

Software Manual

M12 Ethernet Switches with PoE

Order Nr.	Product code	Description
006-130-102	ROQ-08F-F-LV-IP54	ROQSTAR Managed 8-Port Fast Ethernet Switch M12 IP54
006-130-109	ROQ-08F-F-LP-IP54	ROQSTAR Managed 8-Port Fast Ethernet Switch M12 PoE IP54

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1. Safety Instructions

1.1. Information about this operation instructions

This operating instruction describes the application of the ROQSTAR Security Switch. It allows the safe and efficient handling of the device. The operating instruction is a part of the device and must be available for the users at any time.

Before the beginning of any work the user has to read carefully and understand these instructions. The foundation for safe working is the compliance with all specified safety and handling instructions in this operating instruction. In addition, the local accident prevention regulations and general safety regulations apply for the handling with electrical energy and communications equipment.

The schemes and illustrations of this instruction are provided for basic understanding and may differ from the actual design.

1.2. Warning information system

This manual contains notices you have to observe in order to ensure your personal safety, as well as to prevent damage to property. The notices referring to your personal safety are highlighted in the manual by a safety alert symbol, notices referring only to property damage have no safety alert symbol. These notices shown below are graded according to the degree of danger.



Indicates that death or severe personal injury **will** result if proper precautions are not taken.



Indicates a potentially dangerous situation that **may** result in death or serious injury if it is not avoided.



Indicates a potentially dangerous situation due to hot surfaces, which **may** result in minor or light injuries if it is not avoided.



Indicates that minor personal injury can result if proper precautions are not taken.



Hint for useful tips and recommendations for efficient and trouble-free operation.

1.3. Qualified Personnel

The user must ensure that only qualified personnel will work with the device. The product/system described in this documentation may be operated only by personnel qualified for the specific task in accordance with the relevant documentation, in particular its warning notices and safety instructions. Qualified personnel are those who, based on their training and experience, are capable of identifying risks and avoiding potential hazards when working with these products/systems.

1.4. Intended use

Proper transport, storage, installation, assembly, commissioning, operation and maintenance are required to ensure that TRONTEQ products operate safely and without any problems. The permissible ambient conditions must be complied with. The information in the relevant documentation must be observed.

1.5. Liability Limitation

All information and instructions in this operating instruction has been compiled in accordance with current standards and regulations, state of the art as well as the knowledge and experience of the applications in the field. In the following cases the manufacturer is not liable for damages:

- ▶ Disregard of the operating instructions in this manual.
- ▶ Improper use.
- ▶ Employment of non-qualified personnel.
- ▶ Unauthorized technical modification or reconstruction.
- ▶ Use of other connectors as delivered.

The general terms and conditions are valid as well as the delivery terms of the manufacturer and the legal regulations which were taken when the contract was concluded.

We have reviewed the contents of this publication to ensure consistency with the hardware and software described. Since variance cannot be precluded entirely, we cannot guarantee full consistency. However, the information in this publication is reviewed regularly and any necessary corrections are included in subsequent editions.

1.6. Disposal

The device should be disposed of after use in accordance with the current disposal regulations as electronic waste.

2. ROQSTAR Managed Fast Ethernet Switches

ROQSTAR Ethernet Switches are for use in industrial production environments as well as on public transport vehicles. They allow the interconnection of Ethernet devices on an Ethernet network and facilitate the IP based communication on the machine or on vehicle.

ROQSTAR Managed

These devices provide numerous configuration and diagnostic capabilities for the network. They are suitable for larger and more complex networks in which, for example, automatic IP address assignment, logical separation of the subscribers or redundant communication is required. In addition, ROQSTAR Managed offers numerous diagnostic features. This helps to locate faults faster and simplify operation of the networks.

ROQSTAR PoE

Power over Ethernet (PoE) makes it possible to supply the network devices connected to the switch with power through data cable. The PoE functionality can provide both ROQSTAR managed and unmanaged switches. All ROQSTAR PoE devices have an integrated, isolated power supply. Thus, a 24V power supply to the switches is possible and a PoE voltage does not have to be supplied externally.

3. First start-up

3.1. Factory Settings

The device is delivered pre-configured. The factory configuration is chosen so that after switching on the device sends the data immediately to all Ethernet ports. The following settings are set at the factory:

- ▶ Web interface IP-Address: 192.168.1.1
- ▶ Web interface Subnet 255.255.255.0
- ▶ Web interface user: admin
- ▶ Web interface password: password
- ▶ Power Supply Configuration V1, V2
- ▶ Ethernet Ports, all enabled, auto-speed, auto-duplex, flow control off
- ▶ VLAN no entries, all Ports within same LAN
- ▶ QoS no prioritization
- ▶ Fault Contact Type Normally open
- ▶ Fault Contact Ack. Auto
- ▶ Fault Contact Trigger Source Power, Over Temperature, PoE
- ▶ Link Aggregation disabled
- ▶ Port Mirroring disabled
- ▶ Cable Test disabled
- ▶ NTP disabled
- ▶ System Time Zone GMT
- ▶ SNMP enabled
- ▶ SNMP Version 1-2c-3
- ▶ SNMP Reade Community public
- ▶ SNMP Write Community private
- ▶ SNMPv3 Users no entries
- ▶ SNMP Traps disabled
- ▶ LLDP enabled on all ports
- ▶ RSTP enabled
- ▶ DHCP Server enabled
- ▶ DHCP Server Address Pool 192.168.1.10 - 192.168.1.254
- ▶ DHCP Server Net Mask 255.255.255.0
- ▶ DHCP Server Lease Time 10 days (865.000 seconds)
- ▶ DHCP Server Port Based no entries
- ▶ DHCP Server Static Leases no entries
- ▶ DHCP Client disabled
- ▶ PoE enabled on all Ports with PoE
- ▶ PoE Power Limit PoE Class based
- ▶ PoE Port Priority no port priority
- ▶ PoE Port Fault Contact Map no entries

3.2. First operation

ROQSTAR Managed Ethernet Switches provide built-in web (graphical) interface for the configuration. This web interface can be accessed via a common web browser. To access the graphical user interface follow the steps below:

1. Connect your PC to one of Ethernet Ports of the ROQSTAR Managed Ethernet Switch
2. Enable in Internet Protocol (TCP/IP) properties of your PC following option:
 - ▶ **Obtain an IP address automatically**
3. Apply power to ROQSTAR Managed Ethernet Switch
4. Your PC should now establishing network connection and get a IP-Address from Switch
5. Start your web browser (e.g. Firefox or Chrome) and enter the IP-Address of the Switch:
 - ▶ **192.168.1.1**
6. Login with user: admin, password: password
7. Step through the pages and perform the configuration of the device
8. Your configuration will be automatically saved within device



Be sure to configure the Ethernet Switch before connecting into a network

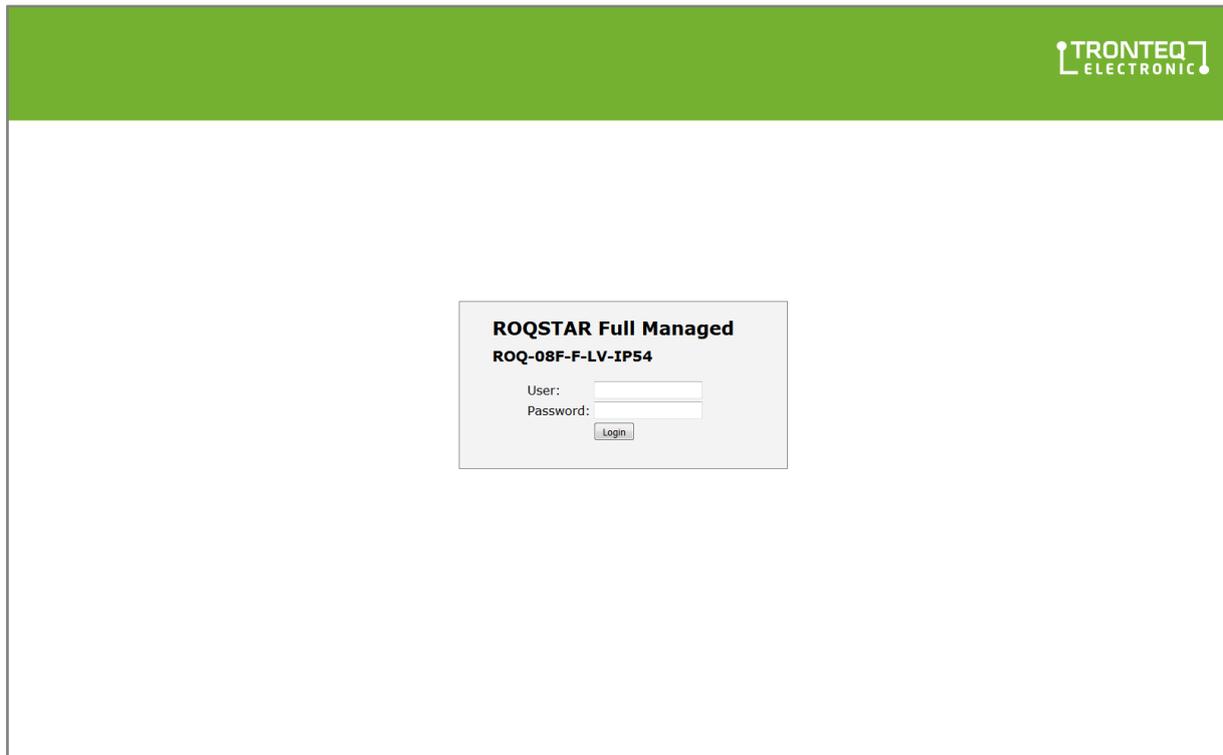
3.3. Replacing a damaged device

After the device has been configured you can download the configuration by the web interface or USB. Chapter 6.5 and 15.1 show how to replace the configuration.

4. Configuration with web interface

4.1. Access

The configuration via web interface allows you to change the device settings. The IP address of the Ethernet Switch must be typed in the web interface to get access. The default LAN-IP address you can see in chapter 4.1. When the page opens in the browser, it will first give a warning to issue secure certificates for IP addresses.



To get access to the system, the user must authenticate. This will be done using a user name and a password. Subsequently, the web interface will be loaded

	The default access is configured as follows:
	user: <i>admin</i> password: <i>password</i>

PWR ● MOD ● ERR ●	Power: Power 1 & Power 2 USB: Host Fault Contact: inactive	Device: ROQSTAR Managed PoE Model: ROQ-08F-F-LP-IP54 Serial Nr.: 123456	LAN MAC: FC:F8:B7:FF:FF:FF LAN IP: 192.168.1.1 Firmware: BETA00-dev	System uptime 0 day(s) 02:51:11 CPU Load 0% Temperature 47.5°C
--	---	--	--	---

- Dashboard**
- Monitoring
 - >System
 - >Interfaces
 - >Traffic
 - >PoE
 - >Logging
 - Configuration
 - >System
 - >Interfaces
 - >VLAN
 - >QoS
 - >Fault Contact
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 - >LLDP
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 - >DHCP
 - >PoE
 - Maintaining
 - >User Management
 - >Settings
 - >Update Firmware
 - >Support
 - Help
 - Third Party Notices
 - Logout

Dashboard

Quick Diagnostics

Parameter	Status
Uptime	0 day(s) 02:51:06
Power In 1	on
Power In 2	on
Temperature	47.5°C
Fault Contact	inactive

Current Settings

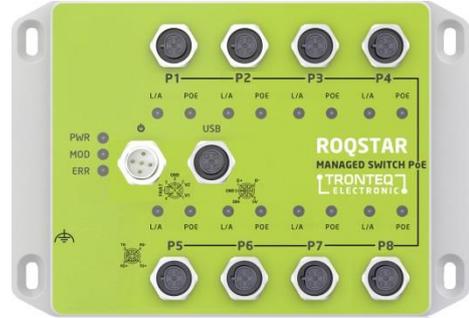
Parameter	Status
System Name	Roqstar_Managed_PoE
System Description	M12_Ethernet_Switch
Power In	Power 1 & Power 2
Temp. Limit:	70°C
Fault Contact:	normally open

Port Status

Port Nr	Link Status	Speed	Duplex
1	up	100Mbps/s	full
2	down	-	-
3	down	-	-
4	down	-	-
5	up	100Mbps/s	full
6	down	-	-
7	down	-	-
8	down	-	-

PoE Status

Port	PoE Status	Allocated
1	not detected	-
2	not detected	-
3	powered	15.4W
4	powered	30W
5	powered	15.4W
6	not detected	-
7	not detected	-
8	not detected	-



The left and upper part of the web interface will be displayed on all pages.

The left side is used for navigation and divided into the categories *Monitoring*, *Configuration* and *Maintaining*. Monitoring shows the states of various parts of the system. In the area configuration settings can be changed and the area maintaining allows you to save configurations or upload firmware updates. The current page is highlighted in color.

The current page is highlighted in the left column.

The status bar at the top of the Web page shows the most important information of the system and updates it every 10 seconds. There you can find the state of the devices LEDs, the state of power supply, the state of the fault contact, the last error, the temperature and the amount of time the system already is active.

After logging in at first the dashboard appears which shows a detailed overview and already provides initial information on the state of the network port and PoE status. In addition, this page contains a graph showing the connections of the device.

4.2. User roles

There are three user roles with different degree of configuration permissions: *admin*, *operator* and *guest*. For each role an individual password can be set.

In all three roles you can see the configuration except the password and SNMP-write community. The roles have different permissions for configuration of the device. The following table shows the permissions.

Configuration	Changes allowed		
	admin	operator	guest
Dashboard	These categories are for display only, no modification options.		
Monitoring			
Configuration	yes	yes	no
USB functions	yes	no	no
Maintaining (Settings, Update Firmware)	yes	no	no
Maintaining (change passwords)	all	only it's own	only it's own

5. Settings of the system

5.1. System configuration and services

Services are software components, which can be activate and deactivate. A list of all services and their status can be found at *Configuration > System* in the table System Services. When a service is deactivated, it cannot be configured.

5.2. IP addresses

The setting of the IP address which is accessible via the web interface can be found in the web interface at *Configuration > System*. There the IP address, the subnet mask and the gateway will be set and transmitted using the "submit" button on the device. The factory settings you can find in chapter 4.1:

ROQSTAR
TRONTEQ ELECTRONIC

Managed PoE Switch

PWR ●

MOD ●

ERR ●

Power: Power 1 & Power 2

USB: Host

Fault Contact: inactive

Device: ROQSTAR Managed PoE

Model: ROQ-08F-F-LP-IP54

Serial Nr.: 123456

LAN MAC: FC:F8:B7:FF:FF:FF

LAN IP: 192.168.1.1

Firmware: BETA00-dev

System uptime: 0 day(s) 02:54:02

CPU Load: 9%

Temperature: 47.5°C

Dashboard

Monitoring

- >System
- >Interfaces
- >Traffic
- >PoE
- >Logging

Configuration

- >**System**
- >Interfaces
- >VLAN
- >QoS
- >Fault Contact
- >Link Aggregation
- >Port Mirroring
- >Cable Test
- >Time
- >SNMP
- >LLDP
- >RSTP
- >DHCP
- >PoE

Maintaining

- >User Management
- >Settings
- >Update Firmware
- >Support

Help

Third Party Notices

Logout

Configuration > System

System Access

System	Status
Interface	LAN
MAC	FC:F8:B7:FF:FF:FF
IP	192.168.1.1
Subnet	255.255.255.0
Gateway	
DNS	

System Info

System	Status
Name	Roqstar_Managed_PoE
Description	M12_Ethernet_Switch
Contact	support@tronteq.de
Location	office

System Config

System	Status
Power Supply:	Power 1 & Power 2

System Services

Service	Status	Change
SNMP	enabled	<input type="button" value="Disable"/>
DHCP	enabled	<input type="button" value="Disable"/>
NTP	disabled	<input type="button" value="Enable"/>
LLDP	enabled	<input type="button" value="Disable"/>
RSTP	disabled	<input type="button" value="Enable"/>
PoE	enabled	<input type="button" value="Disable"/>

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Changes to these settings will only take effect after a restart.
The system can be restarted with the button "reset system".

5.3. Ethernet-Ports

The setting of the Ethernet ports is carried out in the web interface under *Configuration > Interfaces*. The page contains two tables. The top shows the state of the interfaces. The table below can be used to change the settings.

ROQSTAR
TRONTEQ ELECTRONIC

Managed PoE Switch

PWR ●	Power: Power 1 & Power 2	Device: ROQSTAR Managed PoE	LAN MAC: FC:F8:B7:FF:FF:FF	System uptime 0 day(s) 02:54:22
MOD ●	USB: Host	Model: ROQ-08F-F-LP-IP54	LAN IP: 192.168.1.1	CPU Load 13%
ERR ●	Fault Contact: inactive	Serial Nr.: 123456	Firmware: BETA00-dev	Temperature 47.5°C

Dashboard

Monitoring

- >System
- >Interfaces
- >Traffic
- >PoE
- >Logging

Configuration

- >System
- >Interfaces
- >VLAN
- >QoS
- >Fault Contact
- >Link Aggregation
- >Port Mirroring
- >Cable Test
- >Time
- >SNMP
- >LLDP
- >RSTP
- >DHCP
- >PoE

Maintaining

- >User Management
- >Settings
- >Update Firmware
- >Support

Help

- Third Party Notices

Logout

Configuration > Interfaces

Interface Status

Interface	Link	Speed	Duplex	Flow control	Maximum Transmission Unit
1	up	100MBits/s	full	disable	1500
2	down	-	-	-	-
3	down	-	-	-	-
4	down	-	-	-	-
5	up	100MBits/s	full	disable	1500
6	down	-	-	-	-
7	down	-	-	-	-
8	down	-	-	-	-

Interface Configuration

Interface	Name	Description	Link	Speed	Duplex	Flow Control		
1	fastethernet1	Lan-Interface1	Enabled	Auto	Auto	Off	Set	Clear
2	fastethernet2	Lan-Interface2	Enabled	Auto	Auto	Off	Set	Clear
3	fastethernet3	Lan-Interface3	Enabled	Auto	Auto	Off	Set	Clear
4	fastethernet4	Lan-Interface4	Enabled	Auto	Auto	Off	Set	Clear
5	fastethernet5	Lan-Interface5	Enabled	Auto	Auto	Off	Set	Clear
6	fastethernet6	Lan-Interface6	Enabled	Auto	Auto	Off	Set	Clear
7	fastethernet7	Lan-Interface7	Enabled	Auto	Auto	Off	Set	Clear
8	fastethernet8	Lan-Interface8	Enabled	Auto	Auto	Off	Set	Clear

System Configuration

Option	Setting
Broadcast Storm Protection	disabled

Set System Configuration

For each port following settings can be choose:

Option	Value	Description
Name		name of the interface (max. 64 characters, no new line)
Description		description of the interface (max. 64 characters, no new line)
Link	enable	port activated
	disable	port deactivated
Speed	100 MBit	port set to 100 MBit
	10 Mbit	port set to 10 MBit
	auto	port uses auto-negotiation
Duplex	full	port uses full duplex
	half	port uses half full duplex
	auto	port uses auto-negotiation
Flow control	on	flow control on
	off	flow control off
	auto	negotiate flow control automatically



If you set the speed or the duplex mode to "auto", both values are set to "auto".



Flow control is only available if auto-negotiation is activated.

The settings are transferred to the "set" button. By using the "clear" button, the current values will be read back from the device.



With the "Link" button you can activate and deactivate ports. Deactivating of unneeded ports is recommended if a link-down event should be monitored (see section 8.2).

Auto-Negotiation will negotiate the highest possible speed, which is also supported by the connected remote site. If auto-negotiation is deactivated, the settings for speed and duplex in both network participants must be the same to allow communication.

5.4. Change Password

The password change takes place at *Maintaining > User Management*.

The password change takes place at. The normal user can use their password to set a new password. They can only change their own passwords.

The admin user can change any password.

5.5. Configuration Files

The whole system settings can be managed via configuration files.

In the user interface, this can be carried out at *Maintaining > Settings*. The following functions are supported:

- ▶ download of the configuration
- ▶ upload of the configuration data
- ▶ saving of the current configuration on the device's internal memory
- ▶ loading a configuration from the internal memory

PWR ● MOD ● ERR ●	Power: Power 1 & Power 2 USB: Host Fault Contact: inactive	Device: ROQSTAR Managed PoE Model: ROQ-08F-F-LP-IP54 Serial Nr.: 123456	LAN MAC: FC:F8:B7:FF:FF:FF LAN IP: 192.168.1.1 Firmware: BETA00-dev	System uptime 0 day(s) 02:58:23 CPU Load 10% Temperature 47.5°C
--	---	--	--	--

Dashboard

Monitoring

- >System
- >Interfaces
- >Traffic
- >PoE
- >Logging

Configuration

- >System
- >Interfaces
- >VLAN
- >QoS
- >Fault Contact
- >Link Aggregation
- >Port Mirroring
- >Cable Test
- >Time
- >SNMP
- >LLDP
- >RSTP
- >DHCP
- >PoE

Maintaining

- >User Management
- >Settings
- >Update Firmware
- >Support

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Maintaining > Settings

Settings

Selected	Type	Name
<input type="radio"/>	Upload Config File	Click here to select a Config File or drop it

Create Config File
Apply Config File
Download Config File
Delete Config File

System Information Images

Action	Execute
Generate System Information Image	<input type="button" value="Generate"/>
Download System Information Image	<input type="button" value="Download"/>
Delete System Information Image	<input type="button" value="Delete"/>

Factory Reset

Action	Execute
Perform Factory Reset	<input type="button" value="Factory Reset"/>

To apply a configuration, you have to select the configuration and afterwards apply by clicking the "apply configfile" on the device.

6. Switch settings

The following settings affect only the LAN ports.

6.1. VLAN Configuration

6.1.1. Description

This function allows the switch to participate in or create multiple logical networks mapped over a single physical Ethernet network composed of one or more switches. The VLAN function is implemented according to IEEE 802.1Q standard.

The VLAN configuration is realized on a per port level allowing for a strict isolation of Ethernet traffic between groups of ports belonging to different VLANs. A physical switch port may participate in different VLANs and still be able to properly segregate the traffic belonging to the different logical networks. VLAN traffic segregation is made possible because each VLAN has an unique identifier known as VLAN ID. The VLAN ID information may be embedded in the switched frame as a VLAN Tag. A VLAN enabled switch will evaluate the VLAN Tag frame information before switching it.

VLANs can be set up in the web interface at **Configuration > VLAN**.

PWR ● MOD ● ERR ●	Power: Power 1 & Power 2 USB: Host Fault Contact: inactive	Device: ROQSTAR Managed PoE Model: ROQ-08F-F-LP-IP54 Serial Nr.: 123456	LAN MAC: FC:F8:B7:FF:FF:FF LAN IP: 192.168.1.1 Firmware: BETA00-dev	System uptime 0 day(s) 02:54:32 CPU Load 11% Temperature 47.5°C
--	---	--	--	--

Dashboard

Monitoring

- >System
- >Interfaces
- >Traffic
- >PoE
- >Logging

Configuration

- >System
- >Interfaces
- >VLAN
- >QoS
- >Fault Contact
- >Link Aggregation
- >Port Mirroring
- >Cable Test
- >Time
- >SNMP
- >LLDP
- >RSTP
- >DHCP
- >PoE

Maintaining

- >User Management
- >Settings
- >Update Firmware
- >Support

Help

- Third Party Notices

Logout

Configuration > VLANS

VLAN Groups

ID	Name	Action	
10	Produktion	<input type="button" value="Edit"/>	<input type="button" value="Remove"/>
20	Robotik	<input type="button" value="Edit"/>	<input type="button" value="Remove"/>

Interface VLAN Settings

Interface	VLAN Mode	Default VLAN ID	Ingress	Egress	Members	Action
CPU	off					<input type="button" value="Edit"/>
1	off					<input type="button" value="Edit"/>
2	off					<input type="button" value="Edit"/>
3	off					<input type="button" value="Edit"/>
4	off					<input type="button" value="Edit"/>
5	off					<input type="button" value="Edit"/>
6	off					<input type="button" value="Edit"/>
7	off					<input type="button" value="Edit"/>
8	off					<input type="button" value="Edit"/>

In the left table the existing VLAN groups are listed with their ID and a user configurable name. This name is just for informational purposes and has no further relevance. Up to 63 VLAN groups may be configured. Valid VLAN IDs range from 1 to 4095.

The right table shows the settings of the respective interfaces. By pressing the “Edit” button a window opens with the interface to be configured.

The interfaces 1 to 8 and the connection to the CPU are available. If Link Aggregation is used the aggregated interfaces are grouped together accordingly.

The interfaces will only respect VLAN settings if they are configured to be in “tag-based” mode.

There will be no transmission of packets between interfaces with VLAN mode “off” and interfaces with VLAN mode “tag-based”.

An interface is a member of at least one VLAN, but it can be assigned to many. The interface always has exactly one Default VLAN ID assigned. There are several options regarding the handling of packets when they ingress into and egress out of the switch:

6.1.2. Incoming packets (ingress)

Incoming packets that have no VLAN tag will be treated as if they belonged to the Default VLAN ID of the interface on which they ingressed.

Setting	Description	Consequence for incoming packets...		
		without VLAN tag	with a matching VLAN ID	with a foreign VLAN ID
unmodified	incoming tags will not be modified	will be accepted	will be accepted	will be discarded
override-tag	incoming tags will be changed to the Default VID	will be accepted	will be accepted	will be accepted
drop-tagged	all tagged incoming packets will be discarded (dropped)	will be accepted	will be discarded	will be discarded
drop-untagged	all untagged incoming packets will be discarded (dropped)	will be discarded	will be accepted	will be discarded

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6.1.3. Outgoing packets (egress)

Setting	Consequence for outgoing packets
unmodified	A packet will egress the switch with a tag if it had a tag on ingress; and it will egress without a tag if it did not have a tag on ingress. However, for packets with a tag the tag's VID may have been changed during ingress (see ingress = "override-tag").
discard-tag	Packets will always egress this interface without a tag.
with-tag	Packets will always egress this interface with a tag.

6.1.4. CPU interface

The switch's web interface and other IP-based protocols are provided via a CPU that is internally connected to the CPU interface.

This CPU interface can be configured to work with a single VLAN, which must be assigned as its Default VLAN ID. Furthermore, the egress setting "discard-tag" as well as one of the ingress settings "unmodified", "drop-tagged" or "override-tag" must be used.

When assigning the CPU interface to be a part of a VLAN, during configuration it may be necessary to move the cable connecting the switch to your computer from one interface to another.

7. QoS

QoS (quality of service) enables prioritization of specific network traffic. The settings for QoS are managed in the web interface at *Configuration > QoS*. The trust mode determines according to which criteria a packet is prioritized. The trust modes VLAN and IP allows the sender of the packet to set the priority with which the packet should to be treated.

Trust Mode	Description
none	All packages the "default ingress cos" is assigned
VLAN	If an incoming frame contains an 802.1Q header, the assigned COS value will be used.
IP	If an incoming frame contains an 802.1Q header, the assigned DSCP value will be used.

Thereafter, the packets are processed in different queues. QoS affects only the switch interfaces.

Queue ID	Description
3	The queue 3 is a priority queue. It will be processed as long as all frames are transmitted. Data streams with high demands on latency and availability should be associated with this queue. Keep in mind that a too high workload in this queue can affect negatively the data streams of the other cues.
2	high prioritized fair weighted queue
1	normal prioritized fair weighted queue
0	low prioritized fair weighted queue

The remaining bandwidth after all frames were sent from queue 3 is divided according to the scheme 4-2-1 between the queues 2-0.

PWR ●	Power: Power 1 & Power 2	Device: ROQSTAR Managed PoE	LAN MAC: FC:F8:B7:FF:FF:FF	System uptime: 0 day(s) 02:54:52
MOD ●	USB: Host	Model: ROQ-08F-F-LP-IP54	LAN IP: 192.168.1.1	CPU Load: 8%
ERR ●	Fault Contact: inactive	Serial Nr.: 123456	Firmware: BETA00-dev	Temperature: 47.5°C

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Configuration > QoS

Interface	Default CoS	Trust Mode	Action
1	0	none	Edit
2	0	none	Edit
3	0	none	Edit
4	0	none	Edit
5	0	none	Edit
6	0	none	Edit
7	0	none	Edit
8	0	none	Edit

[Edit Mapping](#)



The queue with ID3 should only be used for services requiring little bandwidth and have high latency requirements.

With Edit Mapping a window opens in which you can assign the DSCP and COS values to the queues. The DSCP field is part of the IP header. The specified mappings here come into play if a port in the trust mode is IP. The COS values are part of the 802.1Q header. They come into play when a port is in tag-based VLAN mode and the trust mode is VLAN.

PWR ●	Power: Power 1 & Power 2	Device: ROQSTAR Managed PoE	LAN MAC: FC:F8:B7:FF:FF:FF	System uptime: 0 day(s) 02:54:52
MOD ●	USB: Host	Model: ROQ-08F-F-LP-IP54	LAN IP: 192.168.1.1	CPU Load: 8%
ERR ●	Fault Contact: inactive	Serial Nr.: 123456	Firmware: BETA00-dev	Temperature: 47.5°C

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Configuration > QoS

Interface	DSCP Mapping				CoS Mapping					
	DSCP	Queue	DSCP	Queue	DSCP	Queue	DSCP	Queue		
1	0	0	16	0	32	0	48	0	0	0
2	1	0	17	0	33	0	49	0	1	0
3	2	0	18	0	34	0	50	0	2	0
4	3	0	19	0	35	0	51	0	3	0
5	4	0	20	0	36	0	52	0	4	0
6	5	0	21	0	37	0	53	0	5	0
7	6	0	22	0	38	0	54	0	6	0
8	7	0	23	0	39	0	55	0	7	0
	8	0	24	0	40	0	56	0		
	9	0	25	0	41	0	57	0		
	10	0	26	0	42	0	58	0		
	11	0	27	0	43	0	59	0		
	12	0	28	0	44	0	60	0		
	13	0	29	0	45	0	61	0		
	14	0	30	0	46	0	62	0		
	15	0	31	0	47	0	63	0		

[Update Mapping](#) [Close](#)

Each priority value needs to be assigned to a queue. The switch has four queues with the IDs 0-3.

Queue 3 is a priority queue that is served as long as it contains packets.

The queues 0-2 are weighted fair queues that share the remaining bandwidth. Queue 2 gets more bandwidth than queue 1 which gets more bandwidth than queue 0.

Please consider that queue 3 could consume the whole bandwidth which leads to a starvation of the queues 0-2.

7.1. Link Aggregation

Link Aggregation (also known as port trunking) makes it possible to bundle multiple ports to enable a higher and redundant data throughput between two devices.

The setting to Link Aggregation You can find in the web interface at [Configuration > Link Aggregation](#).

ROQSTAR
Managed PoE Switch

TRONTEQ ELECTRONIC

PWR ●
MOD ●
ERR ●

Power: Power 1 & Power 2
USB: Host
Fault Contact: inactive

Device: ROQSTAR Managed PoE
Model: ROQ-08F-F-LP-IP54
Serial Nr.: 123456

LAN MAC: FC:F8:B7:FF:FF:FF
LAN IP: 192.168.1.1
Firmware: BETA00-dev

System uptime 0 day(s) 02:55:22
CPU Load 5%
Temperature 47.5°C

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Configuration > Link Aggregation

Interfaces

Interface	Setting
1	disabled
2	disabled
3	disabled
4	disabled
5	disabled
6	disabled
7	disabled
8	disabled

Each interface can be add to a group or configured without a group (none). Thereby a maximum of 4 groups are available. To make sure that a trunk group is working properly, all ports in the group must have the link-state "up". If a link fail occurs, packets get lost. The setting is transmitted to the "set" button on the device.



Link Aggregation distributes traffic based on the MAC address on the available lines. A connection between two devices can therefore reach a maximum of 100 Mbit/s.

7.2. Port Mirroring

Port mirroring (or port monitoring) makes it possible to duplicate network traffic to an observation port and to analyze it there. Per port, the incoming and outgoing traffic can be duplicated independently. The settings for port mirroring are set in the web interface at [Configuration > Port Mirroring](#).

In the left table, the port mirroring is activated or deactivated (default: disabled). Also, the observation port (destination port, destination port) can be set.

PWR ● MOD ● ERR ●	Power: Power 1 & Power 2 USB: Host Fault Contact: inactive	Device: ROQSTAR Managed PoE Model: ROQ-08F-F-LP-IP54 Serial Nr.: 123456	LAN MAC: FC:F8:B7:FF:FF:FF LAN IP: 192.168.1.1 Firmware: BETA00-dev	System uptime 0 day(s) 02:55:52 CPU Load 3% Temperature 47.5°C
--	---	--	--	---

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Configuration > Port Mirroring

Interfaces

Interface	Mode
1	disabled
2	disabled
3	disabled
4	disabled
5	disabled
6	disabled
7	disabled
8	disabled

When the port mirroring shall be used, an interface must be selected as a destination. This interface can't be part of a Trunk Group. You can specify from which interface which traffic should be duplicated.

The settings are transferred to the "set" button.

8. Time

The configuration of the system time will be made on the side *Configuration > Time*.

PWR ● MOD ● ERR ●	Power: Power 1 & Power 2 USB: Host Fault Contact: inactive	Device: ROQSTAR Managed PoE Model: ROQ-08F-F-LP-IP54 Serial Nr.: 123456	LAN MAC: FC:F8:B7:FF:FF:FF LAN IP: 192.168.1.1 Firmware: BETA00-dev	System uptime 0 day(s) 02:56:22 CPU Load 2% Temperature 47.5°C
--	---	--	--	---

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Configuration > Time

NTP Settings

Parameter	Setting
Configuration	disabled
NTP Service	Server
Client Query Interval	8 seconds
Server Broadcast	<input type="checkbox"/>
Server Broadcast Interval	8 seconds

Servers for NTP Client

Server	Preferred	Action
<input type="text"/>	<input type="checkbox"/>	<input type="button" value="Add"/>

System Time

Parameter	Value
Date	2016-01-01
Time	14:02:17
Time Zone	GMT

Ideally, there is an NTP server available in the network. This makes it possible to synchronize the time automatically in regular intervals.

NTP	Description
Server	ROQSTAR acts as an NTP server for the participants. It gets no time from an NTP server. The system time must be configured.
Client	ROQSTAR gets the time from an NTP server without acting as a server.
Server & client	ROQSTAR gets its system time from an NTP server and acts as an NTP server for the LAN participants.

To set an NTP server you have to enter the address in the text field under NTP server and add it with the "add" button. You can define up to six NTP servers. The server that is marked as "active" is the primary time source. If this source cannot be reached, one of the other servers will be used.



The NTP server labeled as "active" is outlined in green.

As an alternative to NTP it is also possible to set the time manually. This is done in the time table. The current day is entered in the format YYYY-MM-DD in "date". The time is in HH: MM: SS registered in "Time". In dropdown menu "Time Zone", the time zone which is be used can be set.



The device does not automatically switch between summer and winter time.

9. SNMP

The SNMP service allows devices on the network to read out the state of participants and configure settings.

The left table determines the options used for SNMP.

The right table lists the SNMP user and allows their administration.

Option	Description
configuration	activates or deactivates the SNMP service
version	supported versions 1, 2c and 3, as well as all possible combinations
read community	the name for the read community
write community	the name for the write community
access	whether the service can be reached over the WAN, LAN, or both interfaces



Versions 1 and 2c of the SMTP protocol transfer all data unencrypted.

Available MIBs

- ▶ system MIB
- ▶ interface MIB (ifTable)
- ▶ RMON MIB (etherStatsTable)

The system supplied by the MIB values name, description, content and location correspond to the values that were set through the web interface at *Configuration > System*. They can be changed with SNMP Set commands.

The interface and RMON MIB represents all the values read-only available.

9.1. SNMP MIBs

The ROQSTAR supports the following MIBs:

- ▶ LLDP-MIB (lldpObjects, 1.0.8802.1.1.2.1)
- ▶ System MIB (1.3.6.1.2.1.1)
- ▶ Interface MIB (ifTable, 1.3.6.1.2.1.2.2)
- ▶ IP-MIB (teilweise, 1.3.6.1.2.1.4)
- ▶ SNMP-MIB (1.3.6.1.2.1.11)
- ▶ RMON-MIB (etherStatsTable, 1.3.6.1.2.1.16.1.1)
- ▶ dot1d-Bridge-MIB (dot1dBasePortTable, 1.3.6.1.2.1.17.1.4 und dot1dTpFdbTable, 1.3.6.1.2.1.17.4.3)

The system supplied by the MIB values name, description, content and location correspond to the values that were set through the web interface at *Configuration > System*. They can be changed with SNMP Set commands.

The interface and RMON MIB represents all the values read-only available.

Every parameter has a distinct Object Identifier (OID). The OID consists of two or three parts. The first part describes the MIB to which the parameter belongs. The second part describes the parameter itself. The third part describes the instance but only if there is more than one instance.

Example:

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To get the operation status (ifOperStatus) of all interfaces via ifTable-MIB proceed as follows:

.1.3.6.1.2.1.2.2.1.8.1 = INTEGER: up(1)
.1.3.6.1.2.1.2.2.1.8.2 = INTEGER: down(2)
.1.3.6.1.2.1.2.2.1.8.3 = INTEGER: up(1)
.1.3.6.1.2.1.2.2.1.8.4 = INTEGER: down(2)
.1.3.6.1.2.1.2.2.1.8.5 = INTEGER: down(2)
.1.3.6.1.2.1.2.2.1.8.6 = INTEGER: up(1)
.1.3.6.1.2.1.2.2.1.8.7 = INTEGER: down(2)
.1.3.6.1.2.1.2.2.1.8.8 = INTEGER: up(1)
.1.3.6.1.2.1.2.2.1.8.9 = INTEGER: down(2)
.1.3.6.1.2.1.2.2.1.8.10 = INTEGER: up(1)

The first part of the OID addresses the MIB ifTable (.1.3.6.1.2.1.2.2.1). The value 8 stands for the parameter „ifOperStatus“. The last digit corresponds to the interface instances. In the MIB ifTable the instance is the same as the Ethernet ports of the device. Therefore the Ethernet ports 1, 3, 6, 8, 10 are up, the others are down.

9.2. SNMP Traps

SNMP Traps can be sent to a designated IP address in the event of an error. Only SNMP Traps v1 are supported.

Option	Description
IP address	host system
Trap Community	name of community for Trap message

Traps are generated in the following events:

- Fall below minimum operating temperature
- Overrun maximum operating temperature

Operating temperature is valid range after a fall below or overrun event of the operating temperature

10. LLDP

Der LLDP-Dienst ermöglicht die Erkennung benachbarter Netzwerkkomponenten. Aktiviert und konfiguriert wird dieser Dienst im Webinterface unter *Configuration > LLDP*.

LLDP is a protocol for automated topology discovery. ROQSTAR sends an LLDP packet every 30 seconds on each interface enabled in the LLDP service. This package contains the following information

- System-Name
- System-description
- Interface-Name
- Interface-description
- MAC-Adresse

The peers of the ports can decode this information and display it through their management interface. Conversely, the ROQSTAR Managed also receives the packets from its neighbors and evaluates them. The web interface can be used to display the neighbors detected in this way. The administrator of a network is thereby enabled in a very simple way to recognize which devices are connected to each other. When the wiring changes, the display refreshes within 30 seconds. If a neighbor no longer sends LLDP packets, the neighborhood entry is deleted after 120 seconds.

PWR ● MOD ● ERR ●	Power: Power 1 & Power 2 USB: Host Fault Contact: inactive	Device: ROQSTAR Managed PoE Model: ROQ-08F-F-LP-IP54 Serial Nr.: 123456	LAN MAC: FC:F8:B7:FF:FF:FF LAN IP: 192.168.1.1 Firmware: BETA00-dev	System uptime 0 day(s) 02:56:52 CPU Load 7% Temperature 47.5°C
--	---	--	--	---

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Configuration > LLDP

Configuration

Parameter	Status
Configuration	enabled
Interface 1	enabled
Interface 2	enabled
Interface 3	enabled
Interface 4	enabled
Interface 5	enabled
Interface 6	enabled
Interface 7	enabled
Interface 8	enabled

Neighbours

Interface	Name	Description	Remote Port Type	Remote Port Value	Remote Port Description	Age
-----------	------	-------------	------------------	-------------------	-------------------------	-----

The left table is for setting, the right table indicates the neighbored devices. If an interface is set to "enable" the ROQSTAR is processing incoming LLDP frames. In a 30-second interval it sends LLDP frames.

11. RSTP

Rapid Spanning Tree is a service to detect the topology of a network automatically. It is used to prevent loops which can occur by a cable break or inactive port. The configuration setting is under *Configuration > RSTP*.

If RSTP is activated a new device is reachable in two seconds. In that time the RSTP protocol is checking if the connection is loop free. As soon as two ports of the Switch are directly or indirectly (over different switches) connected, the RSTP will block one of the two ports on a logical level.

PWR ● MOD ● ERR ●	Power: Power 1 & Power 2 USB: Host Fault Contact: inactive	Device: ROQSTAR Managed PoE Model: ROQ-08F-F-LP-IP54 Serial Nr.: 123456	LAN MAC: FC:F8:B7:FF:FF:FF LAN IP: 192.168.1.1 Firmware: BETA00-dev	System uptime 0 day(s) 02:57:12 CPU Load 5% Temperature 47.5°C
--	---	--	--	---

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Configuration > RSTP

Configuration

Option	Setting
Rapid Spanning Tree	disable

12. DHCP

The service Dynamic Host Configuration Protocol (DHCP) provides IP addresses to the network. The configuration is available under **Configuration > DHCP**. The table on the left allows for configuring the global DHCP parameters.

ROQSTAR
Managed PoE Switch

PWR ●

MOD ●

ERR ●

Power supply: V1

Fault Contact: active

Location: factory

Device: ROQSTAR Managed PoE

Model: ROQ-08F-F-LP-IP54

Serial no.: 524F511304000717

Device MAC: FC:F8:B7:05:93:D5

Device IP: 192.168.1.1

Firmware: 1.2.2

System uptime: 0 day(s) 02:16:35

CPU load: 24%

Board Temp.: 41.0°C

Dashboard

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- > Logging

Configuration

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- > Port Mirroring
- > Cable Test
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- > DHCP Server
- > PoE

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Configuration > DHCP Server

General DHCP Server Settings

Option	Settings
Configuration	enabled
Enable Pool	<input checked="" type="checkbox"/>
Pool Size	192.168.1.10
	192.168.1.254
Net Mask	255.255.255.0
Gateway	192.168.1.1
DNS	
Domain	device
Leasetime	865000

DHCP port based

Port	IP Address
1	
2	
3	
4	
5	
6	
7	
8	

Static Leases

MAC Address	IP Address	
		<input type="button" value="Add"/>

Option	Description
Poolsize	Defines a range of IP addresses that are awarded to the clients. The two IP addresses must be in the same subnet mask as defined by the network.
Netmask	Defines the subnet mask.
Gateway	Defines the gateway.
DNS	Defines one or two DNS server that is assigned to the clients.
Domain	Defines a domain that is assigned to the clients.
Leasetime	The leasetime is the time in seconds that the client can keep the IP address which was assigned to him. Shortly before the time expires, the client can extend the lease. The lease time must be in the range of 1000 to 1000000.

The right table shows the static set addresses. An entry consists of a MAC and an IP address and can be removed by the "Remove" button. In the bottom line, it is possible to create new assignments.

With Static Leases IP addresses for devices can be assigned specifically based on the MAC address.

With the button dynamic leases you get a list of all dynamically assigned IP addresses.

Option	Description
IP	assigned IP address
Mac	Mac address of the host
Host	name of the hosts
Expires	time how long the IP address is still reserved

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12.1. Port based DHCP

The ROQSTAR Managed allows you to assign IP addresses not to MAC addresses but rather to an interface. To us

The DHCP port based assignment allows a fast exchange of devices. The new devices will receive the same IP address as the replaced device used on this port before.

Static Leases have a higher priority than DHCP port based entries. If a device is connected to a port with DHCP port based entry and has a MAC address with static lease, then the IP address which is defined in the static will be assigned to the device.

IP addresses that are assigned via port based DHCP, remain bound to the device when it is connected within the lease time to a port.

12.2. Using multiple DHCP servers

If several DHCP servers are used in the same network, it must be ensured that there are no conflicts in the allocation of addresses. Normally, it can not be guaranteed which server responds first to an address request.

Therefore, it is recommended to operate only one DHCP server per network. If the deployment scenario requires the operation of multiple DHCP servers, ensure that their address ranges (both the legacy pool and the IPs configured through static leases and option 82) do not overlap.

13. Power over Ethernet

13.1. General

The PoE function becomes active approx. 10 seconds after the supply voltage V1 has been applied. There is a total power of 62W available. The total PoE power is actively monitored by the device. The PoE voltage is 53V. If a PD device logs on successfully, the voltage at the respective port is activated and its PoE status LED lights up permanently.

The [Configuration > PoE](#) website handles both global and port-related PoE settings.

ROQSTAR
Managed PoE Switch
TRONTEQ
ELECTRONIC

PWR ●

MOD ●

ERR ●

Power supply: V1

Fault Contact: active

Location: factory

Device: ROQSTAR Managed PoE

Model: ROQ-08F-F-IP-IP54

Serial no.: 524F511304000717

Device MAC: FC:F8:B7:05:93:D5

Device IP: 192.168.1.1

Firmware: 1.2.2

System uptime: 0 day(s) 02:15:45

CPU load: 19%

Board Temp.: 41.0°C

Dashboard

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- > Logging

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- > PoE

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Configuration > PoE

Global Settings

Settings	Status
PoE Function	enable
Power Budget	62W
Allocated Power Budget	240W
PoE Fault Contact	enabled

Set State

PD Settings

Port	Powered Device Name	Enable PoE	Limit Class	Nominal Power Limit	Priority	Fault Contact
1	PD_1	✓	Class 4 (30W)	2W	low	□
2	PD_2	✓	Class 4 (30W)	Class based	low	□
3	PD_3	✓	Class 1 (4W)	2W	low	□
4	PD_4	✓	Class 3 (15.4W)	6W	low	□
5	PD_5	✓	Class 4 (30W)	Class based	low	□
6	PD_6	✓	Class 4 (30W)	Class based	low	□
7	PD_7	✓	Class 4 (30W)	Class based	low	□
8	PD_8	✓	Class 4 (30W)	Class based	low	□

Set Port Settings

Power Limit

The setting of Power Limit sets the maximal current limit of a port of the switch. The switch produces a nominal voltage of 53V, due to cable length and quality the oncoming voltage at PD can drop to 42V. Therefore the oncoming power at PD can also drop. Please note the table below for proper configuration.

Power Limit	Current Limit	Power (@42V)	Power (@54V)
2W	56,25mA	2,36W	3,03W
4W	93,75mA	3,94W	5,06W
6W	131,25mA	5,51W	7,09W
8W	168,75mA	7,09W	9,11W
10W	206,25mA	8,66W	11,14W
12W	243,75mA	10,24W	13,16W
15W	318,75mA	13,39W	17,21W
20W	412,5mA	17,33W	22,28W

Priority

low = PD with low priority will be dropped/blocked first

high = PD with high priority will be dropped/blocked after all low priority PDs are dropped

critical = PD with critical priority will only be dropped if total power budget for critical PDs is exceeded

Fault Contact

The PoE function can be disabled globally for all ports. Information about available total PoE power and currently allocated power is displayed. It can also be seen whether the global PoE signaling contact is currently activated (enabled) or deactivated (disabled).

There are several setting options for managing the connected PoE devices (PD = Powered Device). Individual PoE names can be assigned per port, the PoE function can be disabled by port, a PoE power limit can be set per port and the PoE ports can be prioritized.

13.2. PoE budgeting

13.2.1. PoE class

The maximum available total PoE power of the system is 62W. A newly connected Powered Device (PD) is only supplied with power if the difference between total power budget and assigned power classes of all current users is big enough for the PoE class of the new PD.

All combinations of classes with a total power budget of max. 62W are supported. The PoE classes are defined as follows:

Class	Minimum available power at the switch port	Power range of the PD
0	15,4 W	0,44 W – 12,95 W
1	4,0 W	0,44 W – 3,84 W
2	7,0 W	3,84 W – 6,49 W
3	15,4 W	6,49 W – 12,95 W
4	30,0 W	12,95 W – 25,50 W

If the total budget was exceeded with a newly connected PD, the PoE prioritization (Chapter 13.3) comes into play. On each port that can't be powered due to the power budget limit, the PoE status LED flashes.

13.2.2. PoE Current Limit

ROQSTAR Managed PoE Switches allow the user to set PoE power budget using current limit per PoE port. This setting allows finer granularity of the power allocation than the budgeting based on the PoE classes. This type of budgeting should be used when the actual power demanded by a PD device is significantly lower than the power of its PoE class. E.g. low cost IP cameras are often delivered with PoE class 0 (13W) although their power consumption never exceeds 4W.

Power setting	current limit	available power on switch port	minimal power available on powered device
2 W	56.25 mA	2.98 W	2.86 W
4 W	93.75 mA	4.97 W	4.70 W
6 W	131.25 mA	6.96 W	6.48 W
8 W	168.75 mA	8.94 W	8.21 W
10 W	206.25 mA	10.93 W	9.87 W
12 W	243.75 mA	12.92 W	11.49 W
15 W	318.75 mA	16.89 W	14.54 W
20 W	412.50 mA	21.86 W	18.05 W
30 W	675.00 mA	35.78 W	29.40 W



The available power on the PD depends on the length and quality of the cable connection

All ROQSTAR Ethernet switches support line topology. A direct line connection between switches can be done on any port.

13.3. PoE prioritizing

By prioritizing the ports, it is possible to specify which PDs are turned off first if the total power budget of 62W is exceeded. In this case, low-priority ports are switched off in priority order until the resulting total power is no longer exceeded.

The following table describes the individual prioritization levels.

Priority	Description
low	PDs with the priority "low" are first dropped or blocked.
high	PDs with the priority "high" are only discarded or blocked when all "low" prioritized PDs have been dropped.
critical	PDs with "critical" priority are deactivated only if the sum of the "critical" PDs exceeds the total PoE power.

	If all PoE ports are prioritized the same, any connected PoE device (PD) is deactivated if the total PoE power is exceeded. It is therefore always advisable to prioritize.
---	---

By activating the checkbox "Fault Contact", you activate port-based the error message contact. This is triggered as soon as the PoE device (Powered Device) connected to the port is no longer supplied. Please make sure that the check mark "PoE" in the settings for the fault detection contact is set under *Configuration -> Fault Contact* (see chapter 14.2).

13.4. PoE cascading

A direct line connection of ROQSTAR PoE switches, also known as cascading, can be done on any port. ROQSTAR PoE switches have a galvanically isolated power supply, which ensures the absolutely necessary decoupling of the injected PoE voltage potentials of PoE switches on the common, connecting Ethernet data lines.

14. Device information

14.1. LED display

	With the LED display, you can perform an initial, rapid device diagnosis.
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System Status LED

These LEDs indicate the status of the device. The LED display is replicated in the web interface. Their meaning is described in the table below.

LED	Color	Activity	Operational State
V1	-	off	power supply V1 is not connected
	green	lights up	power supply V1 is connected
V2	-	off	power supply V2 is not connected
	green	lights up	power supply V2 is connected

LED	Color	Activity	Operational State
PWR	-	off	Power supply is not connected.
	green	lights up	Power supply is connected, device is supplied with power.
	green	flashes with 1Hz	Indicates an error of the redundant power supply.

MOD	-	off	Device is off, out of service or device is booting.
	green	lights up	Device is ready to operate.
	green	flashes with 1Hz	Active web interface session.
	green	flashes with 10Hz	Firmware update is being performed or configuration is loaded / saved.
ERR	-	off	There is no error, device operates properly.
	red	flashes with 1Hz	Configuration error: - false user configuration
	red	lights up	Fatal system error. Device is not ready to operate due to: - memory errors - not recognized Switch / Phy - - error in an internal voltage

Portstatus-LEDs

Each network port has two LEDs. Their meaning is given in the table below.

LED	Color	Activity	Operational state
Link	-	none	no network connection, Link-Down
	green	lights up	network connection, Link-Up
Act	-	none	no data transfer
	yellow	flashes	data transfer with 10/100 MBit / s

14.1.2. PoE Status LED

LED	Color	Activity	Operational state
PoE	-	none	PoE voltage is not enabled
	yellow	lights-up	PoE voltage is enabled, PD is powered
	yellow	flashes	on single port: Power budget exceeded, PD is not supplied on all ports: Error of PoE function

14.2. Fault Contact

The signal contact is used to alert that the device is in an error state. At the signal contact devices can be connected which accept this message.

The fault contact can be set via the web interface at *Configuration > Fault Contact*.

The fault contact is configurable by user. The following configurations are permissible:

PWR ● MOD ● ERR ●	Power: Power 1 & Power 2 USB: Host Fault Contact: inactive	Device: ROQSTAR Managed PoE Model: ROQ-08F-F-LP-IP54 Serial Nr.: 123456	LAN MAC: FC:F8:B7:FF:FF:FF LAN IP: 192.168.1.1 Firmware: BETA00-dev	System uptime: 0 day(s) 02:55:12 CPU Load: 6% Temperature: 47.5°C
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Configuration > Fault Contact

Fault Contact Settings		Event Trigger	
Setting	Status	Trigger	Enable
Type	normally open	Power	<input checked="" type="checkbox"/>
Acknowledgement	auto	Over Temperature	<input checked="" type="checkbox"/>
Manual Reset	<input type="button" value="Acknowledge Event(s)"/>	Under Temperature	<input checked="" type="checkbox"/>
<input type="button" value="Set Options"/>		Linkdown any	<input type="checkbox"/>
		Linkdown Interface 1	<input type="checkbox"/>
		Linkdown Interface 2	<input type="checkbox"/>
		Linkdown Interface 3	<input type="checkbox"/>
		Linkdown Interface 4	<input type="checkbox"/>
		Linkdown Interface 5	<input type="checkbox"/>
		Linkdown Interface 6	<input type="checkbox"/>
		Linkdown Interface 7	<input type="checkbox"/>
		Linkdown Interface 8	<input type="checkbox"/>
		System Error	<input type="checkbox"/>
		Config Error	<input type="checkbox"/>
		Login	<input type="checkbox"/>
		Restore	<input type="checkbox"/>
		PoE	<input checked="" type="checkbox"/>
		<input type="button" value="Set Trigger"/>	

Contact Type	Importance
normally open	Fault contact is opened in the default state. When an event occurs, the fault contact closes.
normally close	Fault contact is closed in the default state. When an event occurs, the fault contact opens.

You can choose whether the fault contact should stay in error state after the error has been resolved or if it should return to the normal state.

As a trigger of the fault contact one or more of the following events are available:

Event	Importance
power	voltage supply does not match to the configuration
over temperature	temperature of the sensor exceeds threshold = 90 °
under temperature	temperature of the sensor falls below threshold = -40 °
linkdown any	port activated via link down (on any port)
linkdown interface	port activated via link down (on the selected port)
system error	- memory errors - not recognized switch /phy - errors in an internal voltage
config error	user configuration faulty
login	admin login
restore	initial state corresponds to the last state before the reset

The electrical characteristics of the fault contact are described in section 18.1, the connection in chapter 3.3.

14.3. Log files

The device is capable of holding occurring events in log files. This includes the system status, messages and events induced by the user. Thereby 1000 events are logged.

PWR ● MOD ● ERR ●	Power: Power 1 & Power 2 USB: Host Fault Contact: inactive	Device: ROQSTAR Managed PoE Model: ROQ-08F-F-LP-IP54 Serial Nr.: 123456	LAN MAC: FC:F8:B7:FF:FF:FF LAN IP: 192.168.1.1 Firmware: BETA00-dev	System uptime 0 day(s) 02:53:41 CPU Load 12% Temperature 47.5°C
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System Logging

Time	Priority	Type	Description
2016-01-01T13:16:50Z	INFO	DHCP	DHCP lease host (00:07:46:ff:a4:3f) got IP 192.168.1.11
2016-01-01T13:16:50Z	INFO	DHCP	DHCP lease host (00:07:46:ff:ff:f3) got IP 192.168.1.10
2016-01-01T11:30:47Z	INFO	User	logged in User admin
2016-01-01T11:06:12Z	MAJOR	Switch	Interface 1 up
2016-01-01T11:06:12Z	MAJOR	Switch	Interface 5 up
2016-01-01T11:06:12Z	INFO	PoE	PoE: Power on port 4 (class 4)
2016-01-01T11:06:12Z	INFO	PoE	PoE: Power on port 3 (class 0)
2016-01-01T11:06:12Z	INFO	PoE	PoE: Power on port 5 (class 0)
2016-01-01T11:06:11Z	INFO	Switch	Interface 8 down
2016-01-01T11:06:11Z	INFO	Switch	Interface 7 down
2016-01-01T11:06:11Z	INFO	Switch	Interface 6 down
2016-01-01T11:06:11Z	INFO	Switch	Interface 5 down
2016-01-01T11:06:11Z	INFO	Switch	Interface 4 down
2016-01-01T11:06:11Z	INFO	Switch	Interface 3 down
2016-01-01T11:06:10Z	INFO	Switch	Interface 2 down
2016-01-01T11:06:10Z	INFO	Switch	Interface 1 down
2016-01-01T11:06:10Z	INFO	Power	Power source 2.6V OK
2016-01-01T11:06:10Z	INFO	Power	Power source 1.8V OK
2016-01-01T11:06:10Z	INFO	Power	Power source 1.3V OK
2016-01-01T11:06:10Z	INFO	Power	Power source 1.0V OK
2016-01-01T11:06:10Z	INFO	System	System Startup
2016-01-01T12:23:09Z	INFO	PoE	PoE: Power on port 3 (class 0)
2016-01-01T12:23:05Z	WARNING	PoE	PoE: Dropped port 3 (overcurrent)
2016-01-01T12:23:05Z	INFO	PoE	PoE: Power on port 3 (class 0)
2016-01-01T12:23:03Z	CRITICAL	Fault	Fault Contact disabled

Logging Sources

System	Status
Power	<input checked="" type="checkbox"/>
Thermal	<input checked="" type="checkbox"/>
Network	<input checked="" type="checkbox"/>
Switch	<input checked="" type="checkbox"/>
System	<input checked="" type="checkbox"/>
Fault	<input checked="" type="checkbox"/>
User	<input checked="" type="checkbox"/>
DHCP	<input checked="" type="checkbox"/>
PoE	<input checked="" type="checkbox"/>

The log files contain the information per events

- ▶ date (with time)
- ▶ priority
- ▶ source
- ▶ message

The user can select at *Monitoring > Logging*, which events should be monitored. The following events are available:

Event	Importance
power	changes in the power supply
thermal	about / below the temperature limits
network	change at the WAN port
switch	change of the Switch Ports
system	events of the system
fault	change of the fault contact
user	login / logout in the web interface
DHCP	assigning of IP addresses

The log entries are listed in the web interface at *Monitoring > Logging*. Here is an example of the log entries:

Time	Priority	Type	Description
2015-10-02T15:11:15Z	INFO	switch	interface 10 down
2015-10-02T15:11:15Z	INFO	switch	interface 5 down
2015-10-02T15:11:15Z	INFO	switch	interface 4 down
2015-10-02T15:11:15Z	INFO	switch	interface 3 down
2015-10-02T15:11:15Z	INFO	switch	interface 2 down
2015-10-02T15:11:15Z	INFO	switch	interface 7 down
2015-10-02T15:11:15Z	INFO	switch	interface 9 down
2015-10-02T15:11:15Z	INFO	switch	interface 8 down
2015-10-02T15:11:15Z	INFO	switch	interface 6 down
2015-10-02T15:11:15Z	INFO	network	interface 1 up
2015-10-02T15:11:15Z	INFO	system	system startup

15. USB-Functions

The USB interface allows you to perform several operations without being logged in to the web interface. To start an operation you have to put a text file named “device.cmd” in the root directory of an USB flash drive. After the operation has been done a logfile will be written on the root of the USB flash drive. Here you can see if the process was successful or not. The MOD LED flashes as long as a USB command is performed.

Content “device.cmd”	Description
configuration download	performs a download of present configuration running on the Switch to USB flash drive
configuration recovery	resets the configuration to default settings as described in chapter 3.1 Safety Instructions <i>Factory Settings</i>
configuration upload	applies the configuration located in root of USB flash drive to ROQSTAR Switch
firmware update	applies firmware located in root of USB flash drive to ROQSTAR Switch
configuration upload	resets the IP address to factory settings according to 3.1 Safety Instructions <i>Factory Settings</i>
configuration upload	resets user and password to factory settings according to 3.1 Safety Instructions <i>Factory Settings</i>
system informaton download	download of system information image and saves it on the USB flash drive

16. Firmware-Update

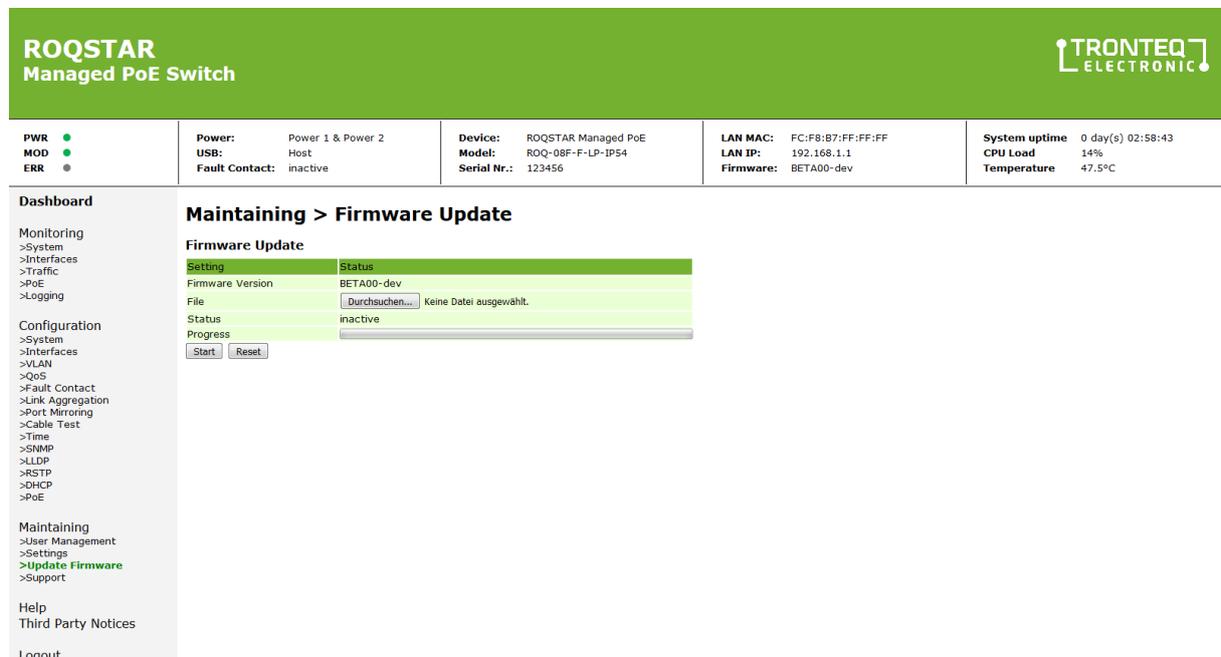
The firmware update can be performed via web interface.

	As long as a firmware update is running, the supply voltage should not be interrupted. This may take a while but you can see it on the System Status LEDs (see chapter 0).
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For the firmware update a suitable firmware for the device is required.

16.1. Firmware-Update via web interface

You can find the option at *Maintaining > Update Firmware*. After pressing the browse button, a pop-up window appears where the firmware file is selected. Afterwards you can transfer the firmware update to your device through the "start" button. The progress bar first displays the upload. In the second step this shows the progress of the installation. In the Info column the current step will be described. ROQSTAR does not start automatically upon completion of the update. You can also restart by clicking "reset" initiate manually.



The screenshot shows the web interface of a ROQSTAR Managed PoE Switch. The top navigation bar is green with the 'ROQSTAR Managed PoE Switch' logo on the left and the 'TRONTEQ ELECTRONIC' logo on the right. Below the navigation bar is a status bar with several indicators: PWR (green), MOD (green), ERR (grey), Power (Power 1 & Power 2), USB (Host), Fault Contact (inactive), Device (ROQSTAR Managed PoE), LAN MAC (FC:F8:B7:FF:FF:FF), LAN IP (192.168.1.1), Firmware (BETA00-dev), System uptime (0 day(s) 02:58:43), CPU Load (14%), and Temperature (47.5°C). The main content area is titled 'Maintaining > Firmware Update'. On the left is a sidebar menu with categories: Dashboard, Monitoring, Configuration, Maintaining, Help, and Logout. The 'Update Firmware' option is highlighted in green. The main content area shows a 'Firmware Update' section with a table of settings and status. The table has two columns: 'Setting' and 'Status'. The rows are: 'Firmware Version' (BETA00-dev), 'File' (with a 'Durchsuchen...' button and the text 'Keine Datei ausgewählt.'), 'Status' (inactive), and 'Progress' (with a progress bar). Below the table are 'Start' and 'Reset' buttons.

The steps that have been carried out after the upload:

- ▶ validating firmware update file
- ▶ decrypting the firmware update file
- ▶ decompressing the firmware update file
- ▶ flashing the update
- ▶ preparing to boot the new version
- ▶ firmware update succeeded

	To complete the firmware update, a reboot of the system is necessary.
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16.2. Diagnosis image

Diagnosis images can be downloaded from the device. They contain information from the different subsystems for the technical support. All the data contained in the image is encrypted and can only be

decrypted by authorized technical personnel. To download the diagnostic image you can use the web interface or an USB flash drive.

16.3. Download via web interface

On the web interface go to *Maintaining* -> *Settings* and push the generate button. Round about 10 seconds later the download button is activated. By clicking download you can download the image.

System Information Images

Parameter	Setting
Generate Information Image	Generate
Download System Information Image	Download
Delete	Delete

17. Help menu

In the help menu you will get helpful advices and tips to all supported functions of the device. Navigate to the Help menu on the bottom left side of the web interface. Click on a term that you want to be explained, a window with short information will come up. Click on „Open as site and info as pop-up“ and you will get to the web site of the actual term. The help information text will appear in a pop-up window.

ROQSTAR
TRONTEQ
ELECTRONIC

Managed PoE Switch

PWR ● MOD ● ERR ●	Power: Power 1 & Power 2 USB: Host Fault Contact: inactive	Device: ROQSTAR Managed PoE Model: ROQ-08F-F-LP-IP54 Serial Nr.: 123456	LAN MAC: FC:F8:B7:FF:FF:FF LAN IP: 192.168.1.1 Firmware: BETA00-dev	System uptime 0 day(s) 02:59:03 CPU Load 10% Temperature 47.5°C
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18.

18. Order information

18.1. ROQSTAR Ethernet Switch

Order-No.	Product code	Description
006-130-102	ROQ-08F-F-LV-IP54	ROQSTAR Managed 8-Port Fast Ethernet Switch M12 IP54
006-130-109	ROQ-08F-F-LP-IP54	ROQSTAR Managed 8-Port Fast Ethernet Switch M12 PoE IP54

18.2. Accessories

Order-No.	Description
006-000-003	M12 power supply cable, 2m, straight
006-000-011	M12 ITxPT power supply cable 1m, straight
006-000-042	Ethernet cable CAT5e, M12 to RJ45, 1m
006-000-025	Ethernet cable CAT5e, M12 to M12, 3m
006-000-007	Adapter cable M12 to USB type A female

19. Contact

19.1. Sales support

Please contact our sales team at **sales@tronteq.com** for further inquiries and questions regarding our products.

19.2. Technical support

Please contact our support team at **support@tronteq.com** if you have any technical questions or if you need technical training.