Power-over-Ethernet Bridge 10/100Base-TX/100Base-FX

MICROSENS

General

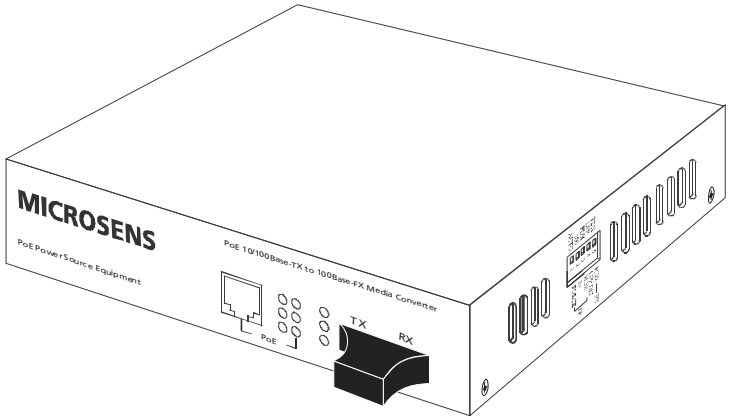
The new Mini Bridge of MICROSENS disposes of a Power-over-Ethernet functionality and enables the power supply of "Powered Devices" (PD) as e. g. IP-phone, Wireless Access Point or web cams. According to the IEEE802.3af standard end devices will be recognized and classified. The support of the max. power class enables a powering up to 15.4 Watt.

In addition to the media conversion a speed adjustment is done. This adjustment includes the 10 and 100 Mbit/s speeds as well as half and full duplex modes. Existing length restrictions for half duplex Ethernet (5 km) and Fast Ethernet segments (412 m) are eliminated by the bridge (segment splitting).

Beside the multimode version there are several single mode versions developed for "Fiber To The Home" (FTTH) projects. With the standard 10/100Base-TX interface, the end user can use internet services, Video on Demand and VoIP applications.

Features

- Power-over-Ethernet according to IEEE802.3af with a max. power class of 15,4 W
- Compact desktop chassis
- Segment splitting and speed adaptation
- Auto-Negotiation 10/100Base-TX
- Half- and full duplex mode manually configurable
- Multimode max. 2 km, ST-/SC-connector,
  optional LC, VF-45 and MT-RJ
- Single mode versions up to 125 km
- Optional simplex fiber operation (WDM)
- Current supply via internal power supply



Technical Data

Type	Fast Ethernet Bridge to connect Twisted-Pair- (10/100Base-TX) and FO (100Base-FX) segments and supply of Power-over-Ethernet end devices	
Fiber type	Multimode 62.5/125 or 50/125µm, Single mode 9/125µm, duplex	
Cable type	Shielded Twisted Pair Cable, 100 Ohm, Category 5,	
Max. TP cable length	100 m	
Data rate	100 Mbps	
LED displays	*Power*	Standby
	PoE	Power-over-Ethernet activity
	PoE Class	4 Watt, 7 Watt, 15.4 Watt
	FX-Link	FO Link/Act (statically/blinking)
	FX-FDX	FO Half-/Full duplex (off/on)
	FDX/Col	Full duplex: activity Half duplex: collision
	TX-Link	Twisted Pair link/activity (statically/blinking)
	TX100	Twisted Pair 10/100 Mbps
Power supply	100-240 V AC / max. 1500 mA with internal power supply	
Dimensions	158 x 133 x 40 mm (W x D x H)	
Operating temperature	0°C to 50°C	
Storage temperature	-20°C to 80°C	
Relative humidity	5% to 90% non condensing	

Optical Parameters

Multimode	*min. FO range:*	2 km (Full duplex)
	min. optical power:	-19 dBm
	min. optical sensitivity:	-31 dBm
	Wave-length:	1300 nm
	Connector:	SC (MS400090) ST (MS400091)
Single mode	*min. FO range:*	15 km (Full duplex)
	min. optical power:	-15 dBm
	min. optical sensitivity:	-31 dBm
	Wave-length:	1300 nm
	Connector:	SC (MS40009x) ST (MS40009x)

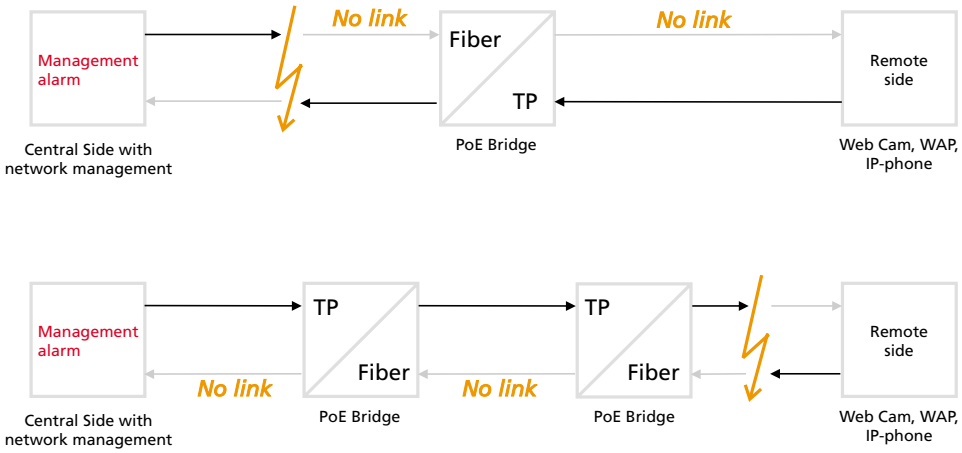
Bridging Function

Due to the integrated bridging functionality it is possible to operate the fiber mode in full duplex mode, independent from the copper port. This enables distances of 2 km multimode and up to 125 km (single mode).

Link transparency

This Fast Ethernet bridge supports Link Through (LT) function in TX/FX converter application. The link status on one port is propagated to the other port to notice the remote nodes. If TP port is unplugged, this converter stops transmission on fiber port.

This causes the remote fiber node link to fail. The LEDs show a failure on both, TP and fiber ports. If fiber link fails, this converter restarts autonegotiation on TP port but always stays in the link failure state. This causes the remote TP node link to fail. The LEDs also show the link failure on both, TP and fiber port.



Link Through function only takes effect when switch 4 is activated.

Warning: The Link Through function works only when these bridges are used in a pair and both have the link through activated. Furthermore both link through bridges should be supplied by the same manufacturer. Connections coming from old link through bridges or bridges without link through will cease the link through function.

Configuration

With the DIP-switches it is possible to set configuration of main features of the bridge. With switch 1 one can activate or deactivate autonegotiation protocol on copper port. When autonegotiation is deactivated switches 2 and 3 select speed (10 or 100 Mbit/s) and mode (full or half duplex). Fiber optic port speed is always 100Mbit (switch 5 selects half/full duplex mode). Switch 4 can activate or deactivate Link Through function.

Warning: The Power-over-Ethernet bridge must be reseted (by pulling the power plug) after changing the configuration!

Order information

Article no.	Description	Connectors
MS400090	Fast Ethernet Bridge10/100Base-TX/100Base-FX, 1310 nm Multimode, 2 km	2 x SC 1 x RJ-45
MS400091	Fast Ethernet Bridge 10/100Base-TX/100Base-FX, 1310 nm Multimode, 2 km	2 x ST 1 x RJ-45