MICROSENS

Data Sheet

12-Port 10G Industrial L3 Switch PoE+ managed

Layer 3

Layer 3 feature set for broad application diversity

10G uplinks (IEEE 802.3ae)

4 x 1/10G uplink ports as SFP/SFP+ version

PoE+ PSE Local Ports (IEEE 802.3at)

PoE/PoE+ PSE Local Ports with up to 30W per port, total budget 240W

IT Security

Feature set for high level of IT security

Extended operating temperature range

Ambient temperature range -40°..+75°C

Fanless design

Easy to maintain hardware design, no noise emissions

Standardized network redundancy (ERPS according to G.8032)*

Feature set for special redundancy topologies (e.g. ring)

MICROSENS NMP integrated*

Integrated in MICROSENS NMP software for simple administration and easy group configurations

Software Features

System Management

- WEB GUI (http, https)
- CLI (Telnet, SSH, console)
- SNMP v1/v2/v3
- SNMP traps
- Central management software (MICROSENS NMP)*
- IP interface configuration per VLAN
- MAC address table
- Syslog
- Configuration upload/download
- Firmware upgrade
- Factory Default Reset
- System reboot
- User right settings
- Port mirroring (TX, RX, both, 1:1 or many to 1)
- System status and traffic statistics
- NTP (Network Time Protocol)

Port Configuration

- Port enable/disable
- Individual port name
- Speed settings
- Half or full duplex
- Flow control
- Ingress or egress rate limiting
- Port isolation
- Storm control

Power-over-Ethernet PoE/PoE+

- IEEE 802.3af PoE (max. 15 W/Port)
- IEEE 802.3at PoE+ (max. 30 W/Port)
- Enabling or disabling PoE per port
- Port priority settings
- PoE schedule
- PoE watchdog
- Limitation of total PoE budget

IP Service

- IPv4 or IPv6 interface per VLAN
- DHCP Client/Snooping/Server

IP Routing

- Static Routing
- RIP v1/v2 (IPv4)
- OSPF (IPv4)
- Routing table settings and status

Virtual LANs (VLANs)

- Access and trunk mode
- IEEE 802.1Q settings

Quality of Service (QoS)

- Layer 1 priority (port-based)
- Layer 2 priority based on 802.1Q VLAN tags
- Layer 3 priority based on 802.1p (DSCP)
- 8 priority levels (4 queues)
- Strict priority or WRR (Weighted Round Robin)

Link Aggregation

- Up to 8 groups
- Static Link Aggregation or LACP

IP Multicast

- IGMP Snooping

Reliability

- Spanning Tree (STP) according to IEEE 802.1D
- Rapid Spanning Tree (RSTP) according to IEEE 802.1w
- Profi Ring protocol
- Loopback protection
- VRRP v1/v2 (Virtual Redundant Route Protocol)

Security

- RADIUS Client (802.1X)
- Static MAC locking
- IP-, port-, MAC-, or VLAN-based binding combinations
- Access Control List (ACL)

Technical Specifications

Switch

Type	Industrial 10 Gigabit Ethernet L2/L3 Switch, PoE+ PSE IEEE 802.3 compliant
Performance	Store-and-forward Full wire-speed, non-blocking
Switching Capacity	96 Gbps
Packet Forwarding Rate	71.4 Mpps
Packet Buffer	12 Mbit
MAC addresses	16 k, automatic learning and aging
Jumbo Frames	max. 10 k Bytes

Twisted-Pair Ports

Number	8
Type	Gigabit Ethernet, Triple Speed 10/100/1000Base-T
Connector	RJ-45 port, shielded
Cable type	Twisted-Pair cable, Category 5e, impedance 100 Ohm, length max. 100 m
Flow Control	Pause Frames (IEEE 802.3x), configurable
Pin out	Auto MDI/MDI-X, Auto Polarity
Power-over-Ethernet	Power Sourcing Equipment (PSE) IEEE 802.3af/at Class 0-4, max. 15 W / 30 W
Total PoE Power	240 W
PoE Lines	1/2 (+), 3/6 (-)

Fiber Ports (SFP+ slots)

Number	4
Type	1/10 Gigabit Ethernet SFP+ slot, support of SFP digital diagnostics function
Connector	LC (SFP transceiver, not included in the scope of delivery)
Flow Control	Pause Frames (IEEE 802.3x), configurable

CLI Console

Number	1
Type	RS-232
Connector	RJ-45

LED displays

Port LEDs	Link/activity, PoE status
Device LEDs	Alarm, power and status

Alarm Relay Output

Number	1 channel (2 cores)
Current	Max. 1 A
Voltage	12 VDC

Power Supply

Input	48..57 VDC (54 VDC typ.)
Power Consumption	< 20 W (without PoE)
Connectors	2x 4 pin screw connector

Environmental Conditions

Temperature	Operation	-40..+75 °C
	Storage	-40..+85 °C
Humidity	5..95%, non-condensing	

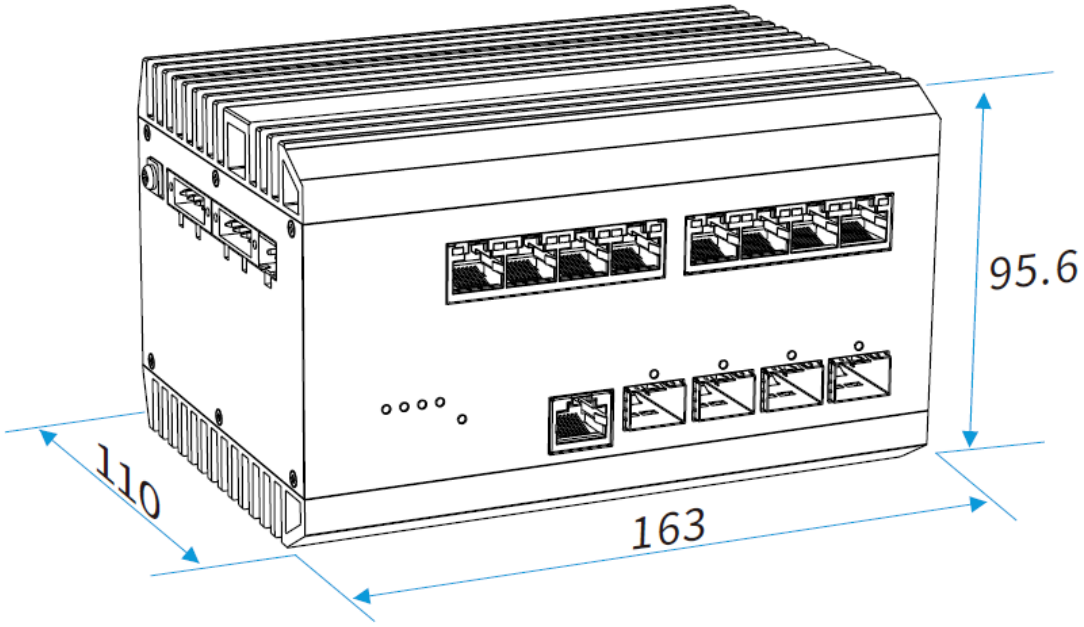
Mechanic

Dimensions	96 x 110 x 163 mm (W x D x H, without connectors)
Material	Aluminium alloy
Weight	Approx. 1,6 Kg (without SFPs)
Mounting	DIN-rail or wall mounting
IP Grade	IP40

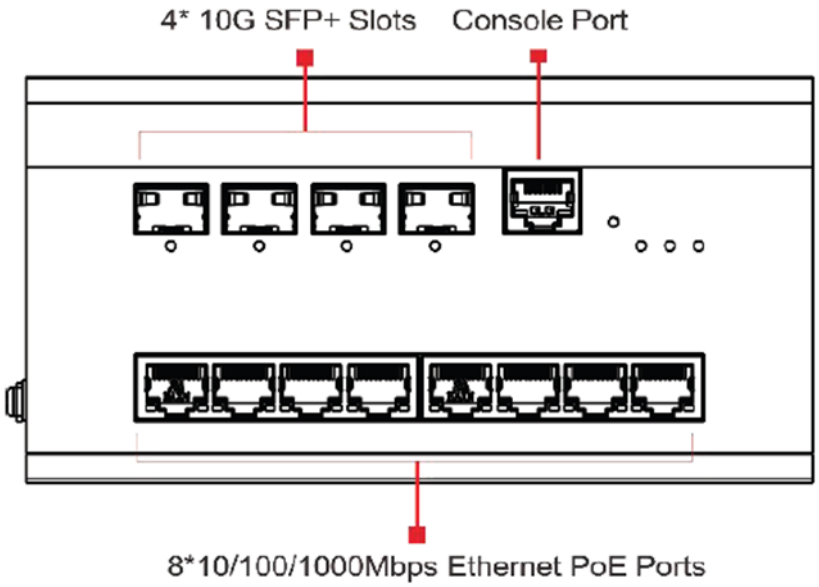
Standards

CE	2014/30/EU (EMC) 2014/35/EU (Low voltage) 2011/65/EU (RoHS)
Safety	EN 62368-1
Emitted interference	EN 55032:2015
Immunity	EN 55035:2017
Surge Immunity	6 kV (IEC61000-4-5)
ESD Immunity	8 kV (contact discharge, 15 kV air discharge (IEC 6100-4-2)
Ethernet	IEEE 802.3 IEEE 802.3u (100Base-TX) IEEE802.3ab (1000Base-T) IEEE 802.3z (1000Base-X) IEEE 802.3ae (10GBase-X) IEEE 802.3x (flow control) IEEE 802.3af/at (PoE/PoE+)

Dimensions [in mm]



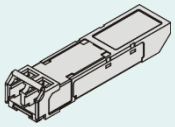
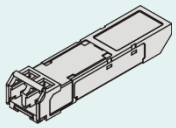
Front View



Order Information

	Description	Article No.:
	12-Port 10G Industrial L3 Switch PoE+ managed	
	12-Port 10G Industrial Switch PoE+ 4x 1G/10GBase-X SFP+ Slots, 2x 48..57VDC, 8x 10/100/1000T PoE+, Console port (RJ-45), DIN-Rail, L2/L3 managed, -40..75°C	**MS657308PMX**

Accessories

	Description	Article No.:
	**SFP Transceiver (xWDM on request)**	
	SFP GbE Transceiver 1.25G SX Multimode 850nm, DDM, LC, -40..+85°C	**MS100200DX**
	SFP GbE Transceiver 1.25G LX SingleMode 1310nm, 10km, DDM, LC, -40..+85°C	**MS100210DX**
	**SFP+ Transceiver (WDM on request)**	
	SFP+ 10G Transceiver SR Multimode 850nm, DDM, LC, -40..+85°C	**MS100700DX**
	SFP+ 10G Transceiver LR Single mode 1310nm, 10km, DDM, LC, -40..+85°C	**MS100702DX**
	PoE+ DIN-Rail Poer supplies	
	Industrial DIN-Rail Power supply 48VDC / 2,5A PoE+ (120W) Input 90..264VAC, Output 48..55VDC, -20..+70°C	**MS700446**
	Industrial DIN-Rail Power supply 48VDC / 5A PoE+ (240W) Input 90..264VAC, Output 48..55VDC, -20..+70°C	**MS700447**

Alternative Industrial PMX Switches

	Description	Article No.:
	12-Port GbE Industrial Switch PoE+ 4x 1000Base-X SFP Slots, 2x 48..57VDC, 8x 10/100/1000T PoE+, Console port (RJ-45), DIN-Rail, L2 managed, -40..75°C	**MS657408PMX**
	10-Port GbE Industrial Switch PoE++ 2x 1000Base-X SFP Slots, 2x 48..57VDC, 8x 10/100/1000T PoE++ (90W), Console port (RJ-45), DIN-Rail, L2 managed, -10..55°C	**MS657409PMX**

*In preparation.

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