UG65

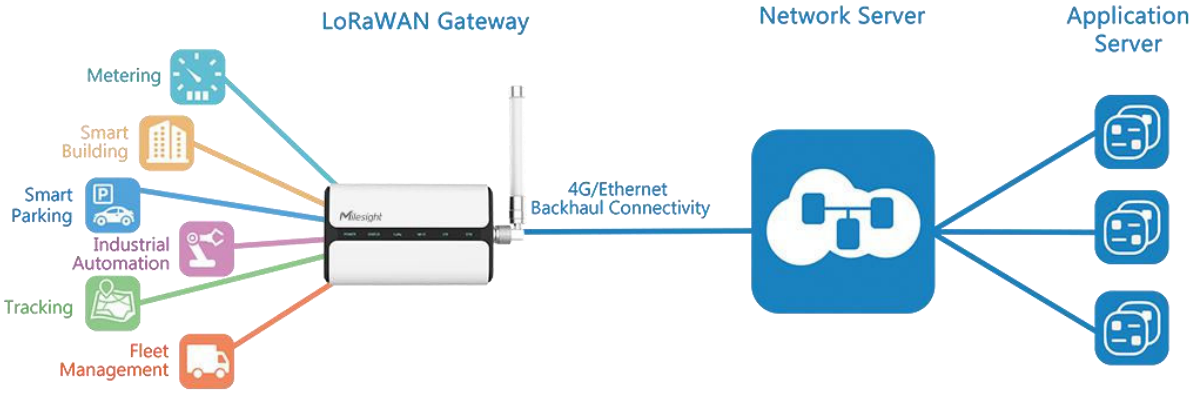
LoRaWAN® Gateway

Datasheet

UG65 is a robust 8-channel indoor LoRaWAN® 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 15 km and can cover about 2 km 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 TTI, ChirpStack, etc.) and built-in network server and Milesight IoT Cloud for easy deployment.

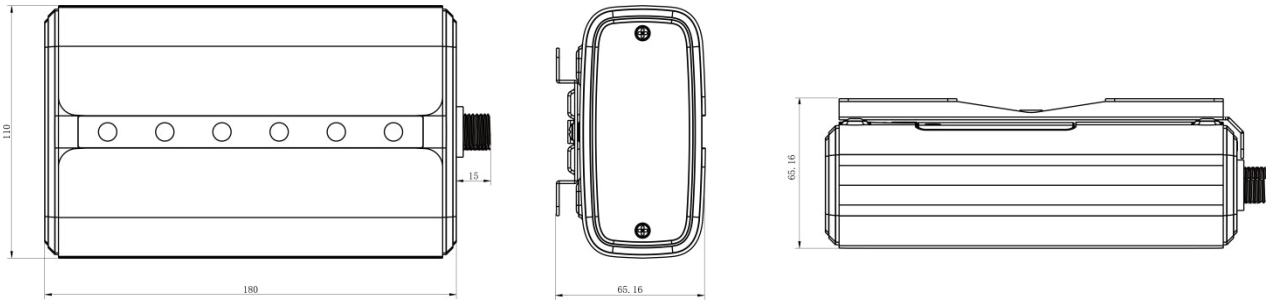
◆ Application Example



◆ Features

- Quad-core industrial processor with big memory
- Equip with SX1302 chip, handling 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
- 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 The Things Industries, ChirpStack, 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
- Embedded Python SDK for users secondary development
- Fast and user-friendly programming by Node-RED development tool

◆ 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/AS923-1&2&3&4
Sensitivity	-140dBm Sensitivity @292bps

Output Power	27dBm Max
Protocol	V1.0 Class A/Class B/Class C and V1.0.2 Class A/Class B/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, Yeastar Workplace Platform

Reliability	WAN Failover
App	Python SDK, Node-RED

Power Supply and Consumption

Power Input	1. DC Jack Connector for 9-24 VDC power supply 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℉ to +158℉) Reduced Cellular Performance Above 60°C
Storage Temperature	-40°C to +85°C (-40℉ to +185℉)
Ethernet Isolation	1.5 kV RMS
Relative Humidity	0% to 95% (non-condensing) at 25°C/77℉

Approvals

Regulatory	CE, FCC, IC
Environmental	RoHS

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