

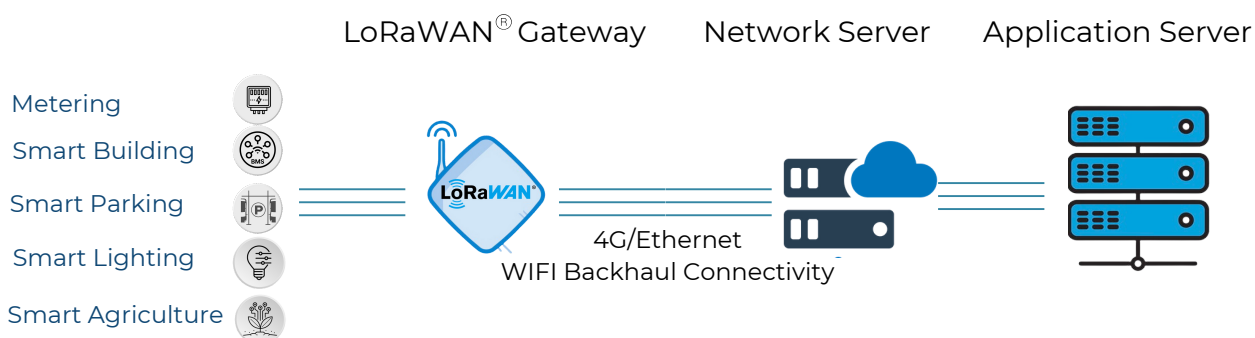


**WLRI-G18-M**

### Indoor LoRaWAN® Gateway (8 Channel)

WLRI-G18-M from WatchNET IoT is a robust 8-channel indoor LoRaWAN® gateway. Utilizing the SX1302 chip and a high-performance quad-core CPU, WLRI-G18-M supports connections with more than 2000 nodes. With a line of sight extending up to 15KM and coverage of about 2KM in urbanized environments, it is ideally suited for smart buildings, smart industries, and various indoor applications. WLRI-G18-M supports multiple back-haul backups with Ethernet, WIFI, and cellular connectivity. Additionally, it integrates with mainstream network servers such as TTI, ChirpStack, etc., and features a built-in network server along with the WatchNET IoT Cloud for easy deployment.

### APPLICATION SCHEMATIC



### KEY FEATURES

- Quad-core industrial processor with significant memory
- Equipped with SX1302 chip for handling higher traffic with lower consumption
- 8 half-duplex channels for enhanced connectivity
- Rugged metal enclosure designed for industrial applications
- Versatile mounting options: Desktop or wall mounting
- Multi-backhaul connectivity backups with Ethernet, cellular (4G/3G), and Wi-Fi
- DeviceHub and WatchNET IoT Cloud ensure easy and centralized management of remote devices
- Enables secure communication with multiple VPNs like IPsec/OpenVPN/L2TP/PPTP/DMVPN
- Compatible with mainstream network servers such as TTN, ChirpStack, Actility, etc.
- Detects and analyzes noise levels, providing an intuitive diagram for deployment
- Built-in network server and MQTT/HTTP/HTTPS API for seamless integration
- Supports BACnet/IP for easy integration of LoRaWAN data into BMS systems
- Embedded Python SDK for user secondary development
- Fast and user-friendly programming development tool

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	Support
Ethernet Interface	
Port	1 × RJ45 (PoE PD supported)
Physical Layer 10/100 Base-T (IEEE 802.3) Data Rate 10/100 Mbps (Auto-Sensing)	

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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 x 50 Ω SMA Connector (Center PIN: SMA Female)
SIM Slot	1 (Mini SIM-2FF)
<b>OTHERS</b>	
Reset Button	1 x RST (Internal)
Console Port	1 x Type-C
LED Indicators	1 x SYSTEM, 1 x LoRa
Built-in	Watchdog, Timer

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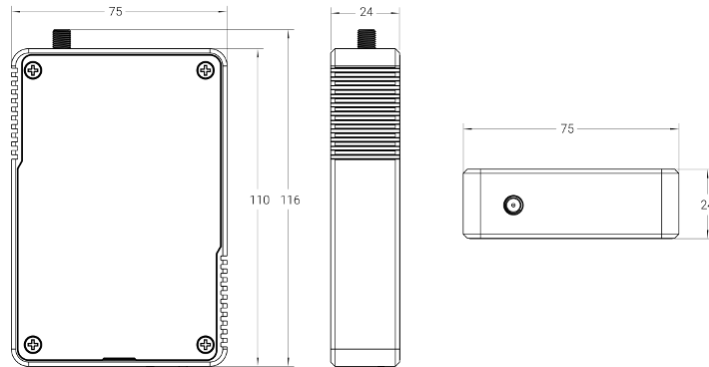
## Software

Network Protocols	PPPoE, SNMP v1/v2c/v3, TCP, UDP, DHCP, DDNS, HTTP, HTTPS, DNS, ARP, SNTP, Telnet, SSH, MQTT, BACnet/IP, 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, WatchNET IoT Cloud
Reliability	WAN Failover
App	Python SDK, Node-RED

## Power Supply and Consumption

Power Input	1. 1 × 802.3 af PoE Input 2. 5V, 2A by Type-C Port
Power Consumption	Typical 1.8 W, Max 6.9 W

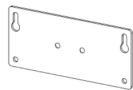
## DIMENSIONS



## ACCESSORIES



1 × LoRaWAN<sup>®</sup>  
Magnetic Antenna



1 × Wall Mounting  
Bracket



2 × Bracket Fixing  
Screws



4 × Wall Mounting  
Kits



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



1 × Magnetic Cellular  
Antenna  
(Cellular Version Only)

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## Physical Characteristics

Ingress Protection	IP30
Housing & Color	Metal, Black
Dimensions	110 x 75 x 24 mm (4.33 x 2.95 x 0.94 in)
Installation	Desktop, Wall Mounting

## 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
Environmental	RoHS

\* Tested under laboratory conditions and for guideline purposes only.

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