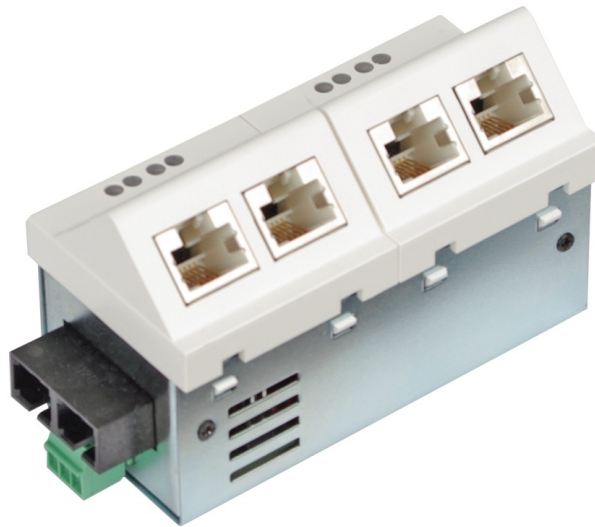


## Product Overview

### Fast Ethernet Micro Switch 6 Port with PoE



## Description

To meet the requirement for additional network ports in FTTO applications MICROSENS presents an extended version of the Fast Ethernet Installation Switch with one additional twisted pair port at the autumn exhibitions. The main feature is the Power-over-Ethernet (PoE) functionality according IEEE802.3af, which is possible on all five twisted pair ports (10/100Base-TX auto negotiation) simultaneous.

Thus all connected devices can be supplied with data and electrical power (PSE = Power Source Equipment). Network extensions with a Wireless Access Point or cascading additional switches are easily possible. The maximum power of 15.4 W for each port allows the powering of the end devices such as IP telephones, Access Points, IP cameras and so on.

For the connection to the central network node the installation switch has an integrated fiber port (100Base-FX), optionally with multimode or single mode fiber interface. With an extended version it is possible to have this uplink port also with twisted pair interface (10/100Base-TX). Then it is possible to supply the switch over this twisted pair port with power (PD = Powered Device).

## Properties

- 6 Port Fast Ethernet Installation-Switch with integrated management
- FX-Uplink and TX-Downlink with PoE
- Power-over-Ethernet according to IEEE 802.3af on five TP-Ports, integrated PoE-Controller
- Extensive configuration options by PC based management tool
- Data-Prioritisation (Class of Service) according 802.1p
- VLANs, data prioritisation (QoS)
- Port based VLANs (traffic segmentation)
- Full VLAN support according to IEEE 802.1Q
- Multimode und single mode versions

# Specifications

## General

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<b>Type</b>	Fast Ethernet Switch Layer 2+, IEEE 802.3 compliant
<b>Performance</b>	Store-and-forward, Full wire-speed, non-blocking on all ports
<b>MAC-Addresses</b>	2,048 addresses, automatic learning and aging
<b>VLANs</b>	Tagging IEEE 802.3ac Priorisation IEEE 802.1p VLAN IDs 0..4095 Static and dynamic VLAN table
<b>Quality of Service</b>	4 hardware-queues per port prioritisation according to: * IPv4/IPv6 * VLAN priority IEEE 802.1p * port queue weighting strict or weighted, configurable

## Uplink (Fixed Optical Transceiver)

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<b>Number of Ports</b>	1
<b>Type</b>	Fast Ethernet Multimode: 100Base-FX Single Mode: 100Base-FX
<b>Connector</b>	Multimode: 50 or 62.5/125 µm fiber Single Mode: 9/125 µm fiber
<b>Fiber Cable Type</b>	Multimode: 550 m Single Mode: 10 km, 20 km (optional) actual distance may depend on fiber performance
<b>Distance</b>	Multimode 1300nm: -19 dBm Single Mode 1300nm 15 km: -15 dBm
<b>Output Optical Power</b>	Multimode 1300nm: -19 dBm Single Mode 1300nm 15 km: -15 dBm
<b>Receiver Sensitivity</b>	Multimode 1300nm: -31 dBm Single Mode 1300nm 15 km: -31 dB
<b>Flow Control</b>	Pause frames (IEEE 802.3x), configurable

## Local Ports (Twisted-Pair)

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<b>Number of Ports</b>	4
<b>Type</b>	Fast Ethernet, dual speed 10/100Base-TX
<b>Connector</b>	RJ-45 jack, shielded
<b>Cable Type</b>	Twisted-Pair cable, category 5e, impedance 100 Ohm, length max. 100 m
<b>Flow Control</b>	Pause frames (IEEE 802.3x), configurable
<b>Pinout</b>	Auto MDI/MDI-X, auto polarity
<b>Power-over-Ethernet</b>	Power Sourcing Equipment (PSE) IEEE 802.3af class 0, max. 15.4 W, forced-mode (legacy-devices), pinout wires 1/2 (+), 3/6 (-)

## Downlink (Twisted-Pair)

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<b>Number of Ports</b>	1
<b>Type</b>	Fast Ethernet, dual speed 10/100Base-TX
<b>Connector</b>	RJ-45 jack, shielded
<b>Cable Type</b>	Twisted-Pair cable, category 5e, impedance 100 Ohm, length max. 100 m
<b>Flow Control</b>	Pause frames (IEEE 802.3x), configurable
<b>Pinout</b>	Auto MDI/MDI-X, auto polarity
<b>Power-over-Ethernet</b>	Power Sourcing Equipment (PSE) IEEE 802.3af class 0, max. 15.4 W, forced-mode (legacy-devices), pinout wires 1/2 (+), 3/6 (-)

## Display

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<b>Power</b>	Local ports 1 to 4: green: PoE sourcing orange: PoE standby red: PoE error
<b>Link</b>	Local ports 1 to 4: blinking: activity green: authorized/forwarding orange: blocked red: unauthorized
<b>Status</b>	Switch Status (S) green: device ready Link status uplink (5) blinking: activity green: authorized/forwarding orange: blocked red: unauthorized Link status downlink (6) blinking: activity green: authorized/forwarding orange: blocked red: unauthorized

## Power Supply (DC)

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<b>Input Voltage</b>	44..57 VDC (48 VDC typ.)
<b>Power Consumption</b>	Typ. 4 W (device only), max. 65 W (incl. PoE)
<b>Connector</b>	3 pin screw clamp, PE/-/+
<b>Ground Terminal (PE)</b>	6.3 mm flat-pin plug

## Mechanical

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<b>Dimensions</b>	90 mm x 45 mm x 57 mm (l x d x h, without connectors )
<b>Mounting depth</b>	33 mm
<b>Weight</b>	200g
<b>Housing Color</b>	Standard color: pure white (alternative colors on request)

## Reliability

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<b>MTBF</b>	100,000 h
<b>Method</b>	calculated, MIL-HDBK-217F

## Control Panel

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<b>Reset Button</b>	Reset of device, last saved configuration is reloaded
<b>Config Button</b>	Pressed separately: Request IP-configuration for management agent. Pressed together with reset- button: Reset to factory default settings, can be disabled

## Environment

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<b>Operating Temperature</b>	0..40 °C
<b>Storage Temperature</b>	-20..85 °C
<b>Relative Humidity</b>	10..90%, non condensing

## Standards Compliance

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<b>CE Mark</b>	2004/108/EC (EMC) 2006/95/EG (Low Voltage)
<b>Safety</b>	EN 60950-1:2006
<b>Electromagnetic Emission</b>	EN 55022:2006
<b>Electromagnetic Immunity</b>	EN 55024:1998
<b>IEEE (Ethernet)</b>	802.3i 10Base-T 802.3u 100Base-T 802.3x Flow Control 802.3ac VLAN Tagging 802.3af Power-over-Ethernet 802.1D Spanning Tree 802.1Q Tagged VLANs 802.1p Packet Prioritisation 802.1w Rapid Spanning Tree 802.1X Network Access Control
<b>RFC</b>	IPv4: - RFC 791 (IPv4) - RFC 826 (ARP) - RFC 792 (ICMP) - RFC 2131 (DHCP) - RFC 2474/3260 (IPv4)

- DiffServ/IPv6 Traffic Class)
- RFC 4541 (IGMP)
  
- RFC 1769 (SNTP)
- RFC 1155/1156/1157 (SNMPv1)
- RFC 1901/1905/1906 (SNMPv2)
- RFC 3411/3412/3584 (SNMPv3)
- RFC 2574/3414 (USM)
- RFC 2575/3415 (VACM)
- RFC 2865 (RADIUS)
- RFC 2866 (Accounting)
- RFC 2868 (Tunnel Attributes)
- RFC 5424 (Syslog)

## Additional Features

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### **Software**

- Port Monitor
- CDP v1, v2
- Port based VLANs (traffic segmentation)

## Order Information

Description	Article Number
<b>Horizontal Installation</b>	
6 Port Installations-Switch, horizontal installation, 1x 100Base-FX, Multimode 1310 nm ST, SNMP/Web/CLI Management, VLAN, QoS, PoE, 48V	<b>MS450330PM-48</b>
6 Port Installations-Switch, horizontal installation 1x 100Base-FX, Multimode 1310 nm SC, SNMP/Web/CLI Management, VLAN, QoS, PoE, 48V	<b>MS450331PM-48</b>
6 Port Installations-Switch, horizontal installation 1x 100Base-FX, single mode 1310 nm ST, SNMP/Web/CLI Management, VLAN, QoS, PoE, 48V	<b>MS450332PM-48</b>
6 Port Installations-Switch, horizontal installation 1x 100Base-FX, single mode 1310 nm SC, SNMP/Web/CLI Management, VLAN, QoS, PoE, 48V	<b>MS450333PM-48</b>
<b>Vertical Installation</b>	
6 Port Installations-Switch, vertical installation 1x 100Base-FX, Multimode 1310 nm ST, SNMP/Web/CLI Management, VLAN, QoS, PoE, 48V	<b>MS450340PM-48</b>
6 Port Installations-Switch, vertical installation 1x 100Base-FX, Multimode 1310 nm SC, SNMP/Web/CLI Management, VLAN, QoS, PoE, 48V	<b>MS450341PM-48</b>
6 Port Installations-Switch, vertical installation 1x 100Base-FX, single mode 1310 nm ST, SNMP/Web/CLI Management, VLAN, QoS, PoE, 48V	<b>MS450342PM-48</b>
6 Port Installations-Switch, vertical installation 1x 100Base-FX, single mode 1310 nm SC, SNMP/Web/CLI Management, VLAN, QoS, PoE, 48V	<b>MS450343PM-48</b>

## Accessories

<b>Description</b>	<b>Article Number</b>
Universal installation set for E2 mounting boxes consisting of adapter plate and cover frame (pure white)	<b>MS140029</b>
Universal installation kit for cable ducts with C-profile, incl. masking frame	<b>MS140040BR</b>
Ackermann Installation set consisting of socket (165 mm length), device support and 1x 45 mm blind cover Scope of delivery: parts pre-assembled	<b>MS140026</b>
Ackermann Installation set consisting of socket (208 mm length), device support, 1x 45 mm blind cover, 1x socket cover Scope of delivery: parts pre-assembled	<b>MS140027</b>
Power supply 100-230 VAC / 48 VDC, 1.35 A, 65 W	<b>MS700675</b>
Switching power supply 48V/1.35A 65W for Power-over-Ethernet devices	<b>MS700680</b>

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