





Huawei AR550 Series IoT Gateway Datasheet

Product Overview

AR550 series industrial IoT gateway are specially designed for network communication in challenging environments such as extreme temperature, high humidity, and electromagnetic interference. The AR550 series integrates routing, switching, IPSec VPN, and other functions, provides powerful application scalability, and widely applies to various industrial automation fields, such as electric power automation automation.

The AR550 series is available in the models: AR550C-4GE and AR550C-2C6GE.

 <p>AR550C-4GE</p>	<ul style="list-style-type: none"> ● Fixed interfaces: 2 x 2.5G SFP(compatible with GE), 4 x GE RJ45, 1 x USB2.0, 1 x DI, 1 x DO ● Working temperature: -40°C to $+70^{\circ}\text{C}$ ● Dimensions (W x D x H): 44 mm x 133 mm x 150 mm ● Redundant power supplies: 9.6V to 60V DC
 <p>AR550C-2C6GE</p>	<ul style="list-style-type: none"> ● Fixed interfaces: 2 x 2.5G SFP(compatible with GE), 2 x GE combo, 6 x GE RJ45, 1 x RS485, 1 x USB2.0, 1 x DI, 1 x DO ● Working temperature: -40°C to $+70^{\circ}\text{C}$ ● Dimensions (W x D x H): 44 mm x 133 mm x 150 mm ● Redundant power supplies: 9.6V to 60V DC

Key Features and Benefits

Industrial Design, Premium Quality

- Adopts a fan-free design and works in a wide temperature range of -40°C to $+70^{\circ}\text{C}$.
- Works properly in environments with strong electromagnetic interference and complies with IEEE1613 standards.
- Complies with environment standards of substations: IEC61850-3/IEEE1613.
- Supports a Mean Time Between Failures (MTBF) of more than 50 years.
- Supports dual-input DC power supply, DO (Digit Output) alarm relays.

Flexible Networking, Secure and Reliable Services

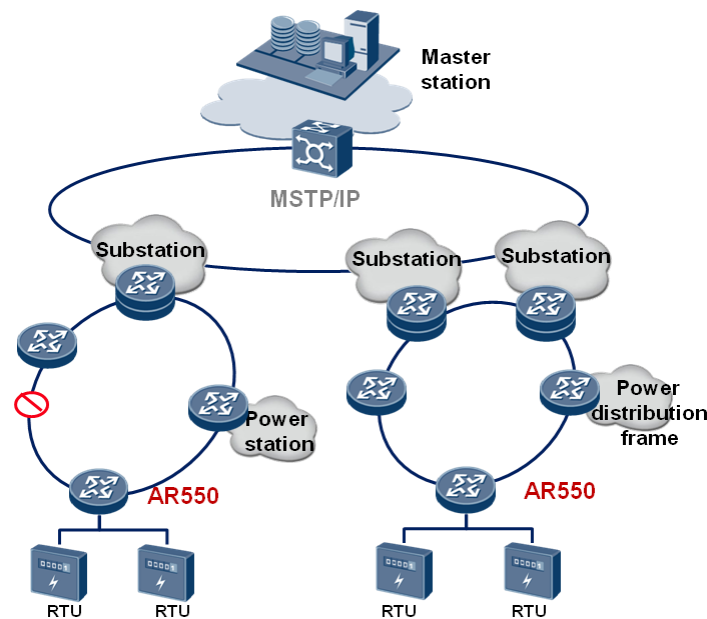
- Supports various networking modes, such as closed ring, open ring, multi-ring, and dual-ring.
- Supports Smart Ethernet Protection (SEP), which can implement fast protection switching.
- Uses multiple technologies to guarantee data security, such as IPsec VPN data encryption, 802.1x, and port locking.

Easy Deployment, Convenient O&M

- Web-based visualized configuration and user-friendly UI.
- Remote topology management and batch configuration or upgrade.
- USB-based deployment and plug-and-play.
- One-click configuration backup and simplified device replacement.

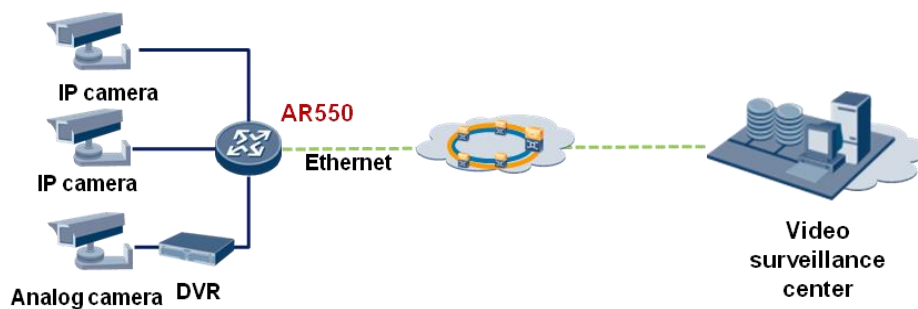
Typical Applications

Electric Power



The AR550 supports the SEP protocol to ensure highly reliable network communication by implementing fast protection switching. It complies with IEEE1613 and IEC61850-3 substation environment standards and can be used in power distribution automation and automatic substation access scenarios, boosting digital and smart development of the electric power industry.

Video Backhaul



Video surveillance is popular in various industries. Different access conditions pose higher requirements on the installation space and mode, operating temperature and humidity of video backhaul devices. The AR550 uses a compact design and has a

small size. It can be installed on guide rails and supports a wide operating temperature, meeting outdoor video backhauling requirements in harsh environments.

Ethernet Access in Other Industries or Harsh Environments

The industrial Ethernet is one major component of the industrial control field. Huawei AR550 adopts an industrial design and integrates abundant features, such as routing and IPSec VPN. It can be widely used for industrial Ethernet access in harsh environments, such as high temperature, low temperature, and strong electromagnetic interference. Additional, it provides end-to-end security guarantee for production data transmission.

Product Specifications

The following table lists the specifications of the AR550.

Item	AR550C-4GE	AR550C-2C6GE
System parameters		
Processor	Dual-core, 700 MHz	Dual-core, 700 MHz
Fixed Ethernet interfaces	2 x 2.5G SFP(Compatible with GE), 4 x GE RJ45	2 x 2.5G SFP(Compatible with GE), 2 x GE combo, 6 x GE RJ45
Fixed Serial	—	1 x RS485
Alarm Relay interface	1 DI 1 DO (terminal block, support Normal Open and Normal Closed)	
USB 2.0	1	
Serial auxiliary/ console interface	1	
Layer 2 forwarding performance	Up to 13.5 Mpps	Up to 19.5 Mpps
Switching capacity	Up to 128Gbps	
DRAM memory	256 MB	
Flash memory	512 MB	
Dimensions and weight		
Dimensions (W x D x H)	44 mm x 133 mm x 150 mm (1.73 in. x 5.24 in. x 5.91 in.)	
Weight	1.5 kg (3.31 lb)	1.1 kg (2.43 lb)
Rack height	1U	
Installation	Installation on a DIN rail	
Power specifications		
DC power input	<ul style="list-style-type: none"> ● Rated voltage: 12 V to 48 V ● Maximum voltage range: 9.6 V to 60 V 	
DO attributes	<ul style="list-style-type: none"> ● Input withstand voltage: 60 V DC ● Current rating: 1.0 A 	
DI attributes	Rated voltage: 9.6 V DC to 60 V DC	

Item	AR550C-4GE	AR550C-2C6GE
PoE power input	—	Rated voltage range: 54 V DC to 57 V DC
Typical power consumption	13W	14W
Environment parameters		
Storage temperature	-40°C to +85°C	
Operating temperature	-40°C to +70°C The device is tested for 2 hours at temperatures in the range of +70°C to +85°C.	
Operating humidity	5% to 95% RH (non-condensing)	
Operating altitude	≤ 5000 m (16404 ft.)	
IP protection Rating	IP40	
Safety and Regulatory Standards		
Certification standards compliance	CB (IEC 60950) NRTL(UL60950-1) EU CE (EN 55022, EN 55024, and EN 300386) USA FCC (47CFR Part 15) Canada IC (ICES-003) Australia C-Tick (AS/NZS CIPSR22) Electric power IEC61850-3/IEEE1613 (substation)	
EMC	FCC 47 CFR PART15, CLASS A EN55022, CLASS A VCCI, CLASS A AS/NZS CIPAR 22 CLASS A, AN/NZS CISPR 24 ICES 003 CLASS A CE C-TICK (Australia) ETSI EN 300386 IEC61000-4-2 (ESD): ±8 kV contact discharge, ±15 kV air discharge IEC61000-4-3 (RS): 20 V/m, 80 MHz-2700 MHz IEC61000-4-4 (EFT): Power cable: ±4 kV; data cable: ±4 kV IEC61000-4-5 (Surge): Power cable: ±4 kV (CM)/±2 kV (DM); data cable: ±4 kV IEC61000-4-6 (Conducted Disturbances Immunity) IEC61000-4-8 (Power Frequency Magnetic Field Immunity) IEC61000-4-9 (Pulse Magnetic Field Immunity) IEC61000-4-10 (Damped Oscillatory Magnetic Field Immunity)	
Safety	UL 60950-1 EN 60950-1 IEC 60950-1 BS EN 60950-1 CSA C22.2 No 60950-1 AS/NZS 60950.1 IS 13252	

Item	AR550C-4GE	AR550C-2C6GE
Warranty	5 years	
Software Specifications		
LAN functions	IEEE 802.1P, IEEE 802.1Q, and IEEE 802.3, VLAN, Static MAC address, dynamic MAC address, MAC address learning restriction, MAC address flapping prevention, Port aggregation and LACP, LLDP	
IP Applications	ARP, DHCP, DNS IPv6 ND NQA	
Ring network protocol	SEP STP, RSTP, and MSTP	
Unicast	Static routing, RIP, BGP, RIPng, BGP4+	
Multicast	IGMP Snooping, MLD Snooping	
VPN	IPSec VPN, IKEv1, and IKEv2, GRE VPN	
Quality of Service (QoS)	DiffServ mode, priority mapping, CAR, traffic shaping, congestion avoidance and congestion management, and HQoS Modular QoS (traffic class, traffic behavior, and traffic policy)	
Security	Access Control List (ACL), 802.1X authentication, MAC address authentication, AAA and RADIUS authentication and HWTACACS authentication, ARP security and ICMP attack defense, URPF, CPCAR, blacklist, and attack source tracing, PKI	
Reliability	BFD, Ethernet OAM	
Management and maintenance	CLI, web NMS, SNMP (v1/v2c/v3), NTP, and USB-based deployment	

This content is applicable only to regions outside mainland China.

Power Supply Modules

AC power adapter



The PAC-60WB is used as AC power adapter for AR550.

Specification	Power Adapter
Power parameters	<p>Power input (high-voltage AC/DC):</p> <ul style="list-style-type: none"> 88 V to 300 V DC (terminal block) 90 V to 264 V AC (terminal block) <p>Power output:</p> <ul style="list-style-type: none"> 12 V DC (terminal block)
Weight	0.9 Kg
Dimensions (W x D x H)	40 * 133 * 150mm
Storage temperature	-40°C to +85°C
Installation mode	Installation on a DIN rail
Operating temperature	-40°C to +70°C
Operating humidity	5% to 95% (non-condensing)

240W PoE Power Supply

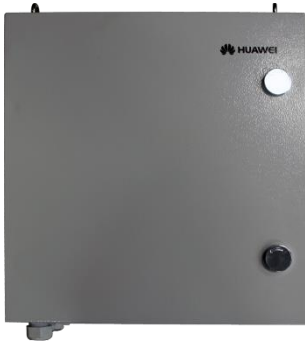


The PAC240S56-CN is used as AC PoE power adapter for AR550C-2C6GE.

Specification	PoE Power Adapter
Power parameters	<p>One Power input:</p> <ul style="list-style-type: none"> 77 V to 300 V DC (terminal block) 90 V to 290 V AC (terminal block) <p>Four Power outputs:</p> <ul style="list-style-type: none"> 56 V DC (terminal block)
Weight	1.47 Kg
Dimensions (W x D x H)	65 * 133 * 150mm
Storage temperature	-40°C to +85°C
Installation mode	Installation on a DIN rail

Specification	PoE Power Adapter
Operating temperature	-40°C to +70°C
Operating humidity	5% to 95% (non-condensing)

Outdoor Distribution Cabinet



F01A109 is outdoor low-voltage distribution cabinet for AR550. Power distribution cabinet is equipped with one 60W open frame power supply, one-circuit 220VAC/10A/2P miniature circuit breaker for input, one power lightning arrester and two four-port anti-lightning boards, which provide safe and reliable protection for the entire distribution and communication system.

Specifications	F01A109
Dimension(W*D*H)	380*250*400mm
Internal DIN-rail width	150mm
Weight	30 kg
Operating temperature	-40°C~50°C
Operating humidity	5%-95% no condensation
Heat dissipation	Fan-less
IP protection Rating	IP55
Installation mode	Wall-Mount, Pole-Mount

Configuration

Before selecting the AR550, determine the device model, software configuration, and accessories.

- Device model

Select the device model according to the interface type and service requirements.

- Software

AR550 software is classified into basic software and the advanced routing value-added service package. The basic software contains basic features, including Layer 2 switching, device management, and static routes. The value-added service package contains Layer 3 dynamic routing, VPN, and other advanced features.

- Accessories

Configure the types and quantity of the industrial 60 W power adapters, optical modules, and cables according to site environments.


Ordering Information

Model	Ordering Information
Device model	AR550C-4GE (2 x 2.5G SFP(Compatible with GE), 4 x GE, 1 x USB2.0, 1 x DI and 1 x DO)
	AR550C-2C6GE (2 x 2.5G SFP(Compatible with GE), 2 x GE combo(POE+), 2 x GE RJ45(POE++), 4 x GE(POE+), 1 x USB2.0, 1 x RS485, 1 x DI and 1 x DO)
Accessories - power supply, cables and Cabinet	Industrial 60 W power supply, 12 V AC/DC to DC, DIN rail, 88 V to 300 V DC, and 90 V to 264 V AC
	Industrial 240 W PoE power supply, AC/DC to DC 56 V, DIN rail, 77 V to 300 V DC, and 90 V to 290 V AC
	Power Distribution Cabinet, F01A109, 220V, 1PH, 50Hz, 2A
Accessories - storage device	USB flash drive (USB Flash Disk,72mmX21.9mmX13mm,16GB,USB2.0,Alcor Micro MCU)
Accessories - industrial optical module	eSFP optical module (FE, single-mode, 1310 nm, 15 km, LC)
	eSFP optical module (GE, single-mode, 1310 nm, 10 km, LC)
	eSFP optical module (GE, single-mode, 1310 nm, 40 km, LC)
	eSFP optical module (GE, multimode, 850 nm, 0.55 km, LC)

Copyright © Huawei Technologies Co., Ltd. 2019. All rights reserved.

No part of this document may be reproduced or transmitted in any form or by any means without prior written consent of Huawei Technologies Co., Ltd.

Trademarks and Permissions

 HUAWEI and other Huawei trademarks are trademarks of Huawei Technologies Co., Ltd.

All other trademarks and trade names mentioned in this document are the property of their respective holders.

Notice

The purchased products, services and features are stipulated by the contract made between Huawei and the customer. All or part of the products, services and features described in this document may not be within the purchase scope or the usage scope. Unless otherwise specified in the contract, all statements, information, and recommendations in this document are provided "AS IS" without warranties, guarantees or representations of any kind, either express or implied.

The information in this document is subject to change without notice. Every effort has been made in the preparation of this document to ensure accuracy of the contents, but all statements, information, and recommendations in this document do not constitute a warranty of any kind, express or implied.

Huawei Technologies Co., Ltd.

Address: Huawei Industrial Base

Bantian, Longgang Shenzhen 518129

People's Republic of China

Website: e.huawei.com