

# Gigabit Ethernet Bridge

## SFP 100/1000Base-X to SFP 1000Base-X

**MICROSENS**

### General

The Gigabit Ethernet Bridge has two SFP slots. One of the SFP slots can be used with 100/1000Base-X for Fast Ethernet and Gigabit Ethernet. The SFP slots allow the use of all SFPs available on the market and offer therefore a high flexibility.

The device is mainly used in enterprise networks to offer a flexible conversion from multimode to single mode fiber. Beside the media conversion it is also possible to have the speed conversion from 100 Mbps to 1000 Mbps. This makes the device also interesting for the migration from Fast Ethernet to Gigabit Ethernet. A further application is the extension of Gigabit Ethernet networks.

The autonegotiation for Gigabit Ethernet can be configured manually by DIP switches. Additionally colour coded LEDs are giving status information about the bridge and can be used for error diagnostics.

### Connections

The connection is done with the use of SFPs (not included at delivery). All SFP transceivers with the revision 5.4 are supported.

#### **SFP-Slot 1:**

This SFP slot supports the data rates of 100 Mbps (100Base-FX Fast Ethernet) or 1 Gbps (1000Base-x Gigabit Ethernet). The data rate is given by the selected SFP. A manual configuration for 100Base-FX or 1000Base-X is not necessary.

#### **SFP-Slot 2:**

This SFP slot supports only Gigabit Ethernet (1000Base-X). Other data rates are not possible at this port.

### Features

- Compact Gigabit Ethernet Bridge SFP to SFP
- Compatible with IEEE 802.3u, 802.3x (Flow Control)  
IEEE 802.3z (1000Base-SX/LX)
- Integrated Link Through functionality
- Manual configuration per DIP switch possible

**Technical Specifications**

<b>Type</b>	Gigabit Ethernet Bridge for the speed adaptation (100/1000 Mbps and 1000 Mbps) and/or coupling of multimode-/single-mode fibers and the distance extension
<b>Ports</b>	2x SFP slots (1x 100/1000Base-X + 1x 1000Base-X)
<b>LED displays</b>	<i>PWR</i> Ready for operation <i>SPD</i> Speed for SFP slot 1 <i>LK/ACT</i> Data transmission
<b>Power supply</b>	9 V DC / max. 0.7 A via external power supply (included at delivery)
<b>Operating temp.</b>	0 °C to 45 °C
<b>Storage temp.</b>	-40 °C to 70 °C
<b>Humidity</b>	5 % to 90 % non condensing
<b>Dimensions</b>	26 x 85 x 119 mm (h x w x d)

**Construction**

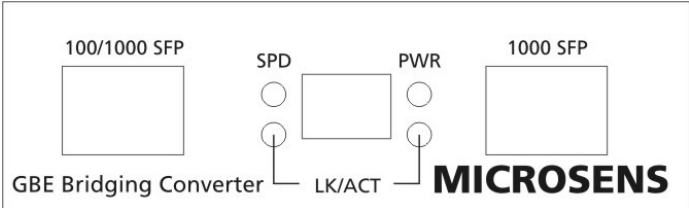


Fig. 1: Front view



Fig. 2: Rear view

## Configuration

The Gigabit Ethernet Bridge can be configured manually with some DIP switches. As factory default all DIP switches are set to "off".

Configurable are:

- Operation mode for the autonegotiation of both SFP ports
- Link Through functionality

DIP-switch	Status	Function
1	On	1000Base-X SFP Force-Mode
	Off	1000Base-X SFP Auto-Negotiation-Mode
2	On	Link Through function on
	Off	Link Through function off
3	On	1000Base-X SFP Force-Mode
	Off	1000Base-X SFP Auto-Negotiation-Mode

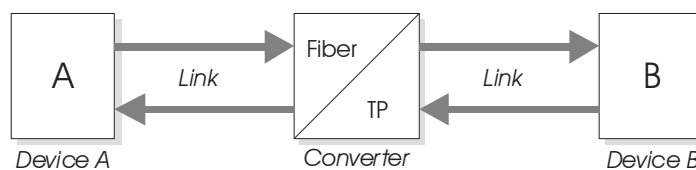
**Note:** For the use in pairs the SFP ports of both bridges should be configured to autonegotiation.

## Link Transparency

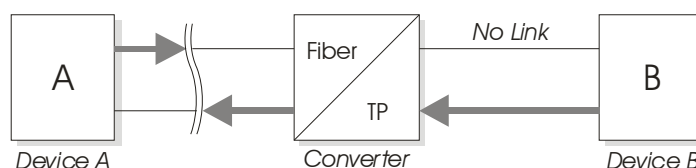
With the Link Through function the signal status is forwarded transparent. This means if on port 1 no link signal is received there is no link signal generated on port 2.

This allows that to the bridge connected devices can "see" the remote device. Status information of the network management is not falsified.

a) Normal status: Link-Signal in both directions



b) Failure status: Interruption of the connection



**LED displays**

LED	Status	Function
<b>PWR</b>	Green	Ready for operation
<b>SPD</b> (only SFP-Slot 1)	Green	SFP port with 1000 Mbps
	Off	No Link or SFP connection with 100 Mbps
<b>LK/ACT</b>	Green	Connection on the related SFP port
	Flashing	Data received on the related SFP port
	Off	No connection on the related port

**Order Information**

Art.-No.	Description	Connectors
MS400230	Gigabit Ethernet Bridge SFP 100/1000Base-X / SFP 1000Base-X	2 x SFP port 1 x power
MS100200	SFP, Gigabit Ethernet 850 nm Multimode Transceiver, max. 1.25 Gbps	LC duplex
MS100210	SFP, Gigabit Ethernet / Fibre Channel 1310 nm Single Mode Transceiver, max. 1.25 Gbps, min. 10 km	LC duplex

MICROSENS reserves the right to make any changes without further notice to any product to improve reliability, function or design. MICROSENS does not assume any liability arising out of the application or use of any product. 3810 he