

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/ ERPS¹



8kV ESD
Protection



-40°C to +80°C
Operating Temperature²



¹ Release in November 2023
² 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



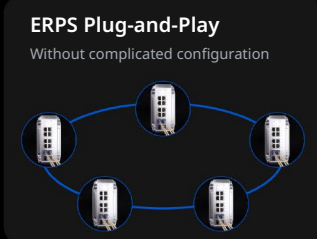
Stand Strong in Dusty Environment

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

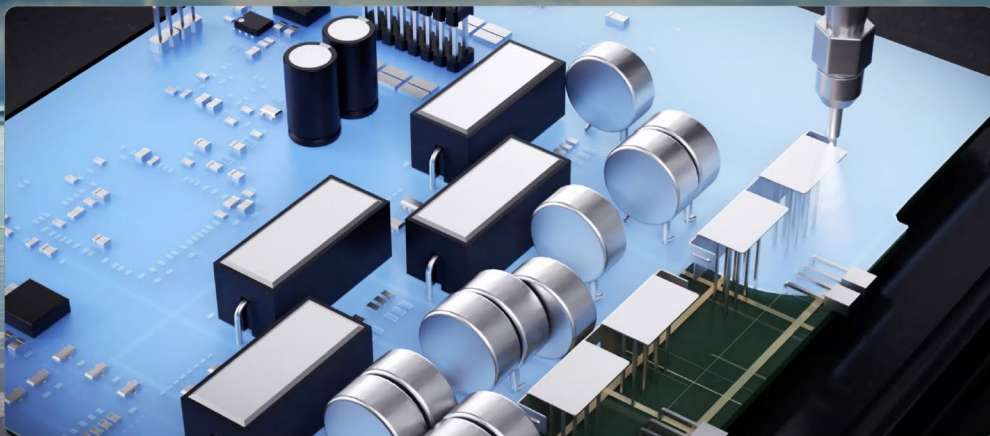
Ruijie Cloud: Easy management anytime anywhere



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.



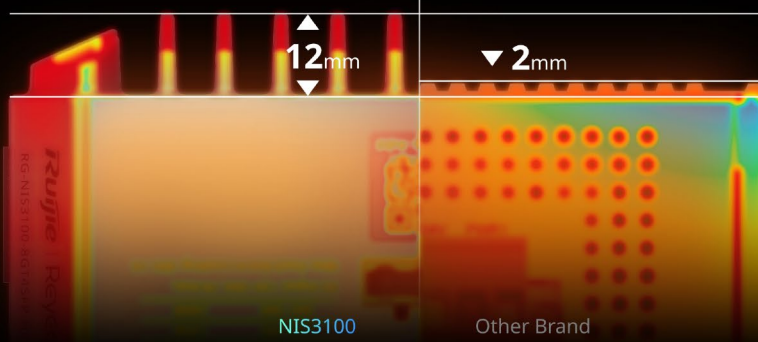
Specialized Outdoor Powder Coating

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



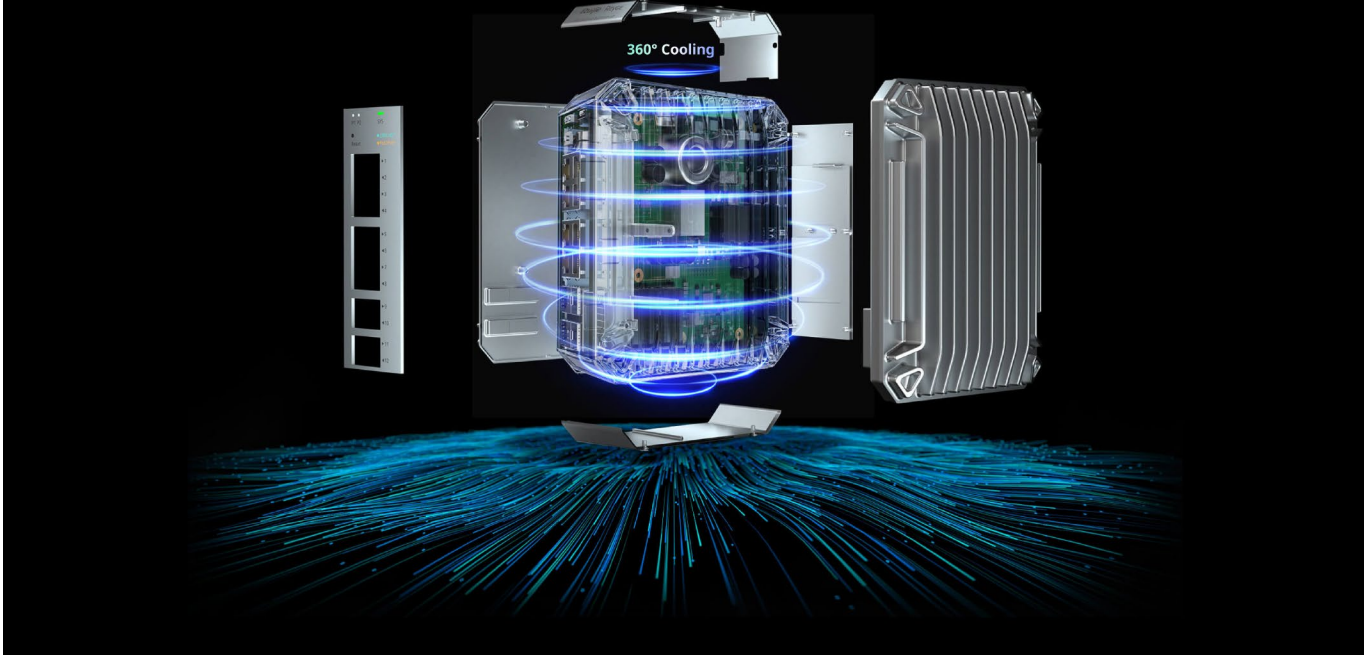
NIS3100

Other Brand

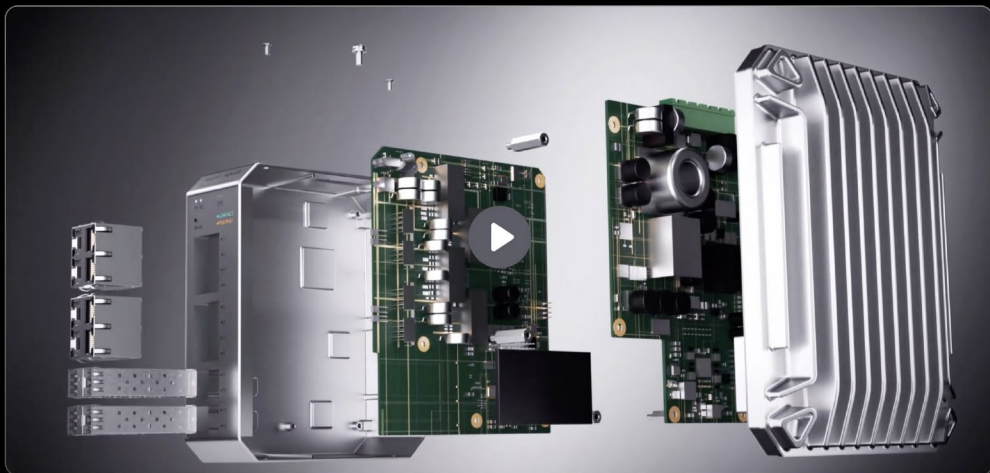
Highlight Features

Full Aluminum Alloy Enclosure

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



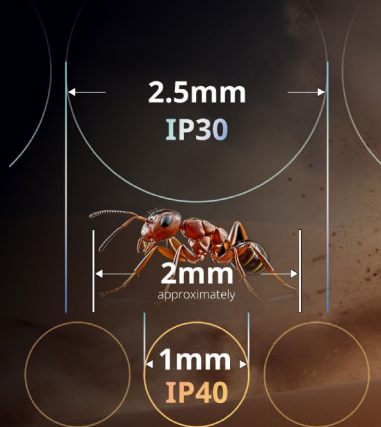
True Industrial-Grade Chips



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 Protection³



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 | 1-94 | 1-94 | 1-94 |
| 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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 **Redefine your easy network**

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