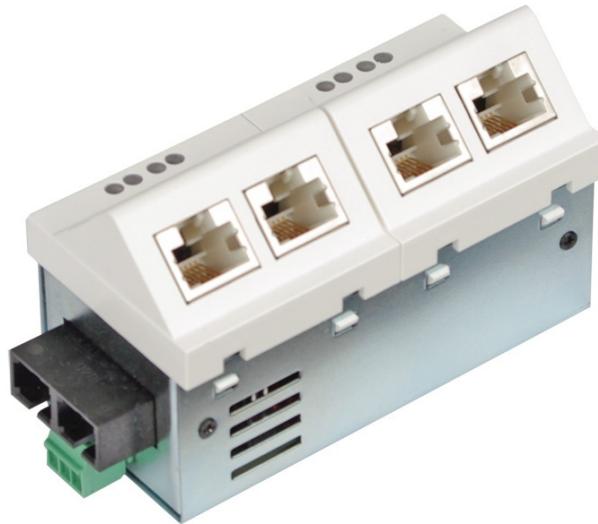


## Product Overview

### Fast Ethernet Micro Switches 6 Port



## Description

An intelligent combination of fiber optic (100Base-FX) and twisted pair (10/100Base-TX) is obtained with the Fast Ethernet Micro Switch. The device offers to the user also the standard RJ-45 ports for the connection of the end equipment to a fiber optic network. The compact 45x45 switches are designed for the direct installation into cable trunks and sub-floor boxes.

The 6 port version has on its rear side an additional RJ-45 downlink 10/100Base-TX that is covered after the installation. This additional connection enables cascading other Micro Switches offering thus additional connection capacities. The Fast Ethernet Micro Switch has an integrated 230 VAC power unit. The device can be optionally manageable (article number with „M“ extension). The manageable version offers VLAN operation according to IEEE 802.1Q and further security features such as IEEE 802.1X, accounting, etc.

## Properties

- 6 Port Switch, 5x10/100Base-TX, 1x100Base-FX
- Cost efficient copper/fiber integration
- Vertical/horizontal version
- Fast, tool-free mounting by snap-in installation
- Integrated management with several configuration and monitoring features
- VLANs, data prioritisation (QoS)
- Port based VLANs (traffic segmentation)
- Integrated power supply with 100 – 230 VAC input

# 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>	SC or ST duplex
<b>Fiber Cable Type</b>	Multimode: 50 or 62.5/125 µm fiber Single Mode: 9/125 µm fiber
<b>Distance</b>	Multimode: 550 m Single Mode: 10 km, 20 km (optional) actual distance may depend on fiber performance
<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

## Downlink (Twisted-Pair)

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<b>Number of Ports</b>	1
<b>Type</b>	Fast Ethernet, triple speed 10/100Base-TX
<b>Connector</b>	RJ-45 Buchse, geschirmt
<b>Cable Type</b>	Twisted-Pair Kabel, Kategorie 5e, Impedanz 100 Ohm, Länge max. 100 m
<b>Flow Control</b>	Pause Frames (IEEE 802.3x), konfigurierbar
<b>Pinout</b>	Auto MDI/MDI-X, Auto Polarity

## Display

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<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 (AC)

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<b>Input Voltage</b>	195..265 V AC (230 V AC typ.) 50..60 Hz (50 Hz typ.)
<b>Power Consumption</b>	Typ. 4 W
<b>Connector</b>	3 pin screw clamp, PE/N/
<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 802.1D 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 Installation Switch, horizontal mounting, 1x 100Base-FX, Multimode 1310 nm ST, SNMP/Web/CLI Management, VLAN, QoS	<b>MS450330M</b>
6 Port Installation Switch, horizontal mounting, 1x 100Base-FX, Multimode 1310 nm SC, SNMP/Web/CLI Management, VLAN, QoS	<b>MS450331M</b>
6 Port Installation Switch, horizontal mounting, 1x 100Base-FX, Single mode 1310 nm ST, SNMP/Web/CLI Management, VLAN, QoS	<b>MS450332M</b>
6 Port Installation Switch, horizontal mounting 1x 100Base-FX, Single mode 1310 nm SC, SNMP/Web/CLI Management, VLAN, QoS	<b>MS450333M</b>
<b>Vertical Installation</b>	
6 Port Installation Switch, vertikal mounting 1x 100Base-FX, Multimode 1310 nm ST, SNMP/Web/CLI Management, VLAN, QoS	<b>MS450340M</b>
6 Port Installations-Switch, vertikal mounting 1x 100Base-FX, Multimode 1310 nm SC, SNMP/Web/CLI Management, VLAN, QoS	<b>MS450341M</b>
6 Port Installations-Switch, vertikal mounting 1x 100Base-FX, Single mode 1310 nm ST, SNMP/Web/CLI Management, VLAN, QoS	<b>MS450342M</b>
6 Port Installations-Switch, vertikal mounting 1x 100Base-FX, Single mode 1310 nm SC, SNMP/Web/CLI Management, VLAN, QoS	<b>MS450343M</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>

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