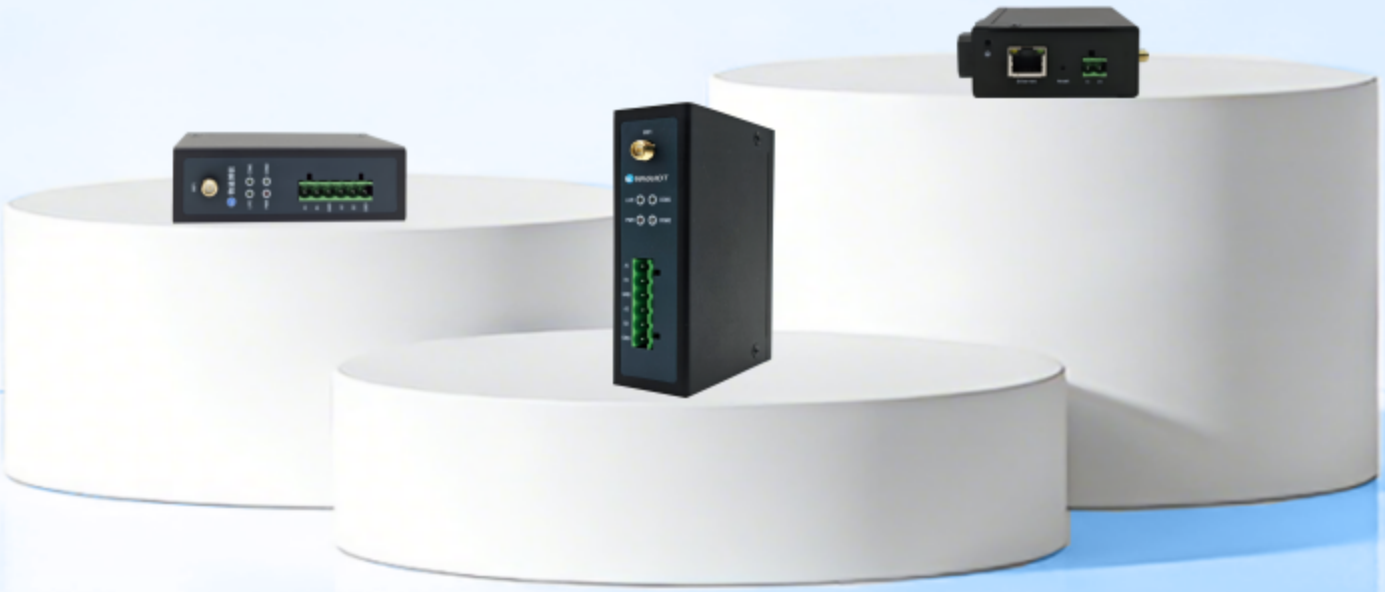
WidelOT

Product Specifications



WC112

Modbus Serial-Ethernet Gateway

A 100 Mbps Ethernet port | Two serial ports | Modbus Protocol Conversion | Plug and play

Product Overview

The WC112 Modbus Serial-Ethernet Gateway is an industrial-grade smart terminal developed by WideIOT for IoT applications, designed to convert serial protocols to Ethernet protocols. Featuring one 100Mbps Ethernet port and two RS485/232 serial ports, with optional Wi-Fi connectivity, it supports the conversion of Modbus RTU to Modbus TCP protocols. It allows multiple serial devices to be connected to a single serial bus, automatically mapping addresses and distinguishing between connected devices via their slave addresses.



Widely used across numerous industries such as energy consumption data collection, renewable energy monitoring, charging stations, battery swap stations, smart buildings and smart factories, it serves as a vital edge node for building industrial IoT and industrial internet networks.

Product features

- ✓ **Industrial-grade, reliable design**: wide temperature and voltage range, with multiple layers of electromagnetic isolation, ensuring uninterrupted operation in harsh industrial environments;
- ✓ **Multiple network protocols**: Supports both Ethernet and Wi-Fi networks; Ethernet is selected by default;
- ✓ **Dual-bus concurrent data acquisition**: Supports parallel communication via two RS-485 serial buses, distinguished by different ports;
- ✓ **Single-bus polling**: Data communication via polling is achieved on a single RS485 bus using slave addresses;
- ✓ **High-efficiency data conversion**: Rapid protocol conversion, enabling seamless protocol conversion and communication responses with millimetre-level precision.
- ✓ **Convenient configuration management**: Supports dedicated configuration tools for configuring various settings, including network parameters, serial port parameters and forwarding parameters.

Typical topologies



Application scenarios


Industrial automation


Remote meter reading


PV monitoring


Charging Point Monitoring


Smart Transport


Environmental monitoring


Environmental and Power Monitoring

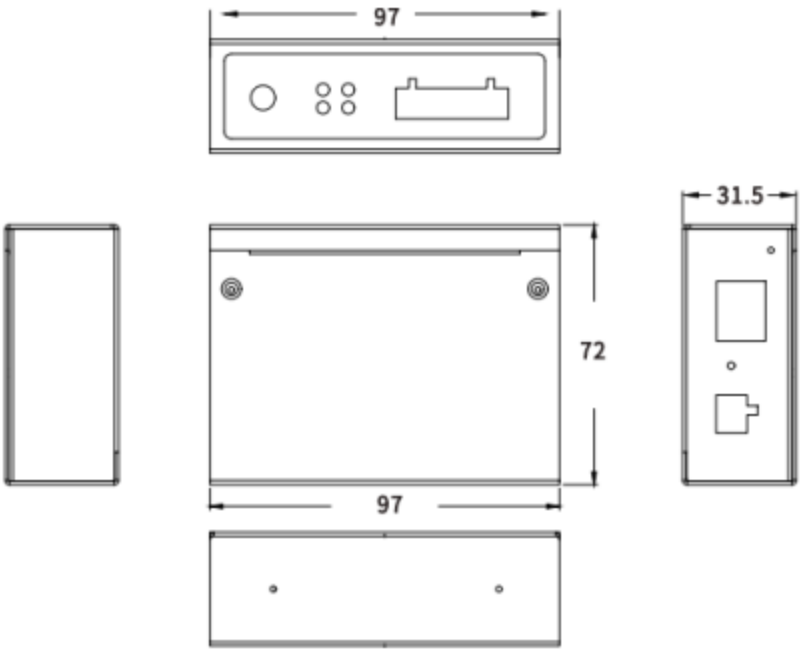

Smart Buildings

Product specifications

Hardware Parameters	
Hardware platform	
CPU Core	ARM Cortex-M4 240MHz
Runtime storage	512K RAM
Programme storage	1MB ROM
Interface specifications	
Power socket	DC 9V-35V （2PIN terminal block）
Ethernet port	1*10/100Mbps Ethernet port，1.5KV network isolation transformer protection
Serial port	2 RS485 serial ports(RS232 optional)，15KV ESD protection
Wi-Fi network	2.4GHZ，Maximum 150 Mbps，802.11b/g/n (Optional)
Reset button	Pinhole reset button
Antenna connector	WLAN: RP-SMA x 1
Power consumption	
Power	0.15W
Mechanical properties	
Dimensions	72x97x31.5(mm)
Installation method	Guide rail
Equipment housing	Metal casing (black)
Protection rating	IP30
Heat dissipation	Fanless heat dissipation
weight	252g
Equipment operating environment	
Ambient humidity	5% ~ 95% (Non-condensing)
Storage	-40 °C~ 85°C

temperature	
Operating temperature	-40°C ~ 85°C
Indicator light	
2*2 indicator light	PWR power indicator (red)、LIVE indicator light (green)、COM1 serial port indicator (green)、COM2 serial port LED (green)
Software Features	
Protocol conversion	Modbus RTU to Modbus TCP
EMC Standards	
Electrostatic discharge immunity	GB/T17626.2-2018,level4
Electrical Fast Transient Pulse Immunity	GB/T17626.4-2018,level4
Oscillating magnetic field Immunity to interference	GB/T17626.18-2016,level4
Radio-frequency electromagnetic fields Radiated immunity	GB/T17626.3-2016,level4
Surge (transient) Immunity	GB/T17626.5-2019,level4
Power-frequency magnetic field Immunity	GB/T17626.8-2006,level4
Physical properties	
Vibration	GB/T2423.10-2008
Impact	GB/T2423.5-2019
Fall	GB/T2423.8-1995

Product dimensions



Order details

Hardware Selection	
Order number	WC112-<Module>-<SoftWare>
Module	W：WIFI Network；
SoftWare	MB （Modbus）
Example	WC112-MB:Modbus Protocol conversion(ModbusRTU to ModbusTCP) WC112-W-MB： Modbus protocol conversion for Wi-Fi connectivity(ModbusRTU to ModbusTCP)

* This table is for model selection reference only. The exact model is subject to engineering confirmation.

For further information, please visit the WidelOT website: https://www.wideiot.com.

Alternatively, please contact us via the following methods:

Email: info@wideiot.com

© Xiamen WidelOT Technology Co., Ltd. All rights reserved.

No organisation or individual may, without the written permission of the Company, extract or reproduce any part or all of the contents of this document, nor may they disseminate it in any form.

The information contained in this document is subject to change without notice due to product version updates or other reasons.

About WidelOT

Founded in 2011 and headquartered in Xiamen, China, WidelOT is a specialist provider of industrial IoT products and digital solutions, focusing on sectors such as smart factories, smart equipment, energy management, hydrology and water resources, smart water management, and smart cities; The company offers a comprehensive range of products, including industrial wireless routers, industrial switches, industrial smart gateways, industrial data terminals, smart I/O modules, industrial converters, AI edge computers and IoT data cloud platforms. It is a high-tech enterprise integrating R&D, production, sales and service.



Xiamen WidelOT Technology Co., Ltd.

Website: www.wideiot.com Email: info@wideiot.com Tel: +86-592-2031080

Address: Xiamen softpark III ,Fujian,China