

# SNR S2985G series

L2 Managed Switches



The S2985G series SNR switches are intelligent Layer 2 GigabitEthernet switches, designed for use at the access level in internet service providers and enterprise networks.

## Main features:

- Gigabit uplink и downlink ports
- Integrated security features
- Non-blocking architecture
- Power supply backup
- Easy configuration via SNR CLI, web interface
- Build-in power surge protection on each port
- Increased CPU performance

## Switch Models

The SNR-S2985G series switches are equipped with GigabitEthernet downlink and GigabitEthernet SFP uplink interfaces, models SNR-S2985G-8TC and SNR-S2985G-24TC equipped with two combo and two SFP Uplink ports.

Model	10/100/1000 Base-T	100/1000 Base-X SFP	Combo ports 10/100/ 1000Base-T 100/1000Base-X SFP
S2985G-8T	8	2	-
S2985G-8T-POE	8	2	-
S2985G-8TC	8	-	2
S2985G-24T	24	4	-
S2985G-24T-POE	24	4	-
S2985G-24TC	24	2	2
S2985G-48T	48	4	-

## High performance

The SNR-S2985G series switches are built with modern chipsets and have a non-blocking switching matrix that allows all switch ports to operate simultaneously at full speed, which, together with increased CPU performance and an expanded buffer, guarantees high performance and minimal network latency.

Model	Switching Capacity	Forwarding Rate	MAC
S2985G-8T	20 Gbps	14,9 Mpps	8K
S2985G-8TC	20 Gbps	14,9 Mpps	8K
S2985G-24T	56 Gbps	41,7 Mpps	16K
S2985G-24TC	56 Gbps	41,7 Mpps	16K
S2985G-48T	104 Gbps	77,4 Mpps	16K

## Resilience

For organizing resilient networks, support for standard protocols STP/RSTP/MSTP as well as ERPS (G.8032) including ERPS + CFM is implemented.

Link aggregation functionality using LACP or static aggregation allows combining up to 8 ports into one logical interface, increasing the bandwidth ability and resilience at the data link level.

## PoE+ support

The SNR-S2985G series switches support PoE 802.3af и PoE+ 802.3at standards with a smart capacity management. The PoE technology reduces cost of ownership and makes network maintenance easier. It allows to supply with power directly from switch different types of equipment such as WiFi hotspots, IP/Video phones, thin clients and others.

Model	Number of PoE ports	Total PoE capacity
S2985G-8T-POE	8	124 Watt
S2985G-8T-POE-DC	8	124 Watt
S2985G-24T-POE-E	24	370 Watt

## Multicast management

Switches of SNR-S2985G series have all the necessary functionality for multicast control on Layer 2: IGMP Snooping, MVR, IGMP packet filtering, and multicast filtering. It allows to organize an efficient transporting of multicast-based services, such as IPTV.

## Quality of Service (QoS)

Support for 8 hardware queues per port allows creating flexible service policies for different types of traffic, thus ensuring high quality of sensitive services under high load conditions. Traffic can be classified by field values in L2-L4 headers, including CoS, DSCP, VLAN ID, IP/MAC addresses, and TCP/UDP ports.

Model	Multicast group	Queues per Port	ACL
S2985G-8T	500	8	1408
S2985G-24T	2048	8	2048
S2985G-48T	2048	8	2048

## Security

The S2985G series switches provide a wide range of security features for both service providers and enterprise networks. Hardware Access Control Lists (ACLs) can filter traffic by L2-L4 header fields without performance brake.

MAC-IP-Port binding functionality helps to protect the network from IP/MAC address spoofing by clients. Support for 802.1x and MAB protocols provides authentication of devices connected to the network.

## Dimensions and and power supply

The SNR-S2985G series switches include SNR-S2985G-8T-RPS, SNR-S2985G-24T-RPS and SNR-S2985G-24TE-RPS models with RPS-slot for DC 12V backup power supply, And SNR-S2985G-8T-UPS, SNR-S2985G-24T-UPS и SNR-S2985G-24TE-UPS models with a built-in 12V battery discharge/charge controller with 5-20Ah capacity.

Model	Dimension	Weight (Brutto)	Power Consumption	Cooling	Power Supply
S2985G-8T	220 x 44 x 150 mm	1,72 kg	20 Watt	Passive	100-240AC
S2985G-8T-UPS	220 x 44 x 150 mm	1,72 kg	25 Watt	Passive	100-240AC, 12VDC+UPS
S2985G-8T-RPS	220 x 44 x 150 mm	1,72 kg	20 Watt	Passive	100-240AC, 12V DC
S2985G-24T	442 x 44 x 220 mm	3,6 kg	20 Watt	Passive	100-240AC
S2985G-24T-RPS	442 x 44 x 220 mm	3,64 kg	20 Watt	Passive	100-240AC, 12V DC
S2985G-24TC	442 x 44 x 220 mm	3,68 kg	20 Watt	Passive	100-240AC
S2985G-24TC-RPS	442 x 44 x 220 mm	3,72 kg	20 Watt	Passive	100-240AC, 12V DC
S2985G-24T-UPS	442 x 44 x 220 mm	3,7 kg	29 Watt	Passive	100-240AC, 12V DC+UPS
S2985G-48T	442 x 44 x 220 mm	3,46 kg	40 Watt	Active	100-240AC
S2985G-48T-RPS	442 x 44 x 220 mm	3,46 kg	40 Watt	Active	100-240AC, 12V DC
S2985G-8T-POE	330 x 44 x 230 mm	2,7 kg	144 Watt	Passive	100-240AC
S2985G-8T-POE-DC	330 x 44 x 230 mm	2,7 kg	144 Watt	Passive	100-240AC, 48-56V DC
S2985G-24T-POE-E	442 x 44 x 280 mm	5,06 kg	390 Watt	Active	100-240AC

## Operational convenience

S2985G series SNR switches work under the control SNR system NOS (Networking Operating System) with the typical syntax CLI and SNMP MIB for all SNR switches. The system supports all the necessary functionality of the Enterprise/ISP level for building modern data networks and has extensive management and monitoring capabilities via CLI, Web and SNMP.

## Technical Brief:

### Switching type

- Store-and-Forward

### MAC address table

- 16K entries (SNR-S2985G-24(T|TC)(-UPS|-RPS|-POE-E), SNR-S2985G-48T(-RPS))
- 8K entries (SNR-S2985G-8(T|TC)(-UPS|-RPS|-POE))

### MAC address table features

- Limiting max number MAC addresses on a port, VLAN
- Static MAC addresses
- MAC-notification
- Disabling MAC address learning on a port, VLAN

### Flow Control

- 802.3x Flow Control

### Jumbo frame

- 12 Kbytes (SNRS2985G-24(T|TC)(-UPS|-RPS|-POE-E), SNR-S2985G-48T(-RPS))
- 10 Kbytes (SNRS2985G-8(T|TC)(-UPS|-RPS|-POE))

### Flash memory size

- 32 Mbytes

### RAM size

- 128 Mbytes

### Ring Protection

- ERPS ITU-T G.8032
- MRPP
- Fast Link
- ULPP
- ULSM

### Spanning Tree

- 802.1D STP / 802.1W RSTP / 802.1S MSTP
- Root/BPDU Guard
- BPDU Forwarding

### Loopback Detection

- Per-port
- Per-port-per-vlan
- Action shutdown/block

### Port Aggregation

- LACP 802.3ad / 802.1ax
- Up to 8 groups per switch /up to 8 ports in group (SNR-S2985G-8(T|TC)(-UPS|-RPS|-POE))
- Up to 16 groups per switch /up to 8 ports in group (SNR-S2985G-24(T|TC)(-UPS|-RPS|-POE-E), SNR-S2985G-48T(-RPS))
- Load balance src/dst MAC, src/dst IP, dst-src-MAC/IP, dst-src-MAC-IP, ingress-port

### Traffic Mirroring

- 4 groups
- One-to-one / Many-to-one
- Flow-based (ACL)
- RSPAN VLAN

### VLAN

- 4094 VLAN
- Port-based VLAN
- IEEE 802.1Q
- Private VLAN
- Protocol VLAN
- Voice/MAC VLAN
- Multicast VLAN
- VLAN Trunking
- VLAN Translation
- GVRP

### Multicast

- 2048 IGMP groups (SNRS2985G-24(T|TC)(-UPS|-RPS|-POE-E), SNR-S2985G-48T(-RPS))
- 500 IGMP groups (SNRS2985G-8(T|TC)(-UPS|-RPS|-POE))
- IGMP v1/v2/v3 Snooping
- IGMP Fast Leave
- IGMP Snooping Immediately Leave
- IGMP Snooping Querier
- Multicast VLAN Registration
- Multicast Source/Destination Control
- Illegal source detection
- Multicast policy
- Multicast Filter
- IGMP Snooping RADIUS Authentication
- MLD v1/v2 Snooping, MLD Snooping Immediately Leave

## QoS

- 8 queues per port
- Bandwidth Control
- Flow Redirect
- Traffic classification per port, ACL (L2-L4), VLAN ID, CoS, ToS, DSCP, IPv6 Flow Label
- Per port/VLAN policing
- Single Rate Three Colors
- Dual Rates Three Colors for Policing
- Remarking DSCP, CoS/802.1p, Precedence, ToS
- SP, WRR, SWRR, DWRR

## ACL

- 1408 ACL (SNR-S2985G-8(T|TC) (-UPS|-RPS|-POE))
- 2048 ACL (SNR-S2985G-24(T|TC) (-UPS|-RPS|-POE-E), SNR-S2985G-48T(-RPS))
- Per port/VLAN
- Filtering based on: switch port, VLAN ID, 802.1p priority, MAC address, EtherType, IPv4 / IPv6 address, IPv6 traffic class, IPv6 flow label, ToS, DSCP, protocol type, TCP / UDP port number, CPU Interface Filtering
- Time Range ACL.
- Userdefined ACL
- ACL statistics

## Security

- SSH v1/v2
- SSL v1/v2/v3
- MAC binding
- MAC filter
- Limiting the number of MAC addresses on a port
- Limiting Broadcast/Multicast/Unicast packets on a port by Kbps
- Access Management (IP-MAC-Port Binding)
- Port Security
- Port Isolation
- ARP Guard
- ARP Binding
- ARP Limit
- Anti-ARP-Scan
- Dynamic ARP inspection (DAI)
- RA Snooping
- ND Snooping
- SAVI
- CPU protection
- IEEE 802.3az (Energy Efficient Ethernet),
- CE, RoHS
- CB, cUL, LVD

## DHCP

- IPv4/IPv6 DHCP Client/Relay
- Option 82, Option 37/38
- IPv4/IPv6 DHCP Snooping/Server

## Management and control

- RADIUS, TACACS+
- 802.1x (host/port based access control, Dynamic VLAN, Guest VLAN, Auto VLAN)
- MAC Authentication Bypass
- Up to 15 levels of user privileges
- Passing privilege levels via RADIUS/TACACS+
- Xmodem/TFTP/FTP, CLI, Telnet, Console
- Web/SSL, SSH (IPv4/IPv6)
- SNMPv1/v2c/v3, SNMP Traps, Public & Private MIB interface
- RMON 1,2,3,9
- Bootp/DHCP Client
- Autoprovisioning
- PPPoE Intermediate agent
- Debug commands
- Password recovery
- Password encryption
- Backup and restore settings
- Ping, Traceroute
- Syslog (IPv4/IPv6)
- SNTP/NTP (IPv4/IPv6)
- Dual IMG, Multiple Configuration Files
- Port/CPU Mirror, RSPAN
- OAM, Dying GASP, VCT, DDM
- Multiple IP Interface
- ULDP (like Cisco UDLD), LLDP/LLDP MED
- Management of Indication
- Virtual Cabel Test (VCT)



## IPv6

- ICMPv6
- NDP
- SNMP over IPv6
- HTTP over IPv6
- IPv6 ping/traceroute
- IPv6 Telnet IPv6 Syslog
- RFC1981 Path MTU Discovery
- RFC2460 IPv6
- RFC2461 4861 Neighbor Discovery
- RFC2462,4862 IPv6 Stateless Address Auto-configuration
- RFC2464 IPv6 Neighbor over Ethernet and definition
- RFC3515, 4291 IP Version 6 Addressing Architecture
- RFC2893, 4213 IPv4/IPv6 Dual-stack
- IPv6 Ready Logo Phase 2

## Logging

- RAM logging
- Flash logging
- Logging to Syslog server
- Configuring the logging level
- Configuring the logging level
- Logging executed command

## QinQ

- Port-Based / Selective QinQ
- Flexible QinQ

## Humidity

- 5%-95%, no condensation

## Operating temperature

- 0C ~ 50C

## Storage temperature

- -40C ~ 70C

## Surge protection

- Up to 4 kV

## MBTF

- >800000 hours



## Ordering information

Model	Description
SNR-S2985G-8T	L2 Managed Switch, 8 x 10/100/1000Base-T, 2 x 100/1000Base-X SFP. Power: 220V AC
SNR-S2985G-8TC	L2 Managed Switch 8 x 10/100/1000Base-T, 2 x Combo 10/100/1000Base-T 100/1000Base-X SFP. Power: 220V AC
SNR-S2985G-8T-POE	L2 Managed PoE Switch, 24 x 10/100/1000BaseT, 4 x 100/1000BaseX SFP. Power: 220VAC. POE 185W
SNR-S2985G-8T-POE-DC	L2 Managed PoE Switch, 24 x 10/100/1000Base-T, 4 x 100/1000Base-X SFP. Power: 220V AC. POE 185W
SNR-S2985G-8T-UPS	L2 Managed Switch, 8 x 10/100/1000Base-T, 2 x 100/1000Base-X SFP. Power: 220V AC, 12V battery connector
SNR-S2985G-8T-RPS	L2 Managed Switch, 8 x 10/100/1000Base-T, 2 x 100/1000Base-X SFP. Power: 220V AC, RPS 12V DC
SNR-S2985G-24T	L2 Managed Switch, 24 x 10/100/1000Base-T, 4 x 100/1000Base-X SFP. Power: 220V AC, RPS 12V DC
SNR-S2985G-24T-RPS	L2 Managed Switch, 24 x 10/100/1000Base-T, 4 x 100/1000Base-X SFP. Power: 220 VAC
SNR-S2985G-24TC	L2 Managed Switch, 24 x 10/100/1000Base-T, 2 x 100/1000Base-X SFP. 2 x Combo 10/100/1000Base-T 100/1000Base-X SFP. Power: 220V AC
SNR-S2985G-24TC-RPS	L2 Managed Switch, 24 x 10/100/1000Base-T, 2 x 100/1000Base-X SFP. 2 x Combo 10/100/1000Base-T 100/1000Base-X SFP. Power: 220V AC, RPS 12V DC
SNR-S2985G-24T-POE-E	L2 Managed PoE Switch, 24 x 10/100/1000Base-T, 4 x 100/1000Base-X SFP. Power: 220V AC. POE 370W
SNR-S2985G-24T-UPS	L2 Managed Switch, 24 x 10/100/1000Base-T, 4 x 100/1000Base-X SFP. Power: 220V AC, 12V battery connector
SNR-S2985G-48T	L2 Managed Switch, 48 x 10/100/1000Base-T, 4 x 100/1000Base-X SFP. Power: 220V AC
SNR-S2985G-48T-RPS	L2 Managed Switch, 48 x 10/100/1000Base-T, 4 x 100/1000Base-X SFP. Power: 220V AC, RPS 12V DC

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