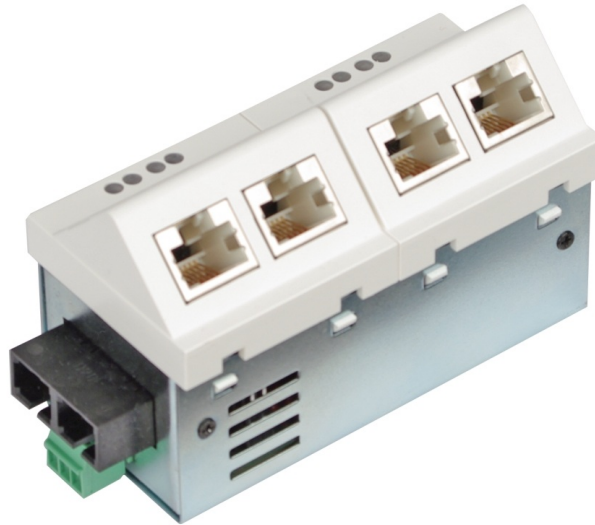


## Product Overview

### Fast Ethernet Micro Switch 5 Port



## Description

The Fast Ethernet Micro Switches are extreme compact and are designed for the tool-free installation into cable trunks and sub-floor boxes. The design in 45x45 mm grid is compatible to the major international electro installation systems. The Micro Switches offer the complete Fast Ethernet performance on all ports. The uplink to the central switch is realised either by a fixed transceiver. The 6 port version has an additional RJ-45 downlink 10/100Base-FX at the side of the device.

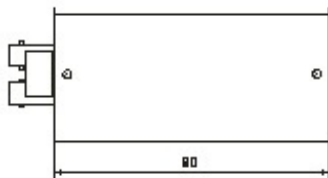
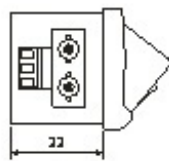
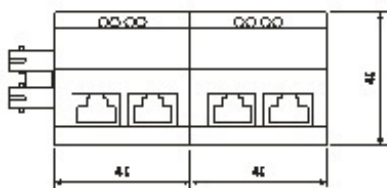
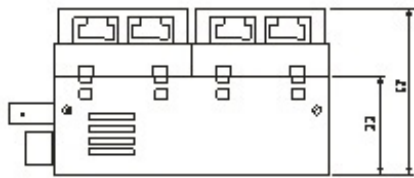
After installation this port is hidden and allows the cascading of further devices. Thus the port capacities in the work place area can be increased easily. The Fast Ethernet Micro Switch has an integrated 230 VAC power supply. The equipment generally has an integrated network management system and supports all management standards from the web browser over Telnet up to the SNMP. Furthermore, the switches have all common security features such as VLANs, authentication according to IEEE Std. 802.1x up to accounting.

## Properties

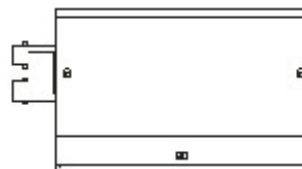
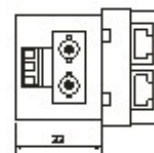
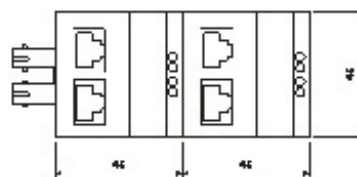
- Cost efficient copper/fiber integration
- Vertical/horizontal versions
- Fast, tool-free mounting by snap-in installation
- Management with several configuration and monitoring features
- VLANs, data prioritisation (QoS)
- Port based VLANs (traffic segmentation)
- Integrated power supply with 100 – 240 V AC input

# Dimensions

## hor. Version



## vert. Version



# 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

## 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

## 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)

## 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

## 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>	
Installation Switch Fast Ethernet 45x45, 4x 10/100Base-TX, 1x 100Base-FX 1300nm Multimode ST	<b>MS450230M</b>
Installation Switch Fast Ethernet 45x45, 4x 10/100Base-TX, 1x 100Base-FX 1300nm Multimode SC	<b>MS450231M</b>
Installation Switch 45x45, 4x10/100Base-TX, 1x100Base-FX Single Mode 1300nm, min. 15 km	<b>MS450232M</b>
Installation Switch 45x45, 4x10/100Base-TX, 1x100Base-FX Single Mode 1300nm, min. 15 km	<b>MS450233M</b>
<b>Vertikal Installation</b>	
Installation Switch Fast Ethernet 45x45, 4x 10/100Base-TX, 1x 100Base-FX 1300nm Multimode, vertical mounting	<b>MS450240M</b>
Installation Switch Fast Ethernet 45x45, 4x 10/100Base-TX, 1x 100Base-FX 1300nm Multimode, vertical mounting	<b>MS450241M</b>
Installation Switch Fast Ethernet 45x45, 4x 10/100Base-TX, 1x 100Base-FX 1300nm Single mode, vertical mounting Laser min. 15 km	<b>MS450242M</b>
Installation Switch Fast Ethernet 45x45, 4x 10/100Base-TX, 1x 100Base-FX 1300nm Single mode, vertical mounting Laser min. 15 km	<b>MS450243M</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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