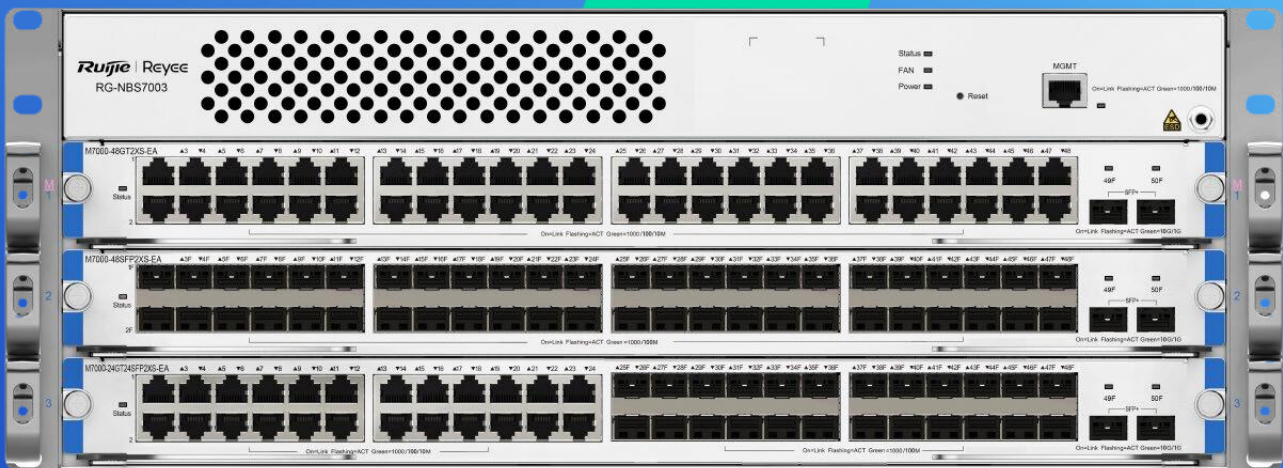


# RG-NBS7003

## Layer 3 Chassis Cloud Managed Switch

DATASHEET

[Explore More](#)



### Highlights

- Modular design provides scalability and flexibility
- High-level redundancy, ensuring nonstop service
- Whole network solution specially designed for SMB Scenarios
- Lifetime management on Ruijie Cloud at anytime anywhere

## Highlight Features

### RG-NBS7003

#### Reyee First Chassis Switch Designed for SMB

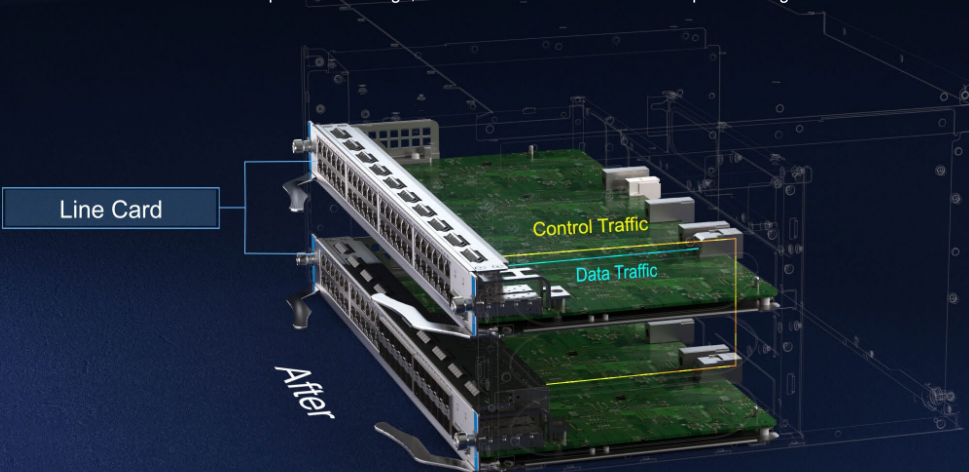


4\* RU 3 Service Module  
Chassis Core Switch

|                                                                                                         |                                                                                                      |                                                                                                   |                                                                                                               |                                                                                                                     |
|---------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|
|  7 Optional Line Cards |  32,000 MAC Address |  8,000 ARP Table |  480 Gbps Switching Capacity |  360 Mpps Packet Forwarding Rate |
|---------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|

### Architecture Innovation: Higher Performance, Lower Cost

New traffic & chip-intensive design, each line card can be used as a supervisor engine module



Line Card

Control Traffic

Data Traffic

After

### Modular Design: Scalability, and Flexibility

Support 7 types of line cards, up to 48 ports full 10 Gigabit



M7000-8XS-EA

M7000-48SFP2XS-EA

M7000-48GT2XS-EA

M7000-24GT2XS-EA

M7000-16XS-EA

M7000-24GT24SFP2XS-EA

M7000-24SFP2XS-EA

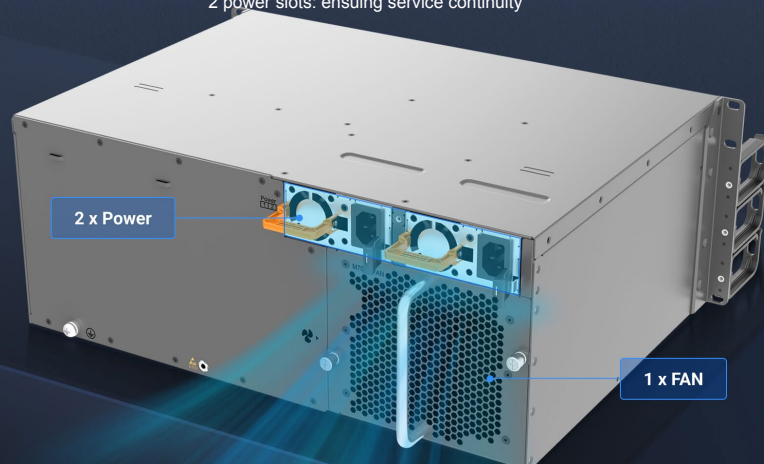
## Highlight Features

### High-Level Redundancy, Ensuring Nonstop Service

Redundant Modules

Virtual Cluster Switching (VCS)

2 power slots: ensuring service continuity

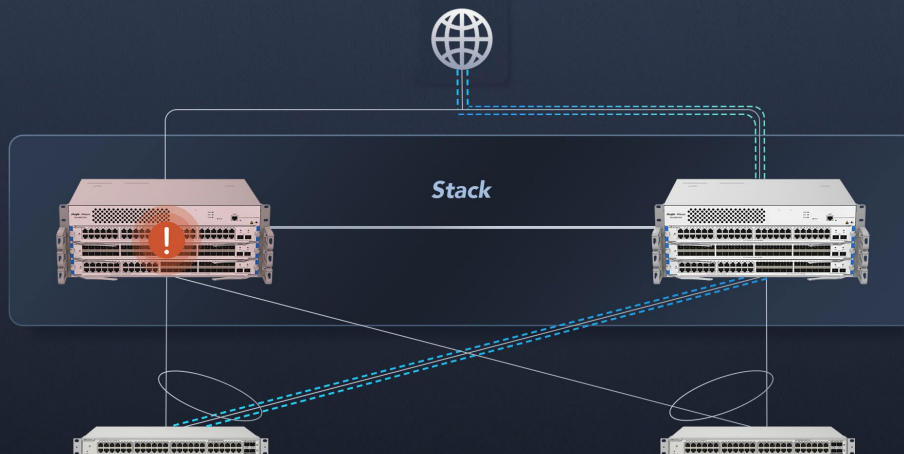


### High-Level Redundancy, Ensuring Nonstop Service

Redundant Modules

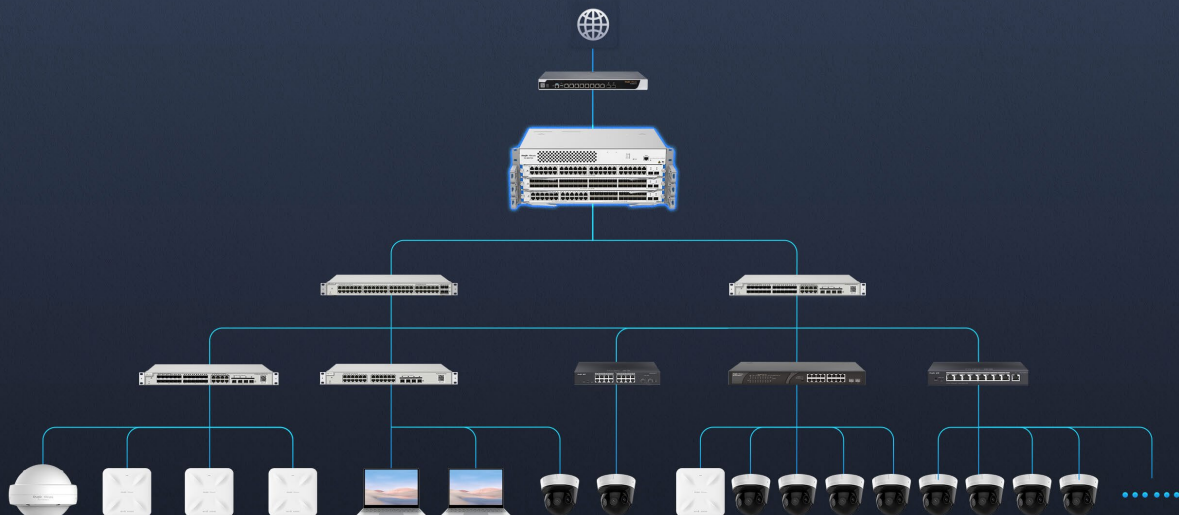
Virtual Cluster Switching (VCS)

Virtual Cluster Switching (VCS): service failover within seconds



### Whole Network Solution Specially Designed for SMB Scenarios

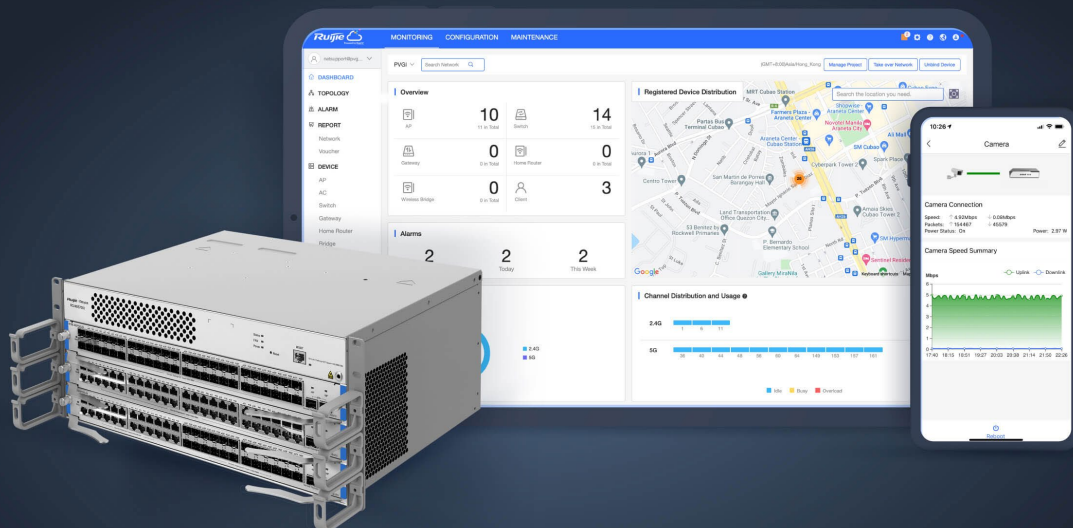
Up to 2000 terminal devices or 1000 CCTV (2mp H.265) can be accessed



## Highlight Features

## Cloud, Make Your Business Easy

- SON, zero touch provisioning to Cloud
- Monitor switch statistics at anytime anywhere
- Configure VLANs on Ruijie Cloud APP
- Easy maintenance, save onsite time and cost



| Specifications                          |                                   | RG-NBS7003                                                                                                                                                                                                                                                                               |
|-----------------------------------------|-----------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Hardware Specifications                 |                                   |                                                                                                                                                                                                                                                                                          |
| Product Information                     | Warranty                          | 5 years                                                                                                                                                                                                                                                                                  |
|                                         | Product category                  | Layer 3                                                                                                                                                                                                                                                                                  |
| Port Specifications                     | Total number of RJ45 ports        | Determine the quantity based on the type and number of line cards.                                                                                                                                                                                                                       |
|                                         | Number of 10GE SFP+ ports         | Determine the quantity based on the type and number of line cards.                                                                                                                                                                                                                       |
|                                         | Number of 10/100/1000BASE-T ports | Determine the quantity based on the type and number of line cards.                                                                                                                                                                                                                       |
| Interface Specifications                | Module slots                      | 1 supervisor module slots<br>2 line card slots<br>2 system power module slots                                                                                                                                                                                                            |
|                                         | Reset button                      | 1                                                                                                                                                                                                                                                                                        |
| Certification and Regulatory Compliance | EMC                               | EN 55032<br>EN 61000-3-2<br>EN 61000-3-3<br>EN 55035<br>EN 300 386                                                                                                                                                                                                                       |
|                                         | Safety compliance                 | IEC 62368-1                                                                                                                                                                                                                                                                              |
|                                         | Certification                     | CE                                                                                                                                                                                                                                                                                       |
| Power Supply and Consumption            | Power input                       | RG-PA300I-FS (AC input):<br><br>Rated input voltage: 100 V AC to 240 V AC, 50/60 Hz<br><br>Maximum input voltage: 90 V AC to 264 V AC, 47 Hz to 63 Hz<br><br>Maximum input current: 5 A<br><br>RG-PA460I-FS (AC input):<br><br>Rated input voltage: 100 V AC to 240 V AC, 50 Hz to 60 Hz |

| Specifications              |                                | RG-NBS7003                                                                                                                                                                                                    |
|-----------------------------|--------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                             |                                | Maximum input voltage: 90 V AC to 264 V AC,<br>47 Hz to 63 Hz<br><br>Maximum input current: 6 A                                                                                                               |
|                             | Maximum power consumption      | 50 W                                                                                                                                                                                                          |
|                             | Power output                   | RG-PA300I-F<br><br>90 V AC to 290 V AC: 12 V DC (output<br>voltage), 25 A (maximum output current)<br><br>RG-PA460I-F<br><br>90 V AC to 290 V AC: 12 V DC (output<br>voltage), 36 A (maximum output current)" |
|                             | Power supply                   | Power module                                                                                                                                                                                                  |
| Dimensions and Weight       | Casing                         | Metal                                                                                                                                                                                                         |
|                             | Product dimensions (W x D x H) | Chassis without cable management bracket:<br>442 mm x 313 mm x 175 mm (17.4 in. x<br>12.32 in. x 6.89 in.)<br><br>EA card:<br>438.5 mm x 196 mm x 40.2 mm (17.26 in. x<br>7.72 in. x 1.58 in.)                |
|                             | Weight                         | 9.6 kg (21.16 lbs) (including the empty<br>chassis and one fan module, without<br>packaging materials)                                                                                                        |
|                             | Shipping weight                | 13 kg (28.66 lbs) (including packaging<br>materials, empty chassis, and one fan<br>module)                                                                                                                    |
| System Specifications       | RAM                            | Line card: 1 GB DDR3                                                                                                                                                                                          |
|                             | Flash memory                   | Supervisor module/Line card: 256 MB                                                                                                                                                                           |
|                             | Forwarding rate                | 360 Mpps                                                                                                                                                                                                      |
|                             | Switching capacity             | 480 Gbps(bit/s)                                                                                                                                                                                               |
| Environment and Reliability | Hot swapping of fan modules    | Yes                                                                                                                                                                                                           |
|                             | Fan                            | 1 x fixed fan                                                                                                                                                                                                 |
|                             | Cooling                        | Device: Air cooling, front-to-rear airflow +<br>left-to-rear airflow + right-to-rear airflow                                                                                                                  |

| Specifications              |                          | RG-NBS7003                                                                                                                                                                                             |
|-----------------------------|--------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                             |                          | Line card: Air cooling, right-to-rear airflow<br>Power module: Air cooling, front-to-rear airflow                                                                                                      |
|                             | Acoustic noise           | 25°C (77°F): 60 dB                                                                                                                                                                                     |
|                             | Mounting options         | Rack                                                                                                                                                                                                   |
|                             | Hot swapping of cables   | Power connectors and all interfaces of line cards support hot swapping of cables.                                                                                                                      |
|                             | MTBF                     | 400,000 hours                                                                                                                                                                                          |
|                             | Operating temperature    | 0°C to +50°C (32°F to 122°F)                                                                                                                                                                           |
|                             | Storage temperature      | –40°C to +70°C (–40°F to +158°F)                                                                                                                                                                       |
|                             | Operating humidity       | 10% RH to 90% RH (non-condensing)                                                                                                                                                                      |
|                             | Storage humidity         | 5% RH to 95% RH (non-condensing)                                                                                                                                                                       |
|                             | Altitude                 | Operating altitude: –500 m to +5,000 m (–1,640.42 ft. to +16,404.20 ft.)<br>Storage altitude: –500 m to +5,000 m (–1,640.42 ft. to +16,404.20 ft.)                                                     |
|                             | ESD protection           | Contact discharge: 6 kV<br>Air discharge: 8 kV                                                                                                                                                         |
|                             | Surge protection         | Service port: ±6 kV for common mode<br>Power connector: ±6 kV for both common mode and differential mode                                                                                               |
| Software Specifications     |                          |                                                                                                                                                                                                        |
| Basic Configurations        | Online upgrade           | Yes                                                                                                                                                                                                    |
| System Performance Capacity | Recommended camera limit | RG-NBS7003: Number of line cards x Recommended number of cameras per service interface board<br><br>Recommended number of cameras connected to a line card:<br><br>200 W H265: 400<br>400 W H265: 200" |

| Specifications   |                                                                               | RG-NBS7003                                |
|------------------|-------------------------------------------------------------------------------|-------------------------------------------|
| Interface        | Jumbo frame length (MTU)                                                      | 9216 bytes (interface configuration mode) |
|                  | EEE                                                                           | Yes                                       |
|                  | Cable test                                                                    | Yes                                       |
| Reliability      | Number of VCS members                                                         | 2                                         |
|                  | System dual backup                                                            | Yes                                       |
|                  | Enabling dual backup for the partition Uboot (based on a single flash memory) | Yes                                       |
| Authentication   | RADIUS                                                                        | Yes                                       |
|                  | 802.1X authentication                                                         | Yes                                       |
|                  | Port-based 802.1X authentication                                              | Yes                                       |
|                  | MAC address-based 802.1X authentication                                       | Yes                                       |
|                  | Guest VLAN                                                                    | Yes                                       |
| Multicast        | IGMPv1 snooping                                                               | Yes                                       |
|                  | IGMPv2 snooping                                                               | Yes                                       |
|                  | Basic IGMPv3 snooping                                                         | Yes                                       |
|                  | Full IGMPv3 snooping                                                          | Yes                                       |
|                  | IGMP filtering                                                                | Yes                                       |
|                  | IGMPv1, v2, and v3                                                            | Yes                                       |
| Gateway Features | 802.1p priority-based traffic classification                                  | Yes                                       |
|                  | DSCP priority-based traffic classification                                    | Yes                                       |

| Specifications |                                                   | RG-NBS7003 |
|----------------|---------------------------------------------------|------------|
|                | Egress queues based on 802.1p and DSCP priorities | Yes        |
|                | SP                                                | Yes        |
|                | WRR                                               | Yes        |
|                | SP+WRR                                            | Yes        |
|                | Global QoS                                        | Yes        |
| IP Routing     | Maximum number of IPv4 static routes              | 2000       |
|                | IPv6 routing table size (network route)           | 2000       |
|                | Maximum number of IPv6 static routes              | 500        |
|                | IPv4 static route                                 | Yes        |
|                | IPv6 static route                                 | Yes        |
|                | OSPFv2                                            | Yes        |
|                | OSPFv3                                            | Yes        |
| IP Service     | Maximum number of ARP entries                     | 8000       |
|                | IPv4 routing table size (host route)              | 12000      |
|                | ARP                                               | Yes        |
|                | IPv4 ping                                         | Yes        |
|                | IPv4 traceroute                                   | Yes        |
|                | ICMPv6                                            | Yes        |
|                | IPv6 ping                                         | Yes        |
|                | IPv6 traceroute                                   | Yes        |
|                | DNS client                                        | Yes        |
|                | DNSv6 client                                      | Yes        |
|                | DHCP relay                                        | Yes        |
|                | DHCP server                                       | Yes        |
|                | DHCP client                                       | Yes        |

| Specifications     |                                           | RG-NBS7003                                                                                                                   |
|--------------------|-------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|
| Security           | Maximum number of ACEs                    | Number of ACEs in the inbound direction of an interface: 1900<br>Number of ACEs in the outbound direction of an interface: 0 |
|                    | Port isolation                            | Yes                                                                                                                          |
|                    | Broadcast storm control                   | Yes                                                                                                                          |
|                    | Multicast storm control                   | Yes                                                                                                                          |
|                    | Unknown unicast storm control             | Yes                                                                                                                          |
|                    | DHCP snooping                             | Yes                                                                                                                          |
|                    | Standard ACL                              | Yes                                                                                                                          |
|                    | Extended MAC ACL                          | Yes                                                                                                                          |
|                    | Extended IP ACL                           | Yes                                                                                                                          |
|                    | IPv6 ACL                                  | Yes                                                                                                                          |
|                    | IP-MAC-port binding                       | Yes                                                                                                                          |
|                    | ARP anti-spoofing                         | Yes                                                                                                                          |
|                    | IP source guard                           | Yes                                                                                                                          |
|                    | CPU Protection Policy                     | Yes                                                                                                                          |
| Ethernet Switching | Maximum number of VLANs                   | 4094                                                                                                                         |
|                    | Maximum number of MAC address entries     | 32000                                                                                                                        |
|                    | Interface flow control                    | Yes                                                                                                                          |
|                    | IEEE 802.1Q VLAN                          | Yes                                                                                                                          |
|                    | VLAN configuration supported on LAN ports | Yes                                                                                                                          |
|                    | Voice VLAN                                | Yes                                                                                                                          |
|                    | STP (IEEE 802.1d)                         | Yes                                                                                                                          |
|                    | RSTP (IEEE 802.1w)                        | Yes                                                                                                                          |
|                    | MSTP (IEEE 802.1s)                        | Yes                                                                                                                          |

| Specifications                    |                                                              | RG-NBS7003                   |
|-----------------------------------|--------------------------------------------------------------|------------------------------|
|                                   | LLDP                                                         | Yes                          |
|                                   | LLDP-MED                                                     | Yes                          |
|                                   | Static MAC address                                           | Yes                          |
|                                   | MAC address filtering                                        | Yes                          |
|                                   | Static aggregation                                           | Yes                          |
|                                   | LACP                                                         | Yes                          |
|                                   | Inbound or outbound rate limiting based on interface traffic | Yes                          |
| Network Management and Monitoring | Fan speed adjustment                                         | Intelligent speed adjustment |
|                                   | Port mirroring                                               | Yes                          |
|                                   | Mirroring                                                    | Yes                          |
|                                   | HTTP login                                                   | Yes                          |
|                                   | HTTPS login                                                  | Yes                          |
|                                   | RLOG                                                         | Yes                          |
|                                   | SON                                                          | Yes                          |
|                                   | Syslog                                                       | Yes                          |
|                                   | Client auto-discovery                                        | Yes                          |
|                                   | Camera detection                                             | Yes                          |
|                                   | Loop alarm                                                   | Yes                          |
|                                   | MAC address entries                                          | Yes                          |
|                                   | IP address pool conflicts                                    | Yes                          |
|                                   | Full ARP table                                               | Yes                          |
|                                   | eWeb management                                              | Yes                          |
|                                   | Ruijie Cloud management                                      | Yes                          |
|                                   | Ruijie Reyee App management                                  | Yes                          |
|                                   | SNMPv1, v2c, and v3                                          | Yes                          |

| Specifications   |                    | RG-NBS7003                                           |
|------------------|--------------------|------------------------------------------------------|
| Package Contents |                    |                                                      |
| Device           | Device             | 1                                                    |
| Manual           | User Manual        | 1                                                    |
|                  | Warranty Card      | 1                                                    |
| Accessories      | Rack-mount bracket | 2                                                    |
|                  | Screw              | 12 M6 x 16 mm cross recessed countersunk head screws |
|                  |                    | 8 M3 x 10 mm cross recessed countersunk head screws  |
|                  |                    | 12 M6 cage nuts                                      |
|                  | Grounding cable    | 1 x 2 m (6.56 ft.)                                   |

## / Power Supply and Fan

|                     |                                                       |
|---------------------|-------------------------------------------------------|
|                     |                                                       |
| <b>RG-PA300I-FS</b> | RG-NBS7003 Power Module (support redundancy,AC, 300W) |
| <b>RG-PA460I-FS</b> | RG-NBS7003 Power Module (support redundancy,AC, 460W) |
| <b>M7003-FAN</b>    | NBS7003-FAN                                           |

## / Line Card & Service Module

|                              |                                                                                                                    |
|------------------------------|--------------------------------------------------------------------------------------------------------------------|
|                              |                                                                                                                    |
| <b>M7000-24GT2XS-EA</b>      | 24 Gigabit Ethernet copper port (RJ45) + 2 10-gigabit Ethernet fiber port (SFP+,LC)                                |
| <b>M7000-48GT2XS-EA</b>      | 48 Gigabit Ethernet copper port (RJ45) + 2-port 10-gigabit Ethernet fiber port (SFP+,LC)                           |
| <b>M7000-24SFP2XS-EA</b>     | 24 Gigabit fiber port (SFP,LC) + 2 10-Gigabit Ethernet fiber port (SFP+,LC)                                        |
| <b>M7000-48SFP2XS-EA</b>     | 48 Gigabit fiber port (SFP,LC) + 2 10-Gigabit Ethernet fiber port (SFP+,LC)                                        |
| <b>M7000-24GT24SFP2XS-EA</b> | 24 Gigabit Ethernet copper port (RJ45)+ 24 Gigabit fiber port (SFP,LC)+ 2 10-gigabit Ethernet fiber port (SFP+,LC) |
| <b>M7000-8XS-EA</b>          | 8 10-Gigabit Ethernet fiber port (SFP+,LC)                                                                         |
| <b>M7000-16XS-EA</b>         | 16 10-gigabit Ethernet fiber port (SFP+,LC)                                                                        |

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