

G520



RUGGED LTE & 5G IOT CELLULAR GATEWAYS



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
 - Ethernet, Serial, I/O, and Fieldbus conversion and other industrial protocols
- G527 Security Gateway
 - Built-in cryptographic secure element and PSE-PoE
- G528 Transportation Gateway
 - GNSS, accelerometer, CAN Bus, and 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



Hardware

Cellular

- LTE CAT 4 with 3G and, depending on the regional variant, 2G fall-back modes on industrial pack
- LTE CA 13 (uplink) / 7 (downlink) with 3G fall-back mode on security pack
- 5G, Sub-6 GHz with both LTE cat. 13 (uplink) / cat. 20 (downlink) and 3G fall-back modes

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 Pack Variant Only - 30 W per LAN port – requires U301 accessory

Serial Communication

- RS-232 Full implementation; via a 9-pin sub-D 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 (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

- Concurrent GPS and GLONASS IZat™ GPS Oner
- Transport Pack Only - Qualcomm's IZat gps One or u-blox's M8; via a dedicated SMA Accelerometer from ST Microelectronics 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 mentioned earlier
- External: via a user-accessible microSD card (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

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
- ISO 7637-2:2011-certified at 12V and 24V
- ISO 7637-2:2004-certified at 12V and 24V
- ISO 21848:2005-certified at 48V
- 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 such as TrinitySMART, Thingworx, Thing+, Cumulocity, etc

ePack SDK

- Need to run your own program; G520 allow its user to create custom packages and Lantronix image builder to 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

Following industry protocols supported on MH.

- 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

Essential Accessories

Part Number	Description
POE+ POWER SUPPLY	75 W industrial power supply
ACC-U301	POWER CORD
ACC-500-0421-00	KDC32 (provided) or KDC33 (with one more stripped wire for Ignition)
DIN RAIL CLIP	✓BR250 or BR351, single mount 7½ U width; or
BR250/351/775	✓BR775, dual mount 7¼ U / 1¾ U widths; doubles as a 4-hole mounting bracket
SNAP CAP Converter: SC485	SC485: 38.2 mm-deep, 6 kV- (contact) or 8 kV- (air) ESD-protected, 1 kV-isolated, half- (factory setting) or full-duplex (user-configurable via a slide switch) RS-485 port

Product Offering

Part Number	Description
Industrial Gateway	
G526GP12S	Industry Pack LTE CAT 4 Router For EMEA, Asia Pacific
G526GP1AS	Industry Pack LTE CAT 4 Router For Canada, USA
G526GP17S	Industry Pack LTE CAT 4 Router For Japan, South Korea;
G526GP1CS	Industry Pack LTE CAT 4 Router For China, Thailand, Indonesia, India
Security Gateway	
G527GP22S	Security Pack LTE CAT 7-13 Router For EMEA, Asia Pacific;
G527GP22S	Security Pack LTE CAT 7-13 Router For America;
G528GP2FS	Security Pack 5g Sub 6ghz Worldwide