

Data Sheet

Profi Line X

Industrial 10G Switch PoE++



10G Uplinks (IEEE 802.3ae)

4x 1/10G uplink for maximum performance and flexibility



1/2.5/5/10G Dual Media Downlink (IEEE 802.3bz, IEEE 802.3an)

Multi Gigabit port optimised for camera and Wi-Fi 6 network operation



PoE+ PSE Local Port (IEEE 802.3af)

180W to 480W PoE budget (6x or 12x up to 30W) (depends on variant)



PoE++ PSE Local Port (IEEE 802.3bt)

180W to 480W PoE budget (2x up to 90W, 3x or 6x up to 60W) (depends on variant)



IT Security

MICROSENS SECURE feature set for a high level of IT security



Fanless Design

Low-maintenance long-term operation



IOT Support

MICROSENS SmartOffice, Scripting, APPS, MODBUS, MQTT



Standardised Network Redundancy (ERPS acc. to ITU-T G.8032v2)

Feature set for special redundancy topologies

Technical Specifications

Switch

Type	10 Gigabit Ethernet Switch, IEEE 802.3 compliant
Performance	Store-and-forward Full wire-speed, non-blocking on all ports
Jumbo Frames	max. 10,240 Bytes
Switching Capacity	51.2 Gbps
Packet Forwarding Rate	up to 14.8 Mpps
MAC Addresses	up to 8,192 addresses, automatic learning and aging

Gigabit / PoE+ Ports

- **Y** x 10/100/1000Base-T, PoE+ (depending on variant; see [PLX Variants](#))
- RJ-45 shielded connector
- PoE+ PSE power sourcing max. 30W at each port (IEEE 802.3at) (depending on variant; see [PLX Variants](#))
- PSE Class 2/4 (depending on variant; see [PLX Variants](#)), 2 pairs
- Full power available under suitable installation conditions only
- Total device PoE Budget: 180W to 480W (depending on variant; see [PLX Variants](#))

Multigig (Combo) /PoE++ Ports

- 2x 1/2.5/5/10GBase-T, PoE/PoE++ (PSE, max. 90 W) (depending on variant; see [PLX Variants](#))
- RJ-45 shielded connector
- PoE++ PSE power sourcing max. 90W at each port (IEEE 802.3bt) (depending on variant; see [PLX Variants](#))
- PSE Class 8 (depending on variant; see [PLX Variants](#)), 4 pairs
- Full power available under suitable installation conditions only
- Total device PoE Budget: 180W to 480W (depending on variant; see [PLX Variants](#))

Fiber Ports (Combo) (SFP/SFP+ slots)

Number	Z x SFP/SFP+ (depending on variant; see PLX Variants) 2x Combo SFP/SFP+ (depending on variant; see PLX Variants)
Type	1/10GBase-X Dual Speed SFP/SFP+, support of SFP DDM
Connector	typ. LC (SFP/SFP+ transceiver)

Control Panel

Reset Button	Reset of the switch, reload of the latest stored configuration (direct hardware function)
Factory Button	Request of the IP configuration for management, reset back to factory default settings

LED Displays

Number	<i>Device</i>	12 dual color LEDs
	<i>Port</i>	2 dual color LEDs per port (<i>integrated in RJ-45</i>)
LED-Modes	<i>Dynamic</i>	Standard-mode
	<i>Static</i>	Standard without flash
	<i>Quiet</i>	Only ON- and Sys-LED
	<i>Dark</i>	All LEDs off
	<i>L-show</i>	Permanent LED test

Mechanical

Dimensions	127.5 mm x 88 mm x 160 mm (L x B x H, without connectors)
Weight	max. 1776g
Mounting	DIN-Rail (EN 60715:2017)
Protection Class	IP 30

Technical Specifications (continued)

Power Supply

Input	24..57 VDC (54 VDC typ.) min. 50 VDC for PoE++ operation
Power Consumption	minimum: 10 W, maximum (without PoE): 20 W maximum (with PoE): 500 W (MS652829PMX, MS652819PMX) 380 W (MS652729PMX, MS652719PMX) 200 W (MS652629PMX, MS652619PMX)
Connectors	2x 3 pin screw connector

Environmental Condition

Temperature	Operation -40..+75 °C Storage -40..+85 °C
Humidity	10..90%, non condensing
MTBF Time	400.000 h

Delivery / Contents

Standard Packaging

Package Unit	1 pcs.
Contents	1x Profi Line X-Switch 2x Power supply connector 2x I/O connector 1x Quick Start Guide

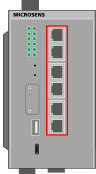
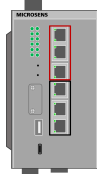
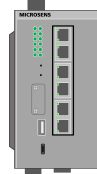
Standards

CE	2014/30/EU (EMC Directive) 2011/65/EU (RoHS Directive)
Safety	EN 62368-1
Emitted Interference	EN 61000-6-3 EN 55032
Electromagnetic Compatibility	EN 61000-6-2 EN 55035

Firmware Specifications

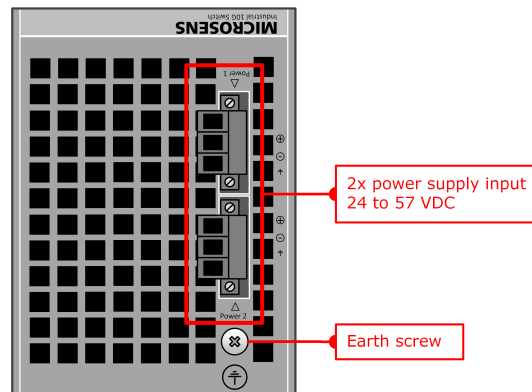
For the latest functional firmware features and supported IEEE / RFC standards, please refer to the document [Firmware Features](#) which can be downloaded from the download center of the particular device's home pages at www.microsens.com

PLX Variants

Art. No.	MS652819PMX	MS652829PMX	MS652719PMX	MS652729PMX
				
No. of Ports	16	16	16	16
10/100/1000Base-T Ports (Y)	12	12	12	12
Multigig Ports	2	2	0	0
PoE+ 30W Ports	12	0	12	0
PoE++ 60W (Class 6) Ports	0	6	0	6
PoE++ 90W (Class 8) Ports	2	2	0	0
PoE Budget	480W	480W	360W	360W
1/10G SFP+ Ports (Z)	4	4	4	4
Art. No.	MS652719MX	MS652619PMX	MS652629PMX	MS652619MX
				
No. of Ports	16	8	8	8
10/100/1000Base-T Ports (Y)	12	6	6	6
Multigig Ports	0	0	0	0
PoE+ 30W Ports	0	6	0	0
PoE++ 60W (Class 6) Ports	0	0	3	0
PoE++ 90W (Class 8) Ports	0	0	0	0
PoE Budget	n/a	180W	180W	n/a
1/10G SFP+ Ports (Z)	4	2	2	2

Hardware Description

Top View



NOTE | All variants have the same top view.

Legend for Front and Bottom View

- ① LED display
- ② Button reset factory default settings
- ③ Industrial memory card
- ④ USB port
- ⑤ Terminal port USB-C
- ⑥ 2x I/O port output isolated contacts
- ⑦ **Y** x Local ports
10/100/1000Base-T (RJ-45)
(**Y** depends on variant; see [PLX Variants](#))



Non-PoE ports



PoE Class 4 output (PSE, max. 30 W)



PoE Class 6 output (PSE, max. 60 W)



PoE Class 8 output (PSE, max. 90 W)

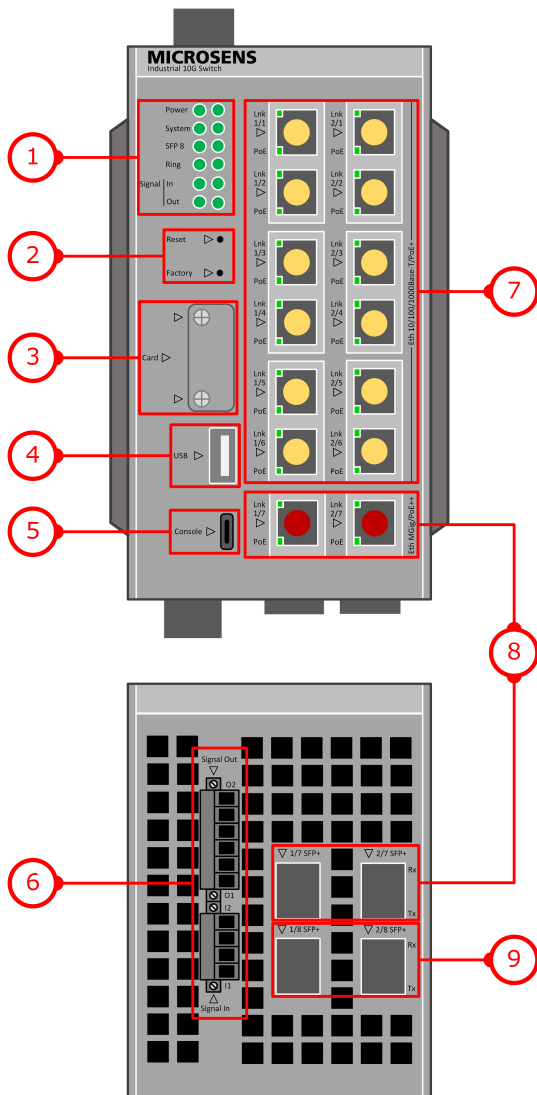
- ⑧ 2x Dual media ports
1/2.5/5/10GBase-T (RJ-45)
PoE Class 8 output (PSE, max. 90 W)
or 1/10GBase-X (SFP/SFP+)
- ⑨ **Z** x 1/10GBase-X (SFP/SFP+)
(**Z** depends on variant; see [PLX Variants](#))

NOTE | Please refer to the **Y** and **Z** values in the table in the [PLX Variants](#) section.

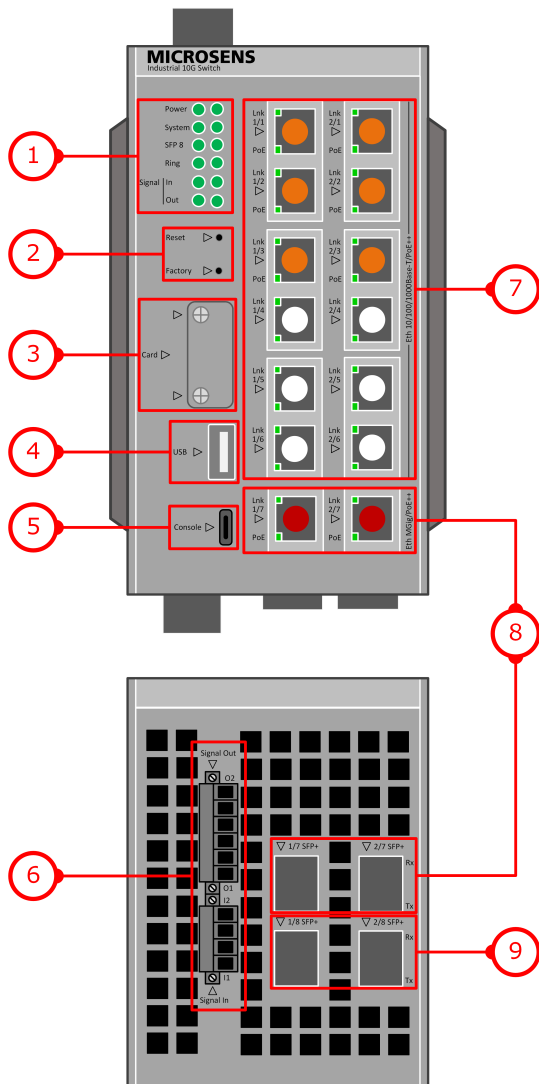
Hardware Description (continued)

Front and Bottom View

MS652819PMX

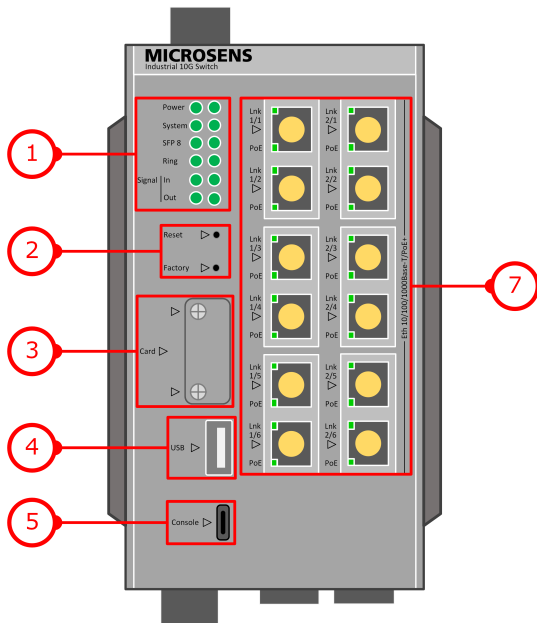


MS652829PMX

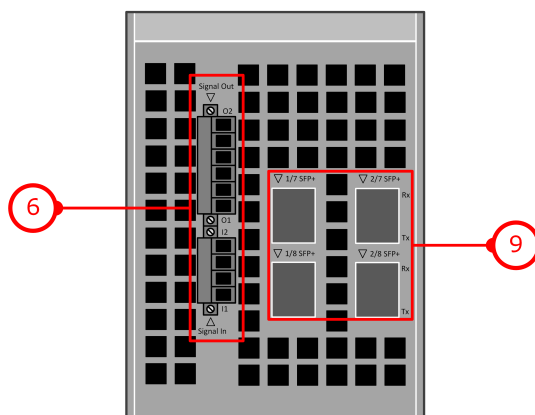
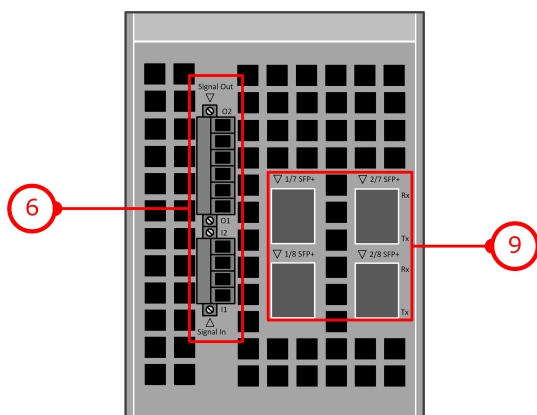
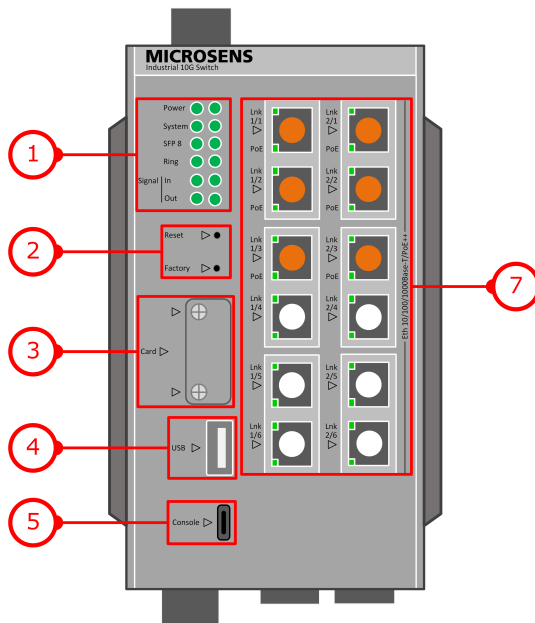


Hardware Description (continued)

MS652719PMX

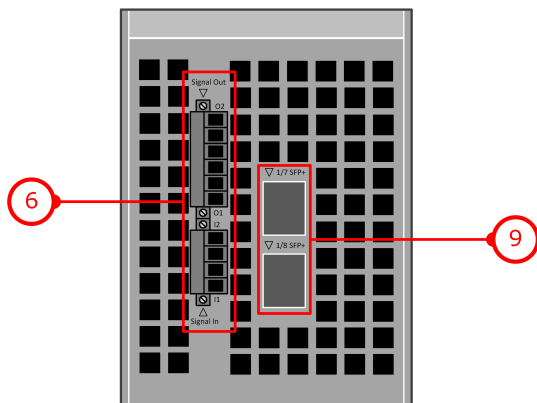
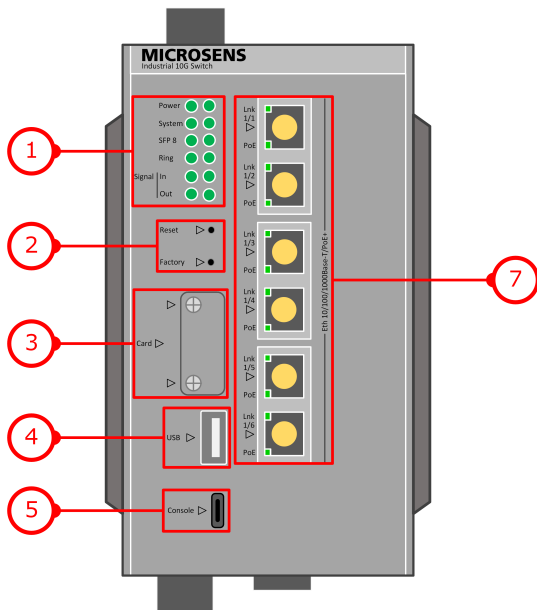


MS652729PMX

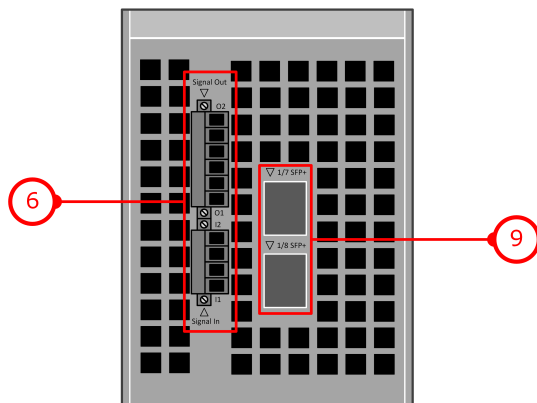
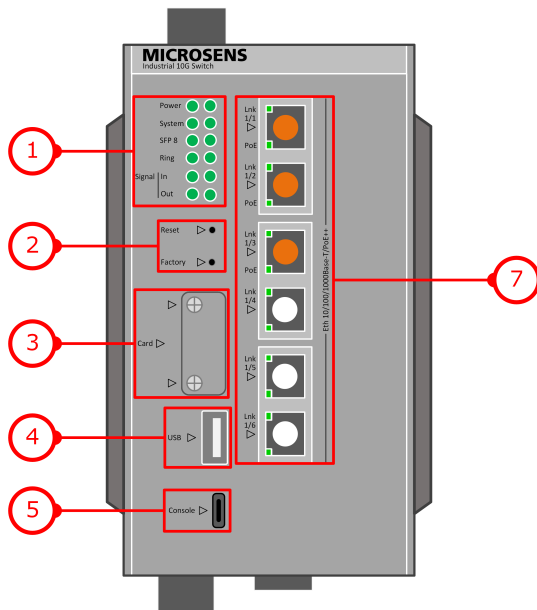


Hardware Description (continued)

MS652619PMX



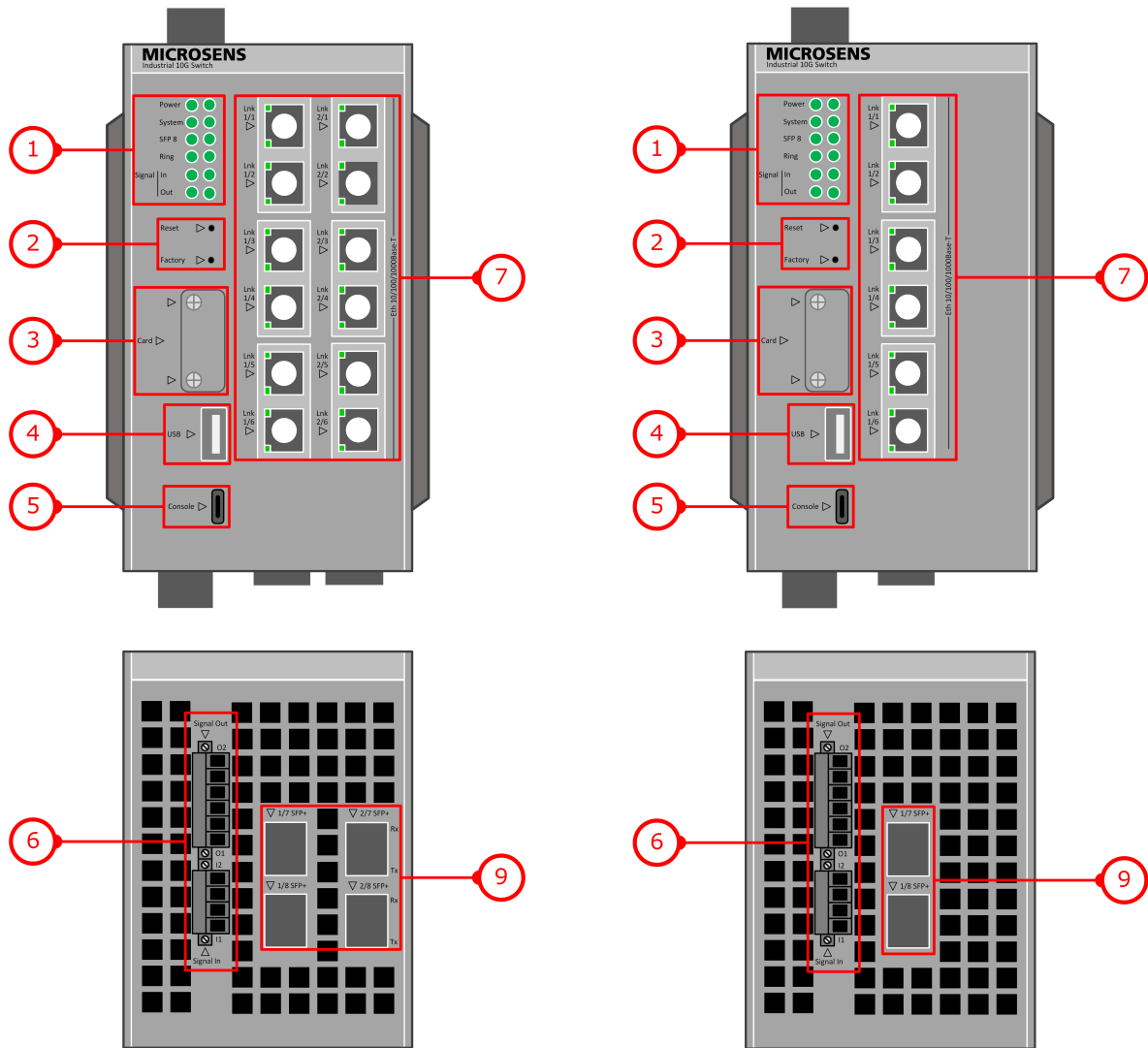
MS652629PMX



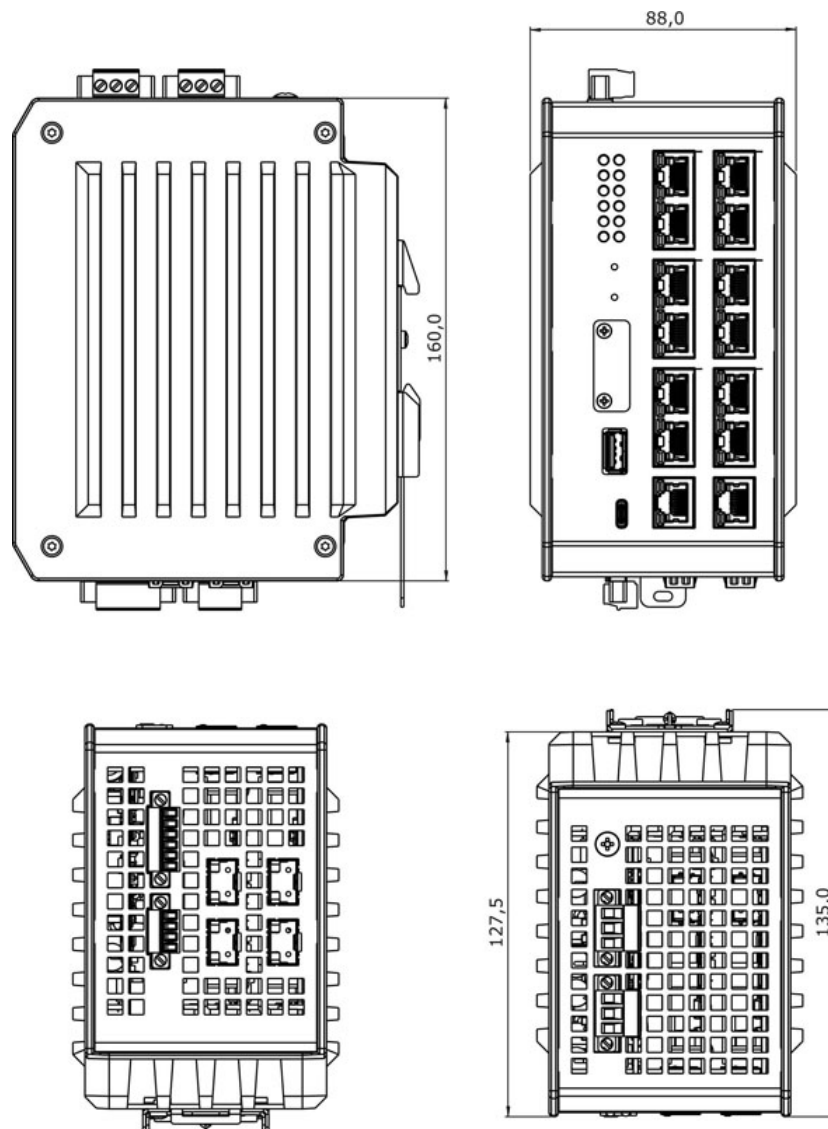
Hardware Description (continued)

MS652719MX

MS652619MX



Dimensions

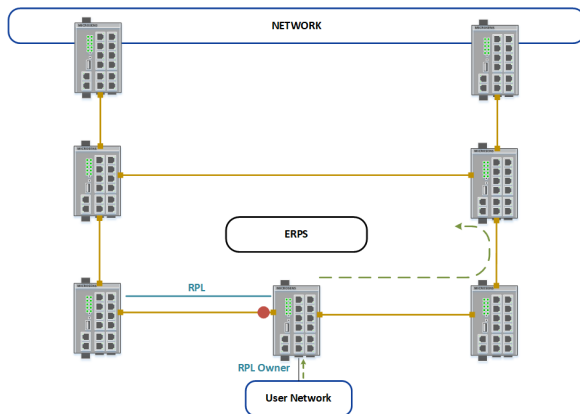


NOTE | The **Dimensions** of all variants are the same.

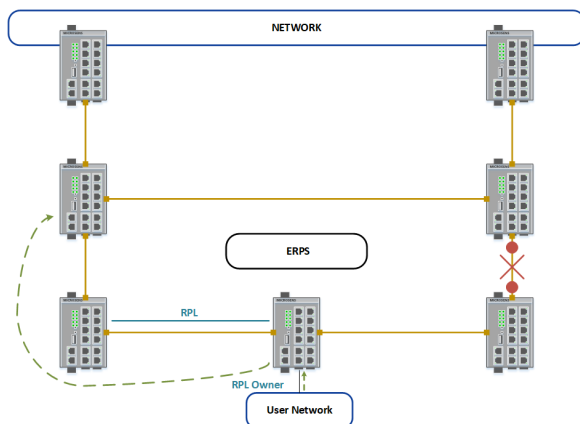
Ethernet Ring Protection Switching (ERPS acc. to G.8032v2)

Single Ring ERPS

- Basic Setup: One ring of Ethernet switches.
- How It Works:
A single link is blocked to prevent loops.



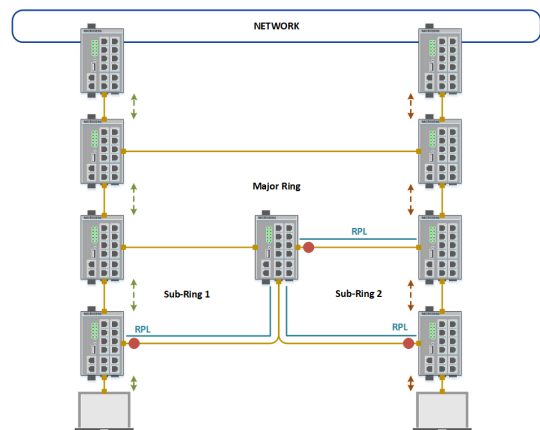
If a failure occurs, ERPS unblocks the backup path.



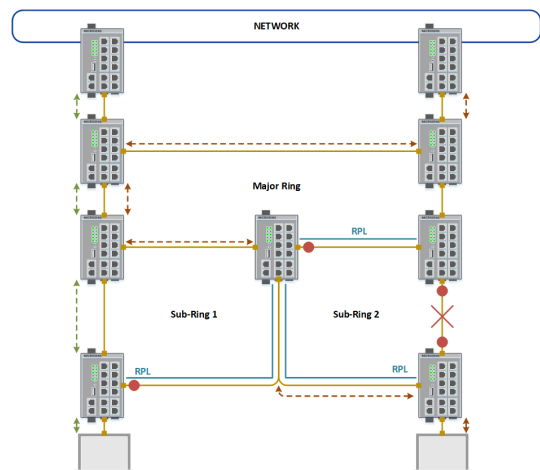
- Use Case: Smaller networks or setups where one ring is enough for redundancy.

Multi-Ring ERPS

- Advanced Setup: Multiple rings connected together.
- How It Works:
 - Different rings are linked through inter-connection nodes (specific switches that connect multiple rings).

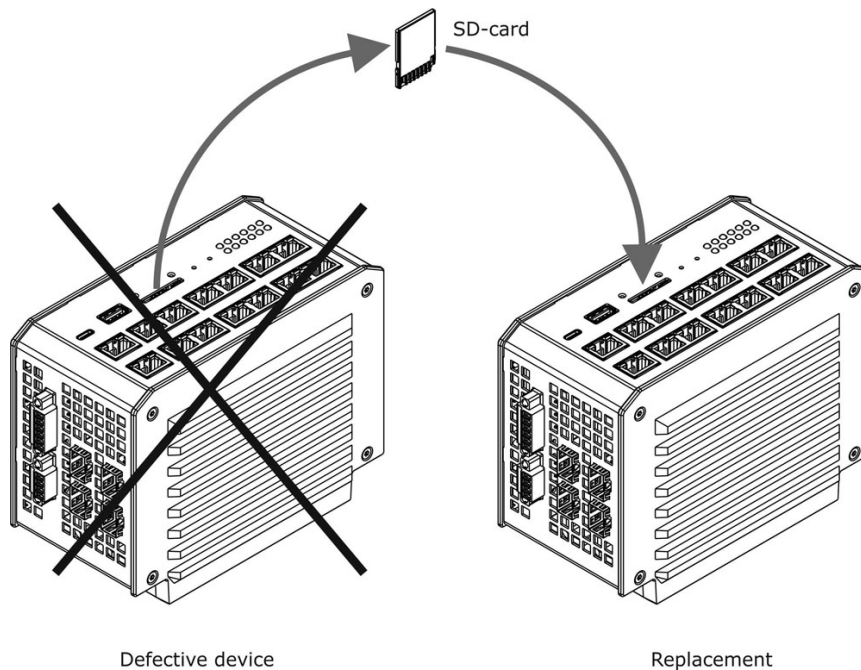


- If a failure occurs in one ring, ERPS can reroute traffic through another ring.



- Use Case: Larger networks where traffic needs multiple backup paths for better reliability.

Industrial Memory Card



Industrial Memory Card

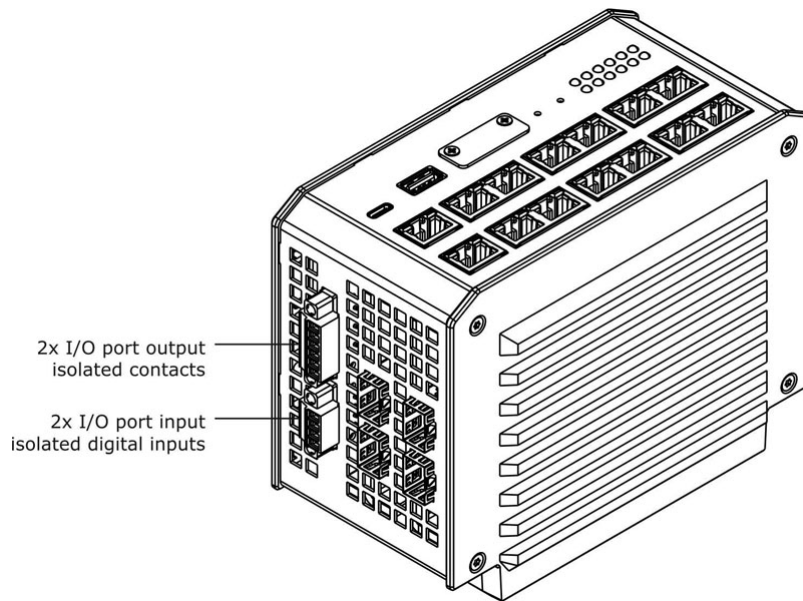
The industrial memory card can be optionally used for the permanent storage of configuration, script and firmware files. With this memory card it is possible to transfer a configuration to a new device in case of a device failure.

Optionally it is possible to write an own MAC address to the SD memory card. This one has priority compared to the MAC address in the switch.

This allows to provide an exact clone of the device by swapping the memory card.

- Change of memory card transfers the complete device status
- Fault tolerant journaling file system
- Industrial grade-long term stability
- Only MICROSENS memory cards have to be used. Only with these the long term stability over the complete temperature range can be ensured.

I/O Contacts



Galvanic Isolated Contacts (2x)

The potential free output contacts (I/O out) allow to control external signalling devices to show the alarm and operation status.

- Relay contact, maximum load 57 V/1 A
- Isolation voltage to the device 1500 VDC
- Normally open (NO) and normally closed (NC) contact possible
- The signal status is indicated by an LED

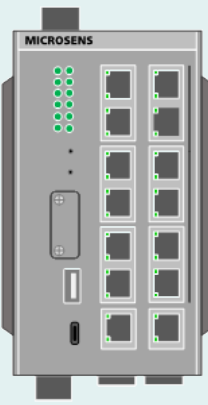
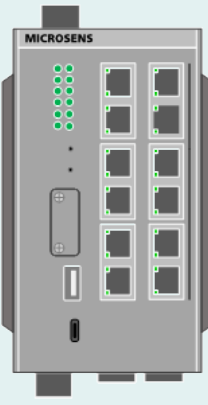
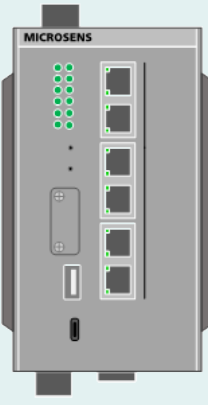
ATTENTION: Not suitable for the direct connection of 230 VAC devices!

Galvanic Isolated Digital Inputs (2x)

The potential free input contacts (I/O in) allow the direct monitoring of external systems, e.g. a rack or door monitoring system.

- 2x galvanic isolated, digital input
- Internal optocoupler, Input voltages greater than 12 VDC require a serial resistor. Valid Voltage ranges:
 - 0 - 12 VDC: no serial resistor
 - up to 15 VDC: 300 Ω
 - up to 24 VDC: 1.2 k Ω
 - up to 36 VDC: 2.4 k Ω
 - up to 48 VDC: 3.6 k Ω
 - up to 57 VDC: 4,7 k Ω
- Isolation voltage 1500 VDC
- Status monitored via management

Ordering Information

	Description	Art.-No.
	16-Port 10G Industrial Switch Multigigabit PoE+/++ managed, DIN-Rail, USB-A, SD-Slot, 2x I/O, console port (USB-C) 4x 1/10GBase-X SFP+-Slots, thereof 2x 1/2.5/5/10GBase-T Combo PoE++, 12x 10/100/1000T PoE+, 2x DC Input 24..57VDC, redundant, max. 500W	MS652819PMX
	16-Port 10G Industrial Switch Multigigabit PoE+/++ managed, DIN-Rail, USB-A, SD-Slot, 2x I/O, console port (USB-C) 4x 1/10GBase-X SFP+-Slots, thereof 2x 1/2.5/5/10GBase-T Combo PoE++, 12x 10/100/1000T PoE+, thereof 6x PoE++, 2x DC Input 24..57VDC, redundant, max. 500W	MS652829PMX
	16-Port 10G Industrial Switch PoE+ managed, DIN-Rail, USB-A, SD-Slot, 2x I/O, console port (USB-C) 4x 1/10GBase-X SFP+-Slots, 12x 10/100/1000T PoE+, 2x DC Input 24..57VDC, redundant, max. 380W	MS652719PMX
	16-Port 10G Industrial Switch PoE++ managed, DIN-Rail, USB-A, SD-Slot, 2x I/O, console port (USB-C) 4x 1/10GBase-X SFP+-Slots, 12x 10/100/1000T PoE+, thereof 6x PoE++, 2x DC Input 24..57VDC, redundant, max. 380W	MS652729PMX
	16-Port 10G Industrial Switch managed, DIN-Rail, USB-A, SD-Slot, 2x I/O, console port (USB-C) 4x 1/10GBase-X SFP+-Slots, 12x 10/100/1000T, 2x DC Input 24..57VDC, redundant, max. 20W	MS652719MX
	8-Port 10G Industrial Switch PoE+ managed, DIN-Rail, USB-A, SD-Slot, 2x I/O, console port (USB-C) 2x 1/10GBase-X SFP+-Slots, 6x 10/100/1000T PoE+, 2x DC Input 24..57VDC, redundant, max. 200W	MS652619PMX
	8-Port 10G Industrial Switch PoE++ managed, DIN-Rail, USB-A, SD-Slot, 2x I/O, console port (USB-C) 2x 1/10GBase-X SFP+-Slots, 6x 10/100/1000T, thereof 3x PoE++, 2x DC Input 24..57VDC, redundant, max. 200W	MS652629PMX
	8-Port 10G Industrial Switch managed, DIN-Rail, USB-A, SD-Slot, 2x I/O, console port (USB-C) 2x 1/10GBase-X SFP+-Slots, 6x 10/100/1000T, 2x DC Input 24..57VDC, redundant, max. 20W	MS652619MX

Accessories

	Console Cable for Switches w. USB-C connector USB-C female to USB-A male, 2,0m	MS190412-02,0	
	Power Supply Modules		
	Industrial DIN-Rail PoE+ Power Supply 54VDC / 65W Input 85...264VAC, Output 48..56VDC, -30..+70°C	MS700475	
	Industrial DIN-Rail PoE+ Power Supply 54VDC / 150W Input 85...264VAC, Output 48..56VDC, -30..+70°C	MS700476	
	Industrial DIN-Rail PoE+ Power Supply 54VDC / 240W Input 85...264VAC, Output 48..56VDC, -30..+70°C	MS700477	
	Industrial DIN-Rail PoE+ Power Supply 54VDC / 480W Input 85...264VAC, Output 48..56VDC, -30..+70°C	MS700479	
	Industrial DIN-Rail PoE+ Power Supply 24VDC / 65W Input 85...264VAC, Output 24..28VDC, -30..+70°C	MS700441	
	Industrial Memory Card		
	16GB Industrial Memory Card SD for Profi Line X	MS140890X-16GB	
	SFP Transceiver (further variants available upon request)		
	LPC SFP+ 10G Transceiver SR Multimode 850nm, DDM, LC duplex, -40..+85°C	MS100700DX-V2	
	LPC SFP+ 10G Transceiver LR SingleMode 1310nm, 10km, DDM, LC duplex, -40..+85°C	MS100702DX-V2	
	LPC SFP+ 10G Transceiver LR SingleMode TX 1270nm, RX 1330nm, 10km, DDM, LC simplex, -40..+85°C	MS100702DXA-V2	
	LPC SFP+ 10G Transceiver LR SingleMode TX 1330nm, RX 1270nm, 10km, DDM, LC simplex, -40..+85°C	MS100702DXB-V2	
	SFP GbE Transceiver 1,25G SX Multimode 850nm, DDM, LC diagn., -40..85°C	MS100200DX	
	SFP GbE Transceiver 1.25G LX Single Mode 1310nm, DDM, LC diagn., -40..85°C	MS100210DX	

Accessories (continued)

Software for Management and Configuration of Networks		
	NMP Web+ Enterprise Base Installation, 1 x usage right for NMP Web+ Enterprise, incl. lifetime updates, server/client on one PC	MS200500
	NMP Web+ Professional Base Installation, 1 x usage right for NMP Web+ Professional, incl. lifetime updates, server/client on different PCs in networks	MS200501
	One year device license grants the right to administrate one MICROSENS device via NMP Web+ for one year	MS200509-01
	Two year device license grants the right to administrate one MICROSENS device via NMP Web+ for two years	MS200509-02
	Additional Software-Variants Additional variants of the device licenses are listed in the data sheet for NMP Web+; please refer to www.microsens.de	

Services

Description	Art.-No.
Warranty Extension following the 24-Month Manufacturer Warranty	
1 year warranty extension	MSGV01
2 year warranty extension	MSGV02
3 year warranty extension	MSGV03
Custom-made Pre-configuration	
Custom-made pre-configuration of a component	MSKonfig
Custom-made pre-configuration (configuration file already available)	MSKonfig-OK
Manufacturer Warranty is defined in General Terms and Conditions of Sale (§10) of MICROSENS GmbH & Co. KG	

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