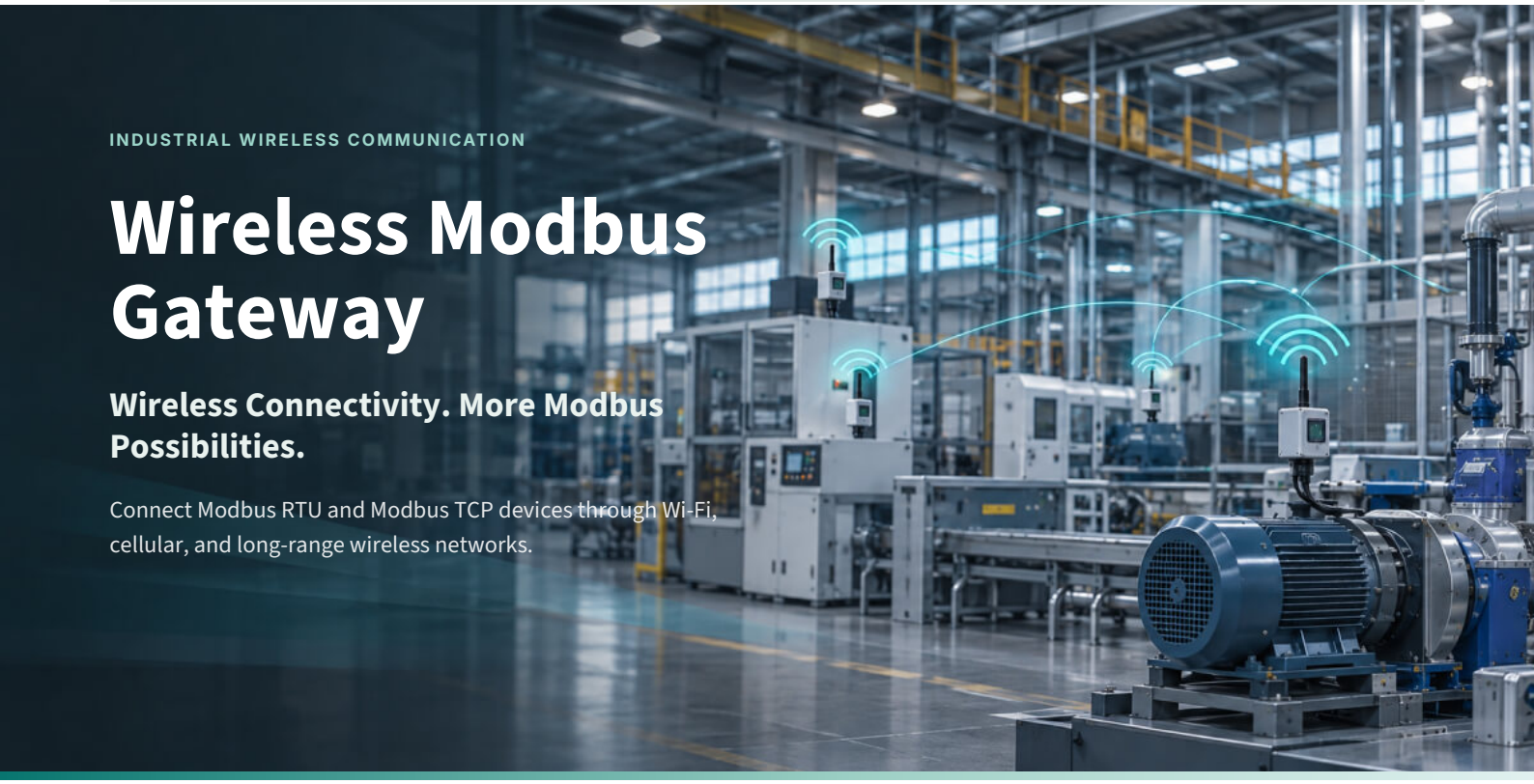


INDUSTRIAL WIRELESS COMMUNICATION

# Wireless Modbus Gateway

## Wireless Connectivity. More Modbus Possibilities.

Connect Modbus RTU and Modbus TCP devices through Wi-Fi, cellular, and long-range wireless networks.

A WIRELESS CONNECTIVITY PORTFOLIO

Industrial interfaces. Flexible network access.











Wireless Technologies

**Wi-Fi · Cellular · LoRa**

Key Advantages

**Secure · Reliable · Flexible**

Industrial Communication Expertise Since 2001

02 / APPLICATION SCENARIOS

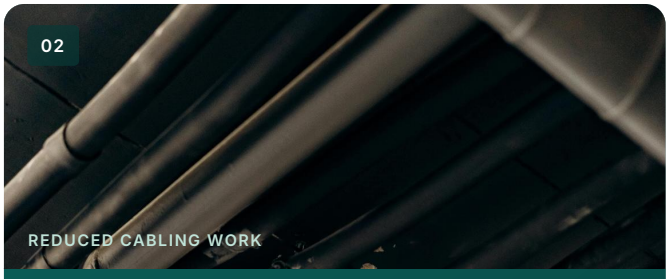
# Why Wireless Modbus Communication?

Wireless communication is not intended to replace wired connections in every application. It becomes a practical option when cable installation, equipment location, or site conditions make traditional wiring difficult.



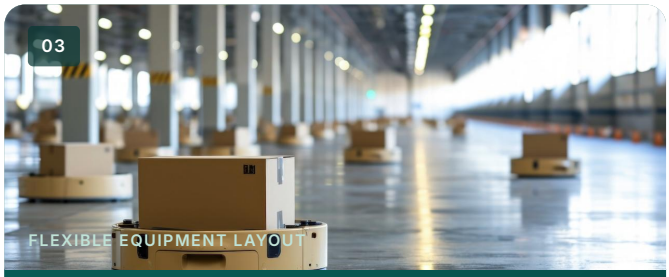

## Devices Across Long Distances

When Modbus devices are installed across separate buildings, remote facilities, or widely distributed sites, running communication cables between them may be difficult or impractical. Wireless links provide another way to connect these devices.




## Difficult or Costly Cable Installation

In existing facilities, underground areas, or locations with complex cable routes, installing new communication cables may require significant labor and infrastructure costs. Wireless Modbus communication can be considered when additional cabling is difficult to justify.




## Frequently Changing Equipment Layouts

In production lines, warehouses, and other environments where equipment locations or network requirements change frequently, repeatedly installing or relocating communication cables can be inconvenient. Wireless Modbus gateways offer a more flexible option.




## Remote or Hard-to-Reach Equipment

For equipment installed in remote pumping stations, water treatment facilities, outdoor sites, or other locations that are difficult to access, wireless Modbus gateways can transmit field data to a central monitoring system without a dedicated communication cable along the entire route.

## Wireless Modbus: A Practical Alternative to Complex Cabling

**Reduced Cabling Requirements**
Reduce the need for extensive new communication cables.

**Flexible Equipment Connectivity**
Connect distributed devices across changing industrial layouts.

**Remote Data Access**
Extend Modbus communication to remote monitoring systems.

03 / CONNECTIVITY OVERVIEW

# One Gateway. Multiple Ways to Connect.

COME-STAR Modbus wireless bridges support a range of connectivity options to accommodate different Modbus devices, wireless network infrastructures, and deployment conditions.

INDUSTRIAL COMMUNICATION SOLUTION

01 WIRELESS NETWORK

## Wi-Fi Connectivity

Local wireless access for industrial devices and mobile equipment across factory networks.

- 2.4 / 5.8 GHz
- AP / Client
- Fast Roaming <100 ms
- WPA2 / WPA3

02 WIDE-AREA NETWORK

## Cellular Connectivity

Connect remote and geographically distributed Modbus devices through cellular networks.

- 4G / 5G
- Dual-SIM Failover
- Global Frequency Bands
- High-Speed Access

03 LONG-RANGE NETWORK

## LoRa Connectivity

Long-range, low-power wireless communication for distributed monitoring applications.

- Long Range
- Low Power
- Sub-GHz
- Wide-Area Monitoring



## Wireless Modbus Gateway

FLEXIBLE CONNECTIVITY FOR MODBUS DEVICES
WIRELESS · WIRED · REMOTE ACCESS



ANTENNA DESIGN
Wireless connectivity



INTERFACE EXAMPLE
Across product range

04 SERIAL INTERFACE

## Modbus RTU

Connect existing serial Modbus devices through supported industrial serial interfaces.

- RS232 / RS422 / RS485
- Wide Baud Rate Support
- RFC 2217 Baud Rate Control

05 ETHERNET INTERFACE

## Modbus TCP

Connect Ethernet-based Modbus TCP devices through copper or fiber network interfaces.

- Copper & Fiber Interfaces
- 10/100 Mbps & Gigabit Ethernet
- Auto-Negotiation & Auto MDI/MDIX

06 REMOTE SERIAL ACCESS

## Virtual COM Port

Access remote RS232/RS422/RS485 devices over an IP network while continuing to use existing serial application software.

Serial Device → IP Network → Virtual COM

- **Flexible Wireless Transmission**
  Wi-Fi · Cellular · LoRa
- **Versatile Device Interfaces**
  Modbus RTU · Modbus TCP
- **Convenient Remote Access**
  Virtual COM Port

CUSTOMIZATION

## Adapt the Gateway to Your Project

Connectivity, interfaces, antennas, SIM options, and security configurations can be adapted to project requirements, subject to platform and engineering review.

04 / BEYOND WIRELESS DATA TRANSMISSION

# Beyond Wireless Data Transmission

Industrial wireless Modbus communication is about more than transmitting data over the air. COME-STAR wireless Modbus gateways also support master-slave communication, protocol conversion, multiple data transport methods, and MQTT connectivity. These capabilities help connect different Modbus devices, enable remote polling, and extend Modbus networks to cloud-based IIoT applications.



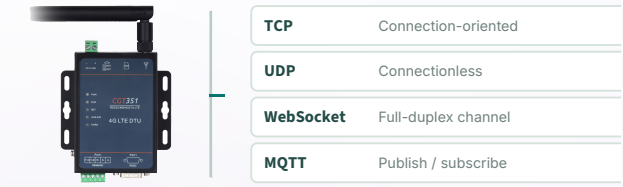

## Modbus Master-Slave Communication

Support communication between Modbus RTU slave devices and Modbus TCP master systems, and vice versa. This enables remote polling of field devices over wireless IP networks, allowing master systems to access Modbus data without direct connections.



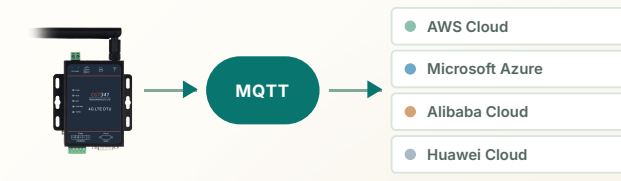

## Modbus Protocol Conversion

Convert Modbus data between RTU/ASCII and TCP formats. By offloading part of the communication workload from the host computer or SCADA system, the wireless gateways help reduce host-side processing requirements and simplify data integration.




## Flexible Communication Over Different Network Protocols

Support multiple data transport methods, including TCP, UDP, WebSocket, and MQTT. You can choose a communication method that fits your application requirements, network infrastructure, and remote data access needs.




## MQTT Connectivity for IIoT Applications

With MQTT support, Modbus data can be published to cloud platforms for remote monitoring, data collection, and IIoT applications. COME-STAR wireless Modbus gateways are compatible with AWS Cloud, Microsoft Azure, Alibaba Cloud, and Huawei Cloud.

05 / SECURITY & RELIABILITY

# Secure and Reliable Industrial Wireless Communication

Protect remote access, maintain communication continuity, and manage distributed devices across industrial environments.




01 / SECURITY

## Secure Industrial Connectivity

### VPN Connectivity

IPsec (IKEv1 / IKEv2) · OpenVPN · WireGuard · L2TP · PPTP · GRE

### Network Security

AES-128 / AES-256 · TLS 1.2 / TLS 1.3 · WPA2 / WPA3 · IP / MAC Filtering · Anti-DoS / SYN Flood Protection · VLAN Segmentation · Role-Based Access Control




02 / RELIABLE INDUSTRIAL PERFORMANCE

## Built for Reliable Industrial Operation

### Communication Reliability

Dual Power Inputs · Network Redundancy · Dual-SIM Failover · Offline Data Buffering

### Industrial Environment

Wide Operating Temperature Options · EMC Level 4 · IP40 · Ex ia / ib / ic



03 / REMOTE MANAGEMENT & CONTINUOUS OPERATION

## Stay Informed. Stay Connected.

| | | |
|---|---|---|
| **Email Alarms** | **SNMP** | **SMS Notifications** |
| **Web Management** | **SSH** | **AT Commands** |

**Feature availability depends on model and configuration.** EMC Level 4, IP40, and Ex ia / ib / ic options apply only to selected models.

06 / PRODUCT PORTFOLIO

# Wireless Modbus Gateway Product Portfolio

Explore wireless Modbus connectivity options for local networks, wide-area remote access, and distributed low-power monitoring. Product interfaces and functions vary by model.

LOCAL WIRELESS NETWORKS

## Wi-Fi Modbus Gateways

Connect serial Modbus equipment to local industrial Wi-Fi networks and wireless Ethernet infrastructure.

- 2.4 GHz / 5.8 GHz
- AP / Client
- Wireless Ethernet
- Serial Integration
- Industrial Wi-Fi



WIDE-AREA ACCESS

## Cellular Modbus Gateways

Connect remote assets through cellular networks for distributed equipment monitoring and backhaul communication.

- 4G / 5G options
- Dual-SIM options
- Remote monitoring
- Failover on supported models




LOW-POWER WIDE-AREA MONITORING

## LoRa Modbus Gateways

Sub-GHz wireless communication for long-range, low-power applications and distributed field devices. Use a LoRa link where the network design and site conditions are appropriate.

- Sub-GHz
- Long-range connectivity
- Low-power applications
- Distributed monitoring




Conceptual LoRa network diagram

PROJECT SUPPORT

## Looking for the Right Wireless Modbus Gateway?

Tell us about your devices, wireless network requirements, and application environment. Our team can help you identify a suitable connectivity solution.

**Contact Our Team** →

sales@come-star.com
+86-27-59257958
www.come-star.com

07 / INDUSTRIAL APPLICATIONS

# Wireless Modbus for Industrial Applications

Wireless Modbus gateways connect field devices, controllers, and monitoring systems where equipment distribution, site conditions, or changing layouts make conventional cabling difficult.



01 / SMART MANUFACTURING

## Flexible Production Networks

DENSE EQUIPMENT / ELECTRICAL INTERFERENCE / FLEXIBLE PRODUCTION LINES

Production lines bring together dense equipment, sensors, and controllers in electrically noisy areas. Wireless links can connect selected Modbus monitoring points when machine movement or layout changes make fixed cable routes inconvenient.



02 / WATER & WASTEWATER

## Distributed Pumping Stations

OUTDOOR SITES / LONG-DISTANCE MONITORING

Treatment plants and pumping stations distribute pumps, meters, and process equipment across outdoor areas. Wireless Modbus links can carry selected field data where long cable runs or access constraints make wiring difficult.



03 / SOLAR & RENEWABLE ENERGY

## Remote Generation Assets

SCATTERED EQUIPMENT / OUTDOOR DEPLOYMENT / REMOTE MONITORING

Solar and wind sites spread monitoring points across open areas, often far from central control equipment. Wireless links can provide an alternative data path for remote Modbus devices where cable routes are costly or impractical.



04 / OIL & GAS

## Remote Field Assets

REMOTE FACILITIES / WIDE-AREA COVERAGE / DEMANDING ENVIRONMENTS

Well sites, pump stations, and pipeline assets may be separated by long distances. Suitable wireless links can bring remote Modbus measurements to supervisory systems without a dedicated cable along every route.



05 / AGRICULTURE

## Distributed Irrigation

OPEN FIELDS / SCATTERED SENSORS / LONG-DISTANCE COMMUNICATION

Irrigation systems place sensors, pumps, and valves across large outdoor areas. Wireless Modbus communication can collect field data where trenching or maintaining long cable runs is impractical.



06 / MINING

## Harsh, Distributed Sites

HARSH CONDITIONS / ELECTRICAL NOISE / HARD-TO-REACH EQUIPMENT

Conveyors, pumps, and monitoring devices operate across demanding sites. Wireless links can connect selected Modbus points where electrical noise and difficult cable access complicate installation and maintenance.

08 / ABOUT COME-STAR

# Your Industrial Communication Partner

INDUSTRIAL COMMUNICATION EXPERTISE SINCE 2001

## Connecting Industrial Devices, Systems and Networks

COME-STAR COMMUNICATION (WUHAN) CO., LTD. has been developing and manufacturing industrial communication products since 2001.

With an in-house manufacturing facility and engineering team, COME-STAR provides industrial communication solutions for distributors, system integrators, automation solution providers, and OEM partners.

From product selection and technical assistance to customized communication solutions, COME-STAR supports industrial connectivity projects across different applications.



COME-STAR / WUHAN, CHINA

| | | | | |
|---|---|---|---|---|
| **2001** ESTABLISHED | **In-House** MANUFACTURING FACILITY | **Engineering** TECHNICAL TEAM | **OEM** CUSTOMIZATION SUPPORT | **Industrial** COMMUNICATION PORTFOLIO |

LET'S DISCUSS YOUR PROJECT

## Get in Touch with COME-STAR

**Connecting the World, Bridging the Future.**

COMPANY
**COME-STAR COMMUNICATION (WUHAN) CO., LTD.**

WEBSITE
www.come-star.com

EMAIL
sales@come-star.com

TELEPHONE
**+86-27-59257958**
**+86-27-59951128**

ADDRESS
Building 4, East Area, Wuhan Innocenter, No.27 Yangqiaohu Avenue, Jiangxia District, Wuhan, China.