

RG-NIS3100 Series

True Industrial-Grade Specilized for Harsh Environments

DATASHEET

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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



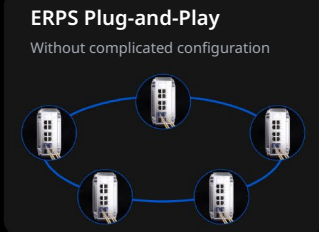
Stand Strong in Dusty Environment

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

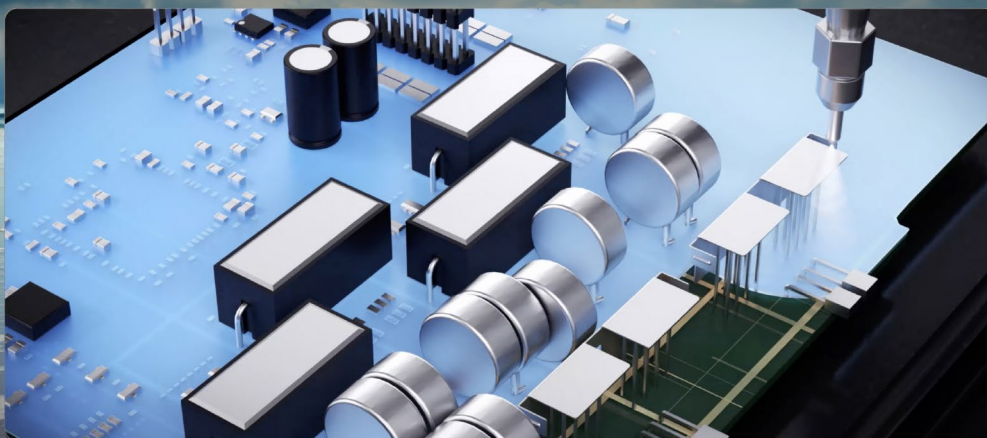
Ruijie Cloud: Easy management anytime anywhere



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.



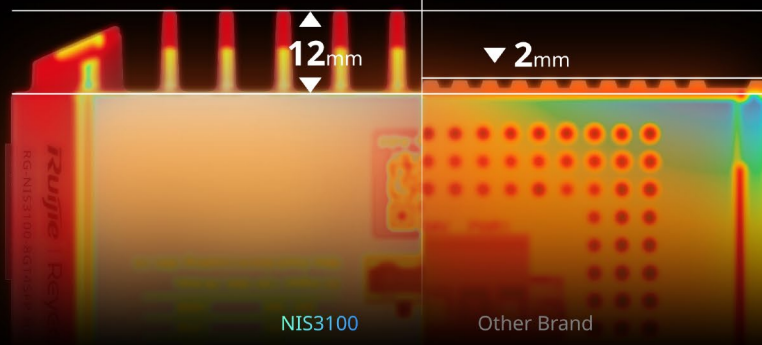
Specialized Outdoor Powder Coating

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



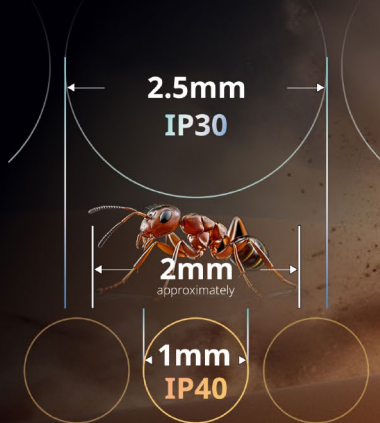
Highlight Features



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



Specifications

Specifications		RG-NIS3100-8GT4SFP-HP	RG-NIS3100-8GT2SFP-HP	RG-NIS3100-4GT2SFP-HP
Hardware Specifications				
Port	Total Number of RJ45 Ports	8	8	4
	Total Number of Optical Ports	4	2	2
	Number of 1GE SFP ports	4	2	2
	Number of 1GE RJ45 ports	8	8	4
POE	Number of PoE/PoE+ out ports	8	8	4
	PoE budget	240W	240W	120W
	PoE power pins	1/2(+),3/6(-)	1/2(+),3/6(-)	1/2(+),3/6(-)
System Specifications	CPU	MAC chip with a built-in single-core CPU,500MHz	MAC chip with a built-in single-core CPU,500MHz	MAC chip with a built-in single-core CPU,500MHz
	RAM	256MB	256MB	256MB
	Flash memory	16MB	16MB	16MB
	Recommended camera limit	200W H265:80 400W H265:40	200W H265:80 400W H265:40	200W H265:80 400W H265:40
	Forwarding rate	17.857Mpps	14.88Mpps	8.928Mpps
	Switching capacity	24Gbps	20Gbps	12Gbps
	Maximum number of VLANs	4094	4094	4094
	Maximum number of MAC address entries	8000	8000	8000
	Maximum number of ARP entries	1000	1000	1000
	Maximum number of ACEs	In-1200 Out-0	In-1200 Out-0	In-1200 Out-0

Specifications		RG-NIS3100-8GT4SFP-HP	RG-NIS3100-8GT2SFP-HP	RG-NIS3100-4GT2SFP-HP
Power	Power input	Rated voltage range: 12-56V= Rated current:7A	Rated voltage range: 12-56V= Rated current:7A	Rated voltage range: 12-56V= Rated current:7A
	Maximum power consumption	No PoE load:20W Full PoE load: 80W (Input: 12V-20V) 140W (Input: 21V-45V) 260W (Input: 46V-56V)	No PoE load:20W Full PoE load: 80W (Input: 12V-20V) 140W (Input: 21V-45V) 260W (Input: 46V-56V)	No PoE load:12W Full PoE load: 72W (Input: 12V-20V) 132W (Input: 21V-56V)
	Input power supply	DC power supply	DC power supply	DC power supply
FAN	Fan	Fanless	Fanless	Fanless
	Heat dissipation	No PoE load: ≤68.4 BTU/hr(12-56VDC); Full PoE load: 273.6 BTU/hr (Input: 12V- 20V) 478.8 BTU/hr (Input: 21V- 45V) 889.2 BTU/hr (Input: 46V- 56V)	No PoE load: ≤68.4 BTU/hr(12-56VDC); Full PoE load: 273.6 BTU/hr (Input: 12V-20V) 478.8 BTU/hr (Input: 21V-45V) 889.2 BTU/hr (Input: 46V-56V)	No PoE load: ≤41.04 BTU/hr(12- 56VDC); Full PoE load: 246.24 BTU/hr (Input: 12V- 20V) 451.44 BTU/hr (Input: 21V- 56V)
	Acoustic noise	<30dB (when the device works normally)	<30dB (when the device works normally)	<30dB (when the device works normally)
Button	Reset button	Yes	Yes	Yes
EMC	EMC	EN 55032:2015+AC:2016 EN 61000-3-2:2014 EN 61000-3-3:2013 EN 55035:2017 ETSI EN 300 386 V2.1.1 (2016-07)	EN 55032:2015+AC:2016 EN 61000-3-2:2014 EN 61000-3-3:2013 EN 55035:2017 ETSI EN 300 386 V2.1.1 (2016-07)	EN 55032:2015+AC:2016 EN 61000-3-2:2014 EN 61000-3-3:2013 EN 55035:2017 ETSI EN 300 386 V2.1.1 (2016-07)
Safety Compliance	Safety compliance	IEC 62368-1	IEC 62368-1	IEC 62368-1
Certification	CE, FCC	CE;FCC	CE;FCC	CE;FCC
Mounting	Mounting	DIN-rail Mounting and Wall-mount	DIN-rail Mounting and Wall-mount	DIN-rail Mounting and Wall- mount
Casing	Casing	Metal	Metal	Metal
Cable Hot-Swappable	Hot swapping of cables	Supported by all ports	Supported by all ports	Supported by all ports

Specifications		RG-NIS3100-8GT4SFP-HP	RG-NIS3100-8GT2SFP-HP	RG-NIS3100-4GT2SFP-HP
Mean Time Between Failure (MTBF)	MTBF	200000H	200000H	200000H
Warranty	Warranty Card	5	5	5
EEE	EEE	Yes	Yes	Yes
Environment and Reliability	Operating temperature	-40°C to +65°C (installed in a sealed cabinet) -40°C to +70°C (installed in a fume hood with a ventilation speed of at least 80LFM (Line Feet Minute)) -40°C to +75°C (installed in a fume hood with a ventilation speed of at least 200LFM (Line Feet Minute)) -40°C to +80°C (installed in a fume hood with a ventilation speed of at least 400LFM (Line Feet Minute))	-40°C to +65°C (installed in a sealed cabinet) -40°C to +70°C (installed in a fume hood with a ventilation speed of at least 80LFM (Line Feet Minute)) -40°C to +75°C (installed in a fume hood with a ventilation speed of at least 200LFM (Line Feet Minute)) -40°C to +80°C (installed in a fume hood with a ventilation speed of at least 400LFM (Line Feet Minute))	-40°C to +65°C (installed in a sealed cabinet) -40°C to +70°C (installed in a fume hood with a ventilation speed of at least 80LFM (Line Feet Minute)) -40°C to +75°C (installed in a fume hood with a ventilation speed of at least 200LFM (Line Feet Minute)) -40°C to +80°C (installed in a fume hood with a ventilation speed of at least 400LFM (Line Feet Minute))
	Storage temperature	-40~75°C	-40~75°C	-40~75°C
	Operating humidity	5% to 95% RH(non-condensing)	5% to 95% RH(non-condensing)	5% to 95% RH(non-condensing)
	Storage humidity	5% to 95% RH(non-condensing)	5% to 95% RH(non-condensing)	5% to 95% RH(non-condensing)
	Operating altitude	-500~5000M	-500~5000M	-500~5000M
	Corrosion class	Salt Tolerance	Salt Tolerance	Salt Tolerance
	ESD protection	Air Discharge: 8kV Contact Discharge: 6kV	Air Discharge: 8kV Contact Discharge: 6kV	Air Discharge: 8kV Contact Discharge: 6kV
	Surge protection	Common Mode 6kV	Common Mode 6kV	Common Mode 6kV
	Surge protection	Common Mode 4kV Differential mode 2kV	Common Mode 4kV Differential mode 2kV	Common Mode 4kV Differential mode 2kV

Specifications		RG-NIS3100-8GT4SFP-HP	RG-NIS3100-8GT2SFP-HP	RG-NIS3100-4GT2SFP-HP
Package Contents	Dimensions (W x D x H)	85mm*132mm*165mm	85mm*132mm*165mm	85mm*132mm*165mm
	Weight	1.47kg	1.42kg	1.39kg
	Shipping weight	1.93kg	1.91kg	1.86kg
	Rack-mount bracket	2	2	2
	Screw	M3 Screw*4	M3 Screw*4	M3 Screw*4
	User Manual	1	1	1
	Input power supply	DC power supply	DC power supply	DC power supply
	Warranty Card	1	1	1
L2				
Jumbo Frame	Jumbo frame length (MTU)	9216 Bytes(Global MTU)	9216 Bytes(Global MTU)	9216 Bytes(Global MTU)
port	Port flow control	Yes	Yes	Yes
	PoE watchdog	Yes	Yes	Yes
	Port isolation	Yes	Yes	Yes
	EEE	Yes	Yes	Yes
	Ultra-long-haul transmission	Yes	Yes	Yes
	Cable Test	Yes	Yes	Yes
VLAN	IEEE802.1Q VLAN	Yes	Yes	Yes
	Port-based VLAN	Yes	Yes	Yes
	Voice VLAN	Yes	Yes	Yes
STP	STP (IEEE 802.1d)	Yes	Yes	Yes
	RSTP (IEEE 802.1w)	Yes	Yes	Yes
	MSTP (IEEE 802.1s)	Yes	Yes	Yes
G.8032 (ERPS)	ERPS	Yes	Yes	Yes
LLDP	LLDP	Yes	Yes	Yes
	LLDP-MED	Yes	Yes	Yes
SPAN	Port mirroring	Yes	Yes	Yes
	Mirroring	Yes	Yes	Yes
IGMP	IGMPv1 snooping	Yes	Yes	Yes

Specifications		RG-NIS3100-8GT4SFP-HP	RG-NIS3100-8GT2SFP-HP	RG-NIS3100-4GT2SFP-HP
	IGMPv2 snooping	Yes	Yes	Yes
	Basic IGMPv3 snooping	Yes	Yes	Yes
	IGMP filtering	Yes	Yes	Yes
Mac Address	Static MAC address	Yes	Yes	Yes
	MAC address filtering	Yes	Yes	Yes
Link Aggregation	Static aggregation	Yes	Yes	Yes
	Load balancing	Yes	Yes	Yes
	LACP	Yes	Yes	Yes
Storm Suppression	Broadcast storm control	Yes	Yes	Yes
	Multicast storm control	Yes	Yes	Yes
	Unknown unicast storm control	Yes	Yes	Yes
L3				
IPv4	IPv4 ping	Yes	Yes	Yes
	IPv4 traceroute	Yes	Yes	Yes
IPv6 Configuration	ICMPv6	Yes	Yes	Yes
	IPv6 ping	Yes	Yes	Yes
	IPv6 traceroute	Yes	Yes	Yes
DNS	DNS client	Yes	Yes	Yes
	DNSv6 client	Yes	Yes	Yes
DHCP	DHCP snooping	Yes	Yes	Yes
	DHCP client	Yes	Yes	Yes
HTTP v6	HTTP Access by IPv6	Yes	Yes	Yes
High Features				
ACL	Standard ACL	Yes	Yes	Yes
	Extended MAC ACL	Yes	Yes	Yes
	Extended IP ACL	Yes	Yes	Yes
	IPv6 ACL	Yes	Yes	Yes
QoS	802.1p traffic classification	Yes	Yes	Yes

Specifications		RG-NIS3100-8GT4SFP-HP	RG-NIS3100-8GT2SFP-HP	RG-NIS3100-4GT2SFP-HP
	DSCP-based traffic classification	Yes	Yes	Yes
	Egress queues based on 802.1p and DSCP	Yes	Yes	Yes
	SP	Yes	Yes	Yes
	WRR	Yes	Yes	Yes
	SP+WRR	Yes	Yes	Yes
	Global QoS	Yes	Yes	Yes
	Interface-based rate limiting (ingress/egress)	Yes	Yes	Yes
Online Upgrade	Online Upgrade	Yes	Yes	Yes
RLOG	RLOG	Yes	Yes	Yes
Self-Organizing Network	SON	Yes	Yes	Yes
syslog	System log	Yes	Yes	Yes
Client Identification	Client discovery	Yes	Yes	Yes
ALARM	Camera detection	Yes	Yes	Yes
	Loop alarm	Yes	Yes	Yes
	MAC address entries	Yes	Yes	Yes
	IP address pool conflicts	Yes	Yes	Yes
	PoE service failure	Yes	Yes	Yes
	PoE power overload	Yes	Yes	Yes
Radius	RADIUS	Yes	Yes	Yes
802.1X	802.1X authentication	Yes	Yes	Yes
	Port-based 802.1X authentication	Yes	Yes	Yes
	MAC-based 802.1X authentication	Yes	Yes	Yes

Specifications		RG-NIS3100-8GT4SFP-HP	RG-NIS3100-8GT2SFP-HP	RG-NIS3100-4GT2SFP-HP
	Guest VLAN	Yes	Yes	Yes
IP+MAC Port Binding	IP-MAC-port binding	Yes	Yes	Yes
Anti-ARP Spoofing	ARP anti-spoofing	Yes	Yes	Yes
IP Source Guard	IP source guard	Yes	Yes	Yes
CPU Protection Policy (CPP)	CPU Protection Policy	Yes	Yes	Yes
Management Features				
Web Management	eWeb	Yes	Yes	Yes
MACC	Ruijie Cloud	Yes	Yes	Yes
APP	Ruijie Reyee App	Yes	Yes	Yes
SNMP	SNMPv1, v2c, and v3	Yes	Yes	Yes

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 **R**edefine **y**our **e**asy **n**etwork

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