

# UG56

## LoRaWAN® Gateway

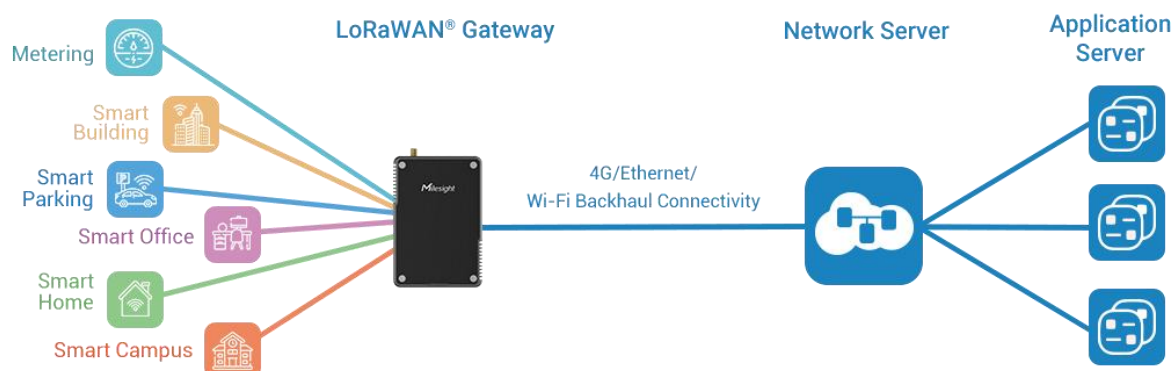
*Milesight*



UG56 is a robust 8-channel indoor LoRaWAN® gateway. Adopting SX1302 chip and high-performance quad-core CPU, UG56 supports connection with more than 2000 nodes. UG56 has line of sight up to 15 km and can cover about 2 km in urbanized environment, which is ideally suited to smart building, smart industries and many other indoor applications.

UG56 supports not only multiple back-haul backups with Ethernet, Wi-Fi and cellular, but also has integrated mainstream network servers (such as The Things Stack, ChirpStack, etc.), built-in network server and Milesight Development Platform for easy deployment.

### ◆ Application Example



## ◆ Features

- Quad-core industrial processor with big memory
- Equip with SX1302 chip, handling a higher amount of traffic with lower consumption
- 8 half-duplex channels
- Rugged metal enclosure for industrial applications
- Desktop, wall or DIN rail mounting
- Multi backhaul connectivity backups with Ethernet, cellular (4G/3G) and Wi-Fi
- DeviceHub, Milesight Development Platform 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 The Things Stack, ChirpStack, Actility, Everynet, etc.
- Detect and analyze the noise level and provide intuitive diagram for deployment
- Built-in network server and MQTT/HTTP/HTTPS API for easily integration
- Support BACnet/IP and Modbus to integrate LoRaWAN<sup>®</sup> data to BMS/PLC system easily
- Embedded Python SDK for users secondary development
- Fast and user-friendly programming by Node-RED development tool

## ◆ Specifications

### Hardware System

CPU	Quad-core 1.3 GHz, 64-bit ARM Cortex-A35
Memory	512 MB DDR3 RAM
Flash	8 GB eMMC
Extendable Storage	1 × Micro SD Slot (Internal)

### LoRaWAN

Antenna Connector	1 × 50 Ω SMA Connector (Center PIN: SMA Female)
Channel	8 (Half-duplex)
Frequency Band	CN470/IN865/EU868/RU864/US915/AU915/KR920/AS923-1&2&3&4
Sensitivity	-140 dBm Sensitivity @292bps
Output Power	27 dBm Max
Protocol	V1.0 Class A/Class B/Class C and V1.0.2 Class A/Class B/Class C
LBT <sup>1</sup>	Support

### Ethernet Interface

<sup>1</sup> AU915 and US915 do not support LBT.

Port	1 × RJ45 WAN Port (PoE PD supported)
Physical Layer	10/100 Base-T (IEEE 802.3)
Data Rate	10/100 Mbps (Auto-Sensing)
Interface	Auto MDI/MDIX
Mode	Full or Half Duplex (Auto-Sensing)
<b>Wi-Fi Interface</b>	
Antenna	Internal Antenna
Standards	IEEE 802.11b/g/n, 2.4 GHz
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)
<b>Cellular Interface (Optional)</b>	
Antenna Connector	1 × 50 Ω SMA Connector (Center PIN: SMA Female)
SIM Slot	1 (Mini SIM-2FF)
<b>Others</b>	
Reset Button	1 × RST (Internal)
Console Port	1 × Type-C
LED Indicators	1 × SYSTEM, 1 × LoRa
Built-in	Watchdog, Timer
<b>Software</b>	
Network Protocols	PPPoE, SNMP v1/v2c/v3, TCP, UDP, DHCP, DDNS, HTTP, HTTPS, DNS, ARP, SNTP, Telnet, SSH, MQTT, MQTTS, BACnet/IP, Modbus RTU over TCP, Modbus TCP, etc.
VPN Tunnel	OpenVPN/IPsec/PPTP/L2TP/GRE/DMVPN/WireGuard
Firewall	ACL/DMZ/Port Mapping/MAC Binding/URL Filter
Management	Web, CLI, SMS, On-demand dial up, DeviceHub, Milesight IoT Cloud, Milesight Development Platform
Reliability	WAN Failover
App	Python SDK, Node-RED

**Power Supply and Consumption**

Power Input	1. 802.3 af PoE Input
	2. 5V, 2A by Type-C Port

Power Consumption	Typical 1.8 W, Max 6.9 W
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**Physical Characteristics**

Ingress Protection	IP30
Housing & Color	Metal, Black
Weight	186g
Dimensions	110 x 75 x 24 mm (4.33 x 2.95 x 0.94 in)
Installation	Desktop, Wall Mounting, DIN Rail Mounting <sup>2</sup>

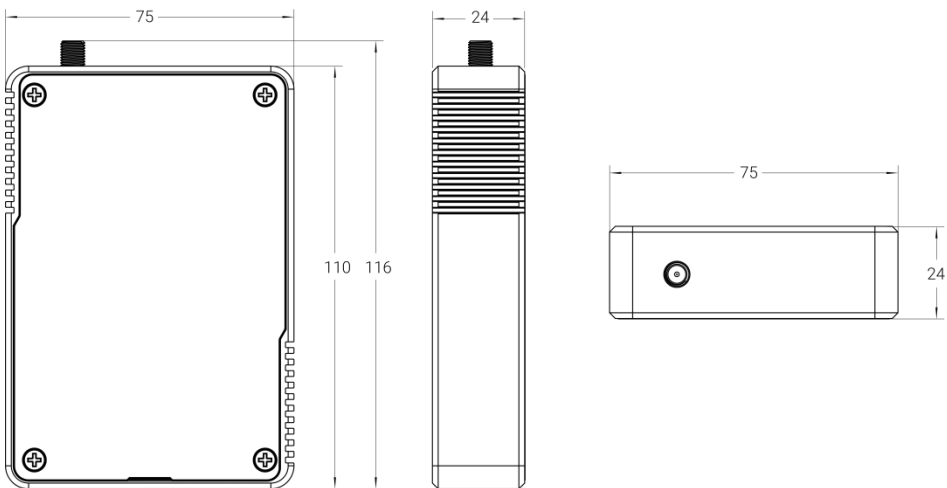
**Environmental**

Operating Temperature	-20°C to +60°C (-4°F to +140°F)
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

**Approvals**

Regulatory	CE, FCC, ISED
Environmental	RoHS

◆ **Dimensions(mm)**

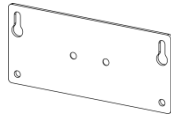


<sup>2</sup> Only new hardware devices support DIN Rail mounting. Please contact Milesight for it before purchase.

## ◆ Accessories



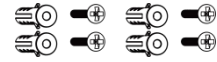
1 × LoRaWAN®  
Magnetic Antenna



1 × Wall Mounting  
Bracket



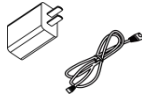
2 × Bracket Fixing  
Screws



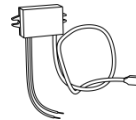
4 × Wall Mounting  
Kits



1 × Magnetic Cellular  
Antenna  
(Cellular Version Only)



1 ×Type-C Cable &  
Power Adapter  
(Optional)



1 × AC/DC-DC  
Power Converter Kit  
(Optional)



1 × DIN Rail Clip Kit  
(Optional)

**\*Note:** Contact us if you need any other special accessories or customized accessories.