

## Product Overview

### Fast Ethernet and Gigabit Ethernet Bridging Converter



## Description

The new fast and Gigabit Ethernet Bridging converter of the Industrial Ethernet Entry Line offer transmission speeds up to 1 Gbps in Industrial Ethernet applications. In the office area Gigabit Ethernet has already established as the standard protocol. To integrate industrial end devices direct, MICROSENS offers the new Gigabit Ethernet Bridging Converter.

Beside the media conversion from copper to fiber the devices are doing a speed adaptation of 10/100Base-TX for Fast Ethernet and 10/100/1000Base-T for Gigabit Ethernet. This enables the direct connection of end devices with different speed to the existing central switch.

The devices are immediately ready for operation, a configuration by management is not necessary. With a pluggable connector the power is supplied (redundant possible) and offers the monitoring of the device by a relay.

## Properties

- Optional converter or bridging function (via DIP-switch)
- Power-over-Ethernet optional
- Automatic speed adjustment per Auto Negotiation
- Integrated Auto Crossover function for use of standardized patch cable
- Link Through function
- SFP-Slot for 1000Base-X (GBE version)
- Optional for extended temperature range -40 to +75 °C

# Specifications

## General

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<b>Type</b>	RJ-45 to Fiber Media Converter
<b>Performance</b>	Store-and-forward, RJ-45 port support Auto MDI/MDI-X Function
<b>MAC-Addresses</b>	max. 9,216 bytes

## Uplink (Pluggable Transceiver)

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<b>Number of Ports</b>	1 (only MS655099(X))
<b>Type</b>	1000M SFP Multi/Single Mode
<b>Connector</b>	SFP slot

## Uplink (Twisted-Pair)

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<b>Number of Ports</b>	1
<b>Type</b>	Fast Ethernet 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>Pinout</b>	Auto MDI/MDI-X
<b>Power-over-Ethernet</b>	only MS655060P(X)-48 MS 655062P(X)-48: Power Sourcing Equipment(PSE) IEEE 802.3af class 0, max. 15.4 W pinout wires 1/2 (+), 3/6 (-)

## Power Supply (DC)

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<b>Input Voltage</b>	12-48 VDC redundant (non PoE Version) 48 VDC redundant (PoE Version)
<b>Power Consumption</b>	3.3Watts (without PoE); 16.4Watts (Full load with PoE)
<b>Connector</b>	Screw terminal

## Local Ports (Twisted-Pair)

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<b>Number of Ports</b>	2
<b>Type</b>	1 Fast/ Gigabit Ethernet (only MS655099/X) 1 Fiber
<b>Connector</b>	RJ-45 jack, different fiber ports (depending to the model)
<b>Cable Type</b>	Twisted-Pair cable, category 5e, impedance 100 Ohm, length max. 100 m
<b>Flow Control</b>	Flow Control and Back pressure
<b>Pinout</b>	Auto MDI/MDI-X
<b>Power-over-Ethernet</b>	IEEE802.3af Power over Ethernet, max 15,4W (only MS655060P(X)-48, MS655062P(X)-48)

## Uplink (Fixed Optical Transceiver)

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<b>Number of Ports</b>	1
<b>Type</b>	Fast Ethernet 100Base-FX
<b>Connector</b>	SC
<b>Fiber Cable Type</b>	MS655060(X), MS655060P(X)-48: Multimode 1310nm SC MS655062(X), MS655062P(X)-48: Singlemode 1310nm max 30km SC
<b>Distance</b>	Multimode: 550 m Single Mode: 30 km actual distance may depend on fiber performance
<b>Flow Control</b>	Pause frames (IEEE 802.3x), configurable

## Display

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<b>Type</b>	7 LEDs, color coded
<b>Power</b>	P1/P2 green on/off
<b>Link</b>	LNK/ACT (RJ-45 / fiber port) green on: Connected to network flashing: Networking is active off: Not connected to network
<b>Status</b>	FDX/COL (fiber port) yellow on: Full-duplex mode flashing: Packet collision occurred 100M (RJ-45) yellow on: Link to 100Mbps network off: Link to 10Mbps network

## Mechanical

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<b>Dimensions</b>	30 mm x 95 mm x 140 mm
<b>Weight</b>	438.5 g
<b>Housing Color</b>	black
<b>Mounting</b>	DIN35 rail, Wall

## Reliability

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<b>MTBF</b>	400.000h
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## Environment

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<b>Operating Temperature</b>	-10..60 °C (standard model) -40..75°C ("X" model)
<b>Storage Temperature</b>	-40..85 °C
<b>Relative Humidity</b>	5..95%, non condensing

## Standards Compliance

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<b>CE Mark</b>	CE EN6 1000-4-2 (ESD), CE EN6 1000-4-3 (RS), CE EN-61000-4-4 (EFT), CE EN6 1000-4-5 (Surge), CE EN6 1000-4-6 (CS), CE EN6 1000-4-8, CE EN6 1000-4-11, CE EN6 1000-4-12, CE EN6 1000-6-2, CE EN6 1000-6-4
<b>Safety</b>	CE/EN60950-1 Class 1 / Division 2
<b>Other</b>	Free Fall IEC60068-2-32 Shock IEC60068-2-27 Vibration IEC60068-2-6

# Order Information

Description	Article Number
<b>Fast Ethernet Bridges</b>	
Industrial Fast Ethernet Bridge, 1x 10/100Base-TX to 100Base-FX Multimode 1310nm SC	<b>MS655060X</b>
Industrial Fast Ethernet Bridge, 1x 10/100Base-TX to 100Base-FX Monomode 1310nm SC	<b>MS655062X</b>
<b>Fast Ethernet Bridges mit PoE</b>	
Industrial Fast Ethernet Bridge, 10/100Base-TX to 100Base-FX Multimode 1310nm SC, 48VDC	<b>MS655060PX-48</b>
Industrial Fast Ethernet Bridge, 10/100Base-TX to 100Base-FX Single Mode 1310nm SC, 48VDC	<b>MS655062PX-48</b>
<b>Gigabit Ethernet Bridge</b>	
Industrial Triple Speed Bridge, 10/100/1000Base-T to 1000Base-X SFP Port	<b>MS655099X</b>

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