



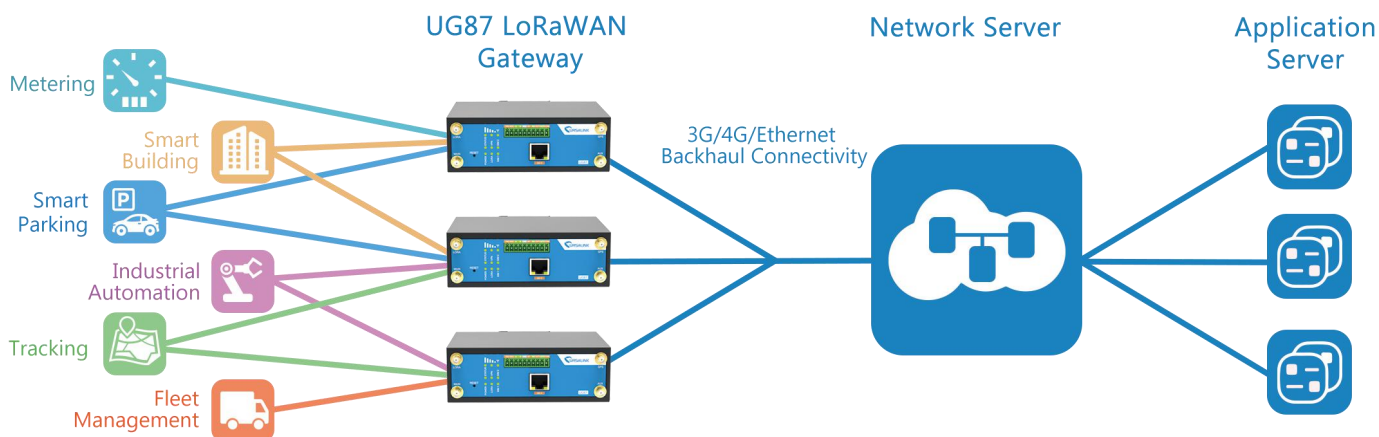
**Programmable Gateway for the  
Internet of Things**



## ► Features

- Up to 8 Simultaneous channels
- Backhaul Connectivity (Eth/3G/4G)
- Long Range over 10 km Radius
- Integrated with Multiple Network Servers
- Compliance to LoRaWAN Class A and Class C
- Build-in DI/DO, Serial Port and GPS
- Optional Embedded Network Server
- IP67 Waterproof Casing (Outdoor Version)

## ► Application Example

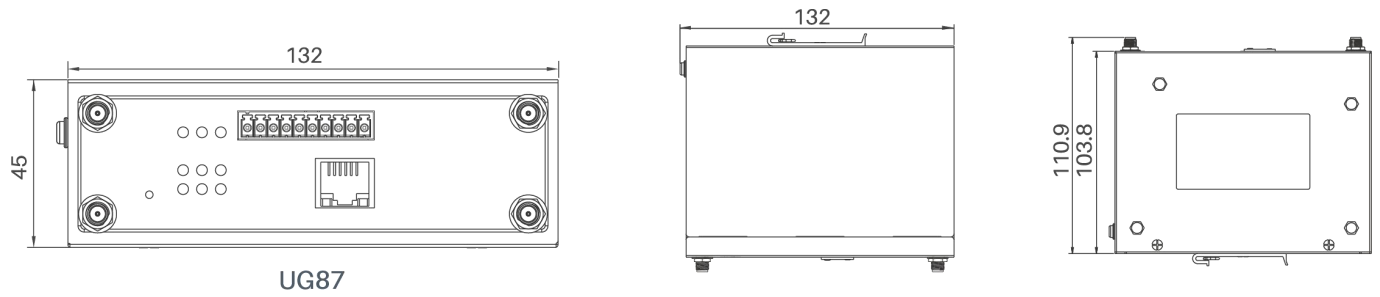


## ► Specifications

| Model                      | UG87-Indoor   | UG87-Outdoor |
|----------------------------|---|--------------|
| <b>Cellular Interfaces</b> |   |              |
| Connectors                 | 2 × 50 Ω SMA (Center PIN: SMA Female)   |              |
| SIM Slots                  | 2   |              |
| <b>LoRaWAN</b>             |   |              |
| Connector                  | 1 × 50 Ω SMA (Center PIN: SMA Female)   |              |
| Channel                    | 8   |              |
| Frequency Band             | Supports EU 863-870, US 902-928, EU 433, AU 915-928, CN 470-510 and KR 920-923 Band |              |
| Sensitivity                | -140dBm Sensitivity @292bps   |              |
| Output Power               | 27dBm Max   |              |
| Protocol                   | V1.0 Class A/Class C and V1.0.2 Class A/Class C                                     |              |
| <b>Wi-Fi (Optional)</b>    |   |              |
| Connectors                 | 1 × 50 Ω SMA (Center PIN: SMA Female)   |              |
| Standards                  | IEEE 802.11b/g/n/ac   |              |
| <b>Hardware System</b>     |   |              |
| CPU                        | 800 MHz, 64-bit ARM Cortex-A53  |              |
| Memory                     | 512 MB DDR3 RAM   |              |
| Flash                      | 4 GB Flash  |              |
| <b>Ethernet Interface</b>  |   |              |
| Ports                      | 1 × RJ-45   |              |
| Physical Layer             | 10/100/1000 Base-T (IEEE 802.3)   |              |
| Data Rate                  | 10/100/1000 Mbps (Auto-Sensing)   |              |
| Interface                  | Auto MDI/MDIX   |              |
| Mode                       | Full or Half Duplex (Auto-Sensing)  |              |
| <b>Serial Interface</b>    |   |              |
| Ports                      | 1 × RS232   |              |
| Connector                  | Terminal Block  |              |
| Baud Rate                  | 300 bps to 230400 bps   |              |
| <b>IO</b>                  |   |              |
| Connector                  | (4) pin screw down terminal block   |              |
| Digital                    | 2 × DI + 2 × DO   |              |
| <b>GPS</b>                 |   |              |
| Connectors                 | 1 × 50 Ω SMA (Center PIN: SMA Female)   |              |
| Protocols                  | NMEA 0183, PMTK   |              |

| Software                     |  |                       |
|------------------------------|--|-----------------------|
| Network Protocols            | PPPoE, SNMP v1/v2c/v3, TCP, UDP, DHCP, DDNS,HTTP, HTTPS, DNS, ARP, SNTP, Telnet, SSH, etc.   |                       |
| VPN Tunnel                   | OpenVPN/IPsec/PPTP/L2TP/GRE/DMVPN  |                       |
| Access Authentication        | CHAP/PAP/MS-CHAP/MS-CHAPV2   |                       |
| Firewall                     | ACL/DMZ/Port Mapping/MAC Binding   |                       |
| Management                   | Web, CLI, SMS, On-demand dial up   |                       |
| Reliability                  | WAN Failover, Dual SIM Backup  |                       |
| Serial Port                  | Transparent (TCP Client/Server, UDP), Modbus Gateway (Modbus TCP to Modbus RTU), Modbus Master   |                       |
| Power Supply and Consumption |  |                       |
| Connector                    | 2-pin with 5.08 mm terminal block  |                       |
| Input Voltage                | 9-48 VDC   |                       |
| Power Consumption            | Typical 3.3 W (Max 6.4 W)  |                       |
| Physical Characteristics     |  |                       |
| Ingress Protection           | IP30   | IP67                  |
| Weight                       | 471 g (1.04 lb)  | 1874 g (4.13 lb)      |
| Dimensions                   | 132 x 103.8 x 45 mm  | 254 x 222 x 89 mm     |
| Mounting                     | Desktop, Wall or DIN Rail Mounting   | Wall or Pole Mounting |
| Others                       |  |                       |
| Reset Button                 | 1 × RESET  |                       |
| LED Indicators               | 1 × POWER, 1 × STATUS, 1 × LORA, 1 × VPN, 1 × SIM1, 1 × SIM2, 3 × Signal strength  |                       |
| Built-in                     | Watchdog, RTC, Timer   |                       |
| Certifications               | RoHS, CE, FCC  |                       |
| EMC                          | IEC 61000-4-2 Level 3<br>IEC 61000-4-3 Level 4<br>IEC 61000-4-4 Level 3<br>IEC 61000-4-5 Level 4<br>IEC 61000-4-6 Level 3<br>IEC 61000-4-8 Level 4 |                       |
| Environmental                |  |                       |
| Operating Temperature        | -40°C to +70°C (-40°F to +158°F) Reduced Cellular Performance Above 60°C   |                       |
| Storage Temperature          | -40°C to +85°C (-40°F to +185°F)   |                       |
| Ethernet Isolation           | 1.5 kV RMS   |                       |
| Relative Humidity            | 0% to 95% (non-condensing) at 25°C/77°F  |                       |

## ▶ Product Images/Dimensions (mm)



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