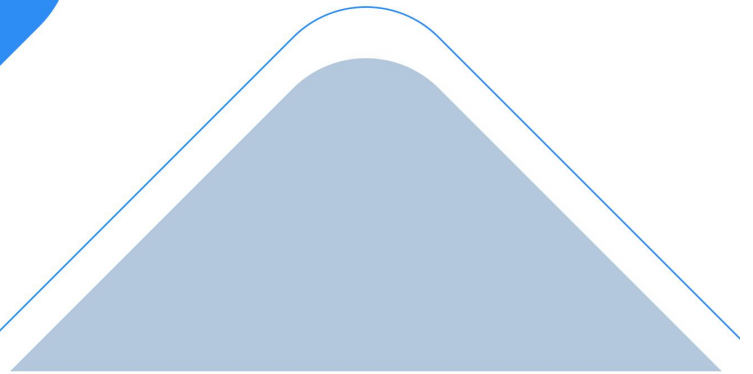


# UG65

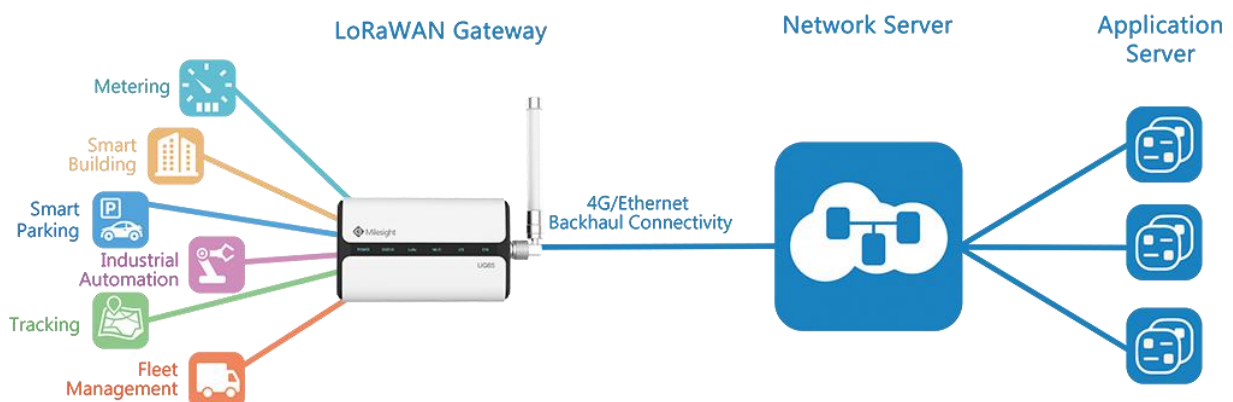
## LoRaWAN<sup>®</sup> Gateway



UG65 is a robust 8-channel indoor LoRaWAN<sup>®</sup> gateway. Adopting SX1302 LoRa chip and high-performance quad-core CPU, UG65 supports connection with more than 2000 nodes. UG65 has line of sight up to 10km and can cover about 2km in urbanized environment, which is ideally suited to smart office, smart building and many other indoor applications.

UG65 supports not only multiple back-haul backups with Ethernet, Wi-Fi and cellular, but also has integrated mainstream network servers (such as TTN, ChirpStack, etc.) and built-in network server and Milesight IoT Cloud for easy deployment.

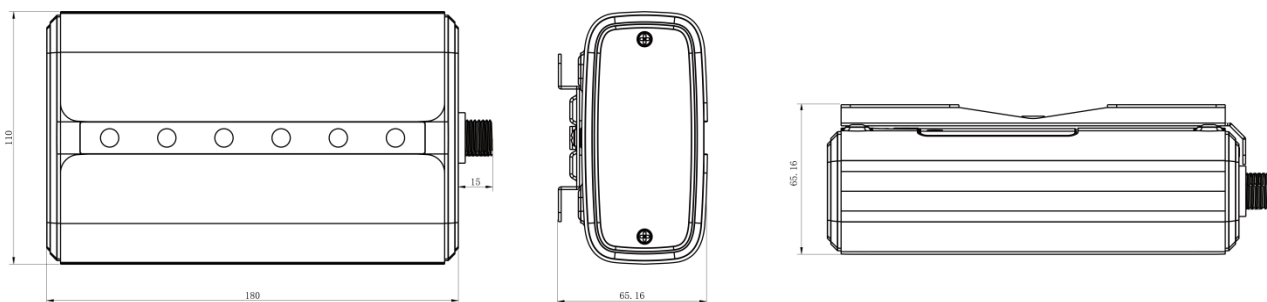
### ◆ Application Example



## ◆ Features

- Quad-core industrial processor with big memory
- Equip with SX1302 chip, handing a higher amount of traffic with lower consumption
- 8 half/full-duplex channels
- IP65 enclosure and industrial design for parts of outdoor environment applications like eaves
- Desktop, wall or pole mounting (optional)
- Multi backhaul backups with Ethernet, cellular (4G/3G) and Wi-Fi
- Devicehub and Milesight IoT Cloud provide easy and centralized management of remote devices
- Enable security communication with multiple VPNs like IPsec/OpenVPN/L2TP/PPTP/DMVPN
- Compatible with mainstream network servers like TTN, ChirpStack, etc.
- Built-in network server and MQTT/HTTP/HTTPS API for easy and quick deployment
- Embedded Python SDK for users secondary development

## ◆ Dimensions(mm)



## ◆ Specifications

### Hardware System

CPU	Quad-core 1.5 GHz, 64-bit ARM Cortex-A53
Memory	512 MB DDR4 RAM
Flash	8 GB eMMC

### LoRaWAN

Antenna	2 × Internal Antennas ( Optional: 1 × 50 Ω N-Female External Connector )
Channel	8 (Half/Full-duplex)
Frequency Band	CN470/IN865/EU868/RU864/US915/AU915/KR920/AS923
Sensitivity	-140dBm Sensitivity @292bps
Output Power	27dBm Max
Protocol	V1.0 Class A/Class C and V1.0.2 Class A/Class C

**Ethernet Interface**

Port	1 × RJ45 (PoE PD supported)
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)

**Wi-Fi Interface**

Antenna	Internal Antenna
Standards	IEEE 802.11 b/g/n, 2.4GHz
Mode	AP or Client mode
Security	WPA/WPA2 authentication, WEP/TKIP/AES encryption
Tx Power	802.11b: 18 dBm +/-2.0 dBm (11 Mbps)
	802.11g: 15 dBm +/-2.0 dBm (6 Mbps)
	802.11g: 15 dBm +/-2.0 dBm (54 Mbps)
	802.11n@2.4 GHz: 14 dBm +/-2.0 dBm (MCS0_HT20)
	802.11n@2.4 GHz: 14 dBm +/-2.0 dBm (MCS7_HT20)
	802.11n@2.4 GHz: 13 dBm +/-2.0 dBm (MCS0_HT40)
	802.11n@2.4 GHz: 13 dBm +/-2.0 dBm (MCS7_HT40)

**Cellular Interface (Optional)**

Antenna	Internal Antenna
SIM Slot	1 (mini SIM-2FF)

**Others**

Reset Button	1 × RST
Console Port	1 × Type-C
LED Indicators	1×POWER, 1×STATUS, 1×LoRa, 1×Wi-Fi, 1×LTE, 1×ETH
Built-in	Watchdog, RTC, Timer

**Software**

Network Protocols	PPPoE, SNMP v1/v2c/v3, TCP, UDP, DHCP, DDNS, HTTP, HTTPS, DNS, ARP, SNTP, Telnet, SSH, MQTT, etc.
VPN Tunnel	OpenVPN/IPsec/PPTP/L2TP/GRE/DMVPN
Firewall	ACL/DMZ/Port Mapping/MAC Binding/URL Filter
Management	Web, CLI, SMS, On-demand dial up, DeviceHub, Milesight IoT Cloud
Reliability	WAN Failover

**Power Supply and Consumption**

Power Input	1. DC Jack Connector for 9-24 VDC power supply
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2. 1 × 802.3 af PoE input

Power Consumption Typical 2.9 W, Max 4.2 W

**Physical Characteristics**

Ingress Protection IP65

Dimensions 180 x 110 x 56.5 mm (7.09 x 4.33 x 2.22 in)

Installation Desktop, Wall or Pole Mounting

**Environmental**

Operating Temperature -40°C to +70°C (-40°F to +158°F)

Temperature 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

**◆ Ordering Information**

Model	Hardware	Frequency Bands*
UG65	<b>Wi-Fi:</b> Yes <b>PoE:</b> Yes <b>Cellular:</b> <NA>: No cellular -L0xx: 4G LTE (CAT4) <b>LoRa Antenna:</b> <NA>: Internal Antenna -EA: Internal Antenna + 1 × Antenna Connector	<b>-L00E:</b> B1/B3/B5/B7/B8/B20@LTE FDD,B38/B40/B41@LTE TDD, B1/B5/B8@WCDMA, B3/B8@GSM <b>-L00AF:</b> B2/B4/B5/B12/B13/B14/B66/B71@LTE FDD, B2/B4/B5@WCDMA <b>-L00AU:</b> B1/B2/B3/B4/B5/B7/B8/B28@LTE FDD, B40@LTE TDD, B1/B2/B5/B8@WCDMA,B2/B3/B5/B8@GSM <b>-L01CE:</b> B1/B3/B5/B8@LTE FDD,B38/B39/B40/B41@LTE TDD, B1/B8@WCDMA, B34/B39@TD-SCDMA, BC0@CDMA2000 1×/EVDO, B3/B8@GSM

\*Please contact Milesight for more information about more frequency bands.

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