# TECHNICAL SPECIFICATION

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SOLUTIONS THAT SIMPLIFY

| LoRa WAN Gateway | ALWG-1638 |
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## Features

- **LoRaWAN® Class A/B/C**
- **Multi-channel**
- **LTE and GSM with dual SIM support**
- **PoE Ethernet, GNSS and WiFi**
- **ARM Cortex-A7 quad core processor**
- **High gain LoRa antenna**
- **USB for debug**
- **SuperCAP backup**
- **Aluminium IP67 housing resistant to all weather**
- **conditions**

Multichannel LoRaWAN® gateway, powered by ARM Cortex-A7 processor with an IP67 enclosure to handle tough environments. Standout features include an isolated power supply for protection and power backup. The gateway's dual SIMs ensures network connectivity redundancy. Moreover, its multiple VPN support adds an extra layer of security, serving to diverse communication needs.

| Description | Parameter |
|---|---|
| **Processor** | |
| ARM | Cortex-A7 quad core |
| L1 cache | 32KB for data, 32KB for instruction |
| L2 cache | 512KB, 8 ways |
| Target frequency | 960MHz |
| **RAM** | |
| Memory size | 512MB DDR3 |
| Memory speed | 1066max |
| **Storage** | |
| eMMC | 8Gb |
| **USB** | |
| USB number | 1 |
| USB type | 1x C-type for debug, on bottom of the enclosure |
| USB protection | Surge protection |
| **LoRaWAN®** | |
| Compatibility | LoRaWAN, Class A/B/C |
| Frequency | IN865 (other country option available. |

| Description | Parameter |
|---|---|
| | Refer modem selection chart) |
| LoRa demodulators | 8 x 8 channels LoRa packet detectors 8x SF5-SF12 LoRa 8x SF5-SF10 LoRa 1x 125/250/500 kHz high-speed 1x (G)FSK |
| Demodulation paths | Up to 10 parallel |
| Uplinks channel | 8 |
| Downlink channel | 1 |
| TX power | Up to 27 dBm @ SF12, BW 125 kHz |
| RX sensitivity | Down to -139 dBm @ SF12, BW 125 kHz |
| Data-rate | Dynamic data-rate adaptation (ADR) |
| Module certification | USB-IN865 (other country option available. Refer selection chart) |
| Antenna connector | N-type |
| **Cellular** | |
| GPRS channels | GSM850, EGSM900, DCS1800, PCS1900 |
| TE channels | LTE-FDD B1/B3/B5/B7/B8/B20/B28 |

| Description | Parameter |
|---|---|
| | LTE-TDD B38/B40/B41 |
| SIM card | Dual nanoSIM, tray type anti-loss holder. Support 3V/1.8V SIM |
| Antenna | Inbuilt inside the enclosure |
| **GNSS** | |
| GNSS Systems | BeiDou, Galileo, GLONASS, GPS, QZSS |
| Protocol | NMEA |
| Antenna | Inbuilt inside the enclosure |
| **WiFi** | |
| Data speed | Up to150Mbps |
| Bands | 2.4 GHz ISM |
| Standards | 802.11 b/g/n, 802.3, 802.3u 802.11e-compatible bursting and I standards |
| Modulation schemes | BPSK, QPSK, 16 QAM, 64 QAM |
| Security | WEP, TKIP, and AES, WPA, WPA2 |
| Antenna | Inbuilt inside the enclosure |
| **Ethernet** | |
| Number | 1 |
| Type | 10/100M port |
| Technology Support | Support full and half duplex |
| | Support Daisy Chain and NIC mode for different application scenarios |
| | Support MAC clone and MAC security |
| | Support 4 traffic classes (compatible with IEEE802.1D-2004) |
| PoE | PoE class A (18-70V DC) |
| Connector | RJ45 with IP67 gland |
| **Security** | |
| VPN | Multiple VPN support |

| Description | Parameter |
|---|---|
| **Indicators** | |
| Multifunction | 1 RGB LED outside on bottom of the housing for all functions indication |
| **Operating system** | |
| OS | OpenWRT Linux |
| **Power supply** | |
| Power | 18-60V DC by isolated PoE |
| Connector type | RJ45 (cable through gland) |
| Power consumption | Up to 10W Average 5W (approx) |
| SuperCAP | Inbuilt |
| Backup time | Approx 20s |
| **Physical characteristics** | |
| Installation | Pole / wall mounting with attached stainless steel clamp. |
| Housing back | Back – aluminium alloy ADC-12 – Surtec 650, salt spray duration 96hrs |
| Housing front | Polycarbonate – UV stabilized, UL94 V0 rated, Sabic943(f1) |
| Cooling | Passive |
| Dimensions | 220×122×70mm (without antennas and cable gland) |
| Weight | 920g (without antenna and clamp) |
| **Environmental specification** | |
| Operating Temp. | -25 ~ 70°C (-13 ~ 158°F) |
| Storage Temp. | -40 ~ 85°C (-40 ~ 176°F) |
| Ambient RH | 5% to 95% (non-condensing) |
| Protection class | IP67 |

| Ordering information | | | | |
|---|---|---|---|---|
| **Model structure** | **ALWG-1638-** | **IN-** | **LT-** | **EU** |

**Base model name**

ALWG-1638

**LoRa frequency/country**

**IN** (IN865)
**US** (US915) US, Canada, Mexico, Bolivia, Peru, Uruguay, Venezuela, Colombia, Ecuador, Panama, Paraguay
**EU** (EU868) EU, Mauritius, Mozambique, Namibia, Saudi Arabia, South Africa, Turkey, UAE, UK, Finland, Madagascar, Malta, Switzerland, Tanzania
**AU** (AU915) Australia, Brazil, Argentina, New Zealand, Chile
**AS** (AS923) Hong-Kong, Singapore, Taiwan, Vietnam, Cambodia, Japan, Malaysia
**RU** (RU864) Russia

**Cellular communication modem**

**LT** (LTE communication module present)

**LTE/GSM module regional information**

**IN** (certification of LTE module for India and China)
**EU** (certification of LTE module for Europe)
**GL** (global certification of LTE module)

**For more details scan or click on QR code**

## Disclaimer

- All dimensions mentioned in the drawings are not to scale and may vary/differ due to construction contingencies and site conditions which are subject to change as may be decided by the company.
- The specifications and amenities mentioned in this document and promotional documents are only representational and informative. The descriptions in this specification are based on the default configuration of your device.
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