MICROSENS

Datasheet

Fast Ethernet Mini Bridging Converter 10/100Base-TX / 100Base-FX

Made in Germany

General

The MICROSENS media converter enables the direct coupling of twisted pair cable (10/100Base-TX) and multimode or single mode fiber (100Base-FX) in an Ethernet network (IEEE 802.3u). The direct connection makes it possible to extend existing twisted-pair cables beyond the limit of 100 m.

The link status of the segment is passed on by the integrated link transparency of the converter (so-called "link through"). This means that if there is no link on the fiber side, no link is generated on the TP side. Colour-coded LEDs indicate the current status of the converter and can be used for fault diagnosis in the network.

Versions with screwable power connection (MS4105xx) are available as well. With this so-called Binder connector, the cable to the external plug-in power supply is safely and reliably relieved of strain through the screw connection.

With a wide range of fiber optic interfaces (ST and SC) with transmission capacities of up to 125km range as well as simplex options for the use of single Fiber routes, this Bridging Converter is optimally suited to the various challenges of transmitting Fast Ethernet.

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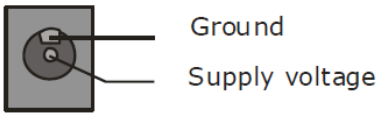
Technical Details

Type	Fast Ethernet Mediaconverter
Connections	1x 100Base-FX (Connection depends on model) 1x 10/100Base-TX
Fiber Type	Multimode 62,5/125 or 50/125µm, Singlemode 9/125µm, duplex
Cable Type	Shielded Twisted Pair Cable, 100 Ohm, Category 5, Pinout of RJ45 socket can be crossed by a switch, max. 100m
Max. Package size (MTU)	1518 Byte (excl. VLAN-Tag) 1522 Byte (incl. VLAN-Tag)
LED-Displays	*PWR* Ready for operation *FL-Link* Fiber connection *FL-Receive* Receiving Data Fiber *TP-Link* TP-Connection *TP-Receive* Receiving Data TP *Link-Error* Interruption
Power supply	external power supply (5 V DC), incl. in scope of delivery 100..240 VAC, 50/60Hz
Operating temp.	0..55 °C
Storage temp.	-20..80 °C
Humidity	5% bis 80 % non-condensing
Dimensions	60 x 21 x 83 mm (W x H x D)

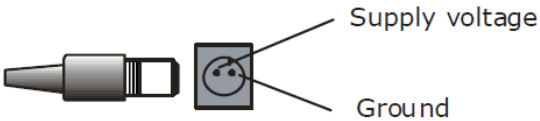
Power Supply

Power is supplied via an external plug-in power supply 5 V DC / max. 2500 mA. In addition to the normal jack plug version, the user can also choose from versions with a screwable power supply connection (Binder).

For manufacturer warranty reasons only the MICROSENS power supply unit included in the scope of delivery should be used.



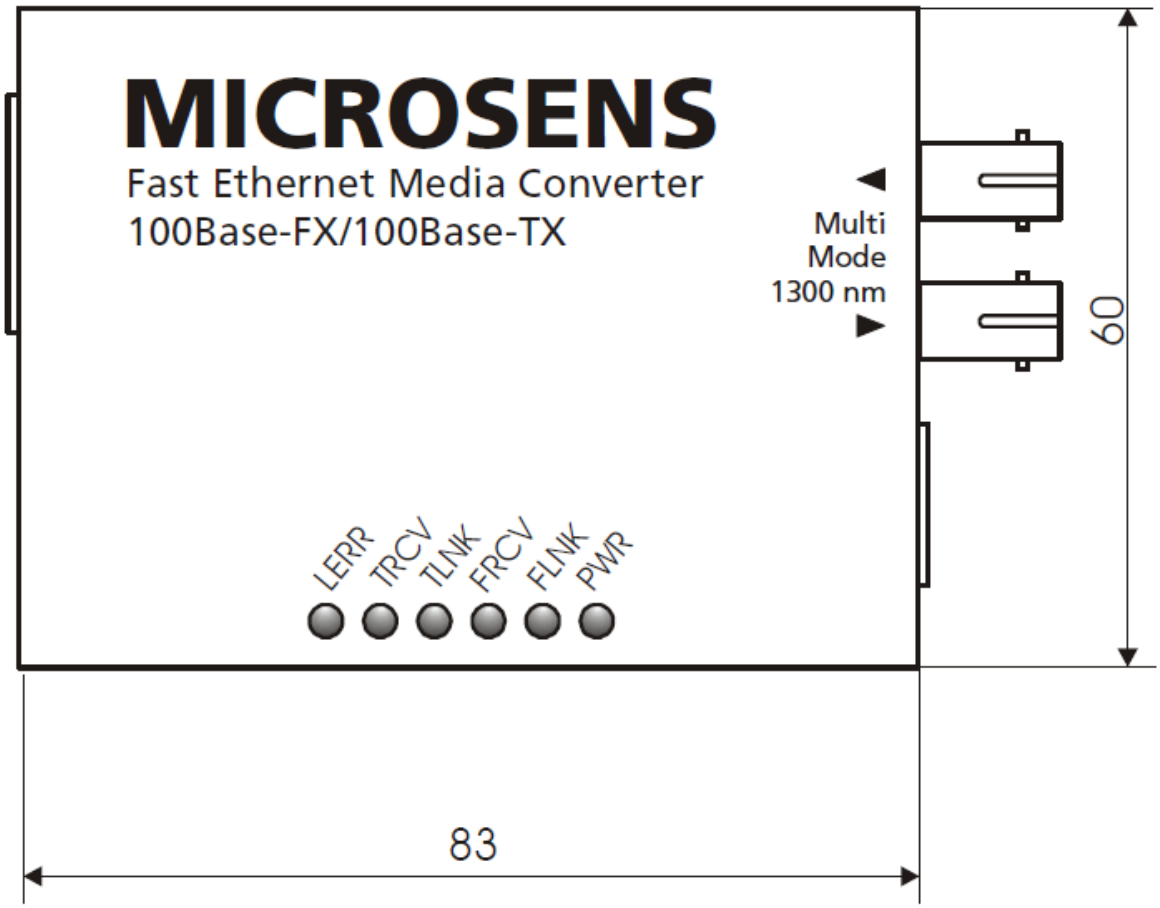
MS41064x-V2

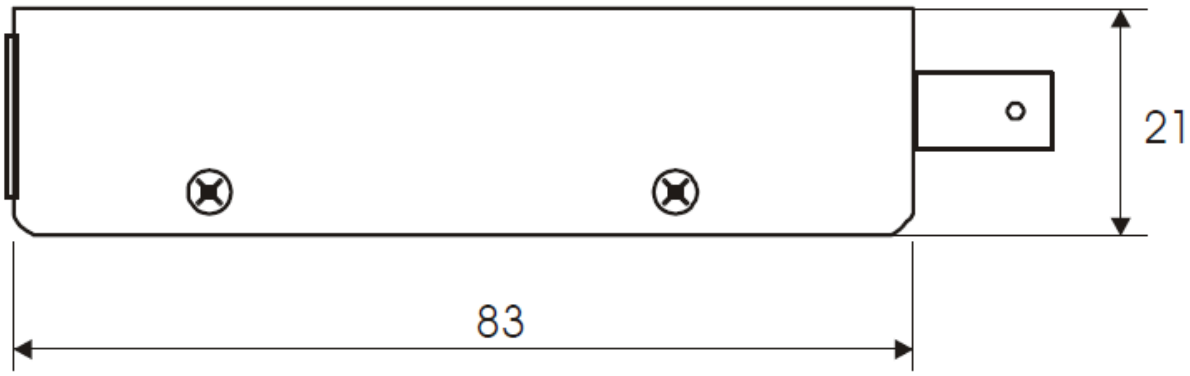


MS41051x-V2

Layout

The housing is made of powder-coated sheet steel.





Optical Parameter

Multimode Model	*min. Distance:*	2 km (Vollduplex)
	min. Transmission output:	-19 dBm
	min. Sensitivity:	-31 dBm
	Wavelength	1310 nm
Singlemode Model	*min. Distance:*	15 km (Vollduplex)
	min. Transmission output:	-15 dBm
	min. Sensitivity:	-31 dBm
	Wavelength	1310 nm
	min. Distance:	40 km (Vollduplex)
	min. Transmission output:	-5 dBm
	min. Sensitivity:	-34 dBm
	Wavelength	1310 nm
	min. Distance:	80 km (Vollduplex)
	min. Transmission output:	-5 dBm
	min. Sensitivity:	-34 dBm
	Wavelength	1550 nm
	min. Distance:	125 km (Vollduplex)
	min. Transmission output:	0 dBm
	min. Sensitivity:	-37 dBm
	Wavelength	1550 nm

Length reduction

Half duplex

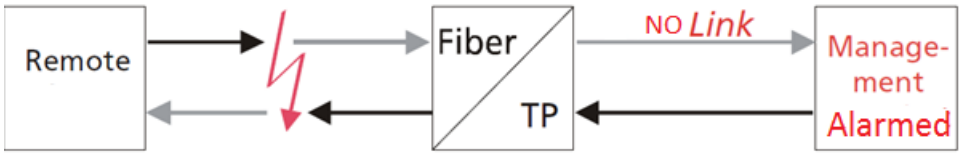
The converter has a signal delay of max. 25 bit times. The maximum segment length of 412m is thus reduced by approx. 25 m for optical fiber or 30 m for twisted pair cable. These values must also be taken into account for single mode cabling.

Full duplex

In full duplex segments, the signal delay of the converter has no influence on the segment length.

Link Transparency

The media converter is equipped with link transparency functions "Link Through" to support the link monitoring. The link status of the fiber segment is passed on to the twisted pair segment. Thus the twisted pair link is interrupted when the fiber optic link is lost.



Order Information

Description	Art. No.
FE Mini Bridging Converter with screwable power connection	
FE Desktop Mini Bridging Converter MM 1x 100FX SC/MM, 1x 10/100TX, ext. screw-PS (110/230VAC)	**MS410511-V2**
FE Desktop Mini Bridging Converter MM 1x 100FX ST/MM, 1x 10/100TX, ext. screw-PS (110/230VAC)	**MS410512-V2**
FE Desktop Mini Bridging Converter SM 1x 100FX SC/SM (15km), 1x 10/100TX, ext. screw-PS (110/230VAC)	**MS410513-V2**
FE Desktop Mini Bridging Converter SM 1x 100FX ST/SM (15km), 1x 10/100TX, ext. screw-PS (110/230VAC)	**MS410514-V2**
FE Desktop Mini Bridging Converter SM simplex 1x 100FX SC/SM TX1310nm/RX1550nm (15km), 1x 10/100TX, ext. screw-PS (110/230VAC)	**MS410513A-V2**
FE Desktop Mini Bridging Converter SM simplex 1x 100FX SC/SM TX1550nm/RX1310nm (15km), 1x 10/100TX, ext. screw-PS (110/230VAC)	**MS410513B-V2**
FE Desktop Mini Bridging Converter SM 1x 100FX SC/SM (80km), 1x 10/100TX, ext. screw-PS (110/230VAC)	**MS410518-V2**
FE Desktop Mini Bridging Converter SM 1x 100FX SC/SM (125km), 1x 10/100TX, ext. screw-PS (110/230VAC)	**MS410519-V2**
FE Desktop Mini Bridging Converter SM 1x 100FX SC/SM (40km), 1x 10/100TX, ext. screw-PS (110/230VAC)	**MS410523-V2**
FE Mini Bridging Converter	
FE Desktop Mini Bridging Converter MM 1x 100FX SC/MM, 1x 10/100TX, ext. PS (110/230VAC)	**MS410640-V2**
FE Desktop Mini Bridging Converter MM 1x 100FX ST/MM, 1x 10/100TX, ext. PS (110/230VAC)	**MS410641-V2**
FE Desktop Mini Bridging Converter SM 1x 100FX SC/SM (15km), 1x 10/100TX, ext. PS (110/230VAC)	**MS410644-V2**
FE Desktop Mini Bridging Converter SM 1x 100FX ST/SM (15km), 1x 10/100TX, ext. PS (110/230VAC)	**MS410645-V2**
FE Desktop Mini Bridging Converter SM simplex 1x 100FX SC/SM TX1310nm/RX1550nm (15km), 1x 10/100TX, ext. PS (110/230VAC)	**MS410644A-V2**
FE Desktop Mini Bridging Converter SM simplex 1x 100FX SC/SM TX1550nm/RX1310nm (15km), 1x 10/100TX, ext. PS (110/230VAC)	**MS410644B-V2**
FE Desktop Mini Bridging Converter SM 1x 100FX SC/SM (40km), 1x 10/100TX, ext. PS (110/230VAC)	**MS410646-V2**

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