HUAWEI AR509 Series
IoT Gateway Datasheet

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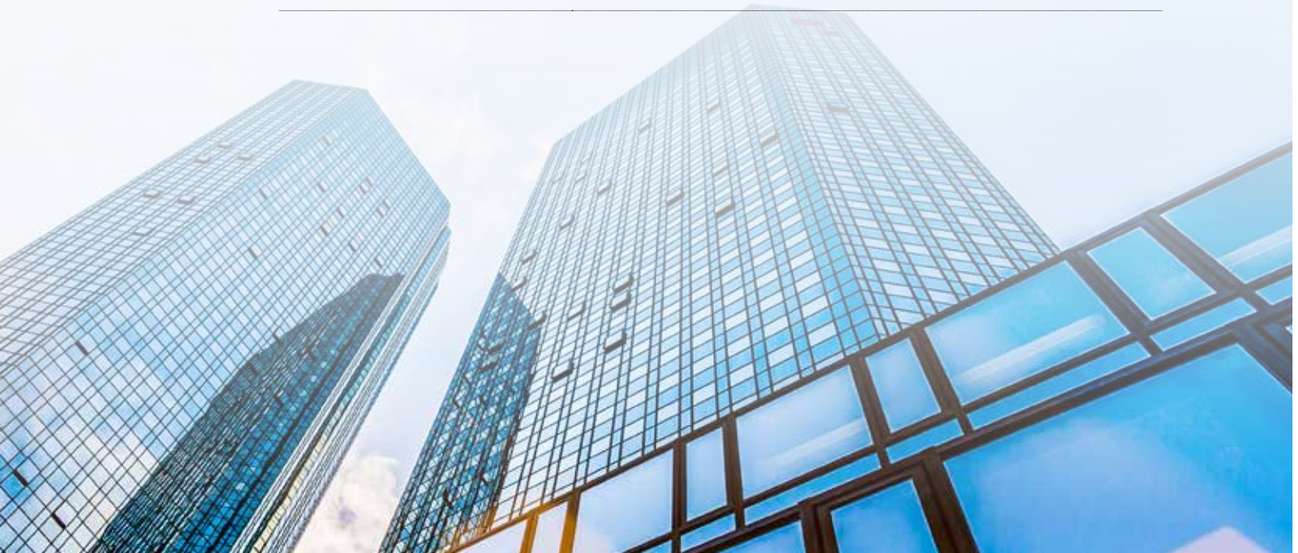
HUAWEI

Product Overview

HUAWEI AR509 series IoT gateway is designed to work in harsh environments. It provides a rapidly deployable, highly available, reliable, and secure solution into the Internet of Things (IoT) applications for finance, energy, and electric power industries, telemetry, retail, and other industrial automation scenarios.

The AR509 series is available in the models: AR509G-L-D-H, AR509GW-L-D-H, AR509CGW-L and AR509CG-Lc.

Model	Specification
 AR509G-L-D-H	• Fixed interface: 1xGE WAN , 4xGE LAN, 1xVDSL2 • FDD LTE (dual SIM slots) • IP41, Waterproof and dustproof • Dimensions (W x D x H): 190 x 220 x 44 mm
 AR509GW-L-D-H	• Fixed interface: 1xGE WAN , 4xGE LAN, 1xVDSL2 • FDD LTE (dual SIM slots) • 802.11a/b/g/n, dual-band AP, 2.4 GHz and 5 GHz, 2x2 MIMO • IP41, Waterproof and dustproof • Dimensions (W x D x H): 190 x 220 x 44 mm
 AR509CGW-L	• Fixed interface: 4xGE LAN • FDD LTE (dual SIM slots) • 802.11b/g/n • Dimension (W x D x H): 150 x 100 x 44 mm
 AR509CG-Lc	• Fixed interface: 4xGE LAN • LTE TDD, LTE FDD(dual Micro SIM slots) • Dimension (W x D x H): 150 x 100 x 44 mm



Key Features and Benefits

Better Service Experience with an Industrial-Grade Design

- Delivers harsh environment adaptability with all industrial-grade components.
- Uses a fan-less design and IP41 protection (dust- and water-proof).
- Works in wide ranges of temperature and humidity.

Flexible Networking, Secure, Reliable Services with High Performance

- Supports 4G LTE, 100 Mbps downlinks and 50 Mbps uplinks, 2G/3G evolution, and wireless backup through dual SIM slots.
- Provides various types of interfaces, such as 3G/LTE, GE
- Integrates the routing, switching, and security functions in one box.

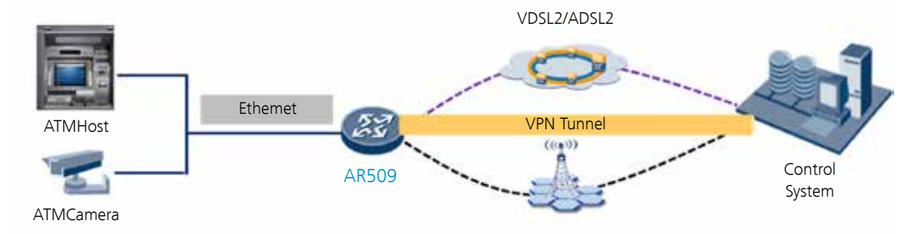
Easy Deployment, Convenient O&M

- Web-based visualized configuration and user-friendly UI
- Remote topology management and batch configuration and upgrade
- USB-based deployment and plug-and-play

Typical Applications

Self-service terminals and advertising board

The AR509 connects Automatic Teller Machines (ATMs) and advertising billboards with VDSL2/GE uplinks and LTE/3G backup or dual LTE/3G (main/standby) uplinks. With an industrial-grade design, AR509 can work in harsh environments with extremely high and low temperature, high humidity, and strong electromagnetic interference. It can also enhance data security with rich VPN functions.



Energy and electric power industries

The AR509 connects Romote Terminal Units (RTUs), wind power plants, and solar panels, and transmits data provided by gas, oil, and water distribution networks.

Outdoor video surveillance backhaul

The AR509 connects IP cameras and supports VDSL2, GE or LTE backhaul to the surveillance center.

Product Specifications

The following table lists the specifications of the AR509.

Specifications	AR509G-L-D-H	AR509GW-L-D-H	AR509CGW-L	AR509CG-Lc
Hardware Specifications				
Ethernet	4xGE RJ45 LAN + 1xGE RJ45 WAN		4xGE RJ45 LAN	4xGE RJ45 LAN (can be configured as WAN interfaces)
VDSL2	1 Pair (ITUT G.993.5, G.993.2 over POTS/over ISDN, ADSL2+ compatible Annex A/B. Support Vectoring)		-	-
LTE	LTE FDD: Band 1/2/3/4/5/7/8/20 WCDMA/HSDPA/HSUPA/HSPA+: Band 1/2/5/8 GSM/GPRS/EDGE: 850/900/1800/1900 MHz		LTE FDD: Band 1/2/3/4/5/7/8/20 WCDMA/HSDPA/ HSUPA/HSPA+: Band 1/2/5/8 GSM/GPRS/EDGE: 850/900/1800/1900 MHz	FDD LTE: Band 1/3/8 TDD LTE: Band 38/39/40/41 UMTS: Band 1/5/8/9 TD-SCDMA: Band 34/39 GSM/GPRS/EDGE: 900/1800 MHz
LTE antenna	2 Antennas (SMA), which support a 3m antenna extension cable			2 Antennas
WLAN	-	802.11a/b/g/n Dual-band, 2.4GHz+5GHz	802.11b/g/n*	-
SIM slot	Dual SIM slots, main/backup		Dual Micro SIM slots, main/backup	Dual Micro SIM slots, main/backup
USB 2.0	1		1	1
Power supply	12 V DC		8~36 V DC	8~36 V DC
High-voltage power supply	External industrial power adapter: • 90 to 264 V AC(terminal block) • 88 to 300 V DC (terminal block) • –40°C to +70°C External plug-type power adapter: • 90 V AC to 270 V AC • –5°C to +45°C		External industrial power adapter: • 90 to 264 V AC(terminal block) • 88 to 300 V DC (terminal block) • –40°C to +70°C External plug-type power adapter: • 90 V AC to 270 V AC • –5°C to +45°C	External industrial power adapter: • 90 to 264 V AC(terminal block) • 88 to 300 V DC (terminal block) • –40° C to +70° C • External plug-type power adapter: • 90 V AC to 270 V AC • –5° C to +45° C
Memory	512 MB		256 MB	256 MB
Flash memory	512 MB		512 MB	512 MB
Typical power consumption	9.3 W	12 W	6.93 W	10W
Dimensions (W x D x H)	190 mm x 220 mm x 44 mm (without antennas)		150 mm x 100 mm x 44 mm	150 mm x 100 mm x 44 mm
Operating temperature	–25°C to +60°C (–35°C to 70°C, 24-hour)		–25°C to +70°C	–25°C to +70°C

Specifications	AR509G-L-D-H AR509GW-L-D-H	AR509CGW-L	AR509CG-Lc
Storage temperature	–40°C to +85°C	–40°C to +85°C	–40°C to +85°C
Relative humidity	5% to 95% RH (non-condensing)	5% to 95% RH (non-condensing)	5% to 95% RH (non-condensing)
IP grade	IP41	IP30	IP30
Installation	Wall-mounted or horizontally	Wall mounted (Mounting brackets is included by default) DIN-Rail mounted (DIN mounting kit is optional)	Wall mounted (Mounting brackets is included by default) DIN-Rail mounted (DIN mounting kit is optional)
EMC	EN55022 (RE&CE): LASS A IEC61000-4-2(ESD): ± 6 kV contact discharge level B, ± 8 kV air discharge Level B IEC61000-4-3(RS): 10V/m, 80M-2700 MHz Level A IEC61000-4-4(EFT): Power cable, ± 2 kV Level B; data cable, ± 1 kV Level B IEC61000-4-5(Surge): Power DM 2 kV, CM4 kV; Data 4 KV; Criteria B IEC61000-4-6(Conducted Disturbances Immunity): Data cable: 0.15 MHz-80 MHz, 3 V, Criteria A Power cable: 0.15 MHz-80 MHz, 10 V, Criteria A IEC61000-4-11(DIP)	ETSI EN 300 386 V1.6.1(2012-09) EN 55022:2010 CLASS A EN 55024:2010 CISPR22:2010 CISPR24:2010 EN 301 489-1 V1.9.2(2011-09) EN 301 489-17 V2.2.1(2012-09) IEC61850-3 (2013) IEEE1613 (2009) EN61000-4-2:2009 EN61000-4-3:2006 + A1:2008 + A2:2010 EN61000-4-4:2012 EN61000-4-5:2014 EN61000-4-6:2014 EN61000-4-8:2010 EN61000-4-10:1993 + A1:2001 EN61000-4-11:2004 EN61000-4-16:1998 + A1:2004 + A2:2011 EN61000-4-17:2002 EN61000-4-18:2007 + A1:2010 EN61000-4-29:2000	ETSI EN 300 386 V1.6.1(2012-09) EN 55022:2010 CLASS A EN 55024:2010 CISPR22:2010 CISPR24:2010 EN 301 489-1 V1.9.2(2011-09) EN 301 489-17 V2.2.1(2012-09) IEC61850-3 (2013) IEEE1613 (2009) EN61000-4-2:2009 EN61000-4-3:2006 + A1:2008 + A2:2010 EN61000-4-4:2012 EN61000-4-5:2014 EN61000-4-6:2014 EN61000-4-8:2010 EN61000-4-10:1993 + A1:2001 EN61000-4-11:2004 EN61000-4-16:1998 + A1:2004 + A2:2011 EN61000-4-17:2002 EN61000-4-18:2007 + A1:2010 EN61000-4-29:2000
Safety compliance	IEC 60950-1, UL 60950-1, EN 60950-1, GB4943	IEC60950-1:2005(Second Edition) + A 1:2009 + A 2 :2013	IEC60950-1:2005(Second Edition) + A 1:2009 + A 2 :2013
Software Specifications			
Basic features	DHCP server/client, PPPoE server/client, PPPoA server/client, PPPoEoA server/client, NAT, sub interface management		
LAN	IEEE 802.1P, IEEE 802.1Q, IEEE 802.3, VLAN management, MAC address management, MSTP	IEEE 802.1P, IEEE 802.1Q, IEEE 802.3, VLAN management, MAC address management	

Specifications	AR509G-L-D-H AR509GW-L-D-H	AR509CGW-L	AR509CG-Lc
Unicast routing	Static IPv4/IPv6 route, RIP, OSPF, RIPng, OSPFv3,BGP, BGP4+	Static IPv4/IPv6 route, RIP, RIPng,BGP, BGP4+	Static IPv4/IPv6 route, RIP, RIPng, BGP, BGP4+
Multicast	IGMP v1/2/3, PIM SM, PIM DM, MSDP	-	-
VPN	IPSec VPN, GRE VPN, DSVPN,L2TP Client VPN	IPSec VPN, GRE VPN, L2TP Client VPN	IPSec VPN, GRE VPN, L2TP Client VPN
QoS	Diffserv mode, priority mapping, traffic policing (CAR), traffic shaping, congestion avoidance (based on IP precedence/DSCP WRED), congestion management (LAN interface: SP/WRR/SP+WRR; WAN interface: PQ/CBWFQ), MQC (traffic classification, traffic behavior, and traffic policy), Hierarchical QoS (HQoS), Smart Application Control (SAC)	Diffserv mode, priority mapping, traffic policing (CAR), traffic shaping, congestion avoidance (based on IP precedence/DSCP WRED), congestion management (LAN interface: SP/WRR/SP+WRR; WAN interface: PQ/CBWFQ), MQC (traffic classification, traffic behavior, and traffic policy), Hierarchical QoS (HQoS)	
Security	ACL, firewall, 802.1x authentication, AAA authentication, RADIUS authentication, HWTACACS authentication, broadcast storm suppression, ARP security, ICMP attack defense, URPF, CPCAR, blacklist, IP source tracing	ACL, firewall, 802.1x authentication, AAA authentication, RADIUS authentication, HWTACACS authentication, broadcast storm suppression, CPCAR, blacklist, IP source tracing	ACL, firewall, 802.1x authentication, AAA authentication, RADIUS authentication, HWTACACS authentication, broadcast storm suppression, CPCAR, blacklist, IP source tracing
Management and maintenance	Upgrade management, device management, web-based GUI, GTL, SNMP(v1/v2c/v3), RMON, NTP, CWMP, Auto-Config, site deployment using USB disk, CLI, SSH (v1/v2)	Upgrade management, device management, web-based GUI, GTL, SNMP(v1/v2c/v3), NTP, Auto-Config, site deployment using USB disk, CLI, SSH (v1/v2)	Upgrade management, device management, web-based GUI, GTL, SNMP(v1/v2c/v3), NTP, Auto-Config, site deployment using USB disk, CLI, SSH (v1/v2)

Device Selection

Device model

Select the device model based on the interface type and service requirements.

Accessories

Configure the types and quantity of the industrial power adapters based on site environments.

Ordering Information

Ordering Information
Device model
AR509G-L-D-H (1xGE WAN,1xVDSL2 WAN,4xGE LAN,1xLTE, 12 V DC power supply)
AR509GW-L-D-H (1xGE WAN,1xVDSL2 WAN,4xGE LAN,WIFI 2.4G+5G,1xLTE, 12 V DC power supply)
AR509CGW-L (1xRS232,4xGE LAN,WIFI, 1xLTE,8~36VDC power supply)
AR509CG-Lc (1xRS232, 4xGE LAN, 1xLTE, 8~36 V DC power supply)
Accessories-power supply
Industrial 60 W power adapter, 12V AC/DC to DC, DIN rail, 88 V to 300 V DC, and 90 V to 264 V AC, –40°C to +70°C
24 W power adapter, 12 V AC to DC, 90 V DC to 270 V DC , –5°C to +45°C
Accessories-installation kit
LTE extended antenna
Accessories-storage device
USB flash drive (4 GB, USB 2.0)

For more information, visit http://e.huawei.com/en or contact your local Huawei sales office.