

# Manual Entry Line Industrial Fast Ethernet Switch 5/8x 10/100Base-TX

# MICROSENS

## General

The IP protocol has already left the in-house environment and is going to take all remaining communication areas. Industrial Ethernet already is an established idea, describing the reliable use of Ethernet components in harsh environments.

Because of the large number of these applications the market requires simple and also reliable and cost effective products. With the new Industrial Ethernet Entry Line MICROSENS fulfils these requirements. The products are very compact and include:

- 5 and 8 Port Fast Ethernet switches
- 8 Port Gigabit Ethernet switch
- Switches with fiber-uplink
- Media converter for Fast Ethernet and Gigabit Ethernet
- Device Server for the conversion of serial interfaces (RS-232/422/485) to IP.

All new devices distinguish themselves with easy handling (Plug&Play) and do not need extensive configuration. New developments are focusing on increasing the port numbers and further implementation of Gigabit Ethernet.



Fig. 1: Entry Line Fast Ethernet Switches

## Benefits

### System Interface/Performance

- RJ-45 port support Auto MDI/MDI-X Function
- Store-and-Forward Switching Architecture
- Back-plane (Switching Fabric):  
1 Gbps (5 port switch), 1.6 Gbps (8 port switch)
- 1Mbits Packet Buffer
- 2K MAC Address Table

### Power Supply

- Wide Range Redundant Power Design
- Power Polarity Reverse Protection
- Overload Current Removable Fuse Present
- Power-Fault-Alarm Relay Contact

### Installation

- IP-30 Protection
- DIN-Rail and Wall Mount Design

### Safety

- Provides surge protection 3000 VDC for power line
- Supports 4000 VDC Ethernet ESD protection

## Standard Compliance

### IEEE Standards

- IEEE 802.3 10Base-T Ethernet
- IEEE 802.3u 100Base-TX Fast Ethernet

## Technical specifications

<b>Type</b>	Fast Ethernet Switch with 5/8x 10/100Base-TX for industrial use
<b>Cable type</b>	Shielded Twisted Pair cable, 100 Ohm, Category 5, Pin out RJ45-ports auto crossing
<b>Data rate</b>	10 or 100 Mbps
<b>LED displays</b>	Per port: Link/Activity (Green), Full duplex/Collision (yellow) Per unit: Power1 (green), Power2 (green), Fault (red)
<b>Mounting</b>	35 mm hat rail, according DIN EN 50 022 and wall mount
<b>Power supply</b>	12 - 48 V DC / connections with screw terminals, redundant ports
<b>Dimensions</b>	30 x 95 x 140 mm (w x d x h)
<b>Operating temperature</b>	Standard: -10°C to 60°C
<b>Storage temperature</b>	-40°C to 85°C
<b>Rel. humidity</b>	5% to 95% non condensing
<b>EMI</b>	FCC Class A, CE EN61000-4-2, CE EN61000-4-3, CE EN-61000-4-4, CE EN61000-4-5, CE EN61000-4-6, CE EN61000-4-8, CE EN61000-4-11, CE EN61000-4-12, CE EN61000-6-2, CE EN61000-6-4
<b>Safety</b>	UL, cUL, CE/EN60950-1
<b>Stability Testing</b>	IEC60068-2-32 (Free fall), IEC60068-2-27 (Shock), IEC60068-2-6 (Vibration)

## Switch Features

The integrated switch has a store-and-forward architecture and can transmit all packets non-blocking between all ports at full wire speed. For data buffering the switch incorporates 1MBit of memory.

Up to 2048 different MAC addresses can be stored simultaneously in the internal switch address tables. An automatic aging mechanism updates the tables max. 5 min. after the last reception of data.

## Twisted Pair Connections

The integrated auto-crossing function of all Twisted-Pair ports makes the use of crossed patch cables unnecessary. The switch automatically detects the pin out of the connected cable and adapts the port accordingly. For all connections standard 1:1 Twisted Pair cables can be used.

The Autonegotiation mechanism detects automatically the speed and transmission mode (full or half duplex) between connected ports. A manual configuration is not required.

## Mounting

The Industrial switch supports two mounting methods: Wall & DIN-Rail.

### Wall-mounting

The industrial switch can be wall-mounted by using the included mounting kit.

1. First, use the screws included in the package to combine the Industrial switch and metal mounting kit and remove the DIN-Rail adapter.

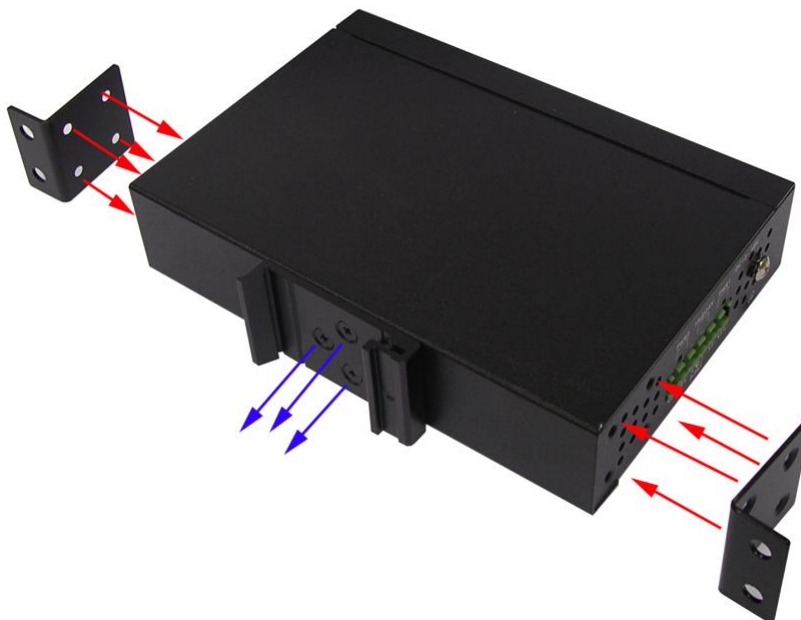


Fig. 2: DIN-Rail holder and wall brackets

2. Then fix the switch with some screws to the wall.

**DIN-Rail Mounting**

You can also mount Industrial switch on a standard DIN-Rail by below steps.

The DIN-Rail kit is screwed on the industrial switch at delivery. If the DIN-Rail kit is not screwed on the industrial switch, please screw the DIN-Rail kit on the switch first.

1. First, hang the Industrial switch to the DIN-Rail with angle of inclination.



Fig. 3: Installation to DIN-Rail Step 1

2. Then, lightly push the DIN-Rail into the track.



Fig. 4: Installation to DIN-Rail Step 2

3. Check if the DIN-Rail is tightened on the track or not.
4. To remove the industrial switch from the track, reverse steps above.

## Power supply / Alarm Contact

The power supply is done by an external power supply with an output voltage of 12 - 48 V DC. The power supply unit is not included at delivery, but can be ordered separately (e.g. MS700420 24 V DC/24 W). The connection is done by the pluggable screw terminals on the top of the device. The connection of a redundant power supply can be done by the second screw terminal. In the following drawing the pin out of the power connector and the alarm contact is described.

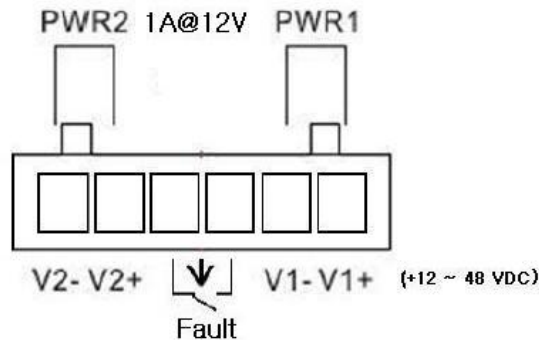


Fig. 5: Pin out Power Connector and Alarm Contact

The alarm contact is normally closed and opens if power input 1 or 2 fails.

## Order Information

Art.-No.	Description	Connectors
MS655100	Industrial Fast Ethernet Switch, Entry Line, 5x 10/100Base-TX	5x RJ-45 2x Power
MS655140	Industrial Fast Ethernet Switch, Entry Line, 8x 10/100Base-TX	8x RJ-45 2x Power

## Accessories

Art.-No.	Description	Connectors
MS700420	DIN-Rail power supply 24 Watt 24 V / 1 A, wide range input 85-264 VAC	In: 3-pin Out: 2-pin
MS700421	DIN-Rail power supply 60 Watt 24 V / 2.5 A, wide range input 85-264 VAC	In: 3-pin Out: 5-pin
MS700422	DIN-Rail power supply 120 Watt 24 V / 5 A, wide range input 85-264 VAC	In: 3-pin Out: 5-pin
MS700430	DIN-Rail power supply 60 Watt 48 V / 1.25 A, wide range input 85-264 VAC	In: 3-pin Out: 5-pin
MS700434	DC/DC DIN-Rail power supply 24 Watt 24 V / 1,0 A, wide range input 18-75 V DC	In: 3-pin Out: 2-pin

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