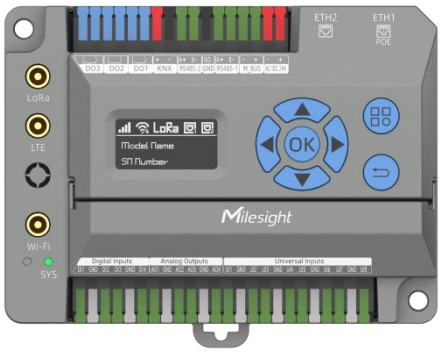
EG71

Building IoT Gateway



EG71 is an intelligent and powerful edge IoT gateway designed for smart building applications. Supporting both wired and wireless connectivity, EG71 enables seamless data aggregation from diverse field devices and ensures fast, plug-and-play BMS deployment. It bridges field-level sensors and actuators with cloud or BMS systems, providing reliable data processing, local automation, and remote management in a compact form factor.

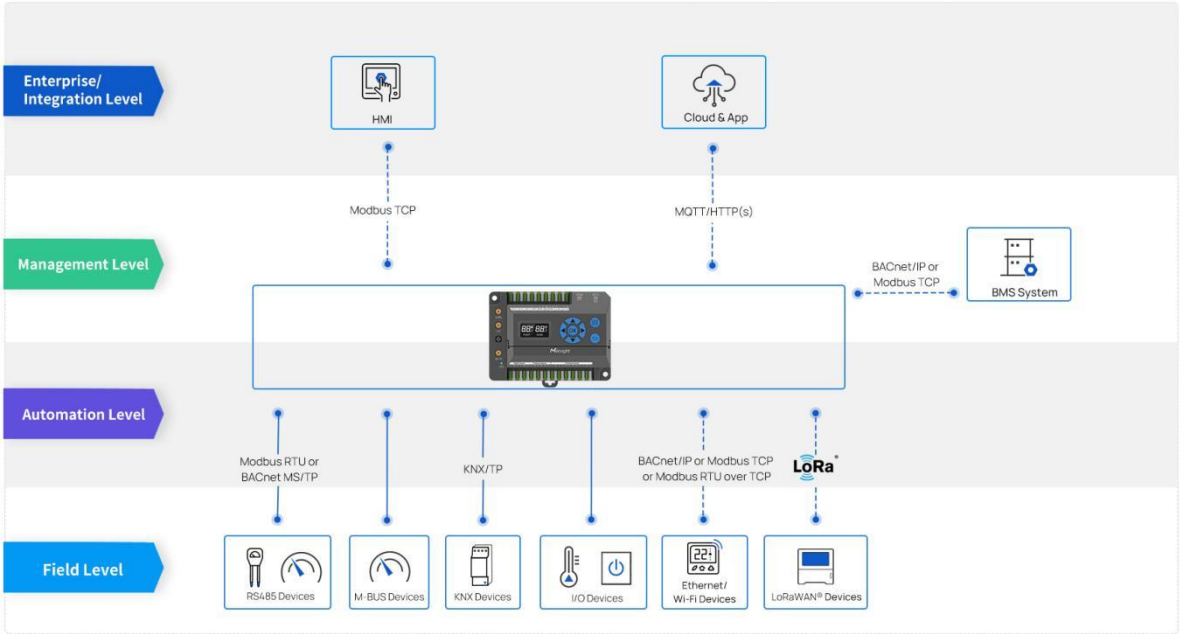
It is ideal for building automation, energy management, HVAC control, and other IoT applications in commercial buildings, campuses, hotels, and industrial facilities.

◆ Features

- Quad-core industrial-grade processor with large memory ensures stable performance for large-scale device connectivity and edge processing
- Comprehensive I/O interfaces with native support for RS485, KNX, M-BUS, LoRaWAN®, Wi-Fi and Ethernet devices
- Equips with NFC to add Milesight devices quickly
- Multi backhaul options including Ethernet, cellular (4G) and Wi-Fi for reliable network redundancy
- Supports mainstream protocols such as Modbus, BACnet, MQTT, and HTTP for seamless integration with third-party hardware or software

- Offers secondary development capabilities (Python SDK, Node-RED and Docker) to build customized BMS systems
- Enables security communication with multiple VPN tunnels and firewall rules
- Enables centralized and simplified remote device management via Milesight Development Platform

◆ Application Example



◆ Specifications

Hardware System	
CPU	Quad-core 1.5 GHz, 64-bit ARM Cortex-A53
Memory	2GB DDR4 RAM
Flash	32 GB eMMC
Extendable Storage	1 × Micro SD Slot
LoRaWAN®	
Antenna	1 × 50 Ω SMB - Female External Connector
Channel	8 (Half-duplex)
Frequency Band	CN470/IN865/EU868/RU864/US915/AU915/KR920/AS923-1&2&3&4
Sensitivity	-140dBm Sensitivity @292bps
Tx Power	27dBm Max
Protocol	V1.0 Class A/Class B/Class C and V1.0.2 Class A/Class B/Class C
LBT	Support

Number of Devices	Around 2000 Devices (based on 10 min uplink interval)
Advanced Features	Noise Analyzer, Gateway Fleet, Multicast, FUOTA
Ethernet Interface	
Port	2 × RJ45 Ports (WAN/LAN Software Switchable)
Physical Layer	10/100/1000 Base-T (IEEE 802.3)
Data Rate	10/100/1000 Mbps (Auto-Sensing)
Interface	Auto MDI/MDIX
Mode	Full/Half Duplex (Auto-Sensing)
Ethernet Isolation	1.5 kV RMS
PoE	1 × 802.3 af PoE PD on ETH1 Port
Wi-Fi Interface	
Antenna	1 × 50 Ω SMB - Female External Connector
Standards	IEEE 802.11 b/g/n, 2.4GHz
Tx Power	802.11b: 18 dBm +/-2.0 dBm (11 Mbps) 802.11g: 18 dBm +/-2.0 dBm (6 Mbps) 802.11g: 17 dBm +/-2.0 dBm (54 Mbps) 802.11n@2.4 GHz: 17 dBm +/-2.0 dBm (MCS0_HT20) 802.11n@2.4 GHz: 16 dBm +/-2.0 dBm (MCS7_HT20) 802.11n@2.4 GHz: 17 dBm +/-2.0 dBm (MCS0_HT40) 802.11n@2.4 GHz: 16 dBm +/-2.0 dBm (MCS7_HT40)
Mode	AP or Client mode
Security	AP: WPA-PSK/WPA2-PSK authentication, WEP/TKIP/AES encryption Client: WPA-PSK/WPA2-PSK/WPA-Enterprise/WPA2-Enterprise authentication, WEP/TKIP/AES encryption
Cellular Interface	
Network	4G LTE(CAT1)/GSM
Tx Power	Class 3 (23 dBm ±2 dB)
Antenna	1 × 50 Ω SMB - Female External Connector
Cellular Band	**L08GL (Global except North America):** LTE-FDD: B1/2/3/4/5/7/8/12/13/17/18/19/20/25/26/28/66 LTE-TDD: B34/38/39/40/41; GSM: B2/3/5/8 **L09NA (North America):** LTE-FDD: B2/4/5/12/13/66
SIM Slot	1 (Nano SIM-4FF)

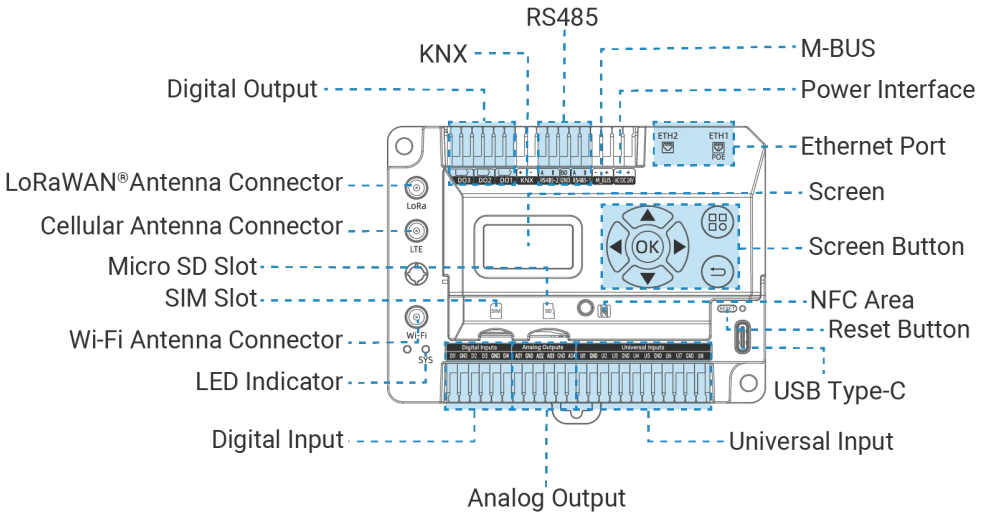
Data Interfaces	
RS485	
Numbers	2 × RS485
Baud Rate/bps	1200/2400/4800/9600/19200/38400/57600/115200 (Software Switchable)
Terminal Resistor	1 × 120 Ω Terminal Resistor (Software Switchable)
Number of Devices	Up to 128 Devices per RS485, total 256 Devices
KNX	
Numbers	1 × KNX/TP1
Bus Voltage	21-30 V DC, via the KNX bus
Baud Rate	9600
Number of Devices	Up to 63 Devices
M-BUS	
Numbers	1 × M-BUS
Voltage	22-34V
Maximum Current Load	50mA / 30UL
Cable	Type: 2-core shielded twisted pair cable Length: Max. 350 m between a slave and the gateway which acts as a master
Baud Rate/bps	1200/2400/4800/9600 (Software Switchable)
Number of Devices	Up to 30 M-Bus unit loads (UL of 1.5 mA)
Universal Input	
Numbers	8 × Universal Inputs (Software Switchable)
Digital Input	Work Mode: Digital Input (Wet Contact) Load: 0-24V DC
Analog Input	Input Type: 0-10V or 4-20mA Resolution: 12bit Accuracy: ±1% FS
RTD Input	Input Type: PT1000 or Ni1000 Input Connection: 2-wire Accuracy: ±0.5°C
NTC Input	Input Type: NTC 10K Type 2, NTC 10k Type 3 or NTC 20k Accuracy: ±0.5°C at 25°C
Resistance Input	Input Type: 1000 Ω or 2000 Ω Accuracy: 1 Ω

Digital Input	
Numbers	4 × Dry Contact Inputs
Work Mode	Digital Input, Pulse Counter
Frequency	>=1000Hz
Digital Output	
Numbers	3 × Relay Outputs
Resistive Load	Max. 3A@30 V DC or 3A@110 V AC
Analog Output	
Numbers	4 × Analog Outputs
Analog Type	4-20mA or 0-10V (Software Switchable)
Maximum Load	20mA
Resolution	12 bit
Accuracy	±1% FS
Others	
Screen	1.3-inch OLED Screen, 128 × 64 Pixels
Screen Buttons	7 × Screen Control Buttons
NFC	13.56MHz, support adding Milesight LoRaWAN® end devices
Reset Button	1 × RST
USB	1 × USB Type-C for Power Supply and Console
LED Indicators	1 × SYS
Power Connector	1 × 2-Pin Terminal Block
Built-in	Watchdog, RTC, Timer
Software	
Building Protocol	**Data Acquisition:** RS485: Modbus RTU, BACnet MS/TP KNX: KNX/TP Ethernet/Wi-Fi: BACnet/IP, Modbus TCP, Modbus RTU over TCP M-BUS: Meter-Bus **Data Forwarding:** MQTT(s), HTTP(s), BACnet/IP, Modbus TCP, Modbus RTU over TCP
Embedded Network Server	Built-in LoRaWAN® network server, support Gateway Fleet, Multicast, FUOTA features
VPN Tunnel	OpenVPN/IPsec/PPTP/L2TP/WireGuard
Firewalls	Access Control, DMZ, Port Mapping (DNAT), MAC Binding, Filtering (IP&Domain)

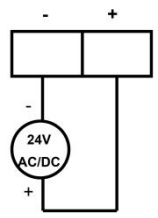
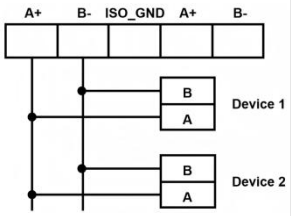
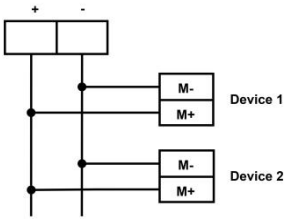
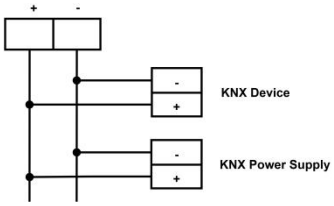
DDNS	Supported 14 service providers, others can be configured manually
Multilevel Authority	Multiple Levels of User Authority
Reliability	Link Failover
Diagnostics Tools	Ping, Traceroute, Tcpdump, QXDM, Log Server
Configuration	Web, CLI (SSH/Telnet), On-demand dial up, SNMP
Remote Management	Milesight Development Platform
Event Alarm	Power On, Network Up/Down, VPN Up/Down, etc.
App	Python SDK, Node-RED, Docker
Power Supply and Consumption	
Power Input	1. 24 V DC/AC by Terminal Block 2. 802.3 af PoE 3. 5V/3A by USB Type-C Port[1]
Power Consumption	Typical 411mA@20V (8.2W), Maximum 562mA@20V (11.24 W)
Physical Characteristics	
Reliability	MTBF > 500, 000 hours @ 25°C (according to Bellcore TR-332) -non contractual
Ingress Protection	IP30
Material & Color	PC+Aluminium Alloy, Grey
Weight	375.6g
Dimensions	123 x 90 x 36 mm (4.84 x 3.54 x 1.42 in)
Wire Connection	AWG 24-16
Installation	Wall Screw Mounting, DIN Rail Mounting
Environmental	
Operating Temperature	-40°C to +60°C (-40°F to +140°F)
Storage Temperature	-40°C to +85°C (-40°F to +185°F)
Relative Humidity	0% to 95% (non-condensing) at 25°C/77°F
Approvals	
Regulatory	CE, CE (RED), FCC

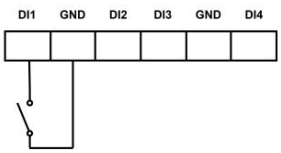
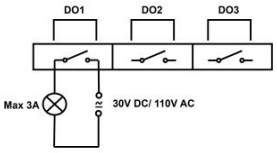
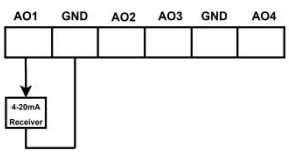
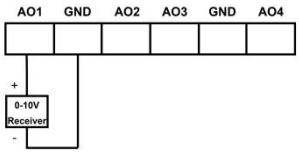
[1]: When powered via USB, M-BUS and Universal Inputs will not work properly.

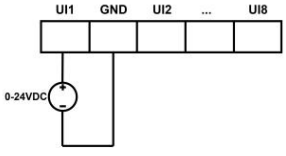
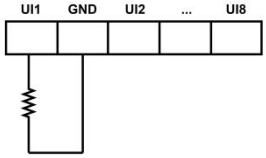
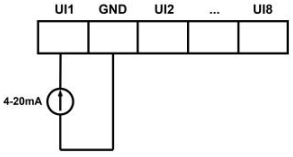
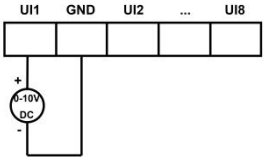
◆ Hardware Overview



◆ Wiring Diagram

Power Supply	RS485	M-BUS	KNX
			

Digital Input	Digital Output	Analog Output	
Dry Contact	Resistive Load	4-20mA	0-10V
			

Universal Input			
Digital Input-Wet Contact	PT1000/Ni1000/NTC /Resistance	Analog Input(4-20mA)	Analog Input(0-10V)
			

◆ Accessories



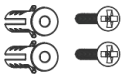
1 × LoRaWAN® Magnetic Antenna



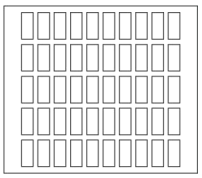
1 × Cellular Magnetic Antenna



1 × Wi-Fi Magnetic Antenna



2 × Wall Mounting Kits



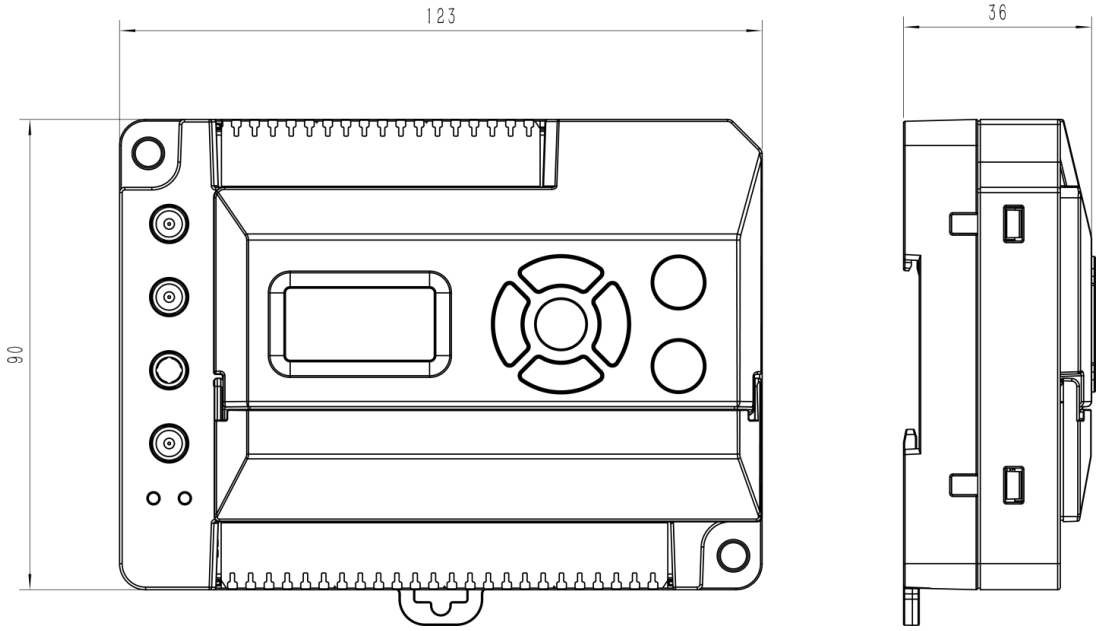
1 × Label Sticker

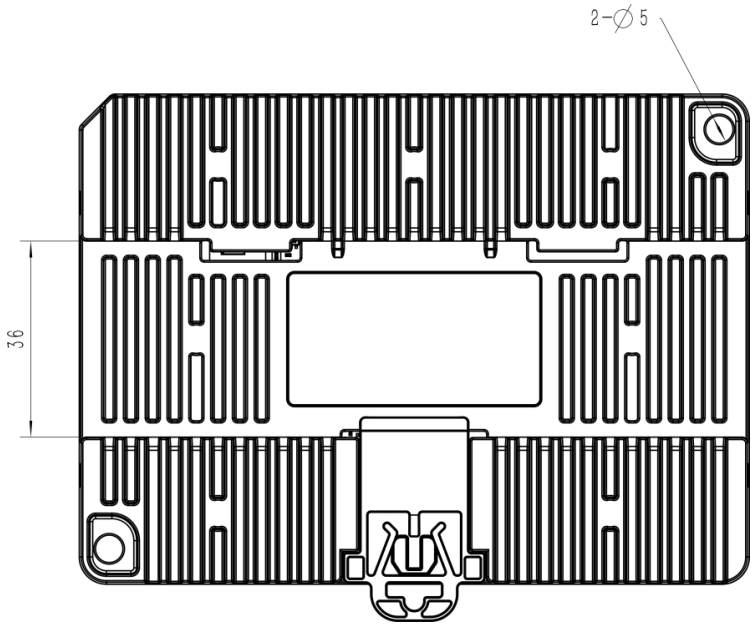


1 × AC-DC DIN Rail Power Adapter **(Optional)**

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

◆ Dimensions(mm)




2-∅5
36