

# RG-NIS3100 Series True Industrial-Grade Specilized for Harsh Environments

DATASHEET



## Highlights

- Three Different Models Meet Various Business Scenario Needs
- Unique Industrial Design Ensures Stable Operation in -40°C to 80°C
- 8 kV Protection: The Shield Against Voltage Spike
- IP40 Against 1mm Intruders in Dusty Conditions
- ERPS Plug-and-Play, without Complicated Configuration
- Local Network SON, Easy Configuration even without Cloud
- Ruijie Cloud : Easy Management even in Harsh Environments

## Highlight Features

RG-NIS3100 Series Industrial Switch

# True Industrial-Grade Specilized for Harsh Environments



## Three Different Models Meet Various Business Scenario Needs



12-56V DC  
Power Supply



STP/ RSTP/  
SNMP/ ERPS<sup>1</sup>



8kV ESD  
Protection



-40°C to +80°C  
Operating Temperature<sup>2</sup>



<sup>1</sup> Release in November 2023  
<sup>2</sup> Installed in a fume hood with a blower, velocity no less than 400 LFM

RG-NIS3100-4GT2SFP-HP

4 PoE+ 2SFP

RG-NIS3100-8GT2SFP-HP

8 PoE+ 2SFP

RG-NIS3100-8GT4SFP-HP

8 PoE+ 4SFP

# Highlight Features

## A Must-Have for Coastal Areas

Conquer salt spray corrosion



## Stay Cool, Stay Connected

Unique industrial design ensures stable operation in -40°C to 80°C



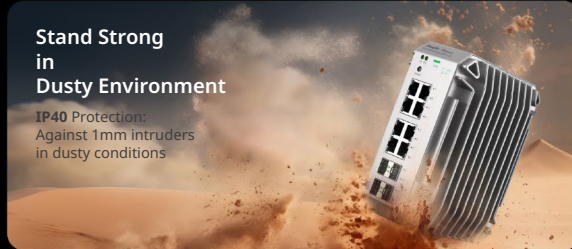
## 8 kV Protection

The shield against voltage spike



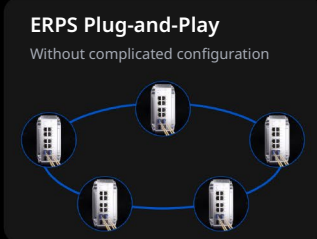
## Stand Strong in Dusty Environment

IP40 Protection: Against 1mm intruders in dusty conditions



## ERPS Plug-and-Play

Without complicated configuration



## Local Network SON

Easy configuration even without cloud



## Tough Environments, Easy Management

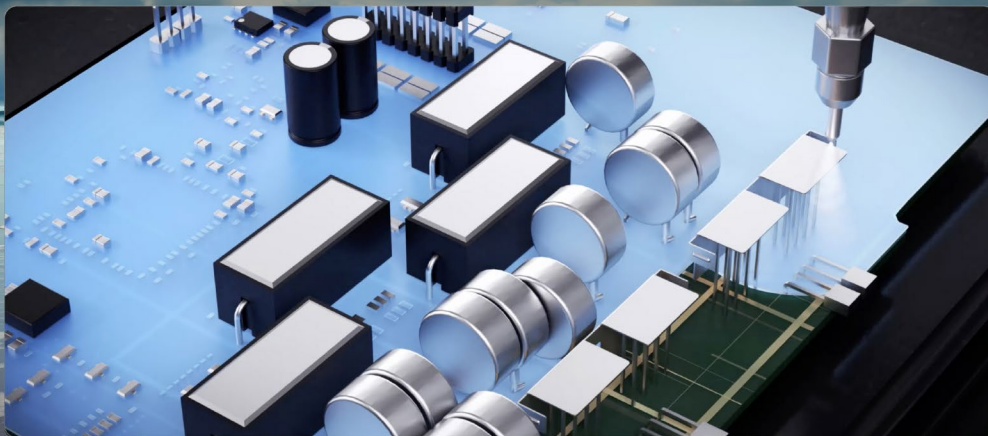
Ruijie Cloud: Easy management anytime anywhere



# A Must-Have for Coastal Areas Conquer Salt Spray Corrosion

## 50-um Conformal Coating on PCB Boards

A precisely applied 50-um coating effectively isolates against salt spray, maintaining equipment thermal performance and conductivity.



## Highlight Features



### Enhanced Gold Plating Ports

Gold plating thickness on ports from 3 -um to 15 -um against salt spray corrosion.



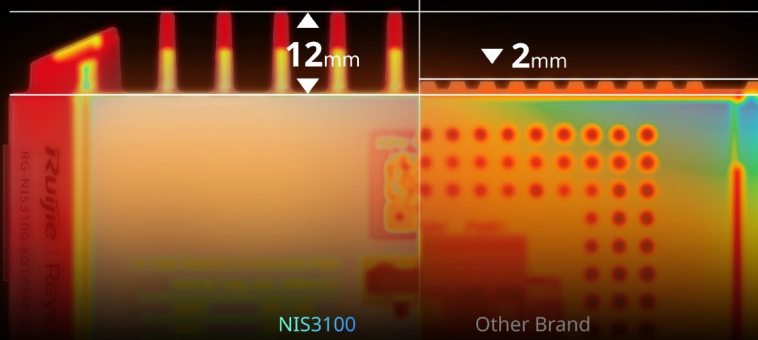
### Specialized Outdoor Powder Coating

Preventing equipment surface damage from salt spray erosion.

## Unique Industrial Design Ensures Stable Operation in -40°C to 80°C

Double Heat Dissipation Surface

**126.85%**  
larger surface area

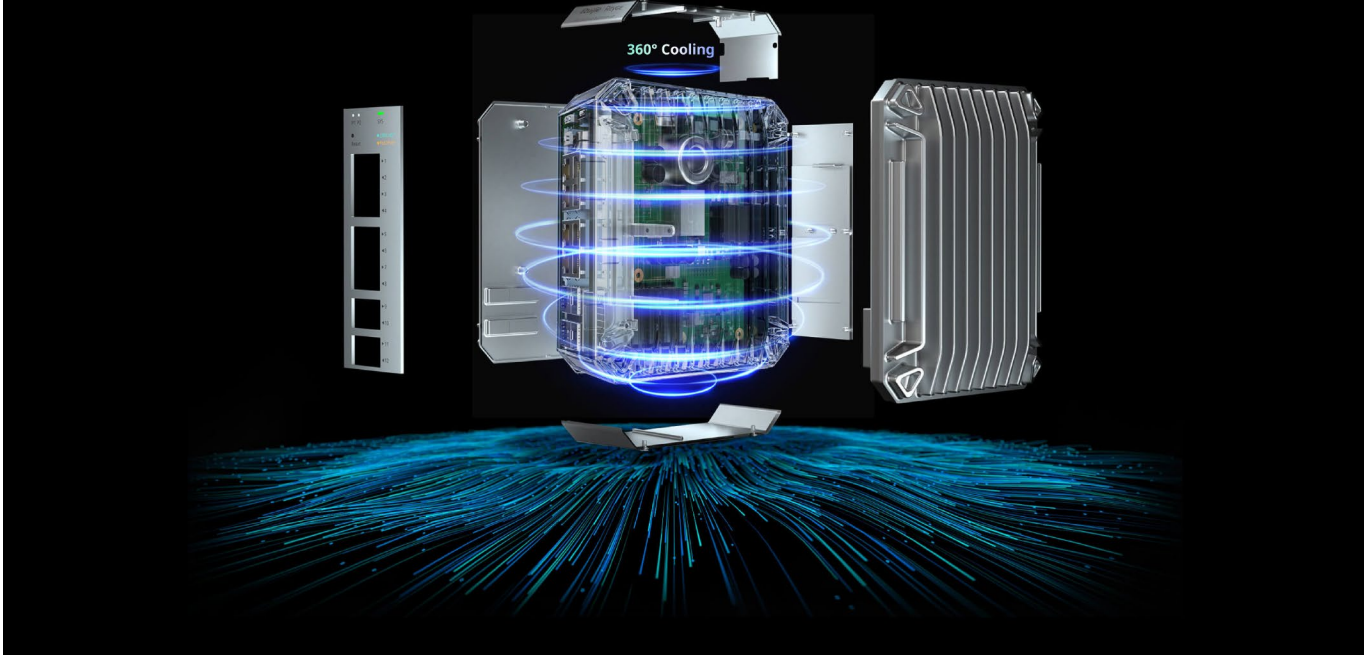




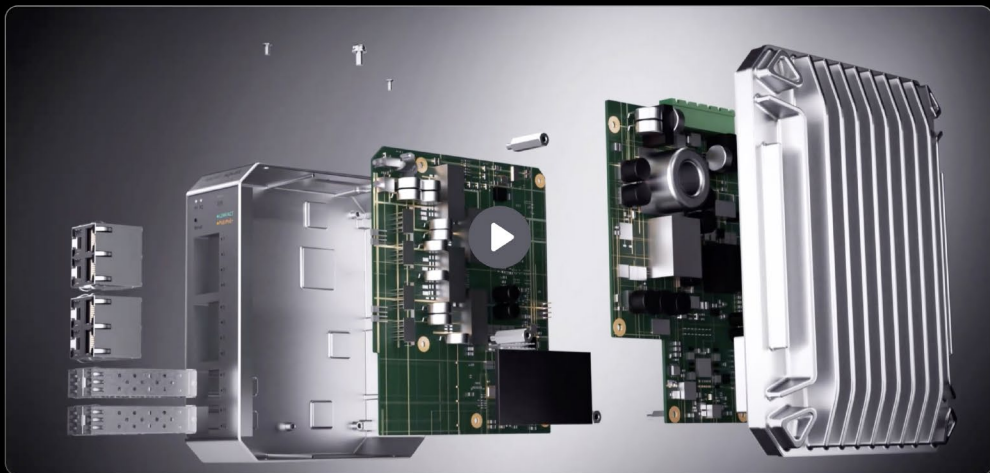
# Highlight Features

## Full Aluminum Alloy Enclosure

Aluminum(Al)  
thermal conductivity of **237** W/(m·K)



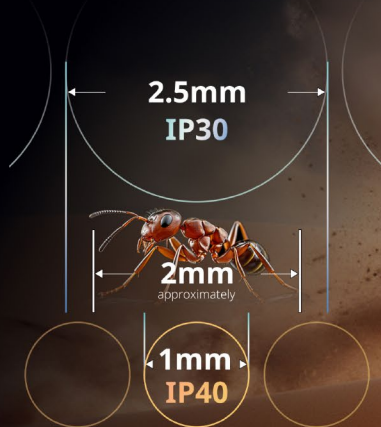
## True Industrial-Grade Chips



## Highlight Features

### Stand Strong in Dusty Environment

IP40 Protection:  
Against 1mm intruders in sandstorm conditions



### High kV Protection: The Shield Against Voltage Spike

6kV Surge Protection

8kV ESD Protection<sup>3</sup>



### ERPS Plug-and-Play

Without complicated configuration



## Highlight Features

# LAN Self-Organizing Network

Skip individual configurations, simplify setup



# Ruijie Cloud: Distance No Barrier

Easily manage devices remotely anytime, anywhere





# Highlight Features

## Power Supply

	12v DC Input	24v DC Input	48v DC Input	Overall Power Consumption	Power Supply
 RG-NIS3100-8GT4SFP-HP	60w PoE Power Budget	120w PoE Power Budget	240w PoE Power Budget	260w	 RG-NIS-PA240-48
 RG-NIS3100-8GT2SFP-HP	60w PoE Power Budget	120w PoE Power Budget	240w PoE Power Budget	260w	 RG-NIS-PA240-48
 RG-NIS3100-4GT2SFP-HP	60w PoE Power Budget	120w PoE Power Budget	120w PoE Power Budget	132w	 RG-NIS-PA120-48





# Specifications

## Basic

Specification	NIS3100-8GT4SFP-HP	NIS3100-8GT2SFP-HP	NIS3100-4GT2SFP-HP
10/100/1000Base-T ports	8	8	4
SFP ports	4	2	2
PoE/PoE+ ports	8	8	4
Max. PoE budget	240W	240W	120W
PoE Power Output	Per port 56V DC, max 30 watts	Per port 56V DC, max 30 watts	Per port 56V DC, max 30 watts
Power Pin Assignment	1/2(+), 3/6(-)	1/2(+), 3/6(-)	1/2(+), 3/6(-)
PoE Power Budget	60W (Input: 12V-20V) 120W (Input: 21V-45V) 240W (Input: 46V-56V)	60W (Input: 12V-20V) 120W (Input: 21V-45V) 240W (Input: 46V-56V)	60W (Input: 12V-20V) 120W (Input: 21V-45V) 120W (Input: 46V-56V)
Extend Mode	250 meters	250 meters	250 meters
Layer Type	Layer 2	Layer 2	Layer 2
Switching capacity	24Gbps	20Gbps	12Gbps
Forwarding rate	17.85Mpps	14.88Mpps	8.92Mpps
Packet Buffer	4.1 Mbit	4.1 Mbit	4.1 Mbit
SDRAM	256MB	256MB	256MB
MAC address table	8,000	8,000	8,000
Maximum VLAN Support	4094	4094	4094
Dimensions (W x D x H)	85*132*165	85*132*165	85*132*165
Weight (With package)	1.93kg	1.91kg	1.86kg
MTBF	250,000 Hours	250,000 Hours	250,000 Hours
Warranty	5 Years	5 Years	5 Years

## Layer 2 Features

Jumbo Frame	9216	9216	9216
Flow Control	✓	✓	✓
STP (IEEE 802.1d)	✓	✓	✓

# Specifications

Layer 2 Features			
Specification	NIS3100-8GT4SFP-HP	NIS3100-8GT2SFP-HP	NIS3100-4GT2SFP-HP
RSTP (IEEE 802.1w)	✓	✓	✓
Port Fast	✓	✓	✓
BPDU Guard	✓	✓	✓
Errdisable Recovery	✓	✓	✓
Link Aggregation	✓	✓	✓
Max. Aggregation Group	8	8	8
Max. Member per Group	8	8	8
Unknow Unicast Storm Suppression	✓	✓	✓
Multicast / Broadcast Storm Suppression	✓	✓	✓
Many-to-One Mirroring	✓	✓	✓
VLAN Range	1-4094	1-4094	1-4094
Port-based VLAN	✓	✓	✓
Voice VLAN	✓	✓	✓
RLDP	✓	✓	✓
LLDP / LLDP-MED	✓	✓	✓
Cable Testing	✓	✓	✓
IGMP Snooping v1/v2/v3	✓	✓	✓
Software Features			
ERPS*	✓	✓	✓
Ping	✓	✓	✓
Traceroute	✓	✓	✓
ACL Entries	1200	1200	1200
IP Standard ACL	✓	✓	✓

# Specifications

## Software Features

Specification	NIS3100-8GT4SFP-HP	NIS3100-8GT2SFP-HP	NIS3100-4GT2SFP-HP
MAC-based Extended ACL	✓	✓	✓
IP-based Extended ACL	✓	✓	✓
Port-based Rate Limit (Ingress/Egress)	✓	✓	✓
SNMP v1/v2c/v3	✓	✓	✓
Web Management	✓	✓	✓
Management IP	10.44.77.200	10.44.77.200	10.44.77.200
HTTP/HTTPS	✓	✓	✓
Cloud Management	✓	✓	✓
APP Management	✓	✓	✓
SON (Self-Organizing Network) with IP	✓	✓	✓
Camera Recognition	✓	✓	✓
Loop Prevention	✓	✓	✓
Loop Notification	✓	✓	✓
PoE Usage Alarm	✓	✓	✓
Protection Port	✓	✓	✓
IP Source Guard	✓	✓	✓
Anti-ARP Spoofing	✓	✓	✓
DHCP Snooping	✓	✓	✓
DHCP Client	✓	✓	✓
AAA	✓	✓	✓
802.1x	✓	✓	✓
watchdog	✓	✓	✓



# Specifications

## Software Features

Specification	NIS3100-8GT4SFP-HP	NIS3100-8GT2SFP-HP	NIS3100-4GT2SFP-HP
DDM (Digital diagnostics monitoring)	✓	✓	✓

## Physical Features

Flash Memory	16MB	16MB	16MB
Reset Button	<2 sec: System reboot >5 sec: Factory default	<2 sec: System reboot >5 sec: Factory default	<2 sec: System reboot >5 sec: Factory default
Cable Hot-swappable	✓	✓	✓
Power Requirements	Dual 12-56V DC	Dual 12-56V DC	Dual 12-56V DC
Power Supplies	Rated voltage range: 12-56V Rated current:7A	Rated voltage range: 12-56V Rated current:7A	Rated voltage range: 12-56V Rated current:7A
Power Consumption	No PoE load:20W PoE load: 80W (Input: 12V-20V) 140W (Input: 21V-45V) 260W (Input: 46V-56V)	No PoE load:20W PoE load: 80W (Input: 12V-20V) 140W (Input: 21V-45V) 260W (Input: 46V-56V)	No PoE load:12W PoE load: 72W (Input: 12V-20V) 132W (Input: 21V-56V)
EEE	✓	✓	✓
Fan	Fanless design		
Acoustic Noise	<30dB (when the device works normally)		
Operating Temperature	-40°C to +80°C (when installed in a fume hood with a blower, with the face velocity no less than 400 LFM) -40°C to +75°C (when installed in a fume hood with a blower, with the face velocity no less than 200 LFM) -40°C to +70°C (when installed in a fume hood with a blower, with the face velocity no less than 80 LFM) -40°C to +65°C (when installed in an enclosed space)		
Storage Temperature	-40~75°C		
Operating Humidity	5% to 95% RH		
Storage Humidity	5% to 95% RH		
Lighting/Surge immunity (Surge)	IEC61000-4-5, Class 5 6kV		
Electrostatic Discharge (ESD)	IEC61000-4-2, Level 3 Air Discharge: 8KV Contact Discharge: 6KV		
Enclosure	IP40 aluminum casing		
Anti-corrosion	Conformal Coating		
Installation	DIN-rail Mounting Wall-mount		

# Specifications

## Physical Features

Specification	NIS3100-8GT4SFP-HP	NIS3100-8GT2SFP-HP	NIS3100-4GT2SFP-HP
Connector	Removable 6-pin terminal block for power input Pin 1/2 for Power 1, Pin 3/4 for fault alarm, Pin 5/6 for Power 2		
Alarm	One relay output for power failure. Alarm relay current carry ability : 1A@30V DC,		
LED Indicator	System: Power 1(Green) Power 2(Green) SYS(Green) Per RJ45 POE+ Ports: PoE-in-Use(Orange) LINK/ACT(Green) Per SFP Interface: LINK/ACT(Green)		
Operating Altitude (meters)	-500 to 2000m		
Certificate	CE, RoHS		
EMC	IEC/EN 61000-4-2 IEC 61000-4-2 ESD: Contact: 6 kV; Air: 8 kV, Level3 IEC/EN 61000-4-3 IEC 61000-4-3 RS:10V Level3 IEC/EN 61000-4-4 IEC 61000-4-4 EFT: Power: 2 kV; Signal: 1 kV, Level3 IEC/EN 61000-4-5 IEC 61000-4-5 Surge: Power: 4 kV(with industrial power supply module); Signal: 6 kV, Level 4 IEC/EN 61000-4-6 IEC 61000-4-6 CS:10V Level3 IEC/EN 61000-4-8 IEC 61000-4-8 10A/m Level3		

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