Huawei AR502H-V2 Series Product Data Sheet

The AR502H-V2 is purpose-built for edge computing and industrial gateway scenarios. It is an EC-IoT gateway designed for communication on large-scale edge computing and IoT networks. It is also a box-shaped industrial gateway designed for communication in challenging environments such as extreme temperature, humidity, and electromagnetic interference.

Overview

Huawei AR502H-V2 provides powerful edge computing capabilities, and rich IoT interfaces. It is widely used in various IoT scenarios, such as smart IoT poles, smart energy consumption, and IDS of smart power distribution. Based on the ARM multi-core processor and non-blocking switching architecture, it integrates multiple functions such as routing, switching, VPN, SD-WAN and advanced security, meeting the high-performance requirements of network devices in enterprise industrial gateway scenarios.

Huawei AR502H-V2 series include the following models: AR502H-LTE4EA-V2, AR502H-LTE4AU-V2 and AR502H-NRGL-V2.

Appearance of Huawei AR502H-V2

Product Name	Overview	Application Scenario
 **AR502H-LTE4EA-V2** **AR502H-LTE4AU-V2 ***	• Industry-grade, high-performance, convergence of edge computing, networking and security • Fan-free and dual-power supply redundancydesign • ARM quad-core 1.6GHz CPU, 4GB memory, 2GB flash • LTE TDD, LTE FDD, WCDMA	Industry-grade edge computing scenarios Industrial Gateway Scenario
 **AR502H-NRGL-V2**	• Industry-grade, high-performance, convergence of edge computing, networking and security • Fan-free and dual-power supply redundancydesign • ARM quad-core 1.6GHz CPU, 4GB memory, 2GB flash • 5G, LTE TDD, LTE FDD	Industry-grade edge computing scenarios Industrial Gateway Scenario

*Note: AR502H-LTE4AU-V2 is sold only in Latin America.

Features and Highlights

High-Quality, Industrial-Grade Design

- Fan-free design, wide operating temperature range, from -40°C to +75°C
- Resilient to strong magnetic interference, IEC 61850-3/IEEE 1613 compliant
- Dual power supplies for redundancy, DI/DO alarm

Edge IoT, Enhancing Security and Reliability

- Edge computing architecture, open software and hardware resources, support for multi-container management, and on-demand app deployment
- NCE-Campus based remote containers management and batch installation, upgrade, and configuration
- Data encryption, and non-privileged containers, enhancing device security and reliability

Extensive Interfaces, Enabling Flexible Expansion

- 5G, LTE FDD and LTE TDD, compatibility with WCDMA, GPRS, and GSM
- Multiple interfaces, including GE RJ45, 10GE SFP+, RS232, RS485, and DI/DO
- M.2 hard drive interface, scalability to up to 256 GB NVME, size 2242 (provided by customers)
- Support the satellite positioning systems: BeiDou, GPS, Galileo, and GLONASS

Simple Deployment and Easy O&M

- USB -based deployment, DHCP option-based deployment, and registration center deployment are supported
- Supports NCE-Campus management and local web-based O&M, and GUI-based visualized management for devices

Service convergence and Security protection

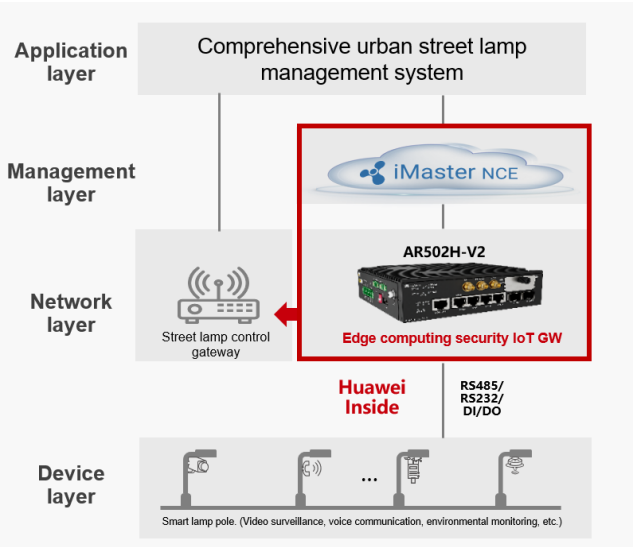
- Integration of functions such as routing, switching, VPN, SD-WAN, and advanced security, meeting diversified enterprise service requirements, saving space, and reducing TCO
- Multiple VPN technologies, providing comprehensive security protection capabilities

SD-WAN and Multi-branch interconnection

- Built-in SD-WAN solution, building cost-effective and business-friendly connections over the Internet
- Application identification and link quality-based intelligent traffic steering, ensuring key application experience
- Multi-link traffic steering, End-to-end IPsec encryption, ensuring secure service transmission

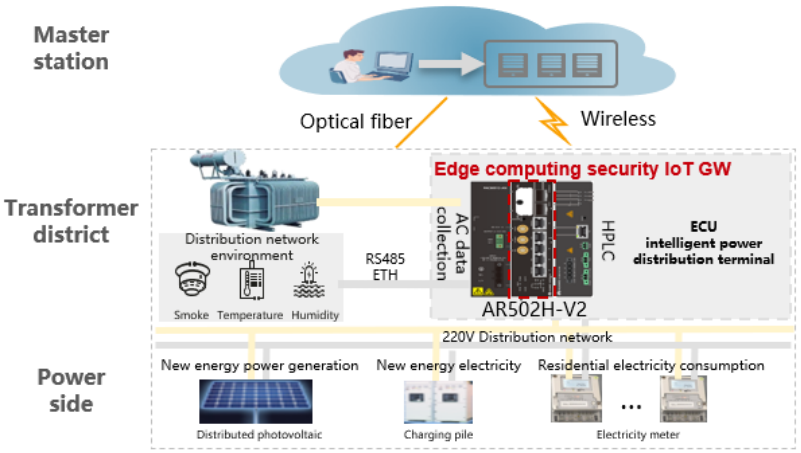
Application Scenarios

IoT Pole



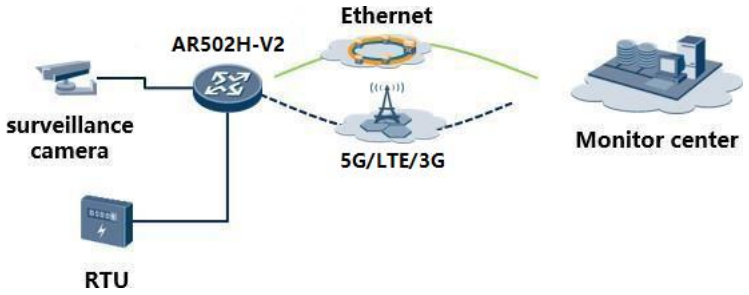
Huawei AR502H-V2, as a smart pole IoT gateway, integrates remote control, local management, computing, and communication functions. Service applications such as video surveillance, voice communication, and environment monitoring can be deployed in smart city and smart water conservancy scenarios. Through real-time service data collection, edge computing, and flexible wired/wireless backhaul, NCE remote visualized O&M implements security monitoring and improves O&M efficiency.

Smart power distribution IDS



Huawei AR502H-V2, as an edge computing security IoT gateway, integrates with the AC collection module and HPLC headend module of partners to form an integrated smart power distribution terminal. It integrates remote control, local management, computing, and communication functions. The AR502H-V2 has multiple built-in containers, supports on-demand deployment of service apps, and works with the backend platform to display network-wide alarm status, site status, and device status. This achieves remote visualized management and real-time network monitoring.

Industrial Backhaul



Huawei AR502H-V2 can be deployed in areas where traditional wired video is unavailable. It provides 5G/4G/3G wireless backhaul capabilities for cameras. It supports various VPN technologies to prevent data packets from being tampered with or replayed, ensuring secure and reliable communication of service data.

Product Specifications

Hardware parameters			
Specification	**AR502H-LTE4EA-V2**	**AR502H-LTE4AU-V2**	**AR502H-NRGL-V2**
Case	Die-casting		
Processor	ARM quad-core A55, 1.6GHz		
DDR	4 GB, DDR4 (Open 1.5 GB in edge computing mode)		
Flash	2 GB, SLC NAND (Open 1 GB in edge computing mode)		
Fixed Ethernet port	• 4 x GE electrical ports, 10/100/1000 Mbit/s auto-sensing • 2 x 10GE SFP+		

<table>
<tr><td>Fixed serial interface</td><td colspan="4">2 x RS485 or RS232 (isolated, switching between RS485 and RS232 iscontrolled through software)</td></tr>
<tr><td>Alarm port</td><td colspan="4">• One DI port (passive contact input)
• One DO port (industrial terminal, supporting normally open and normally closed)</td></tr>
<tr><td>USB 2.0</td><td colspan="4">1</td></tr>
<tr><td>Console port</td><td colspan="4">1</td></tr>
<tr><td>SIM card</td><td colspan="4">Supported 2 x Micro-SIM (Dual SIM single standby)</td></tr>
<tr><td>RTC/Overtemperature alarm</td><td colspan="4">Supported</td></tr>
<tr><td>Global positioning system</td><td colspan="4">BeiDou, GPS, Galileo, and GLONASS</td></tr>
<tr><td>Reset/Configuration</td><td colspan="4">Reset/Configuration button: used to manually restore factory default settings(hold down for at least 5 seconds) or to reset the router (hold down for less than 5 seconds).</td></tr>
<tr><td>M.2 hard drive interface</td><td colspan="2">Supported
M.2 2242 NVME SSD (industrial-grade SSDs, provided by customers), scalable up to 256 GB</td><td colspan="2">Not supported</td></tr>
<tr><td>DIP switch</td><td colspan="4">Switch 1: Off: routing mode (Supports traditional routing scenarios or SD-WAN scenarios); On: edge computing mode
Switch 2: Off: NA; On: edge computing & SD-WAN mode（only while switch 1 is ON）</td></tr>
<tr><td rowspan="7">LED indicators</td><td colspan="4">DC*2，SIM*1，CTRL*1， GNSS*1，SYS*1，HA*1，WWAN*1，LTE*1</td></tr>
<tr><td colspan="3">SSD*1，3G*1</td><td>NR*1</td></tr>
<tr><td></td><td>3G LED</td><td>LTE LED</td><td>NR LED</td></tr>
<tr><td>2G</td><td>√</td><td>-</td><td>-</td></tr>
<tr><td>3G</td><td>√</td><td>-</td><td>-</td></tr>
<tr><td>4G/LTE</td><td>-</td><td>√</td><td>-</td></tr>
<tr><td>5G</td><td>-</td><td>-</td><td>√</td></tr>
<tr><td>Power supply</td><td colspan="4">Dual DC power supplies (industrial terminal): 9.6 V to 60 V (Max)
12 V to 48 V (Rated)</td></tr>
<tr><td>Dimensions (H x W x D)</td><td colspan="3">44 mm x 150 mm x 133 mm (1.73 in. x 5.91 in. x 5.24 in.)</td><td>60 mm x 150 mm x 133 mm (2.36 in. x 5.91 in. x 5.24 in.)</td></tr>
<tr><td>Net weight</td><td colspan="3">1.05 kg</td><td>1.36 kg</td></tr>
<tr><td>Typical power consumption</td><td colspan="3">< 12 W (excluding optical modules)</td><td>11.3W (excluding optical modules)</td></tr>
<tr><td>Max power consumption</td><td colspan="3">16W</td><td>18.3W</td></tr>
<tr><td>Installation mode</td><td colspan="4">DIN/wall-mounted</td></tr>
<tr><td>Storage temperature</td><td colspan="4">–40°C to +85°C</td></tr>
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Operating temperature	–40°C to +75°C
Operating humidity	5%RH to 95%RH (non-condensing)
IP rating	IP40
EMC standards compliance	• IEEE 1613 • IEC 61850-3 • EN 61000-6-5 (2009+2013)
Safety regulations	• IEC 62368 • IEC 61850-3
Certification mark	Conformite Europeenne (CE)

Software parameters

Specification	AR502H-LTE4EA-V2	AR502H-LTE4AU-V2	AR502H-NRGL-V2
Basic functions	• DHCPv6 Server/Client/Relay • NAT, Interface Management		
LAN	• IEEE 802.1p, IEEE 802.1Q, and IEEE 802.3 • VLAN and MAC address management • STP/RSTP/MSTP		
IPv4 unicast routing	• Routing policy and static routing • RIP, IS-IS, OSPF, BGP • RIPng, IS-ISv6, OSPFV3, BGP4+		
IPv6 unicast routing	• Routing policy and static routing • RIPng, IS-ISv6, OSPFV3, BGP4+		
IPv6 basic functions	• IPv6 ND, IPv6 FIB, IPv6 ACL • ICMPv6, DNSv6, DHCPv6 • IPv4 over IPv6, IPv6 over IPv4		
VPN	• GRE tunneling • IPsec tunneling • L2TP client • Ethernet over GRE • DSVPN, IPv4/IPv6 dual-stack • SD-WAN EVPN		
WAN optimization	• A-FEC		
Multicast	• IGMP V1/V2/V3 • PIM SM, PIM DM • MSDP, MBGP		
MPLS	• MPLS LDP, MPLS L3VPN • Dynamic LSP, LDP FRR • MPLS 6VPE, MPLS 6PE		
QOS	• Priority mapping and traffic policing (CAR)		

	• Traffic shaping, congestion avoidance, and congestion management • MQC (traffic classification, traffic behavior, and traffic policy) • Application identification • Smart policy routing(SPR)
Security	• ACL/ACL6, AAA • RADIUS, HWTACACS, NAC, PKI • Storm suppression, ARP security, ICMP security, and attack defense • URPF, CPCAR, and attack source tracing • 802.1X, MAC address, Portal authentication, and port security • IPS, AV, and URL Filter
System Management	• Upgrade management and device management • SNMP (v1/v2c/v3), RMON, NTP, OPS, NQA • Registration center/USB flash drive/DHCP option • NETCONF/YANG/Telemetry • Plug-and-play of remote modules
Openness*	• Docker container, VM (Virtual Machine) • Mirroring management and public key management • Disk encryption, node openness, and container monitoring • NCE-Campus-based container management

***Note: This feature is supported only in edge computing mode and edge computing & SD-WAN mode.**

Power Specifications

60 W power supply

Specification	Power Adapter
Power specifications	Power input (integrated high-voltage AC/DC): • 88 V DC to 300 V DC (industrial terminal) • 90 V AC to 264 V AC (industrial terminal) Power output: • 12 V DC (industrial terminal)
Power	60 W
Weight	0.9 kg
Dimensions (W x H x D)	40 mm x 150 mm x 133 mm (1.57 in. x 5.91 in. x 5.24 in.)
Storage temperature	–40°C to +85°C
Operating temperature	–40°C to +70°C
Installation mode	Installed on the DIN rail
Operating humidity	5% to 95% (non-condensing)

Ordering Information

Code	Ordering Information
Device	
AR502H-LTE4EA-V2	Router, AR502H-LTE4AU-V2 2*RS485(or 2*RS232),1*DI/DO,4*GE (10/100/1000M RJ45),2*10GE SFP+,1*LTE (dual SIM),1*USB2.0, GPS/GLONASS/Galileo/BDS,9.6-60VDC
AR502H-LTE4AU-V2	Router, AR502H-LTE4AU-V2 2*RS485(or 2*RS232),1*DI/DO,4*GE (10/100/1000M RJ45),2*10GE SFP+,1*LTE (dual SIM),1*USB2.0, GPS/GLONASS/Galileo/BDS,9.6-60VDC
AR502H-NRGL-V2	Router, AR502H-NRGL-V2 2*RS485(or 2*RS232),1*DI/DO,4*GE (10/100/1000M RJ45),2*10GE SFP+,1*5G (dual SIM),1*USB2.0, GPS/GLONASS/Galileo/BDS,9.6-60VDC
Power supply	
PAC60S12-AN	AC-DC Power, -40degC,70degC,90V,290V,12.2V/5A, PAC60S12-AN
5G Antennas	
ASMBF5G00	Omni-directional Antenna,698-960MHz/1710-2690MHz/3300-5000Mhz,2.0dBi(698-821MHz)&3dBi(824MHz-5000MHz),Vertical polarization,omnidirectional,5W,SMB-K,No bracket
A00NF5G00	Omni-directional Antenna,698MHz-960MHz/1710MHz-2700MHz/3400MHz~5000MHz,2dBi/3dBi/3dBi,linear polarization,Isotropic,20W,N/Female-4 Ports,with bracket,IP65
4G Antennas	
ASMAM0006	Omni-directional Antenna,698MHz-960MHz/1710MHz-2690MHz,1.0dBi(698MHz-960MHz)&3dBi(1710MHz-2690MHz),10W,SMA-J
GPS Antennas	
ASMAM0015	Omni-directional Antenna,1555~1610 MHz,38+/-2 dB,right-handed circular polarization,Omni-directional,N/Female,No rack
WM1NANTENN07	Omni-directional Antenna,1555~1610 MHz,38+/-2 dB,right-handed circular polarization,Omni-directional,N/Female,No rack
Installation materials	
DINRAIL002	metals,DKBA61542001.ASM,mounting base,machining

More Information

For more information, visit https://e.huawei.com/en/ or contact us in the following ways:

- Global service hotline: https://e.huawei.com/en/service-hotline-query
- Logging in to the Huawei Enterprise technical support website: https://support.huawei.com/enterprise/en/index.html
- Sending an email to the customer service mailbox: Support_e@huawei.com

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