

Modicon

MCSESR Redundancy Switch

Command Line Interface User Guide

(Original Language)

06/2025

EIO0000005474.00

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Safety Information

Important Information

Read these instructions carefully, and look at the equipment to become familiar with the device before trying to install, operate, service, or maintain it. The following special messages may appear throughout this documentation or on the equipment to warn of potential hazards or to call attention to information that clarifies or simplifies a procedure.

-  The addition of this symbol to a "Danger" or "Warning" safety label indicates that an electrical hazard exists, which will result in personal injury if the instructions are not followed.
-  This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.

 **DANGER**

DANGER indicates an hazardous situation which, if not avoided, **will result in** death or serious injury.

 **WARNING**

WARNING indicates a hazardous situation which, if not avoided, **could result in** death or serious injury.

 **CAUTION**

CAUTION indicates a hazardous situation which, if not avoided, **could result in** minor or moderate injury.

NOTICE

NOTICE is used to address practices not related to physical injury.

Please Note

Electrical equipment should be installed, operated, serviced, and maintained only by qualified personnel. No responsibility is assumed by Schneider Electric for any consequences arising out of the use of this material.

A qualified person is one who has skills and knowledge related to the construction and operation of electrical equipment and its installation, and has received safety training to recognize and avoid the hazards involved.

Before You Begin

Do not use this product on machinery lacking effective point-of-operation guarding. Lack of effective point-of-operation guarding on a machine can result in serious injury to the operator of that machine.

 **WARNING**

UNGUARDED EQUIPMENT

- Do not use this software and related automation equipment on equipment which does not have point-of-operation protection.
- Do not reach into machinery during operation.

Failure to follow these instructions can result in death, serious injury, or equipment damage.

This automation equipment and related software is used to control a variety of industrial processes. The type or model of automation equipment suitable for each application will vary depending on factors such as the control function required, degree of protection required, production methods, unusual conditions, government regulations, etc. In some applications, more than one processor may be required, as when backup redundancy is needed.

Only you, the user, machine builder or system integrator can be aware of all the conditions and factors present during setup, operation, and maintenance of the machine and, therefore, can determine the automation equipment and the related safeties and interlocks which can be properly used. When selecting automation and control equipment and related software for a particular application, you should refer to the applicable local and national standards and regulations. The National Safety Council's Accident Prevention Manual (nationally recognized in the United States of America) also provides much useful information.

In some applications, such as packaging machinery, additional operator protection such as point-of-operation guarding must be provided. This is necessary if the operator's hands and other parts of the body are free to enter the pinch points or other hazardous areas and serious injury can occur. Software products alone cannot protect an operator from injury. For this reason the software cannot be substituted for or take the place of point-of-operation protection.

Ensure that appropriate safeties and mechanical/electrical interlocks related to point-of-operation protection have been installed and are operational before placing the equipment into service. All interlocks and safeties related to point-of operation protection must be coordinated with the related automation equipment and software programming.

NOTE: Coordination of safeties and mechanical/electrical interlocks for point of-operation protection is outside the scope of the Function Block Library, System User Guide, or other implementation referenced in this documentation.

Start-up and Test

Before using electrical control and automation equipment for regular operation after installation, the system should be given a start-up test by qualified personnel to verify correct operation of the equipment. It is important that arrangements for such a check are made and that enough time is allowed to perform complete and satisfactory testing.

WARNING

EQUIPMENT OPERATION HAZARD

- Verify that all installation and set up procedures have been completed.
- Before operational tests are performed, remove all blocks or other temporary holding means used for shipment from all component devices.
- Remove tools, meters, and debris from equipment.

Failure to follow these instructions can result in death, serious injury, or equipment damage.

Follow all start-up tests recommended in the equipment documentation. Store all equipment documentation for future references.

Software testing must be done in both simulated and real environments.

Verify that the completed system is free from all short circuits and temporary grounds that are not installed according to local regulations (according to the National Electrical Code in the U.S.A, for instance). If high-potential voltage testing is necessary, follow recommendations in equipment documentation to prevent accidental equipment damage.

Before energizing equipment:

- Remove tools, meters, and debris from equipment.
- Close the equipment enclosure door.
- Remove all temporary grounds from incoming power lines.
- Perform all start-up tests recommended by the manufacturer.

Operation and Adjustments

The following precautions are from the NEMA Standards Publication ICS 7.1 - 1995: (In case of divergence or contradiction between any translation and the English original, the original text in the English language will prevail.)

- Regardless of the care exercised in the design and manufacture of equipment or in the selection and ratings of components, there are hazards that can be encountered if such equipment is improperly operated.
- It is sometimes possible to misadjust the equipment and thus produce unsatisfactory or unsafe operation. Always use the manufacturer's instructions as a guide for functional adjustments. Personnel who have access to these adjustments should be familiar with the equipment manufacturer's instructions and the machinery used with the electrical equipment.
- Only those operational adjustments required by the operator should be accessible to the operator. Access to other controls should be restricted to prevent unauthorized changes in operating characteristics.

About the Book

Document Scope

The Graphic User Interface User Guide contains detailed information on using the graphical user interface to operate the individual functions of the device.

Validity Note

The characteristics of the products described in this document are intended to match the characteristics that are available on www.se.com. As part of our corporate strategy for constant improvement, we may revise the content over time to enhance clarity and accuracy. If you see a difference between the characteristics in this document and the characteristics on www.se.com, consider www.se.com to contain the latest information.

Related Documents

Document title	Reference
Modicon MCSESR Redundancy Switch Installation User Guide	EIO0000004961.00 (English)
	EIO0000005423.00 (French)
	EIO0000005424.00 (German)
	EIO0000005426.00 (Spanish)
	EIO0000005425.00 (Italian)
	EIO0000005427.00 (Chinese)
Modicon MCSESR Redundancy Switch Configuration User Guide	EIO0000005410.00 (English)
	EIO0000005413.00 (French)
	EIO0000005414.00 (German)
	EIO0000005416.00 (Spanish)
	EIO0000005415.00 (Italian)
	EIO0000005417.00 (Chinese)
Modicon MCSESR Redundancy Switch Graphic User Interface User Guide	EIO0000005411.00 (English)
	EIO0000005418.00 (French)
	EIO0000005419.00 (German)
	EIO0000005421.00 (Spanish)
	EIO0000005420.00 (Italian)
	EIO0000005422.00 (Chinese)
Modicon MCSESR Redundancy Switch Command Line Interface User Guide	EIO0000005474.00 (English)

You can download these technical publications and other technical information from our website at: www.se.com/ww/en/download

Product Related Information

DANGER

ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

- Disconnect all power from all equipment including connected devices prior to removing any covers or doors, or installing or removing any accessories, hardware, cables, or wires except under the specific conditions specified in the appropriate hardware guide for this equipment.
- Always use a properly rated voltage sensing device to confirm the power is off where and when indicated.
- Replace and secure all covers, accessories, hardware, cables, and wires and confirm that a proper ground connection exists before applying power to the equipment.
- Use only the specified voltage when operating this equipment and any associated products.

Failure to follow these instructions will result in death or serious injury.

This equipment has been designed to operate outside of any hazardous location. Only install this equipment in zones known to be free of a hazardous atmosphere.

DANGER

POTENTIAL FOR EXPLOSION

Install and use this equipment in non-hazardous locations only.

Failure to follow these instructions will result in death or serious injury.

WARNING

LOSS OF CONTROL

- Perform a Failure Mode and Effects Analysis (FMEA), or equivalent risk analysis, of your application, and apply preventive and detective controls before implementation.
- Provide a fall back state for undesired control events or sequences.
- Provide separate or redundant control paths wherever required.
- Supply appropriate parameters, particularly for limits.
- Review the implications of transmission delays and take actions to mitigate them.
- Review the implications of communication link interruptions and take actions to mitigate them.
- Provide independent paths for control functions (for example, emergency stop, over-limit conditions, and error conditions) according to your risk assessment, and applicable codes and regulations.
- Apply local accident prevention and safety regulations and guidelines.¹
- Test each implementation of a system for proper operation before placing it into service.

Failure to follow these instructions can result in death, serious injury, or equipment damage.

1. For additional information, refer to NEMA ICS 1.1 (latest edition), Safety Guidelines for the Application, Installation, and Maintenance of Solid State Control and to NEMA ICS 7.1 (latest edition), Safety Standards for Construction and Guide for Selection, Installation and Operation of Adjustable-Speed Drive Systems or their equivalent governing your particular location.

WARNING

UNINTENDED EQUIPMENT OPERATION

- Only use software approved by Schneider Electric for use with this equipment.
- Update your application program every time you change the physical hardware configuration.

Failure to follow these instructions can result in death, serious injury, or equipment damage.

Terminology Derived from Standards

The technical terms, terminology, symbols and the corresponding descriptions in the information contained herein, or that appear in or on the products themselves, are generally derived from the terms or definitions of international standards.

In the area of functional safety systems, drives and general automation, this may include, but is not limited to, terms such as safety, safety function, safe state, fault, fault reset, malfunction, failure, error, error message, dangerous, etc.

Among others, these standards include:

Standard	Description
IEC 61131-2:2007	Programmable controllers, part 2: Equipment requirements and tests.
ISO 13849-1:2023	Safety of machinery: Safety related parts of control systems. General principles for design.
EN 61496-1:2013	Safety of machinery: Electro-sensitive protective equipment. Part 1: General requirements and tests.
ISO 12100:2010	Safety of machinery - General principles for design - Risk assessment and risk reduction
EN 60204-1:2006	Safety of machinery - Electrical equipment of machines - Part 1: General requirements
ISO 14119:2013	Safety of machinery - Interlocking devices associated with guards - Principles for design and selection
ISO 13850:2015	Safety of machinery - Emergency stop - Principles for design
IEC 62061:2021	Safety of machinery - Functional safety of safety-related electrical, electronic, and electronic programmable control systems
IEC 61508-1:2010	Functional safety of electrical/electronic/programmable electronic safety related systems: General requirements.
IEC 61508-2:2010	Functional safety of electrical/electronic/programmable electronic safety related systems: Requirements for electrical/electronic/programmable electronic safety-related systems.
IEC 61508-3:2010	Functional safety of electrical/electronic/programmable electronic safety related systems: Software requirements.
IEC 61784-3:2021	Industrial communication networks - Profiles - Part 3: Functional safety field buses - General rules and profile definitions.
2006/42/EC	Machinery Directive
2014/30/EU	Electromagnetic Compatibility Directive
2014/35/EU	Low Voltage Directive

In addition, terms used in the present document may tangentially be used as they are derived from other standards such as:

Standard	Description
IEC 60034 series	Rotating electrical machines.
IEC 61800 series	Adjustable speed electrical power drive systems.
IEC 61158 series	Digital data communications for measurement and control – Fieldbus for use in industrial control systems.

Finally, the term zone of operation may be used in conjunction with the description of specific hazards, and is defined as it is for a hazard zone or danger zone in the Machinery Directive (2006/42/EC) and ISO 12100:2010.

NOTE: The aforementioned standards may or may not apply to the specific products cited in the present documentation. For more information concerning the individual standards applicable to the products described herein, see the characteristics tables for those product references.

Information on Non-Inclusive or Insensitive Terminology

As a responsible, inclusive company, Schneider Electric is constantly updating its communications and products that contain non-inclusive or insensitive terminology. However, despite these efforts, our content may still contain terms that are deemed inappropriate by some customers.

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Address Conflict Detection (ACD)

address-conflict

Configure the address conflict settings.

address-conflict operation

Enable or disable the address conflict detection for the management interface.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** address-conflict operation

no address-conflict operation

Disable the option

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** no address-conflict operation

address-conflict detection-mode

Configure the detection mode.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** address-conflict detection-mode <P-1>

Parameter	Value	Meaning
P-1	active-and-passive	Configure active and passive detection. During the IP address configuration, if you set the detection to 'active', then the device sends ARP or NDP probes into the network, and if you set the detection to 'passive', then the device listens continuously on the network.
	active-only	Configure only active detection. During IP address configuration 'active' the device sends only one ARP or NDP probe into the network.
	passive-only	Configure passive detection. The device listens passively on the network to verify that another device does not have the same IP address assigned.

address-conflict detection-ongoing

Enable or disable the ongoing detection. If enabled, the device sends periodic ARP or NDP probes.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** address-conflict detection-ongoing

no address-conflict detection-ongoing

Disable the option

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** no address-conflict detection-ongoing

address-conflict delay

The maximum detection delay time in milliseconds. Time gap between ARP or NDP probes.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** address-conflict delay <P-1>

Parameter	Value	Meaning
P-1	20..500	Time gap between consecutive ARP or NDP probes ([ms], default 200).

address-conflict release-delay

Delay in seconds to the next ARP or NDP probe cycle after an IP address conflict was detected.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** address-conflict release-delay <P-1>

Parameter	Value	Meaning
P-1	3..3600	Delay between consecutive probe cycles after a conflict was detected ([sec], default 15).

address-conflict max-protection

Maximum number of frequent address protections.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** address-conflict max-protection <P-1>

Parameter	Value	Meaning
P-1	0..100	Maximum number of frequent address protections (default 1).

address-conflict protect-interval

Delay in milliseconds between two consecutive address protections.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** address-conflict protect-interval <P-1>

Parameter	Value	Meaning
P-1	20..10000	Delay between two consecutive protections ([ms], default 10000).

address-conflict trap-status

If enabled, this trap reports an address conflict.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** address-conflict trap-status

no address-conflict trap-status

Disable the option

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** no address-conflict trap-status

show

Display device options and settings.

show address-conflict global

Displays the component mode.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** `show address-conflict global`

show address-conflict detected

Displays the last detected address conflict.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** `show address-conflict detected`

show address-conflict fault-state

Displays the conflict status.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** `show address-conflict fault-state`

show mac-address-conflict global

Displays the component mode.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** `show mac-address-conflict global`

Application Lists

applists

Configure an application list.

applists set-authlist

Set an authentication list reference that shall be used by given application.

- **Mode:** Global Config Mode
- **Privilege Level:** Administrator
- **Format:** `applists set-authlist <P-1> <P-2>`

Parameter	Value	Meaning
P-1	string	<application> Name of an application list.
P-2	string	<authlist_name> Name of referenced authentication list.

applists enable

Activate a login application list.

- **Mode:** Global Config Mode
- **Privilege Level:** Administrator
- **Format:** `applists enable <P-1>`

Parameter	Value	Meaning
P-1	string	<application> Name of an application list.

applists disable

Deactivate a login application list.

- **Mode:** Global Config Mode
- **Privilege Level:** Administrator
- **Format:** `applists disable <P-1>`

Parameter	Value	Meaning
P-1	string	<application> Name of an application list.

show

Display device options and settings.

show appllists

Display ordered methods for application lists.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** show appllists

Authentication Lists

authlists

Configure an authentication list.

authlists add

Create a new login authentication list.

- **Mode:** Global Config Mode
- **Privilege Level:** Administrator
- **Format:** `authlists add <P-1>`

Parameter	Value	Meaning
P-1	string	<authlist_name> Name of an authentication list.

authlists delete

Delete an existing login authentication list.

- **Mode:** Global Config Mode
- **Privilege Level:** Administrator
- **Format:** `authlists delete <P-1>`

Parameter	Value	Meaning
P-1	string	<authlist_name> Name of an authentication list.

authlists set-policy

Set the policies of a login authentication list.

- **Mode:** Global Config Mode
- **Privilege Level:** Administrator
- **Format:** `authlists set-policy <P-1> <P-2> [<P-3> [<P-4> [<P-5> [<P-6>]]]]`

Parameter	Value	Meaning
P-1	string	<authlist_name> Name of an authentication list.

Parameter	Value	Meaning
P-2	reject	Authentication is rejected / not allowed.
	local	Authentication by local user DB.
	radius	Authentication by RADIUS server.
	ias	Authentication by IAS server.
P-3	reject	Authentication is rejected / not allowed.
	local	Authentication by local user DB.
	radius	Authentication by RADIUS server.
	ias	Authentication by IAS server.
P-4	reject	Authentication is rejected / not allowed.
	local	Authentication by local user DB.
	radius	Authentication by RADIUS server.
	ias	Authentication by IAS server.
P-5	reject	Authentication is rejected / not allowed.
	local	Authentication by local user DB.
	radius	Authentication by RADIUS server.
	ias	Authentication by IAS server.
P-6	reject	Authentication is rejected / not allowed.
	local	Authentication by local user DB.
	radius	Authentication by RADIUS server.
	ias	Authentication by IAS server.

authlists enable

Activate a login authentication list.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** authlists enable <P-1>

Parameter	Value	Meaning
P-1	string	<authlist_name> Name of an authentication list.

authlists disable

Deactivate a login authentication list.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** authlists disable <P-1>

Parameter	Value	Meaning
P-1	string	<authlist_name> Name of an authentication list.

show

Display device options and settings.

show authlists

Display ordered methods for authentication lists.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** show authlists

Auto Disable

auto-disable

Configure the Auto Disable condition settings.

auto-disable reason

Enables/disables port Recovery by reason on this device.

- **Mode:** Global Config Mode
- **Privilege Level:** Operator
- **Format:** auto-disable reason <P-1>

Parameter	Value	Meaning
P-1	link-flap	Enable/disable link-flap.
	crc-error	Enable/disable crc-error.
	duplex-mismatch	Enable/disable duplex-mismatch.
	bpdu-rate	Enable/disable bpdu-rate.
	port-security	Enable/disable MAC based port security.
	overload-detection	Enable/disable overload-detection.
	speed-duplex	Enable/disable link speed and duplex monitor.

no auto-disable reason

Disable the option

- **Mode:** Global Config Mode
- **Privilege Level:** Operator
- **Format:** no auto-disable reason <P-1>

auto-disable

Configure the Auto Disable condition settings.

auto-disable timer

Timer value in seconds after a deactivated port is activated again. Possible values are: 30-4294967295. A value of 0 disables the timer.

- **Mode:** Interface Range Mode
- **Privilege Level:** Operator
- **Format:** auto-disable timer <P-1>

Parameter	Value	Meaning
P-1	30..4294967295	Timer value in seconds.

auto-disable reset

Reset the specific interface and reactivate the port.

- **Mode:** Interface Range Mode
- **Privilege Level:** Operator
- **Format:** auto-disable reset [<P-1>]

Parameter	Value	Meaning
P-1	port	Press Enter to execute the command.

no auto-disable reset

Disable the option

- **Mode:** Interface Range Mode
- **Privilege Level:** Operator
- **Format:** no auto-disable reset [<P-1>]

show

Display device options and settings.

show auto-disable brief

Display Auto Disable summary by interface.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** show auto-disable brief

show auto-disable reasons

Display summary of Auto Disable error reasons.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** show auto-disable reasons

Class Of Service

classofservice

Class of service configuration.

classofservice ip-dscp-mapping

ip-dscp-mapping configuration

- **Mode:** Global Config Mode
- **Privilege Level:** Operator
- **Format:** classofservice ip-dscp-mapping <P-1> <P-2> <P-3>

Parameter	Value	Meaning
P-1	af11	P-1 values are the DSCP values defined by RFC2474 and IP standards.
	af12	P-1 values are the DSCP values defined by RFC2474 and IP standards.
	af13	P-1 values are the DSCP values defined by RFC2474 and IP standards.
	af21	P-1 values are the DSCP values defined by RFC2474 and IP standards
	af22	P-1 values are the DSCP values defined by RFC2474 and IP standards.
	af23	P-1 values are the DSCP values defined by RFC2474 and IP standards.
	af31	P-1 values are the DSCP values defined by RFC2474 and IP standards.
	af32	P-1 values are the DSCP values defined by RFC2474 and IP standards.
	af33	P-1 values are the DSCP values defined by RFC2474 and IP standards.
	af41	P-1 values are the DSCP values defined by RFC2474 and IP standards.
	af42	P-1 values are the DSCP values defined by RFC2474 and IP standards.
	af43	P-1 values are the DSCP values defined by RFC2474 and IP standards.
	be	P-1 values are the DSCP values defined by RFC2474 and IP standards.
	cs0	P-1 values are the DSCP values defined by RFC2474 and IP standards.
	cs1	P-1 values are the DSCP values defined by RFC2474 and IP standards.

Parameter	Value	Meaning
P-1	cs2	P-1 values are the DSCP values defined by RFC2474 and IP standards.
	cs3	P-1 values are the DSCP values defined by RFC2474 and IP standards.
	cs4	P-1 values are the DSCP values defined by RFC2474 and IP standards.
	cs5	P-1 values are the DSCP values defined by RFC2474 and IP standards.
	cs6	P-1 values are the DSCP values defined by RFC2474 and IP standards.
	cs7	P-1 values are the DSCP values defined by RFC2474 and IP standards.
	ef	P-1 values are the DSCP values defined by RFC2474 and IP standards.
	0	P-1 values are the DSCP values defined by RFC2474 and IP standards.
	1	P-1 values are the DSCP values defined by RFC2474 and IP standards.
	2	P-1 values are the DSCP values defined by RFC2474 and IP standards.
	3	P-1 values are the DSCP values defined by RFC2474 and IP standards.
	4	P-1 values are the DSCP values defined by RFC2474 and IP standards.
	5	P-1 values are the DSCP values defined by RFC2474 and IP standards.
	6	P-1 values are the DSCP values defined by RFC2474 and IP standards.
	7	P-1 values are the DSCP values defined by RFC2474 and IP standards.
	8	P-1 values are the DSCP values defined by RFC2474 and IP standards.
	9	P-1 values are the DSCP values defined by RFC2474 and IP standards.
	10	P-1 values are the DSCP values defined by RFC2474 and IP standards.
	11	P-1 values are the DSCP values defined by RFC2474 and IP standards.
	12	P-1 values are the DSCP values defined by RFC2474 and IP standards.
	13	P-1 values are the DSCP values defined by RFC2474 and IP standards.
	14	P-1 values are the DSCP values defined by RFC2474 and IP standards.
	15	P-1 values are the DSCP values defined by RFC2474 and IP standards.
	16	P-1 values are the DSCP values defined by RFC2474 and IP standards.
	17	P-1 values are the DSCP values defined by RFC2474 and IP standards.

Parameter	Value	Meaning
P-1	18	P-1 values are the DSCP values defined by RFC2474 and IP standards.
	19	P-1 values are the DSCP values defined by RFC2474 and IP standards.
	20	P-1 values are the DSCP values defined by RFC2474 and IP standards.
	21	P-1 values are the DSCP values defined by RFC2474 and IP standards.
	22	P-1 values are the DSCP values defined by RFC2474 and IP standards.
	23	P-1 values are the DSCP values defined by RFC2474 and IP standards.
	24	P-1 values are the DSCP values defined by RFC2474 and IP standards.
	25	P-1 values are the DSCP values defined by RFC2474 and IP standards.
	26	P-1 values are the DSCP values defined by RFC2474 and IP standards.
	27	P-1 values are the DSCP values defined by RFC2474 and IP standards.
	28	P-1 values are the DSCP values defined by RFC2474 and IP standards.
	29	P-1 values are the DSCP values defined by RFC2474 and IP standards.
	30	P-1 values are the DSCP values defined by RFC2474 and IP standards.
	31	P-1 values are the DSCP values defined by RFC2474 and IP standards.
	32	P-1 values are the DSCP values defined by RFC2474 and IP standards.
	33	P-1 values are the DSCP values defined by RFC2474 and IP standards.
	34	P-1 values are the DSCP values defined by RFC2474 and IP standards.
	35	P-1 values are the DSCP values defined by RFC2474 and IP standards.
	36	P-1 values are the DSCP values defined by RFC2474 and IP standards.
	37	P-1 values are the DSCP values defined by RFC2474 and IP standards.
	38	P-1 values are the DSCP values defined by RFC2474 and IP standards.
	39	P-1 values are the DSCP values defined by RFC2474 and IP standards.
	40	P-1 values are the DSCP values defined by RFC2474 and IP standards.
	41	P-1 values are the DSCP values defined by RFC2474 and IP standards.
	42	P-1 values are the DSCP values defined by RFC2474 and IP standards.

Parameter	Value	Meaning
P-1	43	P-1 values are the DSCP values defined by RFC2474 and IP standards.
	44	P-1 values are the DSCP values defined by RFC2474 and IP standards.
	45	P-1 values are the DSCP values defined by RFC2474 and IP standards.
	46	P-1 values are the DSCP values defined by RFC2474 and IP standards.
	47	P-1 values are the DSCP values defined by RFC2474 and IP standards.
	48	P-1 values are the DSCP values defined by RFC2474 and IP standards.
	49	P-1 values are the DSCP values defined by RFC2474 and IP standards.
	50	P-1 values are the DSCP values defined by RFC2474 and IP standards.
	51	P-1 values are the DSCP values defined by RFC2474 and IP standards.
	52	P-1 values are the DSCP values defined by RFC2474 and IP standards.
	53	P-1 values are the DSCP values defined by RFC2474 and IP standards.
	54	P-1 values are the DSCP values defined by RFC2474 and IP standards.
	55	P-1 values are the DSCP values defined by RFC2474 and IP standards.
	56	P-1 values are the DSCP values defined by RFC2474 and IP standards.
	57	P-1 values are the DSCP values defined by RFC2474 and IP standards.
	58	P-1 values are the DSCP values defined by RFC2474 and IP standards.
	59	P-1 values are the DSCP values defined by RFC2474 and IP standards.
	60	P-1 values are the DSCP values defined by RFC2474 and IP standards.
	61	P-1 values are the DSCP values defined by RFC2474 and IP standards.
	62	P-1 values are the DSCP values defined by RFC2474 and IP standards.
	63	P-1 values are the DSCP values defined by RFC2474 and IP standards.
P-2	0..7	Enter the Traffic Class value.
P-3	0..3	Enter the Traffic Class value.

classofservice dot1p-mapping

Enter a VLAN priority and the traffic class it should be mapped to.

- **Mode:** Global Config Mode
- **Privilege Level:** Operator
- **Format:** classofservice dot1p-mapping <P-1> <P-2> <P-3>

Parameter	Value	Meaning
P-1	0..7	Enter the 802.1p priority.
P-2	0..7	Enter the Traffic Class value.
P-3	0..3	Enter a number in the given range.

classofservice

Interface classofservice configuration.

classofservice trust

trust configuration

- **Mode:** Interface Range Mode
- **Privilege Level:** Operator
- **Format:** classofservice trust <P-1>

Parameter	Value	Meaning
P-1	untrusted	Sets the class of service trust mode to untrusted.
	dot1p	Sets the class of service trust mode to dot1p.
	ip-dscp	Sets the class of service trust mode to IP DSCP.

cos-queue

COS queue configuration

cos-queue strict

strict priority scheduler (default)

- **Mode:** Global Config Mode
- **Privilege Level:** Operator
- **Format:** cos-queue strict <P-1> <P-2>

Parameter	Value	Meaning
P-1	0..7	Enter a Queue Id from 0 to 7.
P-2	0..3	Enter a number in the given range.

cos-queue weighted

weighted scheduler

- **Mode:** Global Config Mode
- **Privilege Level:** Operator
- **Format:** cos-queue weighted <P-1> <P-2>

Parameter	Value	Meaning
P-1	0..7	Enter a Queue Id from 0 to 7.
P-2	0..3	Enter a number in the given range.

cos-queue min-bandwidth

Minimum bandwidth for the queues when in weighted mode

- **Mode:** Global Config Mode
- **Privilege Level:** Operator
- **Format:** cos-queue min-bandwidth <P-1> <P-2> <P-3>

Parameter	Value	Meaning
P-1	0..3	Enter a number in the given range.
P-2	0..7	Enter a Queue Id from 0 to 7.
P-3	0..100	Enter a number in the given range.

show

Display device options and settings.

show classofservice ip-dscp-mapping

Show ip-dscp-mapping configuration.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** `show classofservice ip-dscp-mapping`

show classofservice dot1p-mapping

Display a table containing the vlan priority to traffic class mappings.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** `show classofservice dot1p-mapping`

show classofservice trust

Show a table containing the trust mode of all interfaces.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** `show classofservice trust`

show cos-queue

Show cosqueue parameters

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** `show cos-queue`

Command Line Interface (CLI)

cli

Set the CLI preferences.

cli serial-timeout

Set login timeout for serial line connection to CLI. Setting to 0 will disable the timeout. The value is active after next login.

- **Mode:** Privileged Exec Mode
- **Privilege Level:** Operator
- **Format:** cli serial-timeout <P-1>

Parameter	Value	Meaning
P-1	0..160	Enter a number in the given range. Setting to 0 will disable the timeout.

cli prompt

Change the system prompt. Following wildcards are allowed: %d date, %t time, %i IP address, %m MAC address ,%p product name

- **Mode:** Privileged Exec Mode
- **Privilege Level:** Operator
- **Format:** cli prompt <P-1>

Parameter	Value	Meaning
P-1	string	Enter a user-defined text, max. 128 characters. Following wildcards are allowed: %d date, %t time, %i IP address, %m MAC address ,%p product name.

cli numlines

Screen size for 'more' (23 = default). Enter a 0 will disable the feature. The value is only valid for the open session.

- **Mode:** Command is in all modes available.
- **Privilege Level:** Guest
- **Format:** cli numlines <P-1>

Parameter	Value	Meaning
P-1	0..250	Screen size for 'more' (23 = default). Enter a 0 will disable the feature. The value is only valid for the open session.

cli banner operation

Enable or disable the CLI login banner.

- **Mode:** Privileged Exec Mode
- **Privilege Level:** Administrator
- **Format:** cli banner operation

no cli banner operation

Disable the option

- **Mode:** Privileged Exec Mode
- **Privilege Level:** Administrator
- **Format:** no cli banner operation

cli banner text

Set the text for the CLI login banner (C printf format syntax allowed: \n \t).

- **Mode:** Privileged Exec Mode
- **Privilege Level:** Administrator
- **Format:** cli banner text <P-1>

Parameter	Value	Meaning
P-1	string	Enter a user-defined text, max. 1024 characters (allowed characters are from ASCII 32 to 127).

show

Display device options and settings.

show cli global

Display CLI preferences.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** show cli global

show cli command-tree

Show a list of all commands.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** show cli command-tree

logging

Logging configuration.

logging cli-command

Enable or disable the CLI command logging.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** logging cli-command

no logging cli-command

Disable the option

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** no logging cli-command

show

Display device options and settings.

show logging cli-command

Show the CLI command logging preferences.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** show logging cli-command

Clock

clock

Configure local and DST clock settings.

clock set

Edit local time.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** clock set <P-1> <P-2>

Parameter	Value	Meaning
P-1	YYYY-MM-DD	Local date (range: 2004-01-01 - 2037-12-31).
P-2	HH:MM:SS	Local time.

clock timezone offset

Local time offset (in minutes) with respect to UTC (positive values for locations east of Greenwich).

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** clock timezone offset <P-1>

Parameter	Value	Meaning
P-1	-780..840	Edit the timezone offset (in minutes).

clock timezone zone

Edit the timezone acronym (max. 4 characters).

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** clock timezone zone <P-1>

Parameter	Value	Meaning
P-1	string	Edit the timezone acronym (max 4 characters).

clock summer-time mode

Configure summer-time mode parameters.

- **Mode:** Global Config Mode
- **Privilege Level:** Administrator
- **Format:** clock summer-time mode <P-1>

Parameter	Value	Meaning
P-1	disable	Disable recurring summer-time mode.
	recurring	Enable recurring summer-time mode.
	eu	Enable recurring summer-time used in most parts of the European Union.
	usa	Enable recurring summer-time used in most parts of the USA.

clock summer-time recurring start

Edit the starting date and time for daylight saving time.

- **Mode:** Global Config Mode
- **Privilege Level:** Administrator
- **Format:** clock summer-time recurring start <P-1> <P-2> <P-3> <P-4>

Parameter	Value	Meaning
P-1	none	none
	first	first
	second	second
	third	third
	fourth	fourth
	last	last
P-2	none	none
	sun	Sunday
	mon	Monday
	tue	Tuesday
	wed	Wednesday
	thu	Thursday
	fri	Friday
	sat	Saturday

Parameter	Value	Meaning
P-3	none	none
	jan	January
	feb	February
	mar	March
	apr	April
	may	May
	jun	June
	jul	July
	aug	August
	sep	September
	oct	October
	nov	November
	dec	December
P-4	string	<hh:mm> Present time in hh:mm format (00:00-23:59).

clock summer-time recurring end

Edit the ending date and time for daylight saving time.

- **Mode:** Global Config Mode
- **Privilege Level:** Administrator
- **Format:** clock summer-time recurring end <P-1> <P-2> <P-3> <P-4>

Parameter	Value	Meaning
P-1	none	none
	first	first
	second	second
	third	third
	fourth	fourth
	last	last
P-2	none	none
	sun	Sunday
	mon	Monday
	tue	Tuesday
	wed	Wednesday
	thu	Thursday
	fri	Friday
	sat	Saturday

Parameter	Value	Meaning
P-3	none	none
	jan	January
	feb	February
	mar	March
	apr	April
	may	May
	jun	June
	jul	July
	aug	August
	sep	September
	oct	October
	nov	November
	dec	December
P-4	string	<hh:mm> Present time in hh:mm format (00:00-23:59).

clock summer-time zone

Edit timezone acronym for summer-time (max. 4 characters).

- **Mode:** Global Config Mode
- **Privilege Level:** Administrator
- **Format:** clock summer-time zone <P-1>

Parameter	Value	Meaning
P-1	string	Edit the timezone acronym (max 4 characters).

show

Display device options and settings.

show clock

Display the time information.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** `show clock [summer-time]`

`[summer-time]`: Display summer-time parameters.

Configuration

save

Save the configuration to the specified destination.

save profile

Save the configuration to the specific profile.

- ▶ **Mode:** All Privileged Modes
- ▶ **Privilege Level:** Operator
- ▶ **Format:** `save profile <P-1>`

Parameter	Value	Meaning
P-1	string	Enter a user-defined text, max. 32 characters.

config

Configure the configuration saving settings.

config watchdog admin-state

Enable or disable the configuration undo feature.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** config watchdog admin-state

no config watchdog admin-state

Disable the option

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** no config watchdog admin-state

config watchdog timeout

Configure the configuration undo timeout (unit: seconds).

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** config watchdog timeout <P-1>

Parameter	Value	Meaning
P-1	30..600	Enter a number in the given range.

config encryption password set

Set the configuration file password.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** config encryption password set [<P-1>] [<P-2>]

Parameter	Value	Meaning
P-1	string	Enter a user-defined text, max. 64 characters.
P-2	string	Enter a user-defined text, max. 64 characters.

config encryption password clear

Clear the configuration file password.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** config encryption password clear [<P-1>]

Parameter	Value	Meaning
P-1	string	Enter a user-defined text, max. 64 characters.

config envm auto-update

Allow automatic firmware updates with this memory device.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** config envm auto-update <P-1>

Parameter	Value	Meaning
P-1	usb	USB Storage Device.

no config envm auto-update

Disable the option

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** no config envm auto-update <P-1>

config envm sshkey-auto-update

Allow automatic ssh key updates with this memory device.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** config envm sshkey-auto-update <P-1>

Parameter	Value	Meaning
P-1	usb	USB Storage Device.

no config envm sshkey-auto-update

Disable the option

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** no config envm sshkey-auto-update <P-1>

config envm config-save

Allow the configuration to be saved to this memory device.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** config envm config-save <P-1>

Parameter	Value	Meaning
P-1	usb	USB Storage Device.

no config envm config-save

Disable the option

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** no config envm config-save <P-1>

config envm load-priority

Configure the order of configuration load attempts from memory devices at boot time. If one load is successful, then the device discards further attempts.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** config envm load-priority <P-1> <P-2>

Parameter	Value	Meaning
P-1	usb	USB Storage Device.
P-2	disable	Configuration will not be loaded at all.
	first	Configuration will be loaded first. If successful, no other configuration will be attempted.

config envm usb-compatibility

Changes the USB compatibility mode. The changes take effect only after saving the settings and rebooting the device.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** config envm usb-compatibility <P-1>

Parameter	Value	Meaning
P-1	normal	Normal Mode.
	compatibility	Compatibility Mode.

no config envm usb-compatibility

Disable the option

- **Mode:** Global Config Mode
- **Privilege Level:** Operator
- **Format:** no config envm usb-compatibility <P-1>

config profile select

Select a configuration profile to be the active configuration.

- **Mode:** Global Config Mode
- **Privilege Level:** Administrator
- **Format:** config profile select <P-1> <P-2>

Parameter	Value	Meaning
P-1	nvm	You can only select nvm (non-volatile memory) for this command.
P-2	1..20	Index of the profile entry.

config profile delete

Delete a specific configuration profile.

- **Mode:** Global Config Mode
- **Privilege Level:** Administrator
- **Format:** config profile delete <P-1> num <P-2> profile <P-3>

num: Select the index of a profile to delete.

profile: Select the name of a profile to delete.

Parameter	Value	Meaning
P-1	nvm	Non-volatile memory.
	envm	External non-volatile memory.
P-2	1..20	Index of the profile entry.
P-3	string	Enter a user-defined text, max. 32 characters.

config fingerprint verify nvm profile

Select the name of a profile to be verified.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** config fingerprint verify nvm profile <P-1> <P-2>

Parameter	Value	Meaning
P-1	string	Filename.
P-2	string	Enter hash as 40 hexa-decimal characters.

config fingerprint verify nvm num

Select the index number of a profile to be verified.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** config fingerprint verify nvm num <P-1> <P-2>

Parameter	Value	Meaning
P-1	1..20	Index of the profile entry.
P-2	string	Enter hash as 40 hexa-decimal characters.

config fingerprint verify envm profile

Select the name of a profile to be verified.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** config fingerprint verify envm profile <P-1> <P-2>

Parameter	Value	Meaning
P-1	string	Filename.
P-2	string	Enter hash as 40 hexa-decimal characters.

config fingerprint verify envm num

Select the index number of a profile to be verified.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** config fingerprint verify envm num <P-1> <P-2>

Parameter	Value	Meaning
P-1	1..20	Index of the profile entry.
P-2	string	Enter hash as 40 hexa-decimal characters.

config remote-backup operation

Enable or disable the remote backup of the configuration profile.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** config remote-backup operation

no config remote-backup operation

Disable the option

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** no config remote-backup operation

config remote-backup destination

Enter the destination URL for the configuration profile backup. The following wildcards are allowed: %d=date, %t=time, %i=IP address, %m=MAC address, %p=product name.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** config remote-backup destination <P-1>

Parameter	Value	Meaning
P-1	string	Enter a user-defined text, max. 128 characters.

config remote-backup username

Enter the user name to authenticate on the remote server.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** config remote-backup username <P-1>

Parameter	Value	Meaning
P-1	string	Enter a user-defined text, max. 128 characters.

config remote-backup password

Enter the password to authenticate on the remote server.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** config remote-backup password <P-1>

Parameter	Value	Meaning
P-1	string	Enter a user-defined text, max. 128 characters.

copy

Copy different kinds of items.

copy sysinfo system envm

Copy the system information to external non-volatile memory.

- ▶ **Mode:** Privileged Exec Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** `copy sysinfo system envm [filename <P-1>]`

[filename]: Enter the filename (format xyz.html) to be saved in external non-volatile memory.

Parameter	Value	Meaning
P-1	string	Enter a user-defined text, max. 32 characters.

copy sysinfoall system envm

Copy the system information and the event log from the device to external non-volatile memory.

- ▶ **Mode:** Privileged Exec Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** `copy sysinfoall system envm`

copy firmware envm

Copy a firmware image to the device from external non-volatile memory.

- ▶ **Mode:** Privileged Exec Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** `copy firmware envm <P-1> system`

system: Copy a firmware image to the device from external non-volatile memory.

Parameter	Value	Meaning
P-1	string	Filename.

copy firmware remote

Copy a firmware image to the device from a server.

- ▶ **Mode:** Privileged Exec Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** `copy firmware remote <P-1> system`

`system`: Copy a firmware image to the device from a file server.

Parameter	Value	Meaning
P-1	string	Enter a user-defined text, max. 128 characters.

copy config running-config nvm

Copy the running configuration to non-volatile memory.

- ▶ **Mode:** Privileged Exec Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** `copy config running-config nvm [profile <P-1>]`

`[profile]`: Save the configuration as a specific profile name.

Parameter	Value	Meaning
P-1	string	Enter a user-defined text, max. 32 characters.

copy config running-config remote

Copy the running configuration to a file server.

- ▶ **Mode:** Privileged Exec Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** `copy config running-config remote <P-1>`

Parameter	Value	Meaning
P-1	string	Enter a user-defined text, max. 128 characters.

copy config nvm

Load a configuration from non-volatile memory to the running configuration.

- ▶ **Mode:** Privileged Exec Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** `copy config nvm [profile <P-1>] running-config remote <P-2>`

`[profile]`: Load a configuration from a specific profile name.

`running-config`: (Re)-load a configuration from non-volatile memory to the running configuration.

remote: Copy a configuration from non-volatile memory to a server.

Parameter	Value	Meaning
P-1	string	Filename.
P-2	string	Enter a user-defined text, max. 128 characters.

copy config envm

Copy a configuration from external non-volatile memory to non-volatile memory.

- **Mode:** Privileged Exec Mode
- **Privilege Level:** Administrator
- **Format:** `copy config envm [profile <P-1>] nvm`

[profile]: Copy a specific configuration profile from external non-volatile memory to non-volatile memory.

nvm: Copy a specific profile from external non-volatile memory to non-volatile memory.

Parameter	Value	Meaning
P-1	string	Filename.

copy config remote

Copy a configuration file to the device from a server.

- **Mode:** Privileged Exec Mode
- **Privilege Level:** Administrator
- **Format:** `copy config remote <P-1> nvm [profile <P-2>] running-config`

nvm: Copy a configuration file from a server to non-volatile memory.

[profile]: Copy a configuration from a server to a specific profile in non-volatile memory.

running-config: Copy a configuration file from a server to the running configuration.

Parameter	Value	Meaning
P-1	string	Enter a user-defined text, max. 128 characters.
P-2	string	Enter a user-defined text, max. 32 characters.

copy sfp-white-list remote

Copy the SFP WhiteList from server to the device.

- ▶ **Mode:** Privileged Exec Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** `copy sfp-white-list remote <P-1> nvm`

nvm: Copy the SFP WhiteList from server to the device.

Parameter	Value	Meaning
P-1	string	Enter a user-defined text, max. 128 characters.

copy sfp-white-list envm

Copy the SFP WhiteList from external non-volatile memory.

- ▶ **Mode:** Privileged Exec Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** `copy sfp-white-list envm <P-1> nvm`

nvm: Copy the SFP WhiteList from external non-volatile memory to the device.

Parameter	Value	Meaning
P-1	string	Enter a user-defined text, max. 128 characters.

clear

Clear several items.

clear config

Clear the running configuration.

- ▶ **Mode:** Privileged Exec Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** `clear config [<P-1>]`

Parameter	Value	Meaning
P-1	keep-ip	Keep the IP parameters for management at clear configuration.

clear factory

Set the device back to the factory settings.

NOTE: By executing the command, the settings that you have individually specified will be cleared.

- ▶ **Mode:** Privileged Exec Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** `clear factory`

clear sfp-white-list

Clear the SFP WhiteList.

- ▶ **Mode:** Privileged Exec Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** `clear sfp-white-list`

show

Display device options and settings.

show running-config xml

Show the running configuration (XML file).

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** show running-config xml

show running-config script

Show the running configuration (CLI script).

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** show running-config script [all]

[all]: Show the running configuration (CLI script).

show

Display device options and settings.

show config envm settings

Show the settings of the external non-volatile memory.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** `show config envm settings`

show config envm properties

Show the properties of the external non-volatile memory.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** `show config envm properties`

show config envm usb-compatibility

Show the USB compatibility mode. The admin mode takes effect after saving the settings and rebooting the device.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** `show config envm usb-compatibility`

show config watchdog

Show the Auto Configuration Undo settings (Admin State, Operating State, Timeout Interval, Timer Value, Trigger IP Address).

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** `show config watchdog`

show config encryption

Show the settings for configuration encryption.

- **Mode:** Command is in all modes available.
- **Privilege Level:** Guest
- **Format:** `show config encryption`

show config profiles

Show the configuration profiles.

- **Mode:** Command is in all modes available.
- **Privilege Level:** Administrator
- **Format:** `show config profiles <P-1> [<P-2>]`

Parameter	Value	Meaning
P-1	nvm	Non-volatile memory.
	envm	External non-volatile memory.
P-2	1..20	Index of the profile entry.

show config status

Show the sync status of the running configuration with non-volatile memory and EAM Memory Adapter.

- **Mode:** Command is in all modes available.
- **Privilege Level:** Guest
- **Format:** `show config status`

show config remote-backup

Show the settings and status for remote backup of configuration.

- **Mode:** Command is in all modes available.
- **Privilege Level:** Administrator
- **Format:** `show config remote-backup`

swap

Swap software images.

swap firmware system backup

Swap the main and backup images.

- ▶ **Mode:** Privileged Exec Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** swap firmware system backup

Debugging

debug

Different tools to assist in debugging the device.

debug tcpdump help

Display help file for the tcpdump tool.

- **Mode:** Privileged Exec Mode
- **Privilege Level:** Operator
- **Format:** debug tcpdump help

debug tcpdump start cpu

Start capture with default values.

- **Mode:** Privileged Exec Mode
- **Privilege Level:** Operator
- **Format:** debug tcpdump start cpu [filter <P-1>] [parms <P-2>]

[filter]: Start capture with values from a filter file.

[parms]: Start capture with the tcpdump parameters (for details see tcpdump help).

Parameter	Value	Meaning
P-1	string	<filename> Enter a valid filename.
P-2	string	Enter a user-defined text, max. 255 characters.

debug tcpdump stop

Abort capture of network traffic.

- **Mode:** Privileged Exec Mode
- **Privilege Level:** Operator
- **Format:** debug tcpdump stop

debug tcpdump filter show

Display a known filter file.

- ▶ **Mode:** Privileged Exec Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** debug tcpdump filter show <P-1>

Parameter	Value	Meaning
P-1	string	<filename> Enter a valid filename.

debug tcpdump filter list

Display all available filter files.

- ▶ **Mode:** Privileged Exec Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** debug tcpdump filter list

debug tcpdump filter delete

Delete a known filter file.

- ▶ **Mode:** Privileged Exec Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** debug tcpdump filter delete <P-1>

Parameter	Value	Meaning
P-1	string	<filename> Enter a valid filename.

show

Display device options and settings.

show debug logic-modules

List logic module information

- ▶ **Mode:** Privileged Exec Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** show debug logic-modules

copy

Copy different kinds of items.

copy tcpdumpcap nvm envm

Copy the capture file from non-volatile memory to external non-volatile memory.

- ▶ **Mode:** Privileged Exec Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** `copy tcpdumpcap nvm envm [<P-1>]`

Parameter	Value	Meaning
P-1	string	<filename> Enter a valid filename.

copy tcpdumpcap nvm remote

Copy the capture file from the device to a server.

- ▶ **Mode:** Privileged Exec Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** `copy tcpdumpcap nvm remote <P-1>`

Parameter	Value	Meaning
P-1	string	Enter a user-defined text, max. 128 characters.

copy tcpdumpfilter remote

Copy the filter file from a server to the specified destination.

- ▶ **Mode:** Privileged Exec Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** `copy tcpdumpfilter remote <P-1> nvm <P-2>`

nvm: Copy the filter file from a server to non-volatile memory.

Parameter	Value	Meaning
P-1	string	Enter a user-defined text, max. 128 characters.
P-2	string	<filename> Enter a valid filename.

copy tcpdumpfilter envm

Copy the capture filter from external non-volatile memory to the specified destination.

- ▶ **Mode:** Privileged Exec Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** `copy tcpdumpfilter envm <P-1> nvm [<P-2>]`

nvm: Copy the capture filter from external non-volatile memory to non-volatile memory.

Parameter	Value	Meaning
P-1	string	<filename> Enter a valid filename.
P-2	string	<filename> Enter a valid filename.

copy tcpdumpfilter nvm

Copy the capture filter from non-volatile memory to the specified destination.

- ▶ **Mode:** Privileged Exec Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** `copy tcpdumpfilter nvm <P-1> envm [<P-2>] remote <P-3>`

envm: Copy the capture filter from non-volatile memory to external non-volatile memory.

remote: Copy the capture file from non-volatile memory to a server.

Parameter	Value	Meaning
P-1	string	<filename> Enter a valid filename.
P-2	string	<filename> Enter a valid filename.
P-3	string	Enter a user-defined text, max. 128 characters.

Device Monitoring

device-status

Configure various device conditions to be monitored.

device-status monitor link-failure

Enable or disable monitor state of network connection (connections).

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** device-status monitor link-failure

no device-status monitor link-failure

Disable the option

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** no device-status monitor link-failure

device-status monitor temperature

Enable or disable monitoring of the device temperature.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** device-status monitor temperature

no device-status monitor temperature

Disable the option

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** no device-status monitor temperature

device-status monitor envm-removal

Enable or disable monitoring the presence of the external non-volatile memory.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** device-status monitor envm-removal

no device-status monitor envm-removal

Disable the option

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** no device-status monitor envm-removal

device-status monitor envm-not-in-sync

Enable or disable monitoring synchronization between the external non-volatile memory and the running configuration.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** device-status monitor envm-not-in-sync

no device-status monitor envm-not-in-sync

Disable the option

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** no device-status monitor envm-not-in-sync

device-status monitor ring-redundancy

Enable or disable monitoring if ring-redundancy is present.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** device-status monitor ring-redundancy

no device-status monitor ring-redundancy

Disable the option

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** no device-status monitor ring-redundancy

device-status monitor power-supply

Enable or disable monitoring the condition of the power supply (supplies).

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** device-status monitor power-supply <P-1>

Parameter	Value	Meaning
P-1	1..2	Power supply number.

no device-status monitor power-supply

Disable the option

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** no device-status monitor power-supply <P-1>

device-status trap

Configure the device to send a trap when the device status changes.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** device-status trap

no device-status trap

Disable the option

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** no device-status trap

device-status

Configure various device conditions to be monitored.

device-status link-alarm

Configure the monitor settings of the port link.

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** device-status link-alarm

no device-status link-alarm

Disable the option

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** no device-status link-alarm

show

Display device options and settings.

show device-status monitor

Display the device monitoring configurations.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** `show device-status monitor`

show device-status state

Display the state of the device.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** `show device-status state`

show device-status trap

Display the device trap information and configurations.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** `show device-status trap`

show device-status events

Display detected device status events.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** `show device-status events`

show device-status link-alarm

Display the monitor configurations of the network ports.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** `show device-status link-alarm`

show device-status all

Display the configurable device status settings.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** `show device-status all`

Device Security

security-status

Configure the security status settings.

security-status monitor pwd-change

Sets the monitoring of default password change for 'user' and 'admin'.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** security-status monitor pwd-change

no security-status monitor pwd-change

Disable the option

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** no security-status monitor pwd-change

security-status monitor pwd-min-length

Sets the monitoring of minimum length of the password (minimum possible: 8).

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** security-status monitor pwd-min-length

no security-status monitor pwd-min-length

Disable the option

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** no security-status monitor pwd-min-length

security-status monitor pwd-policy-config

Sets the monitoring whether the minimum password policy is configured.

The device changes the security status to the value "error" if the value for at least one of the following password rules is 0:

"minimum upper cases", "minimum lower cases", "minimum numbers", "minimum special characters".

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** security-status monitor pwd-policy-config

no security-status monitor pwd-policy-config

Disable the option

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** no security-status monitor pwd-policy-config

security-status monitor pwd-str-not-config

Sets the monitoring whether the password minimum strength check is configured.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** security-status monitor pwd-str-not-config

no security-status monitor pwd-str-not-config

Disable the option

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** no security-status monitor pwd-str-not-config

security-status monitor pwd-policy-inactive

Sets the monitoring whether at least one user is configured with inactive policy check. The device changes the security status to the value "error" if the function "policy check" is inactive for at least 1 user account.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** security-status monitor pwd-policy-inactive

no security-status monitor pwd-policy-inactive

Disable the option

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** no security-status monitor pwd-policy-inactive

security-status monitor bypass-pwd-strength

Sets the monitoring whether at least one user is configured to bypass strength check.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** security-status monitor bypass-pwd-strength

no security-status monitor bypass-pwd-strength

Disable the option

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** no security-status monitor bypass-pwd-strength

security-status monitor telnet-enabled

Sets the monitoring of the activation of telnet on the switch.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** security-status monitor telnet-enabled

no security-status monitor telnet-enabled

Disable the option

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** no security-status monitor telnet-enabled

security-status monitor http-enabled

Sets the monitoring of the activation of http on the switch.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** security-status monitor http-enabled

no security-status monitor http-enabled

Disable the option

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** no security-status monitor http-enabled

security-status monitor snmp-unsecure

Sets the monitoring of SNMP security (SNMP v1/v2 is enabled or v3 encryption is disabled).

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** security-status monitor snmp-unsecure

no security-status monitor snmp-unsecure

Disable the option

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** no security-status monitor snmp-unsecure

security-status monitor sysmon-enabled

Sets the monitoring of the activation of System Monitor 1 on the switch.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** security-status monitor sysmon-enabled

no security-status monitor sysmon-enabled

Disable the option

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** no security-status monitor sysmon-enabled

security-status monitor extnvm-upd-enabled

Sets the monitoring of activation of the configuration saving to external non volatile memory.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** security-status monitor extnvm-upd-enabled

no security-status monitor extnvm-upd-enabled

Disable the option

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** no security-status monitor extnvm-upd-enabled

security-status monitor no-link-enabled

Sets the monitoring of no link detection.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** security-status monitor no-link-enabled

no security-status monitor no-link-enabled

Disable the option

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** no security-status monitor no-link-enabled

security-status monitor esc-write-enabled

Sets the monitoring of Ethernet Switch Configurator.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** security-status monitor esc-write-enabled

no security-status monitor esc-write-enabled

Disable the option

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** no security-status monitor esc-write-enabled

security-status monitor extnvm-load-unsecure

Sets the monitoring of security of the configuration loading from external non-volatile memory.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** security-status monitor extnvm-load-unsecure

no security-status monitor extnvm-load-unsecure

Disable the option

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** no security-status monitor extnvm-load-unsecure

security-status monitor iec61850-mms-enabled

Sets the monitoring of the activation of IEC 61850 MMS on the switch.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** security-status monitor iec61850-mms-enabled

no security-status monitor iec61850-mms-enabled

Disable the option

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** no security-status monitor iec61850-mms-enabled

security-status monitor https-certificate

Sets the monitoring whether auto generated self-signed HTTPS certificate is in use.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** security-status monitor https-certificate

no security-status monitor https-certificate

Disable the option

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** no security-status monitor https-certificate

security-status monitor modbus-tcp-enabled

Sets the monitoring of the activation of Modbus/TCP server on the switch.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** security-status monitor modbus-tcp-enabled

no security-status monitor modbus-tcp-enabled

Disable the option

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** no security-status monitor modbus-tcp-enabled

security-status monitor ethernet-ip-enabled

Sets the monitoring of the activation of EtherNet/IP protocol on the switch.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** security-status monitor ethernet-ip-enabled

no security-status monitor ethernet-ip-enabled

Disable the option

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** no security-status monitor ethernet-ip-enabled

security-status trap

Configure if a trap is sent when the security status changes.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** security-status trap

no security-status trap

Disable the option

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** no security-status trap

security-status

Configure the security status interface settings.

security-status no-link

Configure the monitoring of the specific ports.

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** security-status no-link

no security-status no-link

Disable the option

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** no security-status no-link

show

Display device options and settings.

show security-status monitor

Display the security status monitoring settings.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** `show security-status monitor`

show security-status state

Display the security status.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** `show security-status state`

show security-status no-link

Display the settings of the monitoring of the specific network ports.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** `show security-status no-link`

show security-status trap

Display the security status trap information and settings.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** `show security-status trap`

show security-status events

Display detected security status events.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** `show security-status events`

show security-status all

Display all security status settings.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** show security-status all

Dynamic Host Configuration Protocol (DHCP)

dhcp-server

Modify DHCP Server parameters.

dhcp-server operation

Enable or disable the DHCP server on this port.

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** dhcp-server operation

no dhcp-server operation

Disable the option

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** no dhcp-server operation

dhcp-server

Modify DHCP Server parameters.

dhcp-server operation

Enable or disable the DHCP server globally.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** dhcp-server operation

no dhcp-server operation

Disable the option

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** no dhcp-server operation

dhcp-server pool add

Add a pool

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** dhcp-server pool add <P-1> dynamic <P-2> <P-3> static <P-4>

dynamic: Add a dynamic pool (one or more IPs).

static: Add a static pool (one IP).

Parameter	Value	Meaning
P-1	1..128	Pool ID.
P-2	A.B.C.D	IP address.
P-3	A.B.C.D	IP address.
P-4	A.B.C.D	IP address.

dhcp-server pool modify

Modify the dynamic address pool

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** dhcp-server pool modify <P-1> mode interface <P-2> mac <P-3> clientid <P-4> remoteid <P-5> circuitid <P-6> relay <P-7> vlan <P-8> leasetime <P-9> option configpath <P-10> gateway <P-11> netmask <P-12> wins <P-13> dns <P-14> hostname <P-15> schneider-device

mode: Pool mode settings.

interface: Interface mode.

mac: MAC mode.

clientid: Clientid mode.

remoteid: Remoteid mode.

circuitid: Circuitid mode.

relay: Relay mode.

vlan: VLAN mode.

leasetime: Enter the leasetime in seconds.

option: Configuration option.

configpath: Configpath in 'tftp://<servername>/<file>' format.

gateway: Default gateway.

netmask: Option netmask.

wins: Option wins.

dns: Option dns.

hostname: Option hostname.

schneider-device: Set this pool to Schneider Electric devices only.

Parameter	Value	Meaning
P-1	1..128	Pool ID.
P-2	slot no./port no.	Slot number / port number.
P-3	none	Remove MAC mode.
	aa:bb:cc:dd:ee:ff	MAC address.
P-4	none	Remove ID mode.
	xx:xx:...:xx	Enter ID in hexadecimal format.
P-5	none	Remove ID mode.
	xx:xx:...:xx	Enter ID in hexadecimal format.
P-6	none	Remove ID mode.
	xx:xx:...:xx	Enter ID in hexadecimal format.
P-7	none	Remove relay mode.
	ipaddr	Enter IP address of the relay.
P-8	-1..4042	VLAN ID. A value of -1 corresponds to management VLAN (the default), any other value (1-4042) represents a specific VLAN.
P-9	infinite	Infinite leasetime.
	seconds	Leasetime in seconds.
P-10	tftp:// <servername>/ <file>	tftp://<servername>/<file> Configuration path; empty string ("") to clear value.
P-11	A.B.C.D	IP address.

Parameter	Value	Meaning
P-12	a.b.c.d	IP subnet mask.
P-13	A.B.C.D	IP address.
P-14	A.B.C.D	IP address.
P-15	string	Enter a user-defined text, max. 64 characters.

no dhcp-server pool modify

Disable the option

- **Mode:** Global Config Mode
- **Privilege Level:** Operator
- **Format:** no dhcp-server pool modify <P-1> mode interface mac clientid remoteid circuitid relay vlan leasetime option configpath gateway netmask wins dns hostname schneider-device

dhcp-server pool mode

Pool enable.

- **Mode:** Global Config Mode
- **Privilege Level:** Operator
- **Format:** dhcp-server pool mode <P-1>

Parameter	Value	Meaning
P-1	1..128	Pool ID.

no dhcp-server pool mode

Disable the option

- **Mode:** Global Config Mode
- **Privilege Level:** Operator
- **Format:** no dhcp-server pool mode <P-1>

dhcp-server pool delete

Pool delete.

- **Mode:** Global Config Mode
- **Privilege Level:** Operator
- **Format:** dhcp-server pool delete <P-1>

Parameter	Value	Meaning
P-1	1..128	Pool ID.

show

Display device options and settings.

show dhcp-server operation

Display DHCP Server global information.

- **Mode:** Command is in all modes available.
- **Privilege Level:** Guest
- **Format:** `show dhcp-server operation`

show dhcp-server pool

Show DHCP Server pool entries.

- **Mode:** Command is in all modes available.
- **Privilege Level:** Guest
- **Format:** `show dhcp-server pool [<P-1>]`

Parameter	Value	Meaning
P-1	1..128	Pool ID.

show dhcp-server interface

Show DHCP Server per interface.

- **Mode:** Command is in all modes available.
- **Privilege Level:** Guest
- **Format:** `show dhcp-server interface [<P-1>]`

Parameter	Value	Meaning
P-1	slot no./port no.	Slot number / port number.

show dhcp-server lease

Show DHCP Server lease entries.

- **Mode:** Command is in all modes available.
- **Privilege Level:** Guest
- **Format:** `show dhcp-server lease`

DoS Mitigation

dos

Manage DoS Mitigation

dos tcp-null

Enables TCP Null scan protection - all TCP flags and TCP sequence number zero.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** dos tcp-null

no dos tcp-null

Disable the option

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** no dos tcp-null

dos tcp-xmas

Enables TCP XMAS scan protection - TCP FIN, URG, PSH equal 1 and SEQ equals 0.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** dos tcp-xmas

no dos tcp-xmas

Disable the option

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** no dos tcp-xmas

dos tcp-syn-fin

Enables TCP SYN/FIN scan protection - TCP with SYN and FIN flags set.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** dos tcp-syn-fin

no dos tcp-syn-fin

Disable the option

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** no dos tcp-syn-fin

dos tcp-min-header

Enables TCP minimal header size check.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** dos tcp-min-header

no dos tcp-min-header

Disable the option

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** no dos tcp-min-header

dos icmp-fragmented

Enables fragmented ICMP protection.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** dos icmp-fragmented

no dos icmp-fragmented

Disable the option

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** no dos icmp-fragmented

dos icmp payload-check

Enables ICMP max payload size protection for IPv4 and IPv6.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** dos icmp payload-check

no dos icmp payload-check

Disable the option

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** no dos icmp payload-check

dos icmp payload-size

Configures maximum ICMP payload size (default: 512).

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** dos icmp payload-size <P-1>

Parameter	Value	Meaning
P-1	0..1472	Max. ICMP payload size (default: 512).

dos ip-land

Enables LAND attack protection - source IP equals destination IP.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** dos ip-land <P-1>

Parameter	Value	Meaning
P-1	enable	Enable the option.
	disable	Disable the option.

dos tcp-offset

Enables TCP offset check - ingress TCP packets with fragment offset 1 are dropped.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** dos tcp-offset

no dos tcp-offset

Disable the option

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** no dos tcp-offset

dos tcp-syn

Enables TCP source port smaller than 1024 protection.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** dos tcp-syn

no dos tcp-syn

Disable the option

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** no dos tcp-syn

dos l4-port

Enables UDP or TCP source port equals destination port check.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** dos l4-port

no dos l4-port

Disable the option

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** no dos l4-port

show

Display device options and settings.

show dos

Show DoS Mitigation parameters

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** show dos

IEEE 802.1x (Dot1x - Port Based Network Access Control)

dot1x

Configure 802.1X parameters.

dot1x dynamic-vlan

Creates VLANs dynamically when a RADIUS-assigned VLAN does not exist.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** dot1x dynamic-vlan

no dot1x dynamic-vlan

Disable the option

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** no dot1x dynamic-vlan

dot1x system-auth-control

Enable or disable 802.1X authentication support on the switch.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** dot1x system-auth-control

no dot1x system-auth-control

Disable the option

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** no dot1x system-auth-control

dot1x monitor

Enable or disable 802.1X monitor mode.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** dot1x monitor

no dot1x monitor

Disable the option

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** no dot1x monitor

dot1x

Configure 802.1X interface parameters.

dot1x guest-vlan

Configure a VLAN as 802.1X guest VLAN.

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** dot1x guest-vlan <P-1>

Parameter	Value	Meaning
P-1	0..4042	Enter the VLAN ID. Entering of ID 0 disables the feature.

dot1x max-req

Configure the maximum number of requests to be sent.

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** dot1x max-req <P-1>

Parameter	Value	Meaning
P-1	1..10	Maximum number of requests (default: 2).

dot1x port-control

Set the authentication mode on the specified port.

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** dot1x port-control <P-1>

Parameter	Value	Meaning
P-1	auto	Port is actually controlled by protocol.
	force-authorized	Port is authorized unconditionally (default).
	force-unauthorized	Port is unauthorized unconditionally.

dot1x re-authentication

Enable or disable re-authentication for the given interface.

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** dot1x re-authentication

no dot1x re-authentication

Disable the option

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** no dot1x re-authentication

dot1x unauthenticated-vlan

Configure a VLAN as 802.1X unauthenticated VLAN.

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** dot1x unauthenticated-vlan <P-1>

Parameter	Value	Meaning
P-1	0..4042	Enter the VLAN ID. Entering of ID 0 disables the feature.

dot1x timeout guest-vlan-period

Configure the guest-vlan period value.

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** dot1x timeout guest-vlan-period <P-1>

Parameter	Value	Meaning
P-1	1..300	Guest VLAN timeout in seconds (default: 90).

dot1x timeout reauth-period

Configure the re-authentication period.

- **Mode:** Interface Range Mode
- **Privilege Level:** Operator
- **Format:** dot1x timeout reauth-period <P-1>

Parameter	Value	Meaning
P-1	1..65535	Timeout in seconds.

dot1x timeout quiet-period

Configure the quiet period value.

- **Mode:** Interface Range Mode
- **Privilege Level:** Operator
- **Format:** dot1x timeout quiet-period <P-1>

Parameter	Value	Meaning
P-1	0..65535	Quiet period in seconds (default: 60).

dot1x timeout tx-period

Configure the transmit timeout period.

- **Mode:** Interface Range Mode
- **Privilege Level:** Operator
- **Format:** dot1x timeout tx-period <P-1>

Parameter	Value	Meaning
P-1	1..65535	Timeout in seconds.

dot1x timeout supp-timeout

Configure the supplicant timeout period.

- **Mode:** Interface Range Mode
- **Privilege Level:** Operator
- **Format:** dot1x timeout supp-timeout <P-1>

Parameter	Value	Meaning
P-1	1..65535	Timeout in seconds.

dot1x timeout server-timeout

Configure the server timeout period.

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** dot1x timeout server-timeout <P-1>

Parameter	Value	Meaning
P-1	1..65535	Timeout in seconds.

dot1x initialize

Begins the initialization sequence on the specified port (port-control mode must be 'auto').

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** dot1x initialize

no dot1x initialize

Disable the option

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** no dot1x initialize

dot1x re-authenticate

Begins the re-authentication sequence on the specified port (port-control mode must be 'auto').

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** dot1x re-authenticate

no dot1x re-authenticate

Disable the option

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** no dot1x re-authenticate

show

Display device options and settings.

show dot1x global

Display global 802.1X configuration.

- **Mode:** Command is in all modes available.
- **Privilege Level:** Guest
- **Format:** show dot1x global

show dot1x auth-history

Display 802.1X authentication events and information.

- **Mode:** Command is in all modes available.
- **Privilege Level:** Guest
- **Format:** show dot1x auth-history [<P-1> [<P-2>]]

Parameter	Value	Meaning
P-1	slot no./port no.	Slot number / port number.
P-2	1..4294967294	802.1X history log entry index. This can be specified only if interface is provided. Parameter Usage:[<slot/port> [index]]

show dot1x detail

Display the detailed 802.1X configuration for the specified port.

- **Mode:** Command is in all modes available.
- **Privilege Level:** Guest
- **Format:** show dot1x detail <P-1>

Parameter	Value	Meaning
P-1	slot no./port no.	Slot number / port number.

show dot1x summary

Display summary information of the 802.1X configuration for a specified port or all ports.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** `show dot1x summary [<P-1>]`

Parameter	Value	Meaning
P-1	slot no./port no.	Slot number / port number.

show dot1x clients

Display 802.1X client information.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** `show dot1x clients [<P-1>]`

Parameter	Value	Meaning
P-1	aa:bb:cc:dd:ee:ff	MAC address.

show dot1x statistics

Display the 802.1X statistics for the specified port.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** `show dot1x statistics <P-1>`

Parameter	Value	Meaning
P-1	slot no./port no.	Slot number / port number.

clear

Clear several items.

clear dot1x statistics port

Resets the 802.1X statistics for specified port.

- ▶ **Mode:** Privileged Exec Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** clear dot1x statistics port <P-1>

Parameter	Value	Meaning
P-1	slot no./port no.	Slot number / port number.

clear dot1x statistics all

Resets the 802.1X statistics for all ports.

- ▶ **Mode:** Privileged Exec Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** clear dot1x statistics all

clear dot1x auth-history port

Clears the 802.1X authentication history for specified port.

- ▶ **Mode:** Privileged Exec Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** clear dot1x auth-history port <P-1>

Parameter	Value	Meaning
P-1	slot no./port no.	Slot number / port number.

clear dot1x auth-history all

Clears the 802.1X authentication history for all ports.

- ▶ **Mode:** Privileged Exec Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** clear dot1x auth-history all

IEEE 802.3ad (Dot3ad - Link Aggregation)

link-aggregation

Configure 802.3ad link aggregation parameters to increase bandwidth and provide redundancy by combining connections.

link-aggregation add

Create a new Link Aggregation Group (LAG) to increase bandwidth and provide link redundancy. If desired, enter a name up to 15 alphanumeric characters in length.

- **Mode:** Global Config Mode
- **Privilege Level:** Operator
- **Format:** link-aggregation add <P-1>

Parameter	Value	Meaning
P-1	lag/<lagport>	Enter a LAG interface in <lag/<lagport> format.

link-aggregation modify

Modify the parameters for the specified Link Aggregation Group.

- **Mode:** Global Config Mode
- **Privilege Level:** Operator
- **Format:** link-aggregation modify <P-1> name <P-2> addport <P-3> deleteport <P-4> adminmode linktrap static min-links <P-5>

name: Modify the name of the specified Link Aggregation Group.

addport: Add the specified port to the Link Aggregation Group.

deleteport: Delete the specified port from the Link Aggregation Group.

adminmode: Modify the administration mode of the specified Link Aggregation Group. To activate the group, enable the administration mode.

linktrap: Enable/Disable link trap notifications for the specified Link Aggregation Group

static: Enable or disable static capability for the specified Link Aggregation Group on a device. When enabled, LACP automatically helps prevent loops and allows non-link aggregation partners to support LACP.

min-links: Set the minimum links for the specified Link Aggregation Group.

Parameter	Value	Meaning
P-1	slot no./port no.	Slot number / port number.
P-2	string	Enter a user-defined text, max. 15 characters.
P-3	slot no./port no.	Slot number / port number.
P-4	slot no./port no.	Slot number / port number.
P-5	slot no./port no.	Slot number / port number.

no link-aggregation modify

Disable the option

- **Mode:** Global Config Mode
- **Privilege Level:** Operator
- **Format:** no link-aggregation modify <P-1> name addport deleteport adminmode
linktrap static min-links

link-aggregation delete

Delete the Link Aggregation Group to divide the group into individual connections.

- **Mode:** Global Config Mode
- **Privilege Level:** Operator
- **Format:** link-aggregation delete <P-1>

Parameter	Value	Meaning
P-1	slot no./port no.	Slot number / port number.

lacp

Configure Link Aggregation Control Protocol (LACP) parameters.

lacp admin-key

Configure the administrative value of the key on this LAG.

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** lacp admin-key <P-1>

Parameter	Value	Meaning
P-1	0..65535	Enter a number between 0 and 65535.

lacp collector-max-delay

Configure the collector max delay on this LAG (default is 0).

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** lacp collector-max-delay <P-1>

Parameter	Value	Meaning
P-1	0..65535	Enter a number between 0 and 65535.

lacp lacpmode

Activate/deactivate LACP on an interface.

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** lacp lacpmode

no lacp lacpmode

Disable the option

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** no lacp lacpmode

lacp actor admin key

Configure the value of the LACP actor admin key on this port (default 0).

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** lacp actor admin key <P-1>

Parameter	Value	Meaning
P-1	0..65535	Enter a number between 0 and 65535.

lacp actor admin state lacp-activity

Enable/disable the LACP activity on the actor admin state.

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** lacp actor admin state lacp-activity

no lacp actor admin state lacp-activity

Disable the option

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** no lacp actor admin state lacp-activity

lacp actor admin state lacp-timeout

Enable/disable the LACP timeout on the actor admin state.

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** lacp actor admin state lacp-timeout

no lacp actor admin state lacp-timeout

Disable the option

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** no lacp actor admin state lacp-timeout

lacp actor admin state aggregation

Enable/disable the aggregation on the actor admin state.

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** lacp actor admin state aggregation

no lacp actor admin state aggregation

Disable the option

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** no lacp actor admin state aggregation

lacp actor admin port priority

Set LACP actor port priority value (default 128).

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** lacp actor admin port priority <P-1>

Parameter	Value	Meaning
P-1	0..65535	Enter a number between 0 and 65535.

lacp partner admin key

Configure the administrative value of the LACP key for the protocol partner on this LAG (default 0).

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** lacp partner admin key <P-1>

Parameter	Value	Meaning
P-1	0..65535	Enter a number between 0 and 65535.

lacp partner admin state lacp-activity

Enable/disable the LACP activity on the partner admin state.

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** lacp partner admin state lacp-activity

no lACP partner admin state lACP-activity

Disable the option

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** no lACP partner admin state lACP-activity

lACP partner admin state lACP-timeout

Enable/disable the LACP timeout on the partner admin state.

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** lACP partner admin state lACP-timeout

no lACP partner admin state lACP-timeout

Disable the option

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** no lACP partner admin state lACP-timeout

lACP partner admin state aggregation

Enable/disable the state aggregation on the partner admin state.

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** lACP partner admin state aggregation

no lACP partner admin state aggregation

Disable the option

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** no lACP partner admin state aggregation

lacp partner admin port priority

Set LACP partner port priority value (default 128).

- **Mode:** Interface Range Mode
- **Privilege Level:** Operator
- **Format:** lacp partner admin port priority <P-1>

Parameter	Value	Meaning
P-1	0..65535	Enter a number between 0 and 65535.

lacp partner admin port id

Set LACP partner port value (default 0).

- **Mode:** Interface Range Mode
- **Privilege Level:** Operator
- **Format:** lacp partner admin port id <P-1>

Parameter	Value	Meaning
P-1	0..65535	Enter a number between 0 and 65535.

lacp partner admin system-priority

Configure the partner system priority.

- **Mode:** Interface Range Mode
- **Privilege Level:** Operator
- **Format:** lacp partner admin system-priority <P-1>

Parameter	Value	Meaning
P-1	0..65535	Enter a number between 0 and 65535.

lacp partner admin system-id

Configure the MAC address representing the administrative value of the LAG ports protocol partner system ID default (00:00:00:00:00:00).

- **Mode:** Interface Range Mode
- **Privilege Level:** Operator
- **Format:** lacp partner admin system-id <P-1>

Parameter	Value	Meaning
P-1	aa:bb:cc:dd:ee:ff	MAC address.

show

Display device options and settings.

show link-aggregation port

Show LAG configuration of a single port.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** show link-aggregation port [<P-1>]

Parameter	Value	Meaning
P-1	slot no./port no.	Slot number / port number.

show link-aggregation statistics

Show ports LAG statistics.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** show link-aggregation statistics [<P-1>]

Parameter	Value	Meaning
P-1	slot no./port no.	Slot number / port number.

show link-aggregation members

Show the member ports for specified LAG.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** show link-aggregation members <P-1>

Parameter	Value	Meaning
P-1	slot no./port no.	Slot number / port number.

show lacp interface

Show LAG interfaces attributes.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** show lacp interface [<P-1>]

Parameter	Value	Meaning
P-1	slot no./port no.	Slot number / port number.

show lacp mode

Show the LACP mode.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** show lacp mode [<P-1>]

Parameter	Value	Meaning
P-1	slot no./port no.	Slot number / port number.

show lacp actor

Show Link Aggregation Control protocol actor attributes.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** show lacp actor [<P-1>]

Parameter	Value	Meaning
P-1	slot no./port no.	Slot number / port number.

show lacp partner operational

Show Operational partner attributes.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** show lacp partner operational [<P-1>]

Parameter	Value	Meaning
P-1	slot no./port no.	Slot number / port number.

show lacp partner admin

Show administrative partner attributes.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** show lacp partner admin [<P-1>]

Parameter	Value	Meaning
P-1	slot no./port no.	Slot number / port number.

Ethernet IP

ethernet-ip

Enable or disable the EtherNet/IP operation on this device. If disabled, the EtherNet/IP protocol is deactivated, but the EtherNet/IP MIBs can be accessed.

ethernet-ip operation

Enable or disable the EtherNet/IP operation on this device. If disabled, the EtherNet/IP protocol is deactivated, but the EtherNet/IP MIBs can be accessed.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** ethernet-ip operation

no ethernet-ip operation

Disable the option

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** no ethernet-ip operation

ethernet-ip write-access

Enable or disable the write-access of the EtherNet/IP protocol.

NOTE: Enabling write access for EtherNet/IP protocol may present a possible security risk because EtherNet/IP communication is not authenticated.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** ethernet-ip write-access

 **WARNING**

UNAUTHENTICATED ACCESS

Thoroughly evaluate the enabling of write access to the EtherNet/IP protocol for potential security implications.

Failure to follow these instructions can result in death, serious injury, or equipment damage.

no ethernet-ip write-access

Disable the option

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** no ethernet-ip write-access

show

Display device options and settings.

show ethernet-ip

Show the Ethernet/IP settings.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** show ethernet-ip

copy

Copy different kinds of items.

copy eds-ethernet-ip system remote

Copy the EDS file from the device to a file server

- ▶ **Mode:** Privileged Exec Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** copy eds-ethernet-ip system remote <P-1>

Parameter	Value	Meaning
P-1	string	Enter a user-defined text, max. 128 characters.

copy eds-ethernet-ip system envm

Copy the EDS file from the device to external non-volatile memory.

- ▶ **Mode:** Privileged Exec Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** copy eds-ethernet-ip system envm

Filtering Database (FDB)

mac-filter

mac-filter

Static MAC filter configuration.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** mac-filter <P-1> <P-2>

Parameter	Value	Meaning
P-1	aa:bb:cc:dd:ee:ff	MAC address.
P-2	1..4042	Enter the VLAN ID.

no mac-filter

Disable the option

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** no mac-filter <P-1> <P-2>

bridge

Bridge configuration.

bridge aging-time

Aging time configuration.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** bridge aging-time <P-1>

Parameter	Value	Meaning
P-1	10..500000	Enter a number in the given range.

show

Display device options and settings.

show mac-filter-table static

Displays the MAC address filter table.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** `show mac-filter-table static`

show

Display device options and settings.

show bridge aging-time

Address aging time.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** show bridge aging-time

show

Display device options and settings.

show mac-addr-table

Displays the MAC address table.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** show mac-addr-table [<P-1>]

Parameter	Value	Meaning
P-1	a:b:c:d:e:f	Enter a MAC address.
	1..4042	Enter a VLAN ID.

clear

Clear several items.

clear mac-addr-table

Clears the MAC address table.

- ▶ **Mode:** Privileged Exec Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** `clear mac-addr-table`

Ethernet Switch Configurator

network

Configure the inband and outband connectivity.

network ethernet switch configurator operation

Enable/disable the Ethernet Switch Configurator protocol on this device.

- ▶ **Mode:** Privileged Exec Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** network ethernet switch configurator operation <P-1>

Parameter	Value	Meaning
P-1	enable	Enable the Ethernet Switch Configurator protocol.
	disable	Disable the Ethernet Switch Configurator protocol.

no network ethernet switch configurator operation

Disable the option

- ▶ **Mode:** Privileged Exec Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** no network ethernet switch configurator operation <P-1>

network ethernet switch configurator mode

Set the access level for Ethernet Switch Configurator.

- ▶ **Mode:** Privileged Exec Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** network ethernet switch configurator mode <P-1>

Parameter	Value	Meaning
P-1	read-write	Allow detection and configuration.
	read-only	Allow only detection, no configuration.

network ethernet switch configurator blinking

Enable/disable the Ethernet Switch Configurator flashing sequence on this device.
This preference is not saved in configuration

- ▶ **Mode:** Privileged Exec Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** network ethernet switch configurator blinking

no network ethernet switch configurator blinking

Disable the option

- ▶ **Mode:** Privileged Exec Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** no network ethernet switch configurator blinking

show

Display device options and settings.

show network ethernet switch configurator

Show the Ethernet Switch Configurator settings.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** show network ethernet switch configurator

Hypertext Transfer Protocol (HTTP)

http

Set HTTP parameters.

http port

Set the HTTP port number.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** http port <P-1>

Parameter	Value	Meaning
P-1	1..65535	Port number of the HTTP server (default: 80).

http server

Enable or disable the HTTP server.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** http server

no http server

Disable the option

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** no http server

show

Display device options and settings.

show http

Show HTTP server information.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** show http

HTTP Secure (HTTPS)

https

Set HTTPS parameters.

https server

Enable or disable the HTTPS server.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** https server

no https server

Disable the option

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** no https server

https port

Set the HTTPS port number.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** https port <P-1>

Parameter	Value	Meaning
P-1	1..65535	Port number of the web server (default: 443).

https fingerprint-type

Configure fingerprint type.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** https fingerprint-type <P-1>

Parameter	Value	Meaning
P-1	sha1	Configure sha1 fingerprint.
	sha256	Configure sha256 fingerprint.

https certificate

Generate/Delete HTTPS X509/PEM certificate.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** https certificate <P-1>

Parameter	Value	Meaning
P-1	generate	Generates the item.
	delete	Deletes the item.

copy

Copy different kinds of items.

copy httpscert remote

Copy X509/PEM certificate from a server to the specified destination.

- ▶ **Mode:** Privileged Exec Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** copy httpscert remote <P-1> nvm

nvm: Copy HTTPS certificate (PEM) from a server to the device.

Parameter	Value	Meaning
P-1	string	Enter a user-defined text, max. 128 characters.

show

Display device options and settings.

show https

Show HTTPS server information.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** show https

Integrated Authentication Server (IAS)

ias-users

Manage IAS Users and User Accounts.

ias-users add

Add a new IAS user.

- **Mode:** Global Config Mode
- **Privilege Level:** Administrator
- **Format:** `ias-users add <P-1>`

Parameter	Value	Meaning
P-1	string	<user> User name (up to 32 characters).

ias-users delete

Delete an existing IAS user.

- **Mode:** Global Config Mode
- **Privilege Level:** Administrator
- **Format:** `ias-users delete <P-1>`

Parameter	Value	Meaning
P-1	string	<user> User name (up to 32 characters).

ias-users enable

Enable IAS user.

- **Mode:** Global Config Mode
- **Privilege Level:** Administrator
- **Format:** `ias-users enable <P-1>`

Parameter	Value	Meaning
P-1	string	<user> User name (up to 32 characters).

ias-users disable

Disable IAS user.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** ias-users disable <P-1>

Parameter	Value	Meaning
P-1	string	<user> User name (up to 32 characters).

ias-users password

Change IAS user password.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** ias-users password <P-1> [<P-2>]

Parameter	Value	Meaning
P-1	string	<user> User name (up to 32 characters).
P-2	string	Enter a user-defined text, max. 64 characters.

show

Display device options and settings.

show ias-users

Display IAS users and user accounts information.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** `show ias-users`

IEC 61850 MMS Server

iec61850-mms

Configure the IEC61850 MMS Server settings.

iec61850-mms operation

Enable or disable the IEC61850 MMS Server. The MMS server facilitates real-time distribution of data and supervisory control functions to substations.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** iec61850-mms operation

no iec61850-mms operation

Disable the option

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** no iec61850-mms operation

iec61850-mms write-access

Enable or disable the Write-Access on IEC61850 bridge objects via MMS. Write services allow the MMS client to access application content.

NOTE: Enabling write access for IEC61850-MMS protocol may present a possible security risk because IEC61850-MMS communication is not authenticated.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** iec61850-mms write-access



WARNING

UNAUTHENTICATED ACCESS

Thoroughly evaluate the enabling of write access to the IEC61850-MMS protocol for potential security implications.

Failure to follow these instructions can result in death, serious injury, or equipment damage.

no iec61850-mms write-access

Disable the option

- **Mode:** Global Config Mode
- **Privilege Level:** Operator
- **Format:** no iec61850-mms write-access

iec61850-mms port

Defines the port number of the IEC61850 MMS server (default: 102).

- **Mode:** Global Config Mode
- **Privilege Level:** Operator
- **Format:** iec61850-mms port <P-1>

Parameter	Value	Meaning
P-1	1..65535	Port number of the IEC61850 MMS server (default: 102).

iec61850-mms max-sessions

Defines the maximum number of concurrent IEC61850 MMS sessions (default: 5).

- **Mode:** Global Config Mode
- **Privilege Level:** Operator
- **Format:** iec61850-mms max-sessions <P-1>

Parameter	Value	Meaning
P-1	1..15	Maximum number of concurrent IEC61850 MMS sessions (default: 5).

iec61850-mms technical-key

Defines the IEC61850 MMS Technical Key (default: KEY).

- **Mode:** Global Config Mode
- **Privilege Level:** Operator
- **Format:** iec61850-mms technical-key <P-1>

Parameter	Value	Meaning
P-1	string	Enter a IEC61850-7-2 Ed. VisibleString, max. 32 characters. The following characters are allowed: VisibleString (FROM (A a B b C c D d E e F f 'G g H h I i J j K k L l 'M m N n O o P p Q q R r 'S s T t U u V v W w X x 'Y y Z z _ '0 '1 '2 '3 '4 '5 '6 '7 '8 '9)

show

Display device options and settings.

show iec61850-mms

Show the IEC61850 MMS Server settings.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** `show iec61850-mms`

IGMP Snooping

igmp-snooping

Configure Internet Group Management Protocol (IGMP) snooping.

igmp-snooping mode

Enable or disable IGMP snooping.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** igmp-snooping mode

no igmp-snooping mode

Disable the option

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** no igmp-snooping mode

igmp-snooping querier mode

Enable or disable IGMP snooping querier on the system.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** igmp-snooping querier mode

no igmp-snooping querier mode

Disable the option

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** no igmp-snooping querier mode

igmp-snooping querier query-interval

Sets the IGMP querier query interval time (1-1800) in seconds.

- **Mode:** Global Config Mode
- **Privilege Level:** Operator
- **Format:** igmp-snooping querier query-interval <P-1>

Parameter	Value	Meaning
P-1	1..1800	Enter a number in the given range.

igmp-snooping querier timer-expiry

Sets the IGMP querier timer expiration period (60-300) in seconds.

- **Mode:** Global Config Mode
- **Privilege Level:** Operator
- **Format:** igmp-snooping querier timer-expiry <P-1>

Parameter	Value	Meaning
P-1	60..300	Enter a number in the given range.

igmp-snooping querier version

Sets the IGMP version (1-3) of the query.

- **Mode:** Global Config Mode
- **Privilege Level:** Operator
- **Format:** igmp-snooping querier version <P-1>

Parameter	Value	Meaning
P-1	1..3	IGMP snooping querier's protocol version(1 to 3,default: 2).

igmp-snooping forward-unknown

Configure if and how unknown multicasts are forwarded.The setting can be discard, flood or query-ports.The default is flood.

- **Mode:** Global Config Mode
- **Privilege Level:** Operator
- **Format:** igmp-snooping forward-unknown <P-1>

Parameter	Value	Meaning
P-1	discard	Unknown multicast frames will be discarded.
	flood	Unknown multicast frames will be flooded.
	query-ports	Unknown multicast frames will be forwarded only to query ports.

igmp-snooping

Configure IGMP snooping.

igmp-snooping vlan-id

Configure the VLAN parameters.

- **Mode:** VLAN Database Mode
- **Privilege Level:** Operator
- **Format:** igmp-snooping vlan-id <P-1> mode fast-leave groupmembership-interval <P-2> maxresponse <P-3> mcrtrexpiretime <P-4> querier mode address <P-5> forward-known <P-6> forward-all <P-7> static-query-port <P-8> automatic-mode <P-9>

mode: Enable or disable IGMP snooping per VLAN.

fast-leave: Enable or disable IGMP snooping fast-leave per VLAN.

groupmembership-interval: Set IGMP group membership interval time (2-3600) in seconds per VLAN.

maxresponse: Set the igmp maximum response time (1-25) in seconds per VLAN.

mcrtrexpiretime: Sets the multicast router present expiration time (0-3600) in seconds per VLAN.

querier: Set IGMP snooping querier on the system.

mode: Enable or disable IGMP snooping querier per VLAN.

address: Set IGMP snooping querier address on the system using a VLAN.

forward-known: Sets the mode how known multicast packets will be treated. The default value is registered-ports-only(2).

forward-all: Enable or disable IGMP snooping forward-all.

static-query-port: Enable or disable IGMP snooping static-query-port.

automatic-mode: Enable or disable IGMP snooping automatic-mode.

Parameter	Value	Meaning
P-1	1..4042	Enter the VLAN ID.
P-2	2..3600	Enter a number in the given range.
P-3	1..25	Enter a number in the given range.
P-4	0..3600	Enter a number in the given range.
P-5	a.b.c.d	IP address.
P-6	query-and-registered-ports	Addition of query ports to multicast filter portmasks.
	registered-ports-only	No addition of query ports to multicast filter portmasks.

Parameter	Value	Meaning
P-7	slot no./port no.	Slot number / port number.
P-8	slot no./port no.	Slot number / port number.
P-9	slot no./port no.	Slot number / port number.

no igmp-snooping vlan-id

Disable the option

- **Mode:** VLAN Database Mode
- **Privilege Level:** Operator
- **Format:** no igmp-snooping vlan-id <P-1> mode fast-leave groupmembership-interval maxresponse mcrtrexpiretime querier mode address forward-known forward-all <P-7> static-query-port <P-8> automatic-mode <P-9>

igmp-snooping

Configure IGMP snooping.

igmp-snooping mode

Enable or disable IGMP snooping per interface.

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** igmp-snooping mode

no igmp-snooping mode

Disable the option

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** no igmp-snooping mode

igmp-snooping fast-leave

Enable or disable IGMP snooping fast-leave per interface.

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** igmp-snooping fast-leave

no igmp-snooping fast-leave

Disable the option

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** no igmp-snooping fast-leave

igmp-snooping groupmembership-interval

Set IGMP group membership interval time (2-3600) in seconds per interface.

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** igmp-snooping groupmembership-interval <P-1>

Parameter	Value	Meaning
P-1	2..3600	Enter a number in the given range.

igmp-snooping maxresponse

Set the igmp maximum response time (1-25) in seconds per interface.

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** igmp-snooping maxresponse <P-1>

Parameter	Value	Meaning
P-1	1..25	Enter a number in the given range.

igmp-snooping mcrtrexpiretime

Sets the multicast router present expiration time (0-3600) in seconds per interface.

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** igmp-snooping mcrtrexpiretime <P-1>

Parameter	Value	Meaning
P-1	0..3600	Enter a number in the given range.

igmp-snooping static-query-port

Configures the interface as a static query interface in all VLANs.

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** igmp-snooping static-query-port

no igmp-snooping static-query-port

Disable the option

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** no igmp-snooping static-query-port

show

Display device options and settings.

show igmp-snooping global

Show IGMP snooping global information.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** show igmp-snooping global

show igmp-snooping interface

Show IGMP snooping interface information.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** show igmp-snooping interface [<P-1>]

Parameter	Value	Meaning
P-1	slot no./port no.	Slot number / port number.

show igmp-snooping vlan

Show IGMP snooping VLAN information.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** show igmp-snooping vlan [<P-1>]

Parameter	Value	Meaning
P-1	1..4042	Enter the VLAN ID.

show igmp-snooping querier global

Show IGMP snooping querier information per VLAN.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** show igmp-snooping querier global

show igmp-snooping querier vlan

Show IGMP snooping querier VLAN information.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** show igmp-snooping querier vlan [<P-1>]

Parameter	Value	Meaning
P-1	1..4042	Enter the VLAN ID.

show igmp-snooping enhancements vlan

Show IGMP snooping VLAN information.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** show igmp-snooping enhancements vlan [<P-1>]

Parameter	Value	Meaning
P-1	1..4042	Enter the VLAN ID.

show igmp-snooping enhancements unknown-filtering

Show unknown multicast filtering information.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** show igmp-snooping enhancements unknown-filtering

show igmp-snooping statistics global

Show number of control packets processed by CPU.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** show igmp-snooping statistics global

show igmp-snooping statistics interface

Show number of control packets processed by CPU per interface.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** show igmp-snooping statistics interface [<P-1>]

Parameter	Value	Meaning
P-1	slot no./port no.	Slot number / port number.

show

Display device options and settings.

show mac-filter-table igmp-snooping

Display IGMP snooping entries in the Multicast Forwarding Database (MFDB) table.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** `show mac-filter-table igmp-snooping`

clear

Clear several items.

clear igmp-snooping

Clear all IGMP snooping entries.

- ▶ **Mode:** Privileged Exec Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** `clear igmp-snooping`

Interface

shutdown

shutdown

Enable or disable the interface.

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** shutdown

no shutdown

Disable the option

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** no shutdown

auto-negotiate

auto-negotiate

Enable or disable automatic negotiation on the interface. The cable crossing settings have no effect if auto-negotiation is enabled. In this case cable crossing is always set to auto. Cable crossing is set to the value chosen by you if auto-negotiation is disabled.

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** auto-negotiate

no auto-negotiate

Disable the option

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** no auto-negotiate

auto-power-down

auto-power-down

Set the auto-power-down mode on the interface.

- **Mode:** Interface Range Mode
- **Privilege Level:** Operator
- **Format:** auto-power-down <P-1>

Parameter	Value	Meaning
P-1	auto-power-save	The port goes in a low power mode.
	no-power-save	The port does not use the automatic power save mode.

cable-crossing

cable-crossing

Cable crossing settings on the interface. The cable crossing settings have no effect if auto-negotiation is enabled. In this case cable crossing is always set to auto. Cable crossing is set to the value chosen by you if auto-negotiation is disabled.

- **Mode:** Interface Range Mode
- **Privilege Level:** Operator
- **Format:** cable-crossing <P-1>

Parameter	Value	Meaning
P-1	mdi	The port does not use the crossover mode.
	mdix	The port uses the crossover mode.
	auto-mdix	The port uses the auto crossover mode.

linktraps

linktraps

Enable/disable link up/down traps on the interface.

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** linktraps

no linktraps

Disable the option

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** no linktraps

link-loss-alert

Configure Link Loss Alert on the interface.

link-loss-alert operation

Enable or disable Link Loss Alert on the interface.

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** link-loss-alert operation

no link-loss-alert operation

Disable the option

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** no link-loss-alert operation

speed

speed

Sets the speed and duplex setting for the interface.

- **Mode:** Interface Range Mode
- **Privilege Level:** Operator
- **Format:** speed <P-1> [<P-2>]

Parameter	Value	Meaning
P-1	10	10 MBit/s.
	100	100 MBit/s.
	1000	1000 MBit/s.
P-2	full	Full duplex.
	half	Half duplex.

name

name

Set or remove a descriptive name for the interface.

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** name <P-1>

Parameter	Value	Meaning
P-1	string	Enter a user-defined text, max. 64 characters.

power-state

power-state

Enable or disable the power state on the interface. The interface power state settings have no effect if the interface admin state is enabled.

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** power-state

no power-state

Disable the option

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** no power-state

mac-filter

mac-filter

static mac filter configuration

- **Mode:** Interface Range Mode
- **Privilege Level:** Operator
- **Format:** mac-filter <P-1> <P-2>

Parameter	Value	Meaning
P-1	aa:bb:cc:dd:ee:ff	MAC address.
P-2	1..4042	Enter the VLAN ID.

no mac-filter

Disable the option

- **Mode:** Interface Range Mode
- **Privilege Level:** Operator
- **Format:** no mac-filter <P-1> <P-2>

led-signaling

Enable or disable Port LED signaling.

led-signaling operation

Enable or disable Port LED signaling.

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** led-signaling operation

no led-signaling operation

Disable the option

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** no led-signaling operation

show

Display device options and settings.

show port

Show interface parameters.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** show port [<P-1>]

Parameter	Value	Meaning
P-1	slot no./port no.	Slot number / port number.

show

Display device options and settings.

show link-loss-alert

Show link-loss-alert parameters.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** show link-loss-alert [<P-1>]

Parameter	Value	Meaning
P-1	slot no./port no.	Slot number / port number.

show

Display device options and settings.

show led-signaling operation

Show Port LED signaling operation.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** show led-signaling operation

Interface Statistics

utilization

Configure the interface utilization parameters.

utilization control-interval

Add interval time to monitor the bandwidth utilization of the interface.

- **Mode:** Interface Range Mode
- **Privilege Level:** Operator
- **Format:** utilization control-interval <P-1>

Parameter	Value	Meaning
P-1	1..3600	Add interval time to monitor the bandwidth utilization.

utilization alarm-threshold lower

Lower threshold value

- **Mode:** Interface Range Mode
- **Privilege Level:** Operator
- **Format:** utilization alarm-threshold lower <P-1>

Parameter	Value	Meaning
P-1	0..10000	Add alarm threshold lower value for monitoring bandwidth utilization in hundredths of a percent.

utilization alarm-threshold upper

Upper threshold value

- **Mode:** Interface Range Mode
- **Privilege Level:** Operator
- **Format:** utilization alarm-threshold upper <P-1>

Parameter	Value	Meaning
P-1	0..10000	Add alarm threshold upper value for monitoring bandwidth utilization in hundredths of a percent.

clear

Clear several items.

clear port-statistics

Clear all statistics counter.

- ▶ **Mode:** Privileged Exec Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** clear port-statistics

show

Display device options and settings.

show interface counters

Show Table with interface counters.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** `show interface counters`

show interface layout

Show interface layout of the device.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** `show interface layout`

show interface utilization

Show interface utilization.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** `show interface utilization [<P-1>]`

Parameter	Value	Meaning
P-1	slot no./port no.	Slot number / port number.

show interface statistics

Show summary interface statistics.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** `show interface statistics [<P-1>]`

Parameter	Value	Meaning
P-1	slot no./port no.	Slot number / port number.

show interface ether-stats

Show detailed interface statistics.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** show interface ether-stats [<P-1>]

Parameter	Value	Meaning
P-1	slot no./port no.	Slot number / port number.

Intern

help

Display help for various special keys.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** help

logout

Exit this session.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** any
- ▶ **Format:** logout

history

Show a list of previously run commands.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** history

vlan-mode

vlan-mode

Enter VLAN Configuration Mode.

- **Mode:** Global Config Mode
- **Privilege Level:** Operator
- **Format:** vlan-mode <P-1>

Parameter	Value	Meaning
P-1	all	Select all VLAN configured.
	vlan	Enter single VLAN.
	vlan range	Enter VLAN range separated by hyphen e.g 1-4.
	vlan list	Enter VLAN list separated by comma e.g 2,4,6,... .
	complex range	Enter VLAN range and several VLAN separated by comma for a list and hyphen for ranges e.g 2-4,6-9,11.

exit

Exit from vlan mode.

- ▶ **Mode:** `VLAN Mode`
- ▶ **Privilege Level:** `Operator`
- ▶ **Format:** `exit`

end

Exit to exec mode.

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** end

serviceshell

Enter system mode.

serviceshell start

Start service shell prompt.

- ▶ **Mode:** Privileged Exec Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** serviceshell start

serviceshell deactivate

Disable the service shell access permanently (irreversible).

- ▶ **Mode:** Privileged Exec Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** serviceshell deactivate

traceroute

Trace route to a specified host.

traceroute maxttl

Set max TTL value.

- **Mode:** Privileged Exec Mode
- **Privilege Level:** Operator
- **Format:** traceroute maxttl <P-1> [initttl <P-2>] [interval <P-3>] [count <P-4>] [maxFail <P-5>] [size <P-6>] [port <P-7>]

[initttl]: Initial TTL value.

[interval]: Timeout until probe is determined to be error.

[count]: Number of probes for each TTL.

[maxFail]: Maximum number of consecutive probes that can be detected as in error.

[size]: Size of payload in bytes.

[port]: UDP destination port.

Parameter	Value	Meaning
P-1	1..255	Enter a number in the given range.
P-2	0..255	Enter a number in the given range.
P-3	1..60	Enter a number in the given range.
P-4	1..10	Enter a number in the given range.
P-5	0..255	Enter a number in the given range.
P-6	0..65507	Enter a number in the given range.
P-7	1..65535	Enter port number between 1 and 65535.

reboot

Reset the device (cold start).

reboot after

Schedule reboot after specified time.

- ▶ **Mode:** All Privileged Modes
- ▶ **Privilege Level:** any
- ▶ **Format:** reboot after <P-1>

Parameter	Value	Meaning
P-1	0..2147483	Enter Seconds Between 0 to 2147483. Setting 0 will clear scheduled Reboot if configured.

ping

Send ICMP echo packets to a specified IP address.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** `ping`

show

Display device options and settings.

show reboot

Display Configured reboot in seconds

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** show reboot

show serviceshell

Display the service shell access.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** show serviceshell

Internet Protocol Version 4 (IPv4)

network

Configure the inband and outband connectivity.

network protocol

Select DHCP, BOOTP or none as the network configuration protocol.

- **Mode:** Privileged Exec Mode
- **Privilege Level:** Operator
- **Format:** network protocol <P-1>

Parameter	Value	Meaning
P-1	none	No network configuration protocol.
	bootp	BOOTP.
	dhcp	DHCP.

network parms

Set network address, netmask and gateway

- **Mode:** Privileged Exec Mode
- **Privilege Level:** Operator
- **Format:** network parms <P-1> <P-2> [<P-3>]

Parameter	Value	Meaning
P-1	A.B.C.D	IP address.
P-2	A.B.C.D	IP address.
P-3	A.B.C.D	IP address.

clear

Clear several items.

clear arp-table-switch

Clear the agent's ARP table (cache).

- ▶ **Mode:** Privileged Exec Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** clear arp-table-switch

show

Display device options and settings.

show network parms

Show network settings.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** show network parms

show network services

Show opened UDP and TCP ports.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** show network services

show

Display device options and settings.

show arp

Show ARP table.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** show arp

Link Backup

link-backup

Configure Link Backup parameters.

link-backup operation

Enable or disable Link Backup.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** link-backup operation

no link-backup operation

Disable the option

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** no link-backup operation

link-backup

Configure Link Backup parameters.

link-backup add

Add a Link Backup interface pair.

- **Mode:** Interface Range Mode
- **Privilege Level:** Administrator
- **Format:** link-backup add <P-1> [failback-time <P-2>] [description <P-3>]

[failback-time]: Fail Back time in seconds for the interface pair.

[description]: Description for the interface pair.

Parameter	Value	Meaning
P-1	slot no./port no.	Slot number / port number.
P-2	0..3600	Fail Back time interval.(default: 30).
P-3	string	Enter a user-defined text, max. 256 characters.

link-backup delete

Delete the associated backup interface.

- **Mode:** Interface Range Mode
- **Privilege Level:** Administrator
- **Format:** link-backup delete <P-1>

Parameter	Value	Meaning
P-1	slot no./port no.	Slot number / port number.

link-backup modify

Modify a Link Backup interface pair.

- **Mode:** Interface Range Mode
- **Privilege Level:** Administrator
- **Format:** link-backup modify <P-1> [failback-status <P-2>] [failback-time <P-3>] [description <P-4>] [status <P-5>]

[failback-status]: Modify failback status.(default: enabled)

[failback-time]: Modify failback time.(default: 30)

[description]: Description for the interface pair.

[status]: Enable or disable a Link Backup interface pair entry.

Parameter	Value	Meaning
P-1	slot no./port no.	Slot number / port number.
P-2	enable	Enable the option.
	disable	Disable the option.
P-3	0..3600	Fail Back time interval.(default: 30)
P-4	string	Enter a user-defined text, max. 256 characters.
P-5	enable	Enable the option.
	disable	Disable the option.

show

Display device options and settings.

show link-backup operation

Display Link Backup global information.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** show link-backup operation

show link-backup pairs

Display Link Backup interface pairs.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** show link-backup pairs [<P-1>] [<P-2>]

Parameter	Value	Meaning
P-1	slot no./port no.	Slot number / port number.
P-2	slot no./port no.	Slot number / port number.

Link Layer Discovery Protocol (LLDP)

lldp

Configure of Link Layer Discovery Protocol.

lldp operation

Enable or disable the LLDP operational state.

- **Mode:** Global Config Mode
- **Privilege Level:** Operator
- **Format:** lldp operation

no lldp operation

Disable the option

- **Mode:** Global Config Mode
- **Privilege Level:** Operator
- **Format:** no lldp operation

lldp config chassis admin-state

Enable or disable the LLDP operational state.

- **Mode:** Global Config Mode
- **Privilege Level:** Operator
- **Format:** lldp config chassis admin-state <P-1>

Parameter	Value	Meaning
P-1	enable	Enable the option.
	disable	Disable the option.

lldp config chassis notification-interval

Enter the LLDP notification interval in seconds.

- **Mode:** Global Config Mode
- **Privilege Level:** Operator
- **Format:** `lldp config chassis notification-interval <P-1>`

Parameter	Value	Meaning
P-1	5..3600	Enter a number in the given range.

lldp config chassis re-init-delay

Enter the LLDP re-initialization delay in seconds.

- **Mode:** Global Config Mode
- **Privilege Level:** Operator
- **Format:** `lldp config chassis re-init-delay <P-1>`

Parameter	Value	Meaning
P-1	1..10	Enter a number in the given range.

lldp config chassis tx-delay

Enter the LLDP transmit delay in seconds (tx-delay smaller than ($0.25 \times \text{tx-interval}$))

- **Mode:** Global Config Mode
- **Privilege Level:** Operator
- **Format:** `lldp config chassis tx-delay <P-1>`

Parameter	Value	Meaning
P-1	1..8192	Enter a number in the given range (tx-delay smaller than ($0.25 \times \text{tx-interval}$)).

lldp config chassis tx-hold-multiplier

Enter the LLDP transmit hold multiplier.

- **Mode:** Global Config Mode
- **Privilege Level:** Operator
- **Format:** `lldp config chassis tx-hold-multiplier <P-1>`

Parameter	Value	Meaning
P-1	2..10	Enter a number in the given range.

lldp config chassis tx-interval

Enter the LLDP transmit interval in seconds.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** `lldp config chassis tx-interval <P-1>`

Parameter	Value	Meaning
P-1	5..32768	Enter a number in the given range.

show

Display device options and settings.

show lldp global

Display the LLDP global configurations.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** show lldp global

show lldp port

Display port specific LLDP configurations.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** show lldp port [<P-1>]

Parameter	Value	Meaning
P-1	slot no./port no.	Slot number / port number.

show lldp remote-data

Remote information collected with LLDP.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** show lldp remote-data [<P-1>]

Parameter	Value	Meaning
P-1	slot no./port no.	Slot number / port number.

lldp

Configure of Link Layer Discovery Protocol on a port.

lldp admin-state

Configure how the interface processes LLDP frames.

- **Mode:** Interface Range Mode
- **Privilege Level:** Operator
- **Format:** lldp admin-state <P-1>

Parameter	Value	Meaning
P-1	tx-only	Interface will only transmit LLDP frames. Received frames are not processed.
	rx-only	Interface will only receive LLDP frames. Frames are not transmitted.
	tx-and-rx	Interface will transmit and receive LLDP frames. This is the default setting.
	disable	Interface will neither transmit nor process received LLDP frames.

lldp fdb-mode

Configure the LLDP FDB mode for this interface.

- **Mode:** Interface Range Mode
- **Privilege Level:** Operator
- **Format:** lldp fdb-mode <P-1>

Parameter	Value	Meaning
P-1	lldp-only	Collected remote data will be based on received LLDP frames only.
	mac-only	Collected remote data will be based on the switch's FDB entries only.
	both	Collected remote data will be based on received LLDP frames as well as on the switch's FDB entries.
	auto-detect	As long as no LLDP frames are received, the collected remote data will be based on the switch's FDB entries only. After the first LLDP frame is received, the remote data will be based on received LLDP frames only. This is the default setting.

lldp max-neighbors

Enter the LLDP max neighbors for interface.

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** lldp max-neighbors <P-1>

Parameter	Value	Meaning
P-1	1..50	Enter a number in the given range.

lldp notification

Enable or disable the LLDP notification operation for interface.

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** lldp notification

no lldp notification

Disable the option

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** no lldp notification

lldp tlv link-aggregation

Enable or disable link-aggregation TLV transmission.

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** lldp tlv link-aggregation <P-1>

Parameter	Value	Meaning
P-1	[cr]	Enable the Bit.

no lldp tlv link-aggregation

Disable the option

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** no lldp tlv link-aggregation <P-1>

lldp tlv mac-phy-config-state

Enable or disable mac-phy-config-state TLV transmission.

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** lldp tlv mac-phy-config-state <P-1>

Parameter	Value	Meaning
P-1	[cr]	Enable the Bit.

no lldp tlv mac-phy-config-state

Disable the option

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** no lldp tlv mac-phy-config-state <P-1>

lldp tlv max-frame-size

Enable or disable max-frame-size TLV transmission.

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** lldp tlv max-frame-size <P-1>

Parameter	Value	Meaning
P-1	[cr]	Enable the Bit.

no lldp tlv max-frame-size

Disable the option

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** no lldp tlv max-frame-size <P-1>

lldp tlv mgmt-addr

Enable or disable mgmt-addr TLV transmission.

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** lldp tlv mgmt-addr

no lldp tlv mgmt-addr

Disable the option

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** no lldp tlv mgmt-addr

lldp tlv port-desc

Enable or disable port description TLV transmission.

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** lldp tlv port-desc <P-1>

Parameter	Value	Meaning
P-1	[cr]	Enable the Bit.

no lldp tlv port-desc

Disable the option

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** no lldp tlv port-desc <P-1>

lldp tlv port-vlan

Enable or disable port-vlan TLV transmission.

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** lldp tlv port-vlan

no lldp tlv port-vlan

Disable the option

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** no lldp tlv port-vlan

lldp tlv protocol

Enable or disable protocol TLV transmission.

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** lldp tlv protocol

no lldp tlv protocol

Disable the option

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** no lldp tlv protocol

lldp tlv sys-cap

Enable or disable system capabilities TLV transmission.

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** lldp tlv sys-cap <P-1>

Parameter	Value	Meaning
P-1	[cr]	Enable the Bit.

no lldp tlv sys-cap

Disable the option

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** no lldp tlv sys-cap <P-1>

lldp tlv sys-desc

Enable or disable system description TLV transmission.

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** lldp tlv sys-desc <P-1>

Parameter	Value	Meaning
P-1	[cr]	Enable the Bit.

no lldp tlv sys-desc

Disable the option

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** no lldp tlv sys-desc <P-1>

lldp tlv sys-name

Enable or disable system name TLV transmission.

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** lldp tlv sys-name <P-1>

Parameter	Value	Meaning
P-1	[cr]	Enable the Bit.

no lldp tlv sys-name

Disable the option

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** no lldp tlv sys-name <P-1>

lldp tlv vlan-name

Enable or disable vlan name TLV transmission.

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** lldp tlv vlan-name

no lldp tlv vlan-name

Disable the option

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** no lldp tlv vlan-name

lldp tlv protocol-based-vlan

Enable or disable protocol-based vlan TLV transmission.

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** lldp tlv protocol-based-vlan

no lldp tlv protocol-based-vlan

Disable the option

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** no lldp tlv protocol-based-vlan

lldp tlv ptp

Enable or disable PTP TLV transmission.

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** lldp tlv ptp

no lldp tlv ptp

Disable the option

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** no lldp tlv ptp

Media Endpoint Discovery LLDP-MED

lldp

Configure of Link Layer Discovery Protocol on a port.

lldp med confignotification

Enable or disable LLDP-MED notification send for this interface.

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** lldp med confignotification

no lldp med confignotification

Disable the option

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** no lldp med confignotification

lldp med transmit-tlv capabilities

Include/Exclude LLDP MED capabilities TLV.

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** lldp med transmit-tlv capabilities

no lldp med transmit-tlv capabilities

Disable the option

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** no lldp med transmit-tlv capabilities

lldp med transmit-tlv network-policy

Include/Exclude LLDP network policy TLV.

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** lldp med transmit-tlv network-policy

no lldp med transmit-tlv network-policy

Disable the option

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** no lldp med transmit-tlv network-policy

lldp

Configure of Link Layer Discovery Protocol.

lldp med faststartrepeatcount

Configure LLDP-MED fast start repeat count.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** `lldp med faststartrepeatcount <P-1>`

Parameter	Value	Meaning
P-1	1..10	Enter a value representing the number of LLDP PDUs that will be transmitted.Default is 3.

show

Display device options and settings.

show lldp med global

Display a summary of the LLDP-MED configuration.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** show lldp med global

show lldp med interface

Display the LLDP-MED configuration on a specific port.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** show lldp med interface [<P-1>]

Parameter	Value	Meaning
P-1	slot no./port no.	Slot number / port number.

show lldp med local-device

Display detailed information about the LLDP-MED data

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** show lldp med local-device <P-1>

Parameter	Value	Meaning
P-1	slot no./port no.	Slot number / port number.

show lldp med remote-device detail

Display LLDP-MED detail configuration for a remote device.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** show lldp med remote-device detail <P-1>

Parameter	Value	Meaning
P-1	slot no./port no.	Slot number / port number.

show lldp med remote-device summary

Display LLDP-MED summary configuration for a remote device.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** show lldp med remote-device summary [<P-1>]

Parameter	Value	Meaning
P-1	slot no./port no.	Slot number / port number.

Logging

logging

Logging configuration.

logging audit-trail

Add a comment for the audit trail.

- **Mode:** Global Config Mode
- **Privilege Level:** Administrator
- **Format:** logging audit-trail <P-1>

Parameter	Value	Meaning
P-1	string	Enter a user-defined text, max. 80 characters.

logging buffered severity

Configure the minimum severity level to be logged to the high priority buffer.

- **Mode:** Global Config Mode
- **Privilege Level:** Administrator
- **Format:** logging buffered severity <P-1>

Parameter	Value	Meaning
P-1	emergency	System is unusable. Unrecoverable system error detected.
	alert	Action must be taken immediately. Unrecoverable error detected on a component.
	critical	Recoverable error detected on a component that may lead to system error.
	error	Error conditions. Recoverable error detected on a component.
	warning	Minor error detected, for instance, misconfiguration of a component.
	notice	Normal but significant conditions.
	informational	Informational messages.
	debug	Debug-level messages.
	0	Same as emergency.
	1	Same as alert.
	2	Same as critical.
	3	Same as error.
	4	Same as warning.
	5	Same as notice.
	6	Same as informational.
	7	Same as debug.

logging host add

Add a new logging host.

- **Mode:** Global Config Mode
- **Privilege Level:** Administrator
- **Format:** logging host add <P-1> addr <P-2> <P-3>

addr: Enter the IP address of the server.

Parameter	Value	Meaning
P-1	1..8	Syslog server entry index
P-2	string	Hostname or IP address.
P-3	a.b.c.d	IP address.

logging host delete

Delete a logging host.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** logging host delete <P-1>

Parameter	Value	Meaning
P-1	1..8	Syslog server entry index.

logging host enable

Enable a logging host.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** logging host enable <P-1>

Parameter	Value	Meaning
P-1	1..8	Syslog server entry index.

logging host disable

Disable a logging host.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** logging host disable <P-1>

Parameter	Value	Meaning
P-1	1..8	Syslog server entry index.

logging host modify

Modify an existing logging host.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** logging host modify <P-1> [addr <P-2> <P-3>]

[addr]: Enter the IP address of the server.

Parameter	Value	Meaning
P-1	1..8	Syslog server entry index.
P-2	string	Hostname or IP address.
P-3	a.b.c.d	IP address.

logging syslog operation

Enable or disable the syslog client.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** logging syslog operation

no logging syslog operation

Disable the option

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** no logging syslog operation

logging current-console operation

Enable or disable logging messages to the remote console.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** logging current-console operation

no logging current-console operation

Disable the option

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** no logging current-console operation

logging current-console severity

Configure the minimum severity level to be sent to the remote console.

- **Mode:** Global Config Mode
- **Privilege Level:** Administrator
- **Format:** logging current-console severity <P-1>

Parameter	Value	Meaning
P-1	emergency	System is unusable. Unrecoverable system error detected.
	alert	Action must be taken immediately. Unrecoverable error detected on a component.
	critical	Recoverable error detected on a component that may lead to system error.
	error	Error conditions. Recoverable error detected on a component.
	warning	Minor error detected, for instance, misconfiguration of a component.
	notice	Normal but significant conditions.
	informational	Informational messages.
	debug	Debug-level messages.
	0	Same as emergency.
	1	Same as alert.
	2	Same as critical.
	3	Same as error.
	4	Same as warning.
	5	Same as notice.
	6	Same as informational.
	7	Same as debug.

logging console operation

Enable or disable logging to the local V.24 console.

- **Mode:** Global Config Mode
- **Privilege Level:** Administrator
- **Format:** logging console operation

no logging console operation

Disable the option

- **Mode:** Global Config Mode
- **Privilege Level:** Administrator
- **Format:** no logging console operation

logging console severity

Configure the minimum severity level to be logged to the V.24 console.

- **Mode:** Global Config Mode
- **Privilege Level:** Administrator
- **Format:** logging console severity <P-1>

Parameter	Value	Meaning
P-1	emergency	System is unusable. Unrecoverable system error detected.
	alert	Action must be taken immediately. Unrecoverable error detected on a component.
	critical	Recoverable error detected on a component that may lead to system error.
	error	Error conditions. Recoverable error detected on a component.
	warning	Minor error detected, for instance, misconfiguration of a component.
	notice	Normal but significant conditions.
	informational	Informational messages.
	debug	Debug-level messages.
	0	Same as emergency.
	1	Same as alert.
	2	Same as critical.
	3	Same as error.
	4	Same as warning.
	5	Same as notice.
	6	Same as informational.
	7	Same as debug.

logging persistent operation

Enable or disable persistent logging. This feature is only available when an external non-volatile memory device (ENVN) is connected to the device. The logging information is saved on the selected ENVN.

- **Mode:** Global Config Mode
- **Privilege Level:** Administrator
- **Format:** logging persistent operation

no logging persistent operation

Disable the option

- **Mode:** Global Config Mode
- **Privilege Level:** Administrator
- **Format:** no logging persistent operation

logging persistent numfiles

Enter the maximum number of log files.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** logging persistent numfiles <P-1>

Parameter	Value	Meaning
P-1	0..25	Number of log files.

logging persistent filesize

Enter the maximum size of a log file.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** logging persistent filesize <P-1>

Parameter	Value	Meaning
P-1	0..4096	Maximum persistent log file size on the non-volatile memory in kBytes.

logging persistent severity-level

Configure the minimum severity level to be logged into files.

- **Mode:** Global Config Mode
- **Privilege Level:** Administrator
- **Format:** logging persistent severity-level <P-1>

Parameter	Value	Meaning
P-1	emergency	System is unusable. Unrecoverable system error detected.
	alert	Action must be taken immediately. Unrecoverable error detected on a component.
	critical	Recoverable error detected on a component that may lead to system error.
	error	Error conditions. Recoverable error detected on a component.
	warning	Minor error detected, for instance, misconfiguration of a component.
	notice	Normal but significant conditions.
	informational	Informational messages.
	debug	Debug-level messages.
	0	Same as emergency
	1	Same as alert.
	2	Same as critical.
	3	Same as error.
	4	Same as warning.
	5	Same as notice.
	6	Same as informational.
	7	Same as debug.

show

Display device options and settings.

show logging buffered

Display buffered (in-memory) log entries.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** `show logging buffered [<P-1>]`

Parameter	Value	Meaning
P-1	string	<filter> Enter a comma separated list of severity ranges, numbers or enumeration strings are allowed. Example: 0-1,informational-debug.

show logging traplogs

Display trap log entries.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** `show logging traplogs`

show logging console

Display console logging configurations.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** `show logging console`

show logging persistent

Display persistent logging configurations.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** `show logging persistent [logfiles]`

[logfiles]: List the persistent log files.

show logging syslog

Display the syslog operational setting.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** show logging syslog

show logging host

Display a list of the configured logging hosts.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** show logging host

copy

Copy different kinds of items.

copy eventlog buffered envm

Copy a buffered log from the device to an external non-volatile memory.

- ▶ **Mode:** Privileged Exec Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** copy eventlog buffered envm <P-1>

Parameter	Value	Meaning
P-1	string	Enter a user-defined text, max. 32 characters.

copy eventlog buffered remote

Copy a buffered log from the device to a file server.

- ▶ **Mode:** Privileged Exec Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** copy eventlog buffered remote <P-1>

Parameter	Value	Meaning
P-1	string	Enter a user-defined text, max. 128 characters.

copy eventlog persistent

Copy the persistent logs from the device to an external non-volatile memory device or a file server.

- ▶ **Mode:** Privileged Exec Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** copy eventlog persistent <P-1> envm <P-2> remote <P-3>

envm: Copy the persistent log from the device to external non-volatile memory.

remote: Copy the persistent logs from the device to a file server.

Parameter	Value	Meaning
P-1	string	Enter a user-defined text, max. 32 characters.
P-2	string	Enter a user-defined text, max. 32 characters.
P-3	string	Enter a user-defined text, max. 128 characters.

copy traplog system envm

Copy the traplog from the device to external non-volatile memory.

- ▶ **Mode:** Privileged Exec Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** `copy traplog system envm <P-1>`

Parameter	Value	Meaning
P-1	string	Enter a user-defined text, max. 32 characters.

copy traplog system remote

Copy the traplog from the device to a file server

- ▶ **Mode:** Privileged Exec Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** `copy traplog system remote <P-1>`

Parameter	Value	Meaning
P-1	string	Enter a user-defined text, max. 128 characters.

copy audittrail system envm

Copy the audit trail from the device to external non-volatile memory.

- ▶ **Mode:** Privileged Exec Mode
- ▶ **Privilege Level:** Operator, Auditor
- ▶ **Format:** `copy audittrail system envm <P-1>`

Parameter	Value	Meaning
P-1	string	Enter a user-defined text, max. 32 characters.

copy audittrail system remote

Copy the audit trail from the device to a file server.

- ▶ **Mode:** Privileged Exec Mode
- ▶ **Privilege Level:** Operator, Auditor
- ▶ **Format:** `copy audittrail system remote <P-1>`

Parameter	Value	Meaning
P-1	string	Enter a user-defined text, max. 128 characters.

clear

Clear several items.

clear logging buffered

Clear buffered log from memory.

- ▶ **Mode:** Privileged Exec Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** clear logging buffered

clear logging persistent

Clear persistent log from memory.

- ▶ **Mode:** Privileged Exec Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** clear logging persistent

clear eventlog

Clear the event log entries from memory.

- ▶ **Mode:** Privileged Exec Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** clear eventlog

Parallel Redundancy Protocol (PRP)

prp

Configure parallel redundancy protocol (PRP) parameters and clear tables and counters.

prp operation

Enable or disable the parallel redundancy protocol (PRP).

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** prp operation

no prp operation

Disable the option

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** no prp operation

prp instance

Configure PRP instances

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** prp instance <P-1> operation port-a port-b supervision evaluate send redbox-exclusively

operation: Enable or disable the PRP instance.

port-a: Enable or disable the first port of the PRP line.

port-b: Enable or disable the second port of the PRP line.

supervision: Configure the PRP supervision tx and rx packet handling.

evaluate: Enable or disable evaluation of received supervision packets.

send: Enable or disable sending of supervision packets.

`redbox-exclusively`: Enable sending of supervision packets for this Redundancy Box (RedBox) exclusively. Use the no form of the command to send supervision packets for each connected VDAN and this RedBox (if send is enabled).

Parameter	Value	Meaning
P-1	1..1	Enter PRP instance number (only 1 supported).

no prp instance

Disable the option

- **Mode:** Global Config Mode
- **Privilege Level:** Operator
- **Format:** no prp instance <P-1> operation port-a port-b supervision evaluate
send redbox-exclusively

show

Display device options and settings.

show prp global

Show global preferences.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** show prp global

show prp instance

Show PRP instances.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** show prp instance [<P-1>]

Parameter	Value	Meaning
P-1	1..1	Enter PRP instance number (only 1 supported).

show prp node-table

Show node table (received supervision packets).

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** show prp node-table [<P-1>]

Parameter	Value	Meaning
P-1	1..1	Enter PRP instance number (only 1 supported).

show prp proxy-node-table

Show proxy node table.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** show prp proxy-node-table [<P-1>]

Parameter	Value	Meaning
P-1	1..1	Enter PRP instance number (only 1 supported).

show prp counters

Show PRP counters.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** show prp counters [<P-1>]

Parameter	Value	Meaning
P-1	1..1	Enter PRP instance number (only 1 supported).

clear

Clear several items.

clear prp proxy-node-table

Clear proxy-node-table.

- ▶ **Mode:** Privileged Exec Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** `clear prp proxy-node-table [<P-1>]`

Parameter	Value	Meaning
P-1	1..1	Enter PRP instance number (only 1 supported).

clear prp node-table

Clear node-table (received supervision packets).

- ▶ **Mode:** Privileged Exec Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** `clear prp node-table [<P-1>]`

Parameter	Value	Meaning
P-1	1..1	Enter PRP instance number (only 1 supported).

clear prp counters

Clear PRP counters.

- ▶ **Mode:** Privileged Exec Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** `clear prp counters [<P-1>]`

Parameter	Value	Meaning
P-1	1..1	Enter PRP instance number (only 1 supported).

MAC Notification

mac

Set MAC parameters.

mac notification operation

Enable or disable MAC notification globally.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** mac notification operation

no mac notification operation

Disable the option

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** no mac notification operation

mac notification interval

Set MAC notification interval in seconds.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** mac notification interval <P-1>

Parameter	Value	Meaning
P-1	0..2147483647	Enter a number in the given range.

mac

MAC interface commands.

mac notification operation

Enable or disable MAC notification on this interface.

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** mac notification operation

no mac notification operation

Disable the option

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** no mac notification operation

show

Display device options and settings.

show mac notification global

Displays MAC notification global information.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** show mac notification global

show mac notification interface

Displays MAC notification interface information.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** show mac notification interface

Management Access

network

Configure the inband and outband connectivity.

network management access web timeout

Set the web interface idle timeout.

- **Mode:** Privileged Exec Mode
- **Privilege Level:** Administrator
- **Format:** network management access web timeout <P-1>

Parameter	Value	Meaning
P-1	0..160	Idle timeout of a session in minutes (default: 5).

network management access add

Add a new entry with index.

- **Mode:** Privileged Exec Mode
- **Privilege Level:** Administrator
- **Format:** network management access add <P-1> [ip <P-2>] [mask <P-3>] [http <P-4>] [https <P-5>] [snmp <P-6>] [telnet <P-7>] [iec61850-mms <P-8>] [modbus-tcp <P-9>] [ssh <P-10>] [ethernet-ip <P-11>]

[ip]: Configure IP address which should have access to management.

[mask]: Configure network mask to allow a subnet for management access.

[http]: Configure if HTTP is allowed to have management access.

[https]: Configure if HTTPS is allowed to have management access.

[snmp]: Configure if SNMP is allowed to have management access.

[telnet]: Configure if TELNET is allowed to have management access.

[iec61850-mms]: Configure if IEC61850-MMS is allowed to have management access.

[modbus-tcp]: Configure if Modbus TCP/IP is allowed to have management access.

[ssh]: Configure if SSH is allowed to have management access.

[ethernet-ip]: Configure if EtherNet/IP is allowed to have management access.

Parameter	Value	Meaning
P-1	1..16	Pool entry index.
P-2	a.b.c.d	IP address.
P-3	0..32	Prefix length net mask.
P-4	enable	Enable the option.
	disable	Disable the option.
P-5	enable	Enable the option.
	disable	Disable the option.
P-6	enable	Enable the option.
	disable	Disable the option.
P-7	enable	Enable the option.
	disable	Disable the option.
P-8	enable	Enable the option.
	disable	Disable the option.
P-9	enable	Enable the option.
	disable	Disable the option.
P-10	enable	Enable the option.
	disable	Disable the option.
P-11	enable	Enable the option.
	disable	Disable the option.

network management access delete

Delete an entry with index.

- ▶ **Mode:** Privileged Exec Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** network management access delete <P-1>

Parameter	Value	Meaning
P-1	1..16	Pool entry index.

network management access modify

Modify an entry with index.

- ▶ **Mode:** Privileged Exec Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** network management access modify <P-1> ip <P-2> mask <P-3> http <P-4> https <P-5> snmp <P-6> telnet <P-7> iec61850-mms <P-8> modbus-tcp <P-9> ssh <P-10> ethernet-ip <P-11>

ip: Configure ip-address which should have access to management.

mask: Configure network mask to allow a subnet for management access.

`http`: Configure if HTTP is allowed to have management access.

`https`: Configure if HTTPS is allowed to have management access.

`snmp`: Configure if SNMP is allowed to have management access.

`telnet`: Configure if TELNET is allowed to have management access.

`iec61850-mms`: Configure if IEC61850-MMS is allowed to have management access.

`modbus-tcp`: Configure if Modbus TCP/IP is allowed to have management access.

`ssh`: Configure if SSH is allowed to have management access.

`ethernet-ip`: Configure if EtherNet/IP is allowed to have management access.

Parameter	Value	Meaning
P-1	1..16	Pool entry index.
P-2	a.b.c.d	IP address.
P-3	0..32	Prefix length net mask.
P-4	enable	Enable the option.
	disable	Disable the option.
P-5	enable	Enable the option.
	disable	Disable the option.
P-6	enable	Enable the option.
	disable	Disable the option.
P-7	enable	Enable the option.
	disable	Disable the option.
P-8	enable	Enable the option.
	disable	Disable the option.
P-9	enable	Enable the option.
	disable	Disable the option.
P-10	enable	Enable the option.
	disable	Disable the option.
P-11	enable	Enable the option.
	disable	Disable the option.

network management access operation

Enable/Disable operation for RMA.

- ▶ **Mode:** Privileged Exec Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** network management access operation

no network management access operation

Disable the option

- ▶ **Mode:** Privileged Exec Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** no network management access operation

network management access status

Activate/Deactivate an entry.

- ▶ **Mode:** Privileged Exec Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** network management access status <P-1>

Parameter	Value	Meaning
P-1	1..16	Pool entry index.

no network management access status

Disable the option

- ▶ **Mode:** Privileged Exec Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** no network management access status <P-1>

show

Display device options and settings.

show network management access global

Show global restricted management access preferences.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** `show network management access global`

show network management access rules

Show restricted management access rules.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** `show network management access rules [<P-1>]`

Parameter	Value	Meaning
P-1	1..16	Pool entry index.

Modbus

modbus-tcp

Configure Modbus TCP/IP server settings.

modbus-tcp operation

Enable or disable the Modbus TCP/IP server.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** modbus-tcp operation

no modbus-tcp operation

Disable the option

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** no modbus-tcp operation

modbus-tcp write-access

Enable or disable the write-access on Modbus TCP/IP registers.

NOTE: Enabling write access for Modbus TCP/IP protocol may present a possible security risk because Modbus TCP/IP communication is not authenticated.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** modbus-tcp write-access

 **WARNING**

UNAUTHENTICATED ACCESS

Thoroughly evaluate the enabling of write access to Modbus TCP/IP protocol for potential security implications.

Failure to follow these instructions can result in death, serious injury, or equipment damage.

no modbus-tcp write-access

Disable the option

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** no modbus-tcp write-access

modbus-tcp port

Defines the port number of the Modbus TCP/IP server (default: 502).

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** modbus-tcp port <P-1>

Parameter	Value	Meaning
P-1	1..65535	Enter port number between 1 and 65535.

modbus-tcp max-sessions

Defines the maximum number of concurrent Modbus TCP/IP sessions (default: 5).

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** modbus-tcp max-sessions <P-1>

Parameter	Value	Meaning
P-1	1..5	Maximum number of concurrent Modbus TCP/IP server sessions (default: 5).

show

Display device options and settings.

show modbus-tcp

Show the Modbus TCP/IP server settings.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** show modbus-tcp

Media Redundancy Protocol (MRP)

mrp

Configure the MRP settings.

mrp domain modify advanced-mode

Configure the MRM Advanced Mode.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** mrp domain modify advanced-mode <P-1>

Parameter	Value	Meaning
P-1	enable	Enable the option.
	disable	Disable the option.

mrp domain modify manager-priority

Configure the MRM priority.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** mrp domain modify manager-priority <P-1>

Parameter	Value	Meaning
P-1	0..65535	Enter the MRM priority (default: 32768).

mrp domain modify mode

Configure the role of the MRP device.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** mrp domain modify mode <P-1>

Parameter	Value	Meaning
P-1	client	The device will be in the role of a ring client (MRC).
	manager	The device will be in the role of a ring manager (MRM).

mrp domain modify name

Configure the logical name of the MRP domain.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** mrp domain modify name <P-1>

Parameter	Value	Meaning
P-1	string	Enter a user-defined text, max. 255 characters.

mrp domain modify operation

Enable or disable the MRP function.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** mrp domain modify operation <P-1>

Parameter	Value	Meaning
P-1	enable	Enable the option.
	disable	Disable the option.

mrp domain modify port primary

Configure the primary ringport.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** mrp domain modify port primary <P-1>

Parameter	Value	Meaning
P-1	slot no./port no.	Slot number / port number.

mrp domain modify port secondary

Configure the secondary ringport.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** mrp domain modify port secondary <P-1> [fixed-backup <P-2>]

[fixed-backup]: Enable or disable the secondary ringport of the manager to be the backup port.

Parameter	Value	Meaning
P-1	slot no./port no.	Slot number / port number.
P-2	enable	Enable the option.
	disable	Disable the option.

mrp domain modify recovery-delay

Configure the MRM Recovery Delay.

- **Mode:** Global Config Mode
- **Privilege Level:** Operator
- **Format:** mrp domain modify recovery-delay <P-1>

Parameter	Value	Meaning
P-1	500ms	Maximum recovery delay of 500ms in the MRP domain.
	200ms	Maximum recovery delay of 200ms in the MRP domain.

mrp domain modify round-trip-delay

Configure the round-trip-delay counters.

- **Mode:** Global Config Mode
- **Privilege Level:** Operator
- **Format:** mrp domain modify round-trip-delay <P-1>

Parameter	Value	Meaning
P-1	reset	Reset the round-trip-delay counters.

mrp domain modify vlan

Configure the VLAN identifier of the MRP domain. VLAN ID 0 means that no VLAN is used).

- **Mode:** Global Config Mode
- **Privilege Level:** Operator
- **Format:** mrp domain modify vlan <P-1>

Parameter	Value	Meaning
P-1	0..4042	VLAN identifier of the MRP domain. (VLAN ID 0 means that no VLAN is used).

mrp domain add default-domain

Default MRP domain ID.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** mrp domain add default-domain

mrp domain add domain-id

MRP domain ID. Format: 16 bytes in decimal notation. (Example: 1.2.3.4.5.6.7.8.9.10.11.12.13.14.15.16).

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** mrp domain add domain-id <P-1>

Parameter	Value	Meaning
P-1	string	<domain id> MRP domain ID. Format: 16 bytes in decimal notation. (Example: 1.2.3.4.5.6.7.8.9.10.11.12.13.14.15.16).

mrp domain delete

Delete the MRP domain.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** mrp domain delete

mrp operation

Enable or disable MRP.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** mrp operation

no mrp operation

Disable the option

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** no mrp operation

show

Display device options and settings.

show mrp

Show MRP settings.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** show mrp

MRP IEEE

mrp-ieee

Configure IEEE MRP parameters and protocols, MVRP for dynamic VLAN registration and MMRP for dynamic MAC registration on a port.

mrp-ieee global join-time

Set the IEEE multiple registration protocol join time-interval. The join timer controls the interval between join message transmissions sent to applicant state machines. An instance of this timer is required on a per-Port, per-MRP participant basis.

- **Mode:** Interface Range Mode
- **Privilege Level:** Operator
- **Format:** `mrp-ieee global join-time <P-1>`

Parameter	Value	Meaning
P-1	10..100	Join time-interval in centi-seconds.

mrp-ieee global leave-time

Set the IEEE multiple registration protocol leave time-interval. The leave timer controls the period of time that the registrar state machine waits in the leave state before transiting to the empty state. An instance of the timer is required for each state machine in the leave state.

- **Mode:** Interface Range Mode
- **Privilege Level:** Operator
- **Format:** `mrp-ieee global leave-time <P-1>`

Parameter	Value	Meaning
P-1	20..600	Leave time-interval in centi-seconds.

mrp-ieee global leave-all-time

Set the IEEE multiple registration protocol leave-all time-interval. The leave all timer controls the frequency with which the leave-all state machine generates leave-all PDUs. The timer is required on a per-Port, per-MRP Participant basis.

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** mrp-ieee global leave-all-time <P-1>

Parameter	Value	Meaning
P-1	200..6000	Leave-All time-interval in centi-seconds.

show

Display device options and settings.

show mrp-ieee global interface

Show the global configuration of IEEE multiple registration protocol per interface.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** show mrp-ieee global interface [<P-1>]

Parameter	Value	Meaning
P-1	slot no./port no.	Slot number / port number.

MRP IEEE MMRP

mrp-ieee

Configure IEEE MRP protocols.

mrp-ieee mmrp vlan-id

Configure the VLAN parameters.

- ▶ **Mode:** VLAN Database Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** mrp-ieee mmrp vlan-id <P-1> forward-all <P-2> forbidden-servicereq <P-3>

forward-all: Enable or disable 'Forward All Groups' in a given Vlan for a given interface.

forbidden-servicereq: Enable or disable the mmrp feature 'Forbidden Service Requirement' in a given Vlan for a given interface.

Parameter	Value	Meaning
P-1	1..4042	Enter the VLAN ID.
P-2	slot no./port no.	Slot number / port number.
P-3	slot no./port no.	Slot number / port number.

no mrp-ieee mmrp vlan-id

Disable the option

- ▶ **Mode:** VLAN Database Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** no mrp-ieee mmrp vlan-id <P-1> forward-all <P-2> forbidden-servicereq <P-3>

show

Display device options and settings.

show mrp-ieee mmrp global

Display the IEEE MMRP global configuration.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** show mrp-ieee mmrp global

show mrp-ieee mmrp interface

Display the IEEE MMRP interface configuration.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** show mrp-ieee mmrp interface [<P-1>]

Parameter	Value	Meaning
P-1	slot no./port no.	Slot number / port number.

show mrp-ieee mmrp statistics global

Display the IEEE MMRP global statistics.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** show mrp-ieee mmrp statistics global

show mrp-ieee mmrp statistics interface

Display the IEEE MMRP interface statistics.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** show mrp-ieee mmrp statistics interface [<P-1>]

Parameter	Value	Meaning
P-1	slot no./port no.	Slot number / port number.

show mrp-ieee mmrp service-requirement forward-all vlan

Show Forward-All setting for port in given VLAN.

- **Mode:** Command is in all modes available.
- **Privilege Level:** Guest
- **Format:** show mrp-ieee mmrp service-requirement forward-all vlan [<P-1>]

Parameter	Value	Meaning
P-1	1..4042	Enter the VLAN ID.

show mrp-ieee mmrp service-requirement forbidden vlan

Show Forward-All setting for port in given VLAN.

- **Mode:** Command is in all modes available.
- **Privilege Level:** Guest
- **Format:** show mrp-ieee mmrp service-requirement forbidden vlan [<P-1>]

Parameter	Value	Meaning
P-1	1..4042	Enter the VLAN ID.

mrp-ieee

Configure IEEE MRP protocols, MVRP for dynamic VLAN registration and MMRP for dynamic MAC registration.

mrp-ieee mmrp operation

Enable or disable MMRP globally. Devices use MMRP information for dynamic registration of group membership and individual MAC addresses with end devices and switches that support extended filtering services, within the connected LAN.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** `mrp-ieee mmrp operation`

no mrp-ieee mmrp operation

Disable the option

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** `no mrp-ieee mmrp operation`

mrp-ieee mmrp periodic-machine

Enable or disable MMRP periodic state machine globally. When enabled, the periodic state machine sends extra MMRP messages when the periodic timer expires.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** `mrp-ieee mmrp periodic-machine`

no mrp-ieee mmrp periodic-machine

Disable the option

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** `no mrp-ieee mmrp periodic-machine`

clear

Clear several items.

clear mrp-ieee mmrp

Clear the IEEE MMRP global and port statistic tables.

- ▶ **Mode:** Privileged Exec Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** `clear mrp-ieee mmrp`

mrp-ieee

Configure IEEE MRP parameters and protocols, MVRP for dynamic VLAN registration and MMRP for dynamic MAC registration on a port.

mrp-ieee mmrp operation

Enable or disable MMRP on the interface, with MMRP enabled globally and on this interface, the device sends and receives MMRP messages on this port.

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** mrp-ieee mmrp operation

no mrp-ieee mmrp operation

Disable the option

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** no mrp-ieee mmrp operation

mrp-ieee mmrp restrict-register

Enable or disable restriction of dynamic mac address registration using IEEE MMRP on the port. When enabled, the dynamic registration of mac address attributes is allowed only if the attribute has already been statically registered on the device.

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** mrp-ieee mmrp restrict-register

no mrp-ieee mmrp restrict-register

Disable the option

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** no mrp-ieee mmrp restrict-register

show

Display device options and settings.

show mac-filter-table mmrp

Display MMRP entries in the Multicast Forwarding Database (MFDB) table.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** `show mac-filter-table mmrp`

MRP IEEE MVRP

mrp-ieee

Configure IEEE MRP protocols, MVRP for dynamic VLAN registration and MMRP for dynamic MAC registration.

mrp-ieee mvrp operation

Enable or disable IEEE MVRP globally. When enabled, the device distributes VLAN membership information on MVRP enable active ports. MVRP-aware devices use the information to dynamically create VLAN members and update the local VLAN member database.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** mrp-ieee mvrp operation

no mrp-ieee mvrp operation

Disable the option

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** no mrp-ieee mvrp operation

mrp-ieee mvrp periodic-machine

Enable or disable IEEE MVRP periodic state machine globally. When enabled, the device sends MVRP messages to the connected MVRP-aware devices when the periodic timer expires.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** mrp-ieee mvrp periodic-machine

no mrp-ieee mvrp periodic-machine

Disable the option

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** no mrp-ieee mvrp periodic-machine

mrp-ieee

Configure IEEE MRP parameters and protocols, MVRP for dynamic VLAN registration and MMRP for dynamic MAC registration on a port.

mrp-ieee mvrp operation

Enable or disable IEEE MVRP on the port. When enabled, globally and on this port, the device distributes VLAN membership information to MVRP aware devices connected to this port.

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** mrp-ieee mvrp operation

no mrp-ieee mvrp operation

Disable the option

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** no mrp-ieee mvrp operation

mrp-ieee mvrp restrict-register

Enable or disable restriction of dynamic VLAN registration using IEEE MVRP on the port. When enabled, the dynamic registration of VLAN attributes is allowed only if the attribute has already been statically registered on the device.

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** mrp-ieee mvrp restrict-register

no mrp-ieee mvrp restrict-register

Disable the option

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** no mrp-ieee mvrp restrict-register

show

Display device options and settings.

show mrp-ieee mvrp global

Display the IEEE MVRP global configuration.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** `show mrp-ieee mvrp global`

show mrp-ieee mvrp interface

Display the IEEE MVRP interface configuration.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** `show mrp-ieee mvrp interface [<P-1>]`

Parameter	Value	Meaning
P-1	slot no./port no.	Slot number / port number.

show mrp-ieee mvrp statistics global

Display the IEEE MVRP global statistics.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** `show mrp-ieee mvrp statistics global`

show mrp-ieee mvrp statistics interface

Display the IEEE MVRP interface statistics.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** `show mrp-ieee mvrp statistics interface [<P-1>]`

Parameter	Value	Meaning
P-1	slot no./port no.	Slot number / port number.

clear

Clear several items.

clear mrp-ieee mvrp

Clear the IEEE MVRP global and port statistic tables.

- ▶ **Mode:** Privileged Exec Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** `clear mrp-ieee mvrp`

Port Monitor

port-monitor

Configure the Port Monitor condition settings.

port-monitor operation

Enable or disable the port monitor.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** port-monitor operation

no port-monitor operation

Disable the option

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** no port-monitor operation

port-monitor

Configure the Port Monitor condition settings.

port-monitor condition crc-fragments interval

Configure the measure interval in seconds (5-180s) for CRC-Fragment detection.
Default 10.

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** port-monitor condition crc-fragments interval <P-1>

Parameter	Value	Meaning
P-1	5..180	Enter a number in the given range.

port-monitor condition crc-fragments count

Configure the CRC-Fragment counter in parts per million (1-1000000 [ppm]).
Default 1000 [ppm].

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** port-monitor condition crc-fragments count <P-1>

Parameter	Value	Meaning
P-1	1..1000000	Enter a number in the given range.

port-monitor condition crc-fragments mode

Enable or disable CRC-Fragments condition to trigger an action.

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** port-monitor condition crc-fragments mode

no port-monitor condition crc-fragments mode

Disable the option

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** no port-monitor condition crc-fragments mode

port-monitor condition link-flap interval

Configure the measure interval in seconds (1-180s) for Link Flap detection. Default 10.

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** port-monitor condition link-flap interval <P-1>

Parameter	Value	Meaning
P-1	1..180	Enter a number in the given range.

port-monitor condition link-flap count

Configure the Link Flap counter (1-100). Default 5.

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** port-monitor condition link-flap count <P-1>

Parameter	Value	Meaning
P-1	1..100	Enter a number in the given range.

port-monitor condition link-flap mode

Enable or disable link-flap condition to trigger an action.

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** port-monitor condition link-flap mode

no port-monitor condition link-flap mode

Disable the option

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** no port-monitor condition link-flap mode

port-monitor condition duplex-mismatch mode

Enable or disable duplex mismatch detection condition to trigger an action.

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** port-monitor condition duplex-mismatch mode

no port-monitor condition duplex-mismatch mode

Disable the option

- **Mode:** Interface Range Mode
- **Privilege Level:** Operator
- **Format:** no port-monitor condition duplex-mismatch mode

port-monitor condition overload-detection traffic-type

Configure Overload detection condition traffic type.

- **Mode:** Interface Range Mode
- **Privilege Level:** Operator
- **Format:** port-monitor condition overload-detection traffic-type <P-1>

Parameter	Value	Meaning
P-1	all	All packets.
	bc	Broadcast packets.
	bc-mc	Broadcast and multicast packets.

port-monitor condition overload-detection unit

Configure Overload detection condition threshold type.

- **Mode:** Interface Range Mode
- **Privilege Level:** Operator
- **Format:** port-monitor condition overload-detection unit <P-1>

Parameter	Value	Meaning
P-1	pps	Packets per second.
	kbps	Kilobits per second.

port-monitor condition overload-detection upper-threshold

Configure Overload detection condition threshold type upper-threshold.

- **Mode:** Interface Range Mode
- **Privilege Level:** Operator
- **Format:** port-monitor condition overload-detection upper-threshold <P-1>

Parameter	Value	Meaning
P-1	0..10000000	Enter a number in the given range.

port-monitor condition overload-detection lower-threshold

Configure Overload detection condition threshold type lower-threshold.

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** port-monitor condition overload-detection lower-threshold <P-1>

Parameter	Value	Meaning
P-1	0..10000000	Enter a number in the given range.

port-monitor condition overload-detection polling-interval

Configure Overload detection condition detection interval.

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** port-monitor condition overload-detection polling-interval <P-1>

Parameter	Value	Meaning
P-1	1..20	Enter a number in the given range.

port-monitor condition overload-detection mode

Enable or disable Overload-Detection condition to trigger an action.

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** port-monitor condition overload-detection mode

no port-monitor condition overload-detection mode

Disable the option

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** no port-monitor condition overload-detection mode

port-monitor condition speed-duplex mode

Enable or disable link speed and duplex condition to trigger an action.

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** port-monitor condition speed-duplex mode

no port-monitor condition speed-duplex mode

Disable the option

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** no port-monitor condition speed-duplex mode

port-monitor condition speed-duplex speed

Set speed-duplex combination.

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** port-monitor condition speed-duplex speed [<P-1>] [<P-2>] [<P-3>]
[<P-4>] [<P-5>]

Parameter	Value	Meaning
P-1	[hdx10]	10 Mbit/s - half duplex.
P-2	[fdx10]	10 Mbit/s - full duplex.
P-3	[hdx100]	100 Mbit/s - half duplex.
P-4	[fdx100]	100 Mbit/s - full duplex.
P-5	[fdx-1000]	1000 Mbit/s - full duplex.

port-monitor condition speed-duplex clear

Clear the allowed speed-duplex combination list.

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** port-monitor condition speed-duplex clear

port-monitor action

Enable or disable interface on port condition.

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** port-monitor action <P-1>

Parameter	Value	Meaning
P-1	port-disable	Disable interface on port condition.
	trap-only	Send only a trap.
	auto-disable	Enable or disable interface on port condition by AUTODIS.

port-monitor reset

Reset the port monitor.

- **Mode:** Interface Range Mode
- **Privilege Level:** Operator
- **Format:** port-monitor reset [<P-1>]

Parameter	Value	Meaning
P-1	port	Press Enter to execute the command.

no port-monitor reset

Disable the option

- **Mode:** Interface Range Mode
- **Privilege Level:** Operator
- **Format:** no port-monitor reset [<P-1>]

show

Display device options and settings.

show port-monitor operation

Display the Port Monitor operation.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** `show port-monitor operation`

show port-monitor brief

Display the Port Monitor summary.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** `show port-monitor brief`

show port-monitor overload-detection counters

Display the overload-detection counters of last interval.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** `show port-monitor overload-detection counters`

show port-monitor overload-detection port

Display the Port Monitor overload detection interface details.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** `show port-monitor overload-detection port [<P-1>]`

Parameter	Value	Meaning
P-1	slot no./port no.	Slot number / port number.

show port-monitor speed-duplex

Display the Port Monitor link speed and duplex interface settings.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** show port-monitor speed-duplex [<P-1>]

Parameter	Value	Meaning
P-1	slot no./port no.	Slot number / port number.

show port-monitor port

Display the Port Monitor interface details.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** show port-monitor port <P-1>

Parameter	Value	Meaning
P-1	slot no./port no.	Slot number / port number.

show port-monitor link-flap

Display the link-flaps counts for a specific interface.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** show port-monitor link-flap <P-1>

Parameter	Value	Meaning
P-1	slot no./port no.	Slot number / port number.

show port-monitor crc-fragments

Display CRC-Fragments counts for a specific interface.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** show port-monitor crc-fragments <P-1>

Parameter	Value	Meaning
P-1	slot no./port no.	Slot number / port number.

Port Security

port-security

Port MAC locking/security

port-security operation

Enable/Disable Port MAC locking/security

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** port-security operation

no port-security operation

Disable the option

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** no port-security operation

port-security

Port MAC locking/security

port-security operation

Enable/Disable Port MAC locking/security for the interface.

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** port-security operation

no port-security operation

Disable the option

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** no port-security operation

port-security max-dynamic

Set dynamic limit for the interface.

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** port-security max-dynamic <P-1>

Parameter	Value	Meaning
P-1	0..600	Maximum number of dynamically locked MAC addresses allowed.

port-security max-static

Set Static Limit for the interface.

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** port-security max-static <P-1>

Parameter	Value	Meaning
P-1	0..64	Maximum number of statically locked MAC addresses allowed.

port-security mac-address add

Add Static MAC address to the interface.

- **Mode:** Interface Range Mode
- **Privilege Level:** Operator
- **Format:** port-security mac-address add <P-1> <P-2>

Parameter	Value	Meaning
P-1	aa:bb:cc:dd:ee:ff	MAC address.
P-2	1..4042	VLAN ID.

port-security mac-address move

Make dynamic MAC addresses static for the interface.

- **Mode:** Interface Range Mode
- **Privilege Level:** Operator
- **Format:** port-security mac-address move

port-security mac-address delete

Remove Static MAC address from the interface.

- **Mode:** Interface Range Mode
- **Privilege Level:** Operator
- **Format:** port-security mac-address delete <P-1> <P-2>

Parameter	Value	Meaning
P-1	aa:bb:cc:dd:ee:ff	MAC address.
P-2	1..4042	VLAN ID.

port-security violation-traps

SNMP violation traps for the interface.

- **Mode:** Interface Range Mode
- **Privilege Level:** Operator
- **Format:** port-security violation-traps operation [frequency <P-1>]

operation: Enable/Disable SNMP violation traps for the interface.

[frequency]: The minimum seconds between two successive violation traps on this port.

Parameter	Value	Meaning
P-1	0..3600	Time in seconds.

no port-security violation-traps

Disable the option

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** no port-security violation-traps operation [frequency]

show

Display device options and settings.

show port-security global

Port Security global status

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** show port-security global

show port-security interface

Display port-security (port MAC locking) information for system.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** show port-security interface [<P-1>]

Parameter	Value	Meaning
P-1	slot no./port no.	Slot number / port number.

show port-security dynamic

Display dynamically learned MAC addresses

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** show port-security dynamic <P-1>

Parameter	Value	Meaning
P-1	slot no./port no.	Slot number / port number.

show port-security static

Display statically locked MAC addresses

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** show port-security static <P-1>

Parameter	Value	Meaning
P-1	slot no./port no.	Slot number / port number.

show port-security violation

Display port security violation information.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** show port-security violation <P-1>

Parameter	Value	Meaning
P-1	slot no./port no.	Slot number / port number.

Precision Time Protocol (PTP)

ptp

Enable or disable the Precision Time Protocol (IEEE 1588-2008).

ptp operation

Enable or disable the Precision Time Protocol (IEEE 1588-2008).

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** ptp operation

no ptp operation

Disable the option

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** no ptp operation

ptp clock-mode

Configure PTPv2 (IEEE1588-2008) clock mode. If the clock mode is changed, PTP will be initialized.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** ptp clock-mode <P-1>

Parameter	Value	Meaning
P-1	v2-boundary-clock	v2-boundary-clock
	v2-transparent-clock	v2-transparent-clock

ptp sync-lower-bound

Configure the lower bound for the PTP clock synchronization status (unit: nanoseconds). If the absolute value of the offset to the master clock is smaller than the lower bound, the clock's status is set to synchronized (true).

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** ptp sync-lower-bound <P-1>

Parameter	Value	Meaning
P-1	1..999999999	1..999999999

ptp sync-upper-bound

Configure the upper bound for the PTP clock synchronization status (unit: nanoseconds). If the absolute value of the offset to the master clock is bigger than the upper bound, the clock's status is set to unsynchronized (false).

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** ptp sync-upper-bound <P-1>

Parameter	Value	Meaning
P-1	31..1000000000	31..1000000000

ptp management

Enable or disable PTP management via PTP management messages.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** ptp management

no ptp management

Disable the option

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** no ptp management

ptp v2-transparent-clock syntonization

Enable or disable the syntonization (frequency synchronization) of the transparent-clock.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** ptp v2-transparent-clock syntonization

no ptp v2-transparent-clock syntonization

Disable the option

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** no ptp v2-transparent-clock syntonization

ptp v2-transparent-clock network-protocol

Configure the network-protocol of the transparent-clock.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** ptp v2-transparent-clock network-protocol <P-1>

Parameter	Value	Meaning
P-1	ieee802.3	ieee802.3
	udp-ipv4	udp-ipv4

ptp v2-transparent-clock multi-domain

Enable or disable the transparent-clock to process only the primary-domain or all domain numbers.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** ptp v2-transparent-clock multi-domain

no ptp v2-transparent-clock multi-domain

Disable the option

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** no ptp v2-transparent-clock multi-domain

ptp v2-transparent-clock sync-local-clock

Enable or disable synchronization of the local clock (also enables syntonization).

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** ptp v2-transparent-clock sync-local-clock

no ptp v2-transparent-clock sync-local-clock

Disable the option

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** no ptp v2-transparent-clock sync-local-clock

ptp v2-transparent-clock delay-mechanism

Configure the delay mechanism of the transparent-clock.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** ptp v2-transparent-clock delay-mechanism <P-1>

Parameter	Value	Meaning
P-1	e2e	e2e
	p2p	p2p
	e2e-optimized	e2e-optimized
	disable	disable

ptp v2-transparent-clock primary-domain

Configure the primary-domain (for syntonization) of the transparent-clock.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** ptp v2-transparent-clock primary-domain <P-1>

Parameter	Value	Meaning
P-1	0..255	Enter a number in the given range.

ptp v2-transparent-clock vlan

VLAN in which PTP packets are sent. With a value of none, all packets are sent untagged.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** ptp v2-transparent-clock vlan <P-1>

Parameter	Value	Meaning
P-1	vlanId	Send ptp to vlanId Use 0 for priority only tagged frames.
	none	Send all ptp packets untagged.

ptp v2-transparent-clock vlan-priority

VLAN priority of tagged ptp packets.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** ptp v2-transparent-clock vlan-priority <P-1>

Parameter	Value	Meaning
P-1	0..7	0..7

ptp v2-boundary-clock domain

Configure the PTP domain number (0..255)

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** ptp v2-boundary-clock domain <P-1>

Parameter	Value	Meaning
P-1	0..255	Enter a number in the given range.

ptp v2-boundary-clock priority1

Configure the priority1 value (0..255) for the BMCA

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** ptp v2-boundary-clock priority1 <P-1>

Parameter	Value	Meaning
P-1	0..255	Enter a number in the given range.

ptp v2-boundary-clock priority2

Configure the priority2 value (0..255) for the BMCA

- **Mode:** Global Config Mode
- **Privilege Level:** Administrator
- **Format:** ptp v2-boundary-clock priority2 <P-1>

Parameter	Value	Meaning
P-1	0..255	Enter a number in the given range.

ptp v2-boundary-clock utc-offset

Configure the UTC offset (TAI - UTC) in seconds.

- **Mode:** Global Config Mode
- **Privilege Level:** Administrator
- **Format:** ptp v2-boundary-clock utc-offset <P-1>

Parameter	Value	Meaning
P-1	-32768..32767	-32768..32767

ptp v2-boundary-clock utc-offset-valid

Configure the UTC offset valid flag

- **Mode:** Global Config Mode
- **Privilege Level:** Administrator
- **Format:** ptp v2-boundary-clock utc-offset-valid <P-1>

Parameter	Value	Meaning
P-1	true	True
	false	False

no ptp v2-boundary-clock utc-offset-valid

Disable the option

- **Mode:** Global Config Mode
- **Privilege Level:** Administrator
- **Format:** no ptp v2-boundary-clock utc-offset-valid <P-1>

ptp

Enable or disable the Precision Time Protocol (IEEE 1588-2008) on a port.

ptp v2-transparent-clock operation

Enable or disable the sending and receiving / processing of PTP synchronization messages.

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** ptp v2-transparent-clock operation

no ptp v2-transparent-clock operation

Disable the option

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** no ptp v2-transparent-clock operation

ptp v2-transparent-clock asymmetry

Set the asymmetry of the link connected to this interface

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** ptp v2-transparent-clock asymmetry <P-1>

Parameter	Value	Meaning
P-1	20000000000.. 20000000000	20000000000.. 20000000000

ptp v2-transparent-clock pdelay-interval

Configure the Peer Delay Interval in seconds {1|2|4|8|16|32}. This interval is used if delay-mechanism is set to p2p

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** ptp v2-transparent-clock pdelay-interval <P-1>

Parameter	Value	Meaning
P-1	1	1
	2	2
	4	4
	8	8
	16	16
	32	32

ptp v2-boundary-clock operation

Enable or disable the sending and receiving/processing of PTP synchronization messages.

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** ptp v2-boundary-clock operation

no ptp v2-boundary-clock operation

Disable the option

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** no ptp v2-boundary-clock operation

ptp v2-boundary-clock pdelay-interval

Configure the Peer Delay Interval in seconds {1|2|4|8|16|32}. This interval is used if delay-mechanism is set to p2p

- **Mode:** Interface Range Mode
- **Privilege Level:** Administrator
- **Format:** ptp v2-boundary-clock pdelay-interval <P-1>

Parameter	Value	Meaning
P-1	1	1
	2	2
	4	4
	8	8
	16	16
	32	32

ptp v2-boundary-clock announce-interval

Configure the Announce Interval in seconds {1|2|4|8|16}.

- **Mode:** Interface Range Mode
- **Privilege Level:** Administrator
- **Format:** ptp v2-boundary-clock announce-interval <P-1>

Parameter	Value	Meaning
P-1	1	1
	2	2
	4	4
	8	8
	16	16

ptp v2-boundary-clock sync-interval

Configure the Sync Interval in seconds {0.25|0.5|1|2}.

- **Mode:** Interface Range Mode
- **Privilege Level:** Administrator
- **Format:** ptp v2-boundary-clock sync-interval <P-1>

Parameter	Value	Meaning
P-1	0.25	0.25
	0.5	0.5
	1	1
	2	2

ptp v2-boundary-clock announce-timeout

Configure the Announce Receipt Timeout (2..10).

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** ptp v2-boundary-clock announce-timeout <P-1>

Parameter	Value	Meaning
P-1	2..10	2..10

ptp v2-boundary-clock asymmetry

Set the asymmetry of the link connected to this interface

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** ptp v2-boundary-clock asymmetry <P-1>

Parameter	Value	Meaning
P-1	20000000000.. 20000000000	20000000000.. 20000000000

ptp v2-boundary-clock v1-compatibility-mode

Set the PTPv1 Hardware compatibility mode {auto|on|off}.

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** ptp v2-boundary-clock v1-compatibility-mode <P-1>

Parameter	Value	Meaning
P-1	on	on
	off	off
	auto	auto

ptp v2-boundary-clock delay-mechanism

Configure the delay mechanism of the boundary-clock.

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** ptp v2-boundary-clock delay-mechanism <P-1>

Parameter	Value	Meaning
P-1	e2e	e2e
	p2p	p2p
	disable	disable

ptp v2-boundary-clock network-protocol

Configure the network-protocol

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** ptp v2-boundary-clock network-protocol <P-1>

Parameter	Value	Meaning
P-1	ieee802.3	ieee802.3
	udp-ipv4	udp-ipv4

ptp v2-boundary-clock vlan-priority

VLAN priority of tagged ptp packets.

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** ptp v2-boundary-clock vlan-priority <P-1>

Parameter	Value	Meaning
P-1	0..7	0..7

ptp v2-boundary-clock vlan

VLAN in which PTP packets are sent. With a value of none, all packets are sent untagged.

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** ptp v2-boundary-clock vlan <P-1>

Parameter	Value	Meaning
P-1	vlanId	Send ptp to vlan Id. Use 0 for priority only tagged frames.
	none	Send all ptp packets untagged.

show

Display device options and settings.

show ptp

Show PTP parameters and status

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** show ptp [global] [v2-boundary-clock] [v2-transparent-clock] [port]
[v2-transparent-clock] [v2-boundary-clock]

[global]: Show PTP global status

[v2-boundary-clock]: Show PTP Boundary Clock status

[v2-transparent-clock]: Show PTP Transparent Clock status

[port]: Show PTP port values

[v2-transparent-clock]: Show the PTP Transparent Clock port values

[v2-boundary-clock]: Show the PTP Boundary Clock port values.

Password Management

passwords

Manage password policies and options.

passwords min-length

Set minimum password length for user passwords.

- **Mode:** Global Config Mode
- **Privilege Level:** Administrator
- **Format:** passwords min-length <P-1>

Parameter	Value	Meaning
P-1	1..64	Enter a number in the given range.

passwords max-login-attempts

Set maximum login attempts for the users.

- **Mode:** Global Config Mode
- **Privilege Level:** Administrator
- **Format:** passwords max-login-attempts <P-1>

Parameter	Value	Meaning
P-1	0..5	Enter a number in the given range.

passwords min-uppercase-chars

Set minimum upper case characters for user passwords.

- **Mode:** Global Config Mode
- **Privilege Level:** Administrator
- **Format:** passwords min-uppercase-chars <P-1>

Parameter	Value	Meaning
P-1	0..16	Enter a number in the given range.

passwords min-lowercase-chars

Set minimum lower case characters for user passwords.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** passwords min-lowercase-chars <P-1>

Parameter	Value	Meaning
P-1	0..16	Enter a number in the given range.

passwords min-numeric-chars

Set minimum numeric characters for user passwords.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** passwords min-numeric-chars <P-1>

Parameter	Value	Meaning
P-1	0..16	Enter a number in the given range.

passwords min-special-chars

Set minimum special characters for user passwords.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** passwords min-special-chars <P-1>

Parameter	Value	Meaning
P-1	0..16	Enter a number in the given range.

passwords login-attempt-period

The time period [minutes] in which the number of unsuccessful authentication attempts is counted. Value 0 disables this functionality.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** passwords login-attempt-period <P-1>

Parameter	Value	Meaning
P-1	0	Disables the counting.
	1..60	Enter a number in the given range.

show

Display device options and settings.

show passwords

Display password policies and options.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** show passwords

Radius

authorization

Configure authorization parameters.

authorization network radius

Enable or disable the switch to accept VLAN assignment by the RADIUS server.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** authorization network radius

no authorization network radius

Disable the option

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** no authorization network radius

radius

Configure RADIUS parameters.

radius accounting mode

Enable or disable RADIUS accounting function.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** radius accounting mode

no radius accounting mode

Disable the option

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** no radius accounting mode

radius server attribute 4

Specifies the RADIUS client to use the NAS-IP Address attribute in the RADIUS requests.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** radius server attribute 4 <P-1>

Parameter	Value	Meaning
P-1	A.B.C.D	IP address.

radius server acct add

Add a RADIUS accounting server.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** radius server acct add <P-1> ip [name <P-2>] [port <P-3>]

ip: RADIUS accounting server IP address.

[name]: RADIUS accounting server name.

[port]: RADIUS accounting server port (default: 1813).

Parameter	Value	Meaning
P-1	1..8	Next RADIUS server valid index (it can be seen with '#show radius global' command).
P-2	string	Enter a user-defined text, max. 32 characters.
P-3	1..65535	Enter port number between 1 and 65535

radius server acct delete

Delete a RADIUS accounting server.

- **Mode:** Global Config Mode
- **Privilege Level:** Administrator
- **Format:** radius server acct delete <P-1>

Parameter	Value	Meaning
P-1	1..8	RADIUS server index.

radius server acct modify

Change a RADIUS accounting server parameters.

- **Mode:** Global Config Mode
- **Privilege Level:** Administrator
- **Format:** radius server acct modify <P-1> [name <P-2>] [port <P-3>] [status <P-4>] [secret [<P-5>]] [encrypted <P-6>]

[name]: RADIUS accounting server name.

[port]: RADIUS accounting server port (default: 1813).

[status]: Enable or disable a RADIUS accounting server entry.

[secret]: Configure the shared secret for the RADIUS accounting server.

[encrypted]: Configure the encrypted shared secret.

Parameter	Value	Meaning
P-1	1..8	RADIUS server index.
P-2	string	Enter a user-defined text, max. 32 characters.
P-3	1..65535	Enter port number between 1 and 65535.
P-4	enable	Enable the option.
	disable	Disable the option.
P-5	string	Enter a user-defined text, max. 128 characters.
P-6	string	Enter a user-defined text, max. 128 characters.

radius server auth add

Add a RADIUS authentication server.

- **Mode:** Global Config Mode
- **Privilege Level:** Administrator
- **Format:** radius server auth add <P-1> ip [name <P-2>] [port <P-3>]

ip: RADIUS authentication server IP address.

[name]: RADIUS authentication server name.

[port]: RADIUS authentication server port (default: 1812).

Parameter	Value	Meaning
P-1	1..8	Next RADIUS server valid index (it can be seen with '#show radius global' command).
P-2	string	Enter a user-defined text, max. 32 characters.
P-3	1..65535	Enter port number between 1 and 65535.

radius server auth delete

Delete a RADIUS authentication server.

- **Mode:** Global Config Mode
- **Privilege Level:** Administrator
- **Format:** radius server auth delete <P-1>

Parameter	Value	Meaning
P-1	1..8	RADIUS server index.

radius server auth modify

Change a RADIUS authentication server parameters.

- **Mode:** Global Config Mode
- **Privilege Level:** Administrator
- **Format:** radius server auth modify <P-1> [name <P-2>] [port <P-3>] [msgauth <P-4>] [primary <P-5>] [status <P-6>] [secret [<P-7>]] [encrypted <P-8>]

[name]: RADIUS authentication server name.

[port]: RADIUS authentication server port (default: 1812).

[msgauth]: Enable or disable the message authenticator attribute for this server.

[primary]: Configure the primary RADIUS server.

[status]: Enable or disable a RADIUS authentication server entry.

[secret]: Configure the shared secret for the RADIUS authentication server.

[encrypted]: Configure the encrypted shared secret.

Parameter	Value	Meaning
P-1	1..8	RADIUS server index.
P-2	string	Enter a user-defined text, max. 32 characters.
P-3	1..65535	Enter port number between 1 and 65535.
P-4	enable	Enable the option.
	disable	Disable the option.
P-5	enable	Enable the option.
	disable	Disable the option.
P-6	enable	Enable the option.
	disable	Disable the option.
P-7	string	Enter a user-defined text, max. 128 characters.
P-8	string	Enter a user-defined text, max. 128 characters.

radius server retransmit

Configure the retransmit value for the RADIUS server.

- **Mode:** Global Config Mode
- **Privilege Level:** Administrator
- **Format:** radius server retransmit <P-1>

Parameter	Value	Meaning
P-1	1..15	Maximum number of retransmissions (default: 4).

radius server timeout

Configure the RADIUS server timeout value.

- **Mode:** Global Config Mode
- **Privilege Level:** Administrator
- **Format:** radius server timeout <P-1>

Parameter	Value	Meaning
P-1	1..30	Timeout in seconds (default: 5).

show

Display device options and settings.

show radius global

Display global RADIUS configuration.

- **Mode:** Command is in all modes available.
- **Privilege Level:** Guest
- **Format:** `show radius global`

show radius auth servers

Display all configured RADIUS authentication servers.

- **Mode:** Command is in all modes available.
- **Privilege Level:** Guest
- **Format:** `show radius auth servers [<P-1>]`

Parameter	Value	Meaning
P-1	1..8	RADIUS server index.

show radius auth statistics

Display RADIUS authentication server statistics.

- **Mode:** Command is in all modes available.
- **Privilege Level:** Guest
- **Format:** `show radius auth statistics <P-1>`

Parameter	Value	Meaning
P-1	1..8	RADIUS server index.

show radius acct statistics

Display RADIUS accounting server statistics.

- **Mode:** Command is in all modes available.
- **Privilege Level:** Guest
- **Format:** `show radius acct statistics <P-1>`

Parameter	Value	Meaning
P-1	1..8	RADIUS server index.

show radius acct servers

Display all configured RADIUS accounting servers.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** show radius acct servers [<P-1>]

Parameter	Value	Meaning
P-1	1..8	RADIUS server index.

clear

Clear several items.

clear radius

Clear the RADIUS statistics.

- ▶ **Mode:** Privileged Exec Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** clear radius <P-1>

Parameter	Value	Meaning
P-1	statistics	Clear the RADIUS statistics.

Remote Monitoring (RMON)

rmon-alarm

Create a RMON alarm action.

rmon-alarm add

Add RMON alarm.

- **Mode:** Global Config Mode
- **Privilege Level:** Operator
- **Format:** rmon-alarm add <P-1> [mib-variable <P-2>] [rising-threshold <P-3>] [falling-threshold <P-4>]

[mib-variable]: MIB variable

[rising-threshold]: Rising threshold

[falling-threshold]: Falling threshold

Parameter	Value	Meaning
P-1	1..150	Enter an index that uniquely identifies an entry in the alarm table.
P-2	string	Enter an object identifier of the particular variable to be sampled, max. 32 characters.
P-3	1..2147483647	Enter the rising threshold for the sampled statistic.
P-4	1..2147483647	Enter the falling threshold for the sampled statistic.

rmon-alarm enable

Enable RMON alarm.

- **Mode:** Global Config Mode
- **Privilege Level:** Operator
- **Format:** rmon-alarm enable <P-1>

Parameter	Value	Meaning
P-1	1..150	Enter an index that uniquely identifies an entry in the alarm table.

rmon-alarm disable

Disable RMON alarm.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** rmon-alarm disable <P-1>

Parameter	Value	Meaning
P-1	1..150	Enter an index that uniquely identifies an entry in the alarm table.

rmon-alarm delete

Delete RMON alarm.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** rmon-alarm delete <P-1>

Parameter	Value	Meaning
P-1	1..150	Enter an index that uniquely identifies an entry in the alarm table.

rmon-alarm modify

Modify RMON alarm parameters.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** rmon-alarm modify <P-1> [mib-variable <P-2>] [rising-threshold <P-3>] [falling-threshold <P-4>] [interval <P-5>] [sample-type <P-6>] [startup-alarm <P-7>] [rising-event <P-8>] [falling-event <P-9>]

[mib-variable]: Enter the alarm mib variable.

[rising-threshold]: Enter the alarm rising threshold.

[falling-threshold]: Enter the alarm falling-threshold.

[interval]: Enter the alarm interval in seconds over which the data is sampled.

[sample-type]: Enter the alarm method of sampling the selected variable.

[startup-alarm]: Enter the alarm type.

[rising-event]: Enter the alarm rising-event index.

[falling-event]: Enter the alarm falling-event index.

Parameter	Value	Meaning
P-1	1..150	Enter an index that uniquely identifies an entry in the alarm table.
P-2	string	Enter an object identifier of the particular variable to be sampled, max. 32 characters.
P-3	1..2147483647	Enter the rising threshold for the sampled statistic.
P-4	1..2147483647	Enter the falling threshold for the sampled statistic.
P-5	1..2147483647	Enter the interval in seconds over which the data is sampled and compared with the rising and falling thresholds.
P-6	absoluteValue	Variable is compared directly with the thresholds.
	deltaValue	Variable is subtracted from the present value and the difference compared with the thresholds.
P-7	risingAlarm	Single rising alarm generated when the sample is greater than or equal to the rising threshold.
	fallingAlarm	Single falling alarm generated when the sample is less than or equal to the falling threshold.
	risingOrFallingAlarm	Single Rising alarm generated when the sample is greater than or equal to rising Threshold and single falling alarm generated when the sample is less than or equal to falling threshold.
P-8	1..65535	Enter the index of the event entry that is used when a rising threshold is crossed.
P-9	1..65535	Enter the index of the event entry that is used when a falling threshold is crossed.

show

Display device options and settings.

show rmon statistics

Show RMON statistics configuration.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** show rmon statistics [<P-1>]

Parameter	Value	Meaning
P-1	slot no./port no.	Slot number / port number.

show rmon alarm

Display configuration on RMON alarms.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** show rmon alarm

Script File

script

CLI Script File.

script apply

Executes the CLI script file available in the device.

- **Mode:** Privileged Exec Mode
- **Privilege Level:** Administrator
- **Format:** script apply <P-1>

Parameter	Value	Meaning
P-1	string	Filename.

script validate

Only validates the CLI script file available in the device.

- **Mode:** Privileged Exec Mode
- **Privilege Level:** Administrator
- **Format:** script validate <P-1>

Parameter	Value	Meaning
P-1	string	Filename.

script list system

List all the script files available in the device memory.

- **Mode:** Privileged Exec Mode
- **Privilege Level:** Administrator
- **Format:** script list system

script list envm

List all the script files available in external non-volatile memory.

- ▶ **Mode:** Privileged Exec Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** script list envm

script delete

Delete the CLI script files.

- ▶ **Mode:** Privileged Exec Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** script delete [<P-1>]

Parameter	Value	Meaning
P-1	string	Filename.

copy

Copy different kinds of items.

copy script envm

Copy script file from external non-volatile memory to specified destination.

- ▶ **Mode:** Privileged Exec Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** copy script envm <P-1> running-config nvm <P-2>

running-config: Copy script file from external non-volatile memory to the running configuration.

nvm: Copy script file from external non-volatile memory to the non-volatile memory.

Parameter	Value	Meaning
P-1	string	Filename.
P-2	string	Enter a user-defined text, max. 32 characters.

copy script remote

Copy script file from server to specified destination.

- ▶ **Mode:** Privileged Exec Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** copy script remote <P-1> running-config nvm <P-2>

running-config: Copy script file from file server to the running configuration.

nvm: Copy script file to non-volatile memory.

Parameter	Value	Meaning
P-1	string	Enter a user-defined text, max. 128 characters.
P-2	string	Enter a user-defined text, max. 32 characters.

copy script nvm

Copy Script file from non-volatile memory to the specified destination.

- ▶ **Mode:** Privileged Exec Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** copy script nvm <P-1> running-config envm <P-2> remote <P-3>

running-config: Copy Script file from non-volatile system memory to the running configuration.

envm: Copy Script file to external non-volatile memory device.

remote: Copy Script file to file server.

Parameter	Value	Meaning
P-1	string	Filename.
P-2	string	Enter a user-defined text, max. 32 characters.
P-3	string	Enter a user-defined text, max. 128 characters.

copy script running-config nvm

Copy the running configuration to non-volatile memory.

- ▶ **Mode:** Privileged Exec Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** `copy script running-config nvm <P-1> [all]`

[all]: Copy all running configuration to non-volatile memory.

Parameter	Value	Meaning
P-1	string	Enter a user-defined text, max. 32 characters.

copy script running-config envm

Copy the running configuration to external non-volatile memory device.

- ▶ **Mode:** Privileged Exec Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** `copy script running-config envm <P-1> [all]`

[all]: Copy all running configuration to external non-volatile memory.

Parameter	Value	Meaning
P-1	string	Enter a user-defined text, max. 32 characters.

copy script running-config remote

Copy the running configuration to a file server.

- ▶ **Mode:** Privileged Exec Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** `copy script running-config remote <P-1> [all]`

[all]: Copy all running configuration to file server.

Parameter	Value	Meaning
P-1	string	Enter a user-defined text, max. 128 characters.

show

Display device options and settings.

show script envm

Displays the content of the CLI script file present in the external non-volatile memory device.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** show script envm <P-1>

Parameter	Value	Meaning
P-1	string	Filename.

show script system

Displays the content of the CLI script file present in the device.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** show script system <P-1>

Parameter	Value	Meaning
P-1	string	Filename.

Selftest

selftest

Configure the selftest settings.

selftest action

Configure the action that a selftest component should take.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** selftest action <P-1> <P-2>

Parameter	Value	Meaning
P-1	task	Configure the action for task errors.
	resource	Configure the action for insufficient resources.
	software	Configure the action for detected software integrity errors.
	hardware	Configure the action for detected hardware errors.
P-2	log-only	Write a message to the logging file.
	send-trap	Send a trap to the management station.
	reboot	Reboot the device.

selftest ramtest

Enable or disable the RAM selftest on cold start of the device. When disabled the device booting time is reduced.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** selftest ramtest

no selftest ramtest

Disable the option

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** no selftest ramtest

selftest system-monitor

Enable or disable the System Monitor 1 access during the boot phase.

NOTE: Store securely your administrator password to avoid losing access when the System Monitor 1 is disabled.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** selftest system-monitor

no selftest system-monitor

Disable the option

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** no selftest system-monitor

selftest boot-default-on-error

Enable or disable loading of the default configuration in case there is any error loading the configuration during boot phase. If disabled the system will be halted.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** selftest boot-default-on-error

no selftest boot-default-on-error

Disable the option

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** no selftest boot-default-on-error

show

Display device options and settings.

show selftest action

Displays the actions the device takes if an error is detected.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** show selftest action

show selftest settings

Displays the selftest settings.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** show selftest settings

Small Form-factor Pluggable (SFP)

show

Display device options and settings.

show sfp

Show info about plugged in SFP modules

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** show sfp [<P-1>]

Parameter	Value	Meaning
P-1	slot no./port no.	Slot number / port number.

Signal Contact

signal-contact

Configure the signal contact settings.

signal-contact mode

Configure the Signal Contact mode setting.

- **Mode:** Global Config Mode
- **Privilege Level:** Administrator
- **Format:** signal-contact <P-1> mode <P-2>

Parameter	Value	Meaning
P-1	signal contact no.	Signal contact number.
P-2	manual	The signal contact's status is determined by the associated manual setting (subcommand 'state').
	monitor	The signal contact's status is determined by the associated monitor settings.
	device-status	The signal contact's status is determined by the device status.
	security-status	The signal contact's status is determined by the security status.
	dev-sec-status	The signal contact's status is determined by the device status and security status.

signal-contact monitor link-failure

Sets the monitoring of the network connection (connections).

- **Mode:** Global Config Mode
- **Privilege Level:** Administrator
- **Format:** signal-contact <P-1> monitor link-failure

Parameter	Value	Meaning
P-1	signal contact no.	Signal contact number.

no signal-contact monitor link-failure

- Disable the option
- ▶ **Mode:** Global Config Mode
 - ▶ **Privilege Level:** Administrator
 - ▶ **Format:** no signal-contact <P-1> monitor link-failure

signal-contact monitor envm-not-in-sync

- Sets the monitoring whether the external non-volatile memory device is in sync with the running configuration.
- ▶ **Mode:** Global Config Mode
 - ▶ **Privilege Level:** Administrator
 - ▶ **Format:** signal-contact <P-1> monitor envm-not-in-sync

Parameter	Value	Meaning
P-1	signal contact no.	Signal contact number.

no signal-contact monitor envm-not-in-sync

- Disable the option
- ▶ **Mode:** Global Config Mode
 - ▶ **Privilege Level:** Administrator
 - ▶ **Format:** no signal-contact <P-1> monitor envm-not-in-sync

signal-contact monitor envm-removal

- Sets the monitoring of the external non-volatile memory device removal.
- ▶ **Mode:** Global Config Mode
 - ▶ **Privilege Level:** Administrator
 - ▶ **Format:** signal-contact <P-1> monitor envm-removal

Parameter	Value	Meaning
P-1	signal contact no.	Signal contact number.

no signal-contact monitor envm-removal

- Disable the option
- ▶ **Mode:** Global Config Mode
 - ▶ **Privilege Level:** Administrator
 - ▶ **Format:** no signal-contact <P-1> monitor envm-removal

signal-contact monitor temperature

Sets the monitoring of the device temperature.

- **Mode:** Global Config Mode
- **Privilege Level:** Administrator
- **Format:** signal-contact <P-1> monitor temperature

Parameter	Value	Meaning
P-1	signal contact no.	Signal contact number.

no signal-contact monitor temperature

Disable the option

- **Mode:** Global Config Mode
- **Privilege Level:** Administrator
- **Format:** no signal-contact <P-1> monitor temperature

signal-contact monitor ring-redundancy

Sets the monitoring of the ring-redundancy.

- **Mode:** Global Config Mode
- **Privilege Level:** Administrator
- **Format:** signal-contact <P-1> monitor ring-redundancy

Parameter	Value	Meaning
P-1	signal contact no.	Signal contact number.

no signal-contact monitor ring-redundancy

Disable the option

- **Mode:** Global Config Mode
- **Privilege Level:** Administrator
- **Format:** no signal-contact <P-1> monitor ring-redundancy

signal-contact monitor power-supply

Sets the monitoring of the power supply (supplies).

- **Mode:** Global Config Mode
- **Privilege Level:** Administrator
- **Format:** signal-contact <P-1> monitor power-supply <P-2>

Parameter	Value	Meaning
P-1	signal contact no.	Signal contact number.
P-2	1..2	Power supply number.

no signal-contact monitor power-supply

Disable the option

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** no signal-contact <P-1> monitor power-supply <P-2>

signal-contact state

Configure the Signal Contact manual state (only takes immediate effect in manual mode).

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** signal-contact <P-1> state <P-2>

Parameter	Value	Meaning
P-1	signal contact no.	Signal contact number.
P-2	open	Open the signal contact (only takes effect in the manual mode).
	close	Close the signal contact (only takes effect in the manual mode).

signal-contact trap

Configure if a trap is sent when the Signal Contact changes state (in monitor mode).

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** signal-contact <P-1> trap

Parameter	Value	Meaning
P-1	signal contact no.	Signal contact number.

no signal-contact trap

Disable the option

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** no signal-contact <P-1> trap

signal-contact

Configure the signal contact interface settings.

signal-contact link-alarm

Configure the monitoring of the specific network ports.

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** signal-contact <P-1> link-alarm

Parameter	Value	Meaning
P-1	signal contact no.	Signal contact number.

no signal-contact link-alarm

Disable the option

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** no signal-contact <P-1> link-alarm

show

Display device options and settings.

show signal-contact

Display signal contact settings.

- **Mode:** Command is in all modes available.
- **Privilege Level:** Guest
- **Format:** show signal-contact <P-1> mode monitor state trap link-alarm events
all

mode: Display the signal contact mode.

monitor: Display the signal contact monitor settings.

state: Display the signal contact state (open/close).

NOTE: This covers the signal contact administrative setting as well as the present state of the signal.

trap: Display the signal contact trap information and settings.

link-alarm: Display the settings of the monitoring of the specific network ports.

events: Display detected device status events.

all: Display all signal contact settings for the specified signal contact.

Parameter	Value	Meaning
P-1	signal contact no.	Signal contact number.

Switched Monitoring (SMON)

monitor

Configure port mirroring.

monitor session

Configure port mirroring.

► **Mode:** Global Config Mode

► **Privilege Level:** Operator

► **Format:** monitor session <P-1> destination interface <P-2> source interface <P-3> direction <P-4> operation mode allow-mgmt

destination: Configure the probe interface.

interface: Configure interface.

source: Configure the source interface.

interface: Configure interface

direction: Select interface.

operation: Enable/disable mirroring on an interface.

mode: Enable/Disable port mirroring session.

NOTE: Does not affect the source or destination interfaces.

allow-mgmt: Enable/Disable port responsiveness while mirroring.

NOTE: Does not affect the source interfaces.

Parameter	Value	Meaning
P-1	1	Monitor session index.
P-2	slot no./port no.	Slot number / port number.
P-3	slot no./port no.	Slot number / port number.
P-4	none	None.
	tx	Packets that are transmitted on the source interfaces are copied to the destination interface.
	rx	Packets that are received on the source interfaces are copied to the destination interface.
	txrx	Packets that are transmitted or received on the source interfaces are copied to the destination interface.

no monitor session

Disable the option

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** no monitor session <P-1> destination interface source interface <P-3> direction operation mode allow-mgmt

show

Display device options and settings.

show monitor session

Display port monitor session settings.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** show monitor session <P-1>

Parameter	Value	Meaning
P-1	1	Monitor session index.

clear

Clear several items.

clear monitor session

Delete configuration for this session.

- ▶ **Mode:** Privileged Exec Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** clear monitor session <P-1>

Parameter	Value	Meaning
P-1	1	Monitor session index.

Simple Network Management Protocol (SNMP)

snmp

Configure of SNMP versions and traps.

snmp access version v1

Enable or disable SNMP version V1.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** snmp access version v1

no snmp access version v1

Disable the option

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** no snmp access version v1

snmp access version v2

Enable or disable SNMP version V2.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** snmp access version v2

no snmp access version v2

Disable the option

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** no snmp access version v2

snmp access version v3

Enable or disable SNMP version V3.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** snmp access version v3

no snmp access version v3

Disable the option

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** no snmp access version v3

snmp access port

Configure the SNMP access port.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** snmp access port <P-1>

Parameter	Value	Meaning
P-1	1..65535	Port number of the SNMP server (default: 161).

snmp access snmp-over-802

Configure SNMPover802.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** snmp access snmp-over-802

no snmp access snmp-over-802

Disable the option

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** no snmp access snmp-over-802

show

Display device options and settings.

show snmp access

Show SNMP access configuration settings.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** show snmp access

SNMP Community

snmp

Configure of SNMP versions and traps.

snmp community ro

SNMP v1/v2 read-only community.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** snmp community ro <P-1>

Parameter	Value	Meaning
P-1	string	Enter a user-defined text, max. 64 characters.

snmp community rw

SNMP v1/v2 read-write community.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** snmp community rw <P-1>

Parameter	Value	Meaning
P-1	string	Enter a user-defined text, max. 64 characters.

show

Display device options and settings.

show snmp community

Display SNMP v1/2 community.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** show snmp community

SNMP Logging

logging

Logging configuration.

logging snmp-request get operation

Enable or disable logging of SNMP GET or SET requests.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** logging snmp-request get operation <P-1>

Parameter	Value	Meaning
P-1	enable	Enable logging of SNMP GET or SET requests.
	disable	Disable logging of SNMP GET or SET requests.

no logging snmp-request get operation

Disable the option

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** no logging snmp-request get operation <P-1>

logging snmp-request get severity

Define severity level.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** logging snmp-request get severity <P-1>

Parameter	Value	Meaning
P-1	emergency	System is unusable. Unrecoverable system error detected.
	alert	Action must be taken immediately. Unrecoverable error detected on a component.
	critical	Recoverable error detected on a component that may lead to system error.
	error	Error conditions. Recoverable error detected on a component.
	warning	Minor error detected, for instance, misconfiguration of a component.
	notice	Normal but significant conditions.
	informational	Informational messages.
	debug	Debug-level messages.
	0	Same as emergency.
	1	Same as alert.
	2	Same as critical.
	3	Same as error.
	4	Same as warning.
	5	Same as notice.
	6	Same as informational.
	7	Same as debug.

logging snmp-request set operation

Enable or disable logging of SNMP GET or SET requests.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** logging snmp-request set operation <P-1>

Parameter	Value	Meaning
P-1	enable	Enable logging of SNMP GET or SET requests.
	disable	Disable logging of SNMP GET or SET requests.

no logging snmp-request set operation

Disable the option

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** no logging snmp-request set operation <P-1>

logging snmp-request set severity

Define severity level.

- **Mode:** Global Config Mode
- **Privilege Level:** Administrator
- **Format:** logging snmp-request set severity <P-1>

Parameter	Value	Meaning
P-1	emergency	System is unusable. Unrecoverable system error detected.
	alert	Action must be taken immediately. Unrecoverable error detected on a component.
	critical	Recoverable error detected on a component that may lead to system error.
	error	Error conditions. Recoverable error detected on a component.
	warning	Minor error detected, for instance, misconfiguration of a component.
	notice	Normal but significant conditions.
	informational	Informational messages.
	debug	Debug-level messages.
	0	Same as emergency
	1	Same as alert
	2	Same as critical
	3	Same as error
	4	Same as warning
	5	Same as notice
	6	Same as informational
	7	Same as debug

show

Display device options and settings.

show logging snmp

Show the SNMP logging settings.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** show logging snmp

Simple Network Time Protocol (SNTP)

sntp

Configure SNTP settings.

sntp client operation

Enable or disable the SNTP client

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** sntp client operation

no sntp client operation

Disable the option

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** no sntp client operation

sntp client operating-mode

Set the operating mode of the SNTP client. In unicast-mode, the client sends a request to the SNTP Server. In broadcast-mode, the client waits for a broadcast message from the SNTP Server.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** sntp client operating-mode <P-1>

Parameter	Value	Meaning
P-1	unicast	Set the operating mode to unicast.
	broadcast	Set the operating mode to broadcast.

sntp client request-interval

Set the SNTP client request interval in seconds. The request-interval is only used in the operating-mode unicast.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** `sntp client request-interval <P-1>`

Parameter	Value	Meaning
P-1	5..3600	Enter a number in the given range.

sntp client broadcast-rcv-timeout

Set the SNTP client broadcast receive timeout in seconds. The broadcast receive timeout is only used in the operating-mode broadcast.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** `sntp client broadcast-rcv-timeout <P-1>`

Parameter	Value	Meaning
P-1	128..2048	Enter a number in the given range.

sntp client disable-after-sync

If this option is activated, the SNTP client disables itself once it is synchronized to a SNTP server.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** `sntp client disable-after-sync`

no sntp client disable-after-sync

Disable the option

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** `no sntp client disable-after-sync`

sntp client server add

Add a SNTP client server connection

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** `sntp client server add <P-1> [port <P-2>] [description <P-3>]`

[port]: Set the port number of the external time server.

[description]: Description of the external time server

Parameter	Value	Meaning
P-1	1..4	Enter a number in the given range.
P-2	1..65535	Port number of SNTP Server (default 123).
P-3	string	Enter a user-defined text, max. 32 characters.

sntp client server delete

delete a SNTP client server connection

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** sntp client server delete <P-1>

Parameter	Value	Meaning
P-1	1..4	Enter a number in the given range.

sntp client server mode

Enable or disable a SNTP client server connection

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** sntp client server mode <P-1>

Parameter	Value	Meaning
P-1	1..4	Enter a number in the given range.

no sntp client server mode

Disable the option

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** no sntp client server mode <P-1>

sntp server operation

Enable or disable the SNTP server

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** sntp server operation

no sntp server operation

Disable the option

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** no sntp server operation

sntp server port

Set the local socket port number used to listen for client requests.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** sntp server port <P-1>

Parameter	Value	Meaning
P-1	1..65535	Port number of SNTP Server (default 123).

sntp server only-if-synchronized

Set the disabling of the SNTP server function, if it is not synchronized to another external time reference

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** sntp server only-if-synchronized

no sntp server only-if-synchronized

Disable the option

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** no sntp server only-if-synchronized

sntp server broadcast operation

Enable or disable the SNTP server broadcast mode

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** sntp server broadcast operation

no sntp server broadcast operation

Disable the option

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** no sntp server broadcast operation

sntp server broadcast address

Set the SNTP server's broadcast or multicast IP address (default: 0.0.0.0 (none)).

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** sntp server broadcast address <P-1>

Parameter	Value	Meaning
P-1	a.b.c.d	IP address.

sntp server broadcast port

Set the destination socket port number used to send broadcast or multicast messages to the client.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** sntp server broadcast port <P-1>

Parameter	Value	Meaning
P-1	1..65535	Port number of SNTP Server (default 123).

sntp server broadcast interval

Set the SNTP server's interval in seconds for sending broadcast or multicast messages.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** sntp server broadcast interval <P-1>

Parameter	Value	Meaning
P-1	64..1024	Enter a number in the given range.

sntp server broadcast vlan

Set the SNTP server's broadcast VLAN ID used for sending broadcast or multicast messages.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** sntp server broadcast vlan <P-1>

Parameter	Value	Meaning
P-1	0..4042	Enter the VLAN ID. Entering of ID 0 uses the management VLAN ID.

show

Display device options and settings.

show sntp global

Show SNTP configuration parameters and information.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** show sntp global

show sntp client status

Show SNTP client status.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** show sntp client status

show sntp client server

Show SNTP client server connections.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** show sntp client server [<P-1>]

Parameter	Value	Meaning
P-1	1..4	Enter a number in the given range.

show sntp server status

Show SNTP server configuration parameters and information.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** show sntp server status

show sntp server broadcast

Show SNTP server broadcast configuration parameters.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** show sntp server broadcast

Spanning Tree

spanning-tree

Enable or disable the Spanning Tree protocol.

spanning-tree operation

Enable or disable the function.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** spanning-tree operation

no spanning-tree operation

Disable the option

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** no spanning-tree operation

spanning-tree trap-mode

Enable or disable STP traps on this device.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** spanning-tree trap-mode

no spanning-tree trap-mode

Disable the option

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** no spanning-tree trap-mode

spanning-tree bpd-filter

Enable or disable the BPDU filter on the edge ports.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** spanning-tree bpd-filter

no spanning-tree bpd-filter

Disable the option

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** no spanning-tree bpd-filter

spanning-tree bpd-guard

Enable or disable the BPDU guard on the edge ports.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** spanning-tree bpd-guard

no spanning-tree bpd-guard

Disable the option

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** no spanning-tree bpd-guard

spanning-tree bpd-migration-check

Force the specified port to transmit RST or MST BPDUs.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** spanning-tree bpd-migration-check <P-1>

Parameter	Value	Meaning
P-1	slot no./port no.	Slot number / port number.

spanning-tree forceversion

Set the protocol version parameter.

- **Mode:** Global Config Mode
- **Privilege Level:** Operator
- **Format:** spanning-tree forceversion <P-1>

Parameter	Value	Meaning
P-1	stp	Spanning Tree Protocol (STP).
	rstp	Rapid Spanning Tree Protocol (RSTP).

spanning-tree forward-time

Set the Bridge Forward Delay parameter [s].

- **Mode:** Global Config Mode
- **Privilege Level:** Operator
- **Format:** spanning-tree forward-time <P-1>

Parameter	Value	Meaning
P-1	4..30	Enter the bridge forward delay as an integer.

spanning-tree hello-time

Set the Hello Time parameter [s].

- **Mode:** Global Config Mode
- **Privilege Level:** Operator
- **Format:** spanning-tree hello-time <P-1>

Parameter	Value	Meaning
P-1	1..2	Set the Hello Time parameter (unit: seconds).

spanning-tree hold-count

Set the bridge hold count parameter.

- **Mode:** Global Config Mode
- **Privilege Level:** Operator
- **Format:** spanning-tree hold-count <P-1>

Parameter	Value	Meaning
P-1	1..40	Set bridge hold count parameter.

spanning-tree max-age

Set the bridge Max Age parameter.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** spanning-tree max-age <P-1>

Parameter	Value	Meaning
P-1	6..40	Set the bridge Max Age parameter.

spanning-tree mst

MST instance related configuration.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** spanning-tree mst

spanning-tree

Enable or disable the Spanning Tree protocol on a port.

spanning-tree mode

Enable or disable the function.

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** spanning-tree mode

no spanning-tree mode

Disable the option

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** no spanning-tree mode

spanning-tree bpdu-flood

Enable or disable BPDU flooding on a port.

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** spanning-tree bpdu-flood

no spanning-tree bpdu-flood

Disable the option

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** no spanning-tree bpdu-flood

spanning-tree bpdu-filter

Enable or disable BPDU filter on a port.

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** spanning-tree bpdu-filter

no spanning-tree bpdu-filter

Disable the option

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** no spanning-tree bpdu-filter

spanning-tree edge-auto

Enable or disable auto edge detection on a port.

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** spanning-tree edge-auto

no spanning-tree edge-auto

Disable the option

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** no spanning-tree edge-auto

spanning-tree edge-port

Enable or disable edge port usage on a port.

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** spanning-tree edge-port

no spanning-tree edge-port

Disable the option

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** no spanning-tree edge-port

spanning-tree guard-loop

Enable or disable the loop guard on a port.

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** spanning-tree guard-loop

no spanning-tree guard-loop

Disable the option

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** no spanning-tree guard-loop

spanning-tree guard-root

Enable or disable the root guard on a port.

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** spanning-tree guard-root

no spanning-tree guard-root

Disable the option

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** no spanning-tree guard-root

spanning-tree guard-tcn

Enable or disable the TCN guard on a port.

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** spanning-tree guard-tcn

no spanning-tree guard-tcn

Disable the option

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** no spanning-tree guard-tcn

spanning-tree cost

Specify the port path cost for STP, RSTP and CIST.

- **Mode:** Interface Range Mode
- **Privilege Level:** Operator
- **Format:** spanning-tree cost <P-1>

Parameter	Value	Meaning
P-1	0..200000000	Specify the port path cost.

spanning-tree priority

Specify the port priority for STP, RSTP and CIST.

- **Mode:** Interface Range Mode
- **Privilege Level:** Operator
- **Format:** spanning-tree priority <P-1>

Parameter	Value	Meaning
P-1	0..240	Specify the port priority.

show

Display device options and settings.

show spanning-tree global

Display the Common and Internal Spanning Tree information and settings.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** `show spanning-tree global`

show spanning-tree mst instance

Display summarized information and settings for all ports in an MST instance.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** `show spanning-tree mst instance`

show spanning-tree mst port

Display summarized information and settings for all ports in an MST instance.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** `show spanning-tree mst port [<P-1>]`

Parameter	Value	Meaning
P-1	slot no./port no.	Slot number / port number.

show spanning-tree port

Spanning Tree information and settings for an interface.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** `show spanning-tree port <P-1>`

Parameter	Value	Meaning
P-1	slot no./port no.	Slot number / port number.

Secure Shell (SSH)

ssh

Set SSH parameters.

ssh server

Enable or disable the SSH server.

- **Mode:** Global Config Mode
- **Privilege Level:** Administrator
- **Format:** ssh server

no ssh server

Disable the option

- **Mode:** Global Config Mode
- **Privilege Level:** Administrator
- **Format:** no ssh server

ssh timeout

Set the SSH connection idle timeout in minutes (default: 5).

- **Mode:** Global Config Mode
- **Privilege Level:** Administrator
- **Format:** ssh timeout <P-1>

Parameter	Value	Meaning
P-1	0..160	Idle timeout of a session in minutes (default: 5).

ssh port

Set the SSH server port number (default: 22).

- **Mode:** Global Config Mode
- **Privilege Level:** Administrator
- **Format:** ssh port <P-1>

Parameter	Value	Meaning
P-1	1..65535	Port number of the SSH server (default: 22).

ssh max-sessions

Set the maximum number of concurrent SSH sessions (default: 5).

- **Mode:** Global Config Mode
- **Privilege Level:** Administrator
- **Format:** ssh max-sessions <P-1>

Parameter	Value	Meaning
P-1	1..5	Maximum number of concurrent SSH sessions.

ssh key rsa

Generate or delete RSA key

- **Mode:** Global Config Mode
- **Privilege Level:** Administrator
- **Format:** ssh key rsa <P-1>

Parameter	Value	Meaning
P-1	generate	Generates the item.
	delete	Deletes the item.

ssh key fingerprint-type

Configure fingerprint type

- **Mode:** Global Config Mode
- **Privilege Level:** Administrator
- **Format:** ssh key fingerprint-type <P-1>

Parameter	Value	Meaning
P-1	md5	Configure md5 fingerprint of the existing SSH host key.
	sha256	Configure sha256 fingerprint of the existing SSH host key.

copy

Copy different kinds of items.

copy sshkey remote

Copy the SSH key from a server to the specified destination.

- ▶ **Mode:** Privileged Exec Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** copy sshkey remote <P-1> nvm

nvm: Copy the SSH key from a server to non-volatile memory.

Parameter	Value	Meaning
P-1	string	Enter a user-defined text, max. 128 characters.

copy sshkey envm

Copy the SSH key from external non-volatile memory to the specified destination.

- ▶ **Mode:** Privileged Exec Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** copy sshkey envm <P-1> nvm

nvm: Copy the SSH key from external non-volatile memory to non-volatile memory.

Parameter	Value	Meaning
P-1	string	Enter a user-defined text, max. 128 characters.

show

Display device options and settings.

show ssh

Show SSH server and client information.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** show ssh

Storm Control

storm-control

Configure the global storm-control settings.

storm-control flow-control

Enable or disable flow control globally.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** storm-control flow-control

no storm-control flow-control

Disable the option

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** no storm-control flow-control

traffic-shape

Traffic shape commands.

traffic-shape bw

Set threshold value

- **Mode:** Interface Range Mode
- **Privilege Level:** Operator
- **Format:** traffic-shape bw <P-1>

Parameter	Value	Meaning
P-1	0..100	Enter a number in the given range.

storm-control

Storm control commands

storm-control flow-control

Enable or disable flow control (802.3x) for this port.

- **Mode:** Interface Range Mode
- **Privilege Level:** Operator
- **Format:** storm-control flow-control

no storm-control flow-control

Disable the option

- **Mode:** Interface Range Mode
- **Privilege Level:** Operator
- **Format:** no storm-control flow-control

storm-control ingress unit

Set unit.

- **Mode:** Interface Range Mode
- **Privilege Level:** Operator
- **Format:** storm-control ingress unit <P-1>

Parameter	Value	Meaning
P-1	percent	Metering unit expressed in percentage of bandwidth.
	pps	Metering unit expressed in packets per second.

storm-control ingress threshold

Set threshold value. The rate limiter function calculates the threshold based on data packets sized 512 bytes. When the unit is set to pps, the maximum value is 24414 for 100Mb/s and 244140 for 1000Mb/s.

- **Mode:** Interface Range Mode
- **Privilege Level:** Operator
- **Format:** storm-control ingress threshold <P-1>

Parameter	Value	Meaning
P-1	0..14880000	Enter a number in the given range. If the configured unit is percent enter a number in (0..100) range.

storm-control ingress unicast operation

Enable/disable ingress unicast storm control.

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** storm-control ingress unicast operation

no storm-control ingress unicast operation

Disable the option

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** no storm-control ingress unicast operation

storm-control ingress multicast operation

enable/disable ingress multicast storm control.

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** storm-control ingress multicast operation

no storm-control ingress multicast operation

Disable the option

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** no storm-control ingress multicast operation

storm-control ingress broadcast operation

Enable/disable ingress broadcast storm control.

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** storm-control ingress broadcast operation

no storm-control ingress broadcast operation

Disable the option

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** no storm-control ingress broadcast operation

show

Display device options and settings.

show storm-control flow-control

Global flow control status.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** show storm-control flow-control

show storm-control ingress

Show storm control ingress parameters.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** show storm-control ingress [<P-1>]

Parameter	Value	Meaning
P-1	slot no./port no.	Slot number / port number.

show traffic-shape

Show Traffic Shape Parameters.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** show traffic-shape

System

system

Set system related values, for instance, the name of the device, location of the device, contact data for the person responsible for the device, and pre-login banner text.

system name

Edit the name of the device. The system name consists of an alphanumeric ASCII character string with 0..255 characters.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** `system name <P-1>`

Parameter	Value	Meaning
P-1	string	Enter a user-defined text, max. 255 characters.

system location

Edit the location of the device. The system location consists of an alphanumeric ASCII character string with 0..255 characters.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** `system location <P-1>`

Parameter	Value	Meaning
P-1	string	Enter a user-defined text, max. 255 characters.

system contact

Edit the contact information for the person responsible for the device. The contact data consists of an alphanumeric ASCII character string with 0..255 characters.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** `system contact <P-1>`

Parameter	Value	Meaning
P-1	string	Enter a user-defined text, max. 255 characters.

system pre-login-banner operation

Enable or disable the pre-login banner. You use the pre-login banner to display a greeting or information to users before they login to the device.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** `system pre-login-banner operation`

no system pre-login-banner operation

Disable the option

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** `no system pre-login-banner operation`

system pre-login-banner text

Edit the text for the pre-login banner (C printf format syntax allowed: `\n \t`) The device allows you to edit an alphanumeric ASCII character string with up to 512 characters.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** `system pre-login-banner text <P-1>`

Parameter	Value	Meaning
P-1	string	Enter a user-defined text, max. 512 characters (allowed characters are from ASCII 32 to 127).

system resources operation

Enable or disable the measurement operation.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** `system resources operation`

no system resources operation

Disable the option

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** `no system resources operation`

temperature

Configure the upper and lower temperature limits of the device. The device allows you to set the threshold as an integer from -99 through 99. You configure the temperatures in degrees Celsius.

temperature upper-limit

Configure the upper temperature limit.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** temperature upper-limit <P-1>

Parameter	Value	Meaning
P-1	-99..99	Upper temperature threshold ([C], default 70).

temperature lower-limit

Configure the lower temperature limit.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** temperature lower-limit <P-1>

Parameter	Value	Meaning
P-1	-99..99	Lower temperature threshold ([C], default 0).

show

Display device options and settings.

show eventlog

Show event log notice and warning entries with time stamp.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** show eventlog

show system info

Show system related information.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** show system info

show system pre-login-banner

Show pre-login banner status and text.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** show system pre-login-banner

show system flash-status

Show the non-volatile memory statistics of the device.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** show system flash-status

show system temperature limits

Show temperature limits.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** show system temperature limits

show system temperature extremes

Show minimum and maximum recorded temperature.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** show system temperature extremes

show system temperature histogram

Show the temperature histogram of the device.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** show system temperature histogram

show system temperature counters

Display number of 20 centigrade C variations in maximum one hour period.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** show system temperature counters

show system resources

Display the system resources information (cpu utilization, memory and network cpu utilization).

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** show system resources

Telnet

telnet

Set Telnet parameters.

telnet server

Enable or disable the telnet server.

- **Mode:** Global Config Mode
- **Privilege Level:** Administrator
- **Format:** telnet server

no telnet server

Disable the option

- **Mode:** Global Config Mode
- **Privilege Level:** Administrator
- **Format:** no telnet server

telnet timeout

Set the idle timeout for a telnet connection in minutes.

- **Mode:** Global Config Mode
- **Privilege Level:** Administrator
- **Format:** telnet timeout <P-1>

Parameter	Value	Meaning
P-1	0..160	Idle timeout of a session in minutes (default: 5).

telnet port

Set the listening port for the telnet server.

- **Mode:** Global Config Mode
- **Privilege Level:** Administrator
- **Format:** telnet port <P-1>

Parameter	Value	Meaning
P-1	1..65535	Set the listening port for the telnet server.

telnet max-sessions

Set the maximum number of sessions for the telnet server.

- **Mode:** Global Config Mode
- **Privilege Level:** Administrator
- **Format:** telnet max-sessions <P-1>

Parameter	Value	Meaning
P-1	1..5	Set the maximum number of connections for the telnet server.

telnet

telnet

Establish a telnet connection to a remote host.

- ▶ **Mode:** "User Mode" and "Privileged Exec Mode"
- ▶ **Privilege Level:** Guest
- ▶ **Format:** telnet [<P-1>] [<P-2>] [<P-3>] [<P-4>]

Parameter	Value	Meaning
P-1	1..65535	Enter port number between 1 and 65535.
P-2	debug	Display the Telnet options.
P-3	line	Set the outbound Telnet operational mode as linemode (only for the serial connection).
P-4	echo	Enable local echo (only for the serial connection).

show

Display device options and settings.

show telnet

Show telnet server information.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** show telnet

Traps

snmp

Configure of SNMP versions and traps.

snmp trap operation

Global enable/disable SNMP trap.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** snmp trap operation

no snmp trap operation

Disable the option

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** no snmp trap operation

snmp trap mode

Enable/disable SNMP trap entry.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** snmp trap mode <P-1>

Parameter	Value	Meaning
P-1	string	<name> Trap name (1 to 32 characters).

no snmp trap mode

Disable the option

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** no snmp trap mode <P-1>

snmp trap delete

Delete SNMP trap entry.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** snmp trap delete <P-1>

Parameter	Value	Meaning
P-1	string	<name> Trap name (1 to 32 characters).

snmp trap add

Add SNMP trap entry.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** snmp trap add <P-1> <P-2>

Parameter	Value	Meaning
P-1	string	<name> Trap name (1 to 32 characters).
P-2	a.b.c.d	a.b.c.d Single IP address.
	a.b.c.d:n	a.b.c.d:n Address with port.

show

Display device options and settings.

show snmp traps

Display SNMP traps.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** show snmp traps

User Management

show

Display device options and settings.

show custom-role global

Display the common information of custom role.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** show custom-role global [<P-1>]

Parameter	Value	Meaning
P-1	slot no./port no.	Slot number / port number.

show custom-role commands

Display the included and excluded commands.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** show custom-role commands [<P-1>]

Parameter	Value	Meaning
P-1	slot no./port no.	Slot number / port number.

Users

users

Manage Users and User Accounts.

users add

Add a new user.

- **Mode:** Global Config Mode
- **Privilege Level:** Administrator
- **Format:** `users add <P-1>`

Parameter	Value	Meaning
P-1	string	<user> User name (up to 32 characters).

users delete

Delete an existing user.

- **Mode:** Global Config Mode
- **Privilege Level:** Administrator
- **Format:** `users delete <P-1>`

Parameter	Value	Meaning
P-1	string	<user> User name (up to 32 characters).

users enable

Enable user.

- **Mode:** Global Config Mode
- **Privilege Level:** Administrator
- **Format:** `users enable <P-1>`

Parameter	Value	Meaning
P-1	string	<user> User name (up to 32 characters).

users disable

Disable user.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** users disable <P-1>

Parameter	Value	Meaning
P-1	string	<user> User name (up to 32 characters).

users password

Change user password.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** users password <P-1> [<P-2>]

Parameter	Value	Meaning
P-1	string	<user> User name (up to 32 characters).
P-2	string	Enter a user-defined text, max. 64 characters.

users snmpv3 authentication

Specify authentication setting for a user.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** users snmpv3 authentication <P-1> <P-2>

Parameter	Value	Meaning
P-1	string	<user> User name (up to 32 characters).
P-2	md5	MD5 as SNMPv3 user authentication mode.
	sha1	SHA1 as SNMPv3 user authentication mode.

users snmpv3 encryption

Specify encryption settings for a user.

- **Mode:** Global Config Mode
- **Privilege Level:** Administrator
- **Format:** `users snmpv3 encryption <P-1> <P-2>`

Parameter	Value	Meaning
P-1	string	<user> User name (up to 32 characters).
P-2	none	SNMPv3 encryption method is none.
	des	DES as SNMPv3 encryption method.
	aescfb128	AES-128 as SNMPv3 encryption method.

users access-role

Specify snmpv3 access role for a user.

- **Mode:** Global Config Mode
- **Privilege Level:** Administrator
- **Format:** `users access-role <P-1> <P-2>`

Parameter	Value	Meaning
P-1	string	<user> User name (up to 32 characters).
P-2	slot no./port no.	Slot number / port number.

users lock-status

Set the lockout status of a specified user.

- **Mode:** Global Config Mode
- **Privilege Level:** Administrator
- **Format:** `users lock-status <P-1> <P-2>`

Parameter	Value	Meaning
P-1	string	<user> User name (up to 32 characters).
P-2	unlock	Unlock specific user. User can login again.

users password-policy-check

Set password policy check option. The device checks the "minimum password length", regardless of the setting for this option.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** users password-policy-check <P-1> <P-2>

Parameter	Value	Meaning
P-1	string	<user> User name (up to 32 characters).
P-2	enable	Enable the option.
	disable	Disable the option.

show

Display device options and settings.

show users

Display users and user accounts information.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Administrator
- ▶ **Format:** `show users`

Virtual LAN (VLAN)

name

name

Assign a name to a VLAN

- **Mode:** VLAN Database Mode
- **Privilege Level:** Operator
- **Format:** name <P-1> <P-2>

Parameter	Value	Meaning
P-1	1..4042	Enter the VLAN ID.
P-2	string	Enter a user-defined text, max. 32 characters.

vlan-unaware-mode

vlan-unaware-mode

Enable or disable VLAN unaware mode.

- ▶ **Mode:** VLAN Database Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** vlan-unaware-mode

no vlan-unaware-mode

Disable the option

- ▶ **Mode:** VLAN Database Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** no vlan-unaware-mode

vlan

Creation and configuration of VLANS.

vlan add

Create a VLAN

- ▶ **Mode:** `VLAN Database Mode`
- ▶ **Privilege Level:** `Operator`
- ▶ **Format:** `vlan add <P-1>`

Parameter	Value	Meaning
P-1	1..4042	Enter the VLAN ID.

vlan delete

Delete a VLAN

- ▶ **Mode:** `VLAN Database Mode`
- ▶ **Privilege Level:** `Operator`
- ▶ **Format:** `vlan delete <P-1>`

Parameter	Value	Meaning
P-1	2..4042	Enter VLAN ID. VLAN ID 1 cannot be deleted or created.

vlan

Configure 802.1Q port parameters for VLANs.

vlan acceptframe

Configure how to handle tagged/untagged frames received.

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** vlan acceptframe <P-1>

Parameter	Value	Meaning
P-1	all	Untagged frames or priority frames received on this interface are accepted and assigned the value of the interface VLAN ID for this port.
	vlanonly	Only frames received with a VLAN tag will be forwarded. All other frames will be dropped.

vlan ingressfilter

Enable/Disable application of Ingress Filtering Rules.

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** vlan ingressfilter

no vlan ingressfilter

Disable the option

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** no vlan ingressfilter

vlan priority

Configure the priority for untagged frames.

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** vlan priority <P-1>

Parameter	Value	Meaning
P-1	0..7	Enter a number in the given range.

vlan pvid

Configure the VLAN id for a specific port.

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** vlan pvid <P-1>

Parameter	Value	Meaning
P-1	1..4042	Enter the VLAN ID.

vlan tagging

Enable or disable tagging for a specific VLAN port.

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** vlan tagging <P-1>

Parameter	Value	Meaning
P-1	1..4042	Enter the VLAN ID.

no vlan tagging

Disable the option

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** no vlan tagging <P-1>

vlan participation include

vlan participation to include

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** vlan participation include <P-1>

Parameter	Value	Meaning
P-1	1..4042	Enter the VLAN ID.

vlan participation exclude

vlan participation to exclude

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** vlan participation exclude <P-1>

Parameter	Value	Meaning
P-1	1..4042	Enter the VLAN ID.

vlan participation auto

vlan participation to auto

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** vlan participation auto <P-1>

Parameter	Value	Meaning
P-1	1..4042	Enter the VLAN ID.

show

Display device options and settings.

show vlan id

Display configuration of a single specified VLAN.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** show vlan id <P-1>

Parameter	Value	Meaning
P-1	1..4042	Enter the VLAN ID.

show vlan brief

Show general VLAN parameters.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** show vlan brief

show vlan port

Show VLAN configuration of a single port.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** show vlan port [<P-1>]

Parameter	Value	Meaning
P-1	slot no./port no.	Slot number / port number.

show vlan member current

Show membership of ports in static VLAN or dynamically created.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** show vlan member current

show vlan member static

Show membership of ports in static VLAN.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** show vlan member static

network

Configure the inband and outband connectivity.

network management vlan

Configure the management VLAN ID of the switch.

- ▶ **Mode:** Privileged Exec Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** network management vlan <P-1>

Parameter	Value	Meaning
P-1	1..4042	Enter the VLAN ID.

network management priority dot1p

Configure the management VLAN priority of the switch.

- ▶ **Mode:** Privileged Exec Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** network management priority dot1p <P-1>

Parameter	Value	Meaning
P-1	0..7	Enter a number in the given range.

network management priority ip-dscp

Configure the management VLAN ip-dscp priority of the switch.

- ▶ **Mode:** Privileged Exec Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** network management priority ip-dscp <P-1>

Parameter	Value	Meaning
P-1	0..63	Enter a number in the given range.

Voice VLAN

voice

Configure voice VLAN.

voice vlan

Enable or disable the voice VLAN feature.

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** voice vlan

no voice vlan

Disable the option

- ▶ **Mode:** Global Config Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** no voice vlan

voice

Configure voice VLAN.

voice vlan vlan-id

Set and configure the vlan-id interface mode.

- **Mode:** Interface Range Mode
- **Privilege Level:** Operator
- **Format:** voice vlan vlan-id <P-1> [dot1p <P-2>]

[dot1p]: Set and configure the vlan id and dot1p interface mode.

Parameter	Value	Meaning
P-1	0..4042	Enter the VLAN ID. Entering of ID 0 disables the feature.
P-2	0	priority 0
	1	priority 1
	2	priority 2
	3	priority 3
	4	priority 4
	5	priority 5
	6	priority 6
	7	priority 7
	255	default

voice vlan dot1p

Set and configure the dot1p voice vlan interface mode.

- **Mode:** Interface Range Mode
- **Privilege Level:** Operator
- **Format:** voice vlan dot1p <P-1>

Parameter	Value	Meaning
P-1	0	priority 0
	1	priority 1
	2	priority 2
	3	priority 3
	4	priority 4
	5	priority 5
	6	priority 6
	7	priority 7
	255	default

voice vlan dscp

Set and configure the Differentiated Services Code Point value.

- **Mode:** Interface Range Mode
- **Privilege Level:** Operator
- **Format:** voice vlan dscp <P-1>

Parameter	Value	Meaning
P-1	<0..63>	Differentiated Services Code Point value.
	af11	Match packets with AF11 dscp.
	af12	Match packets with AF12 dscp.
	af13	Match packets with AF13 dscp.
	af21	Match packets with AF21 dscp.
	af22	Match packets with AF22 dscp.
	af23	Match packets with AF23 dscp.
	af31	Match packets with AF31 dscp.
	af32	Match packets with AF32 dscp.
	af33	Match packets with AF33 dscp.
	af41	Match packets with AF41 dscp.
	af42	Match packets with AF42 dscp.
	af43	Match packets with AF43 dscp.
	cs1	Match packets with CS1 dscp.
	cs2	Match packets with CS2 dscp.
	cs3	Match packets with CS3 dscp.
	cs4	Match packets with CS4 dscp.
	cs5	Match packets with CS5 dscp.
	cs6	Match packets with CS6 dscp.
	cs7	Match packets with CS7 dscp.
	default	Match packets with default dscp.
	ef	Match packets with EF dscp.

voice vlan none

Configure the none voice VLAN interface mode.

- **Mode:** Interface Range Mode
- **Privilege Level:** Operator
- **Format:** voice vlan none

voice vlan untagged

Configure the untagged voice VLAN interface mode.

- **Mode:** Interface Range Mode
- **Privilege Level:** Operator
- **Format:** voice vlan untagged

voice vlan disable

Disable voice VLAN on the interface.

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** voice vlan disable

voice vlan auth

Set voice VLAN Authentication Mode on the interface.

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** voice vlan auth

no voice vlan auth

Disable the option

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** no voice vlan auth

voice vlan data priority

Trust/Untrust data traffic on the interface.

- ▶ **Mode:** Interface Range Mode
- ▶ **Privilege Level:** Operator
- ▶ **Format:** voice vlan data priority <P-1>

Parameter	Value	Meaning
P-1	trust	Trust data traffic on an interface.
	untrust	Untrust data traffic on an interface.

show

Display device options and settings.

show voice vlan global

Display the global Voice VLAN admin mode.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** show voice vlan global

show voice vlan interface

Display a summary of the Voice VLAN configuration for a specific port or for all ports.

- ▶ **Mode:** Command is in all modes available.
- ▶ **Privilege Level:** Guest
- ▶ **Format:** show voice vlan interface [<P-1>]

Parameter	Value	Meaning
P-1	slot no./port no.	Slot number / port number.

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