M0 or A32H0, if GNSS were deemed unnecessary

Product SKU

| Part Number             | Description  |
|-------------------------|--|
| G526 Industrial Pack    |  |
| 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 |
| G526RP Transport Pack   |  |
| G526RP42S               | Transport Pack LTE Cat 4 Router For EMEA/APAC                        |
| G526RP47S               | Transport Pack LTE Cat 4 Router For Japan/S Korea                    |
| G526RP4AS               | Transport Pack LTE Cat 4 Router For NA                               |
| G527/G528 Security Pack |  |
| 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                   |

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