MICROSENS

Media Converter
Fast Ethernet
100Base-FX / 100Base-TX

Installation Guide

CE

Art.-No.

MS410640 / 41 / 44 / 45 / 46

Internet www.microsens.com
e-mail info@microsens.com

Headquarters
MICROSENS GmbH & Co. KG
Kueferstrasse 16
D-59067 Hamm
Germany
Phone +49 (0) 23 81-94 52-0
FAX +49 (0) 23 81-94 52-100

Western Europe
MICROSENS France
ZA Eurocampus Bât J 3
rue de Verdun
F-78590 Noisy le Roi
Phone +33 (0) 1-30 80 21 73
FAX +33 (0) 1-30 80 44 83

Eastern Europe
MICROSENS Poland
ul. Ślężna 187/s-2
PL 53-110 Wrocław
Phone +48 (0) 71-337 16 71
FAX +48 (0) 71-337 16 72

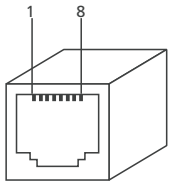
Asia Pacific
MICROSENS GmbH & Co. KG
Asia Pacific Representative Office
#04-51 German Centre
25 International Business Park
Singapore 609916
Phone +65 562 9132
FAX +65 562 9135

Technical Specifications

type	Fast Ethernet Media Converter for the connection of twisted pair and fiber optic segments.
connectors	1x RJ45 jack 2x ST* connector (MS410641/45) 2x SC connector (MS410640/44/46) 1x power supply jack
cable type	Shielded twisted pair cable category 5 with RJ45 connectors
max. distance	100 m
fiber type	Multimode fiber, 50 or 62,5/125µm - duplex ST* (MS410641) - duplex SC (MS410640) Single mode fiber, 9/125µm - duplex ST* (MS410645) - duplex SC (MS410642/46)
wavelength	1300 nm
max. distance	2 km (MS410640/41) 15 km (MS410644/45) 40 km (MS410646)
LED display	Power, Fiber-Link, Fiber-Rcv, TP-Link, TP-Rcv, Link-Error
power supply	external power supply 5V DC / 1 A
operating temp.	0°C to 55°C
storage temp.	-20°C to 80°C
rel. humidity	5% to 80% non condensing

Connectors

pin assignment RJ45-jack



pin	signal	dir
1	TD+	out
2	TD-	out
3	RD+	in
4	-	-
5	-	-
6	RD-	in
7	-	-

Figure 1: RJ45 pinout

Distance calculation

Using Fast Ethernet in **half duplex** mode limits the maximum segment length to 412m.
A MICROSENS media converter in this segment has a maximum delay of 25 bit times, reducing the maximum fiber length by approx. 25 m.

For each converter in a half duplex segment 25 m must be subtracted from the possible maximum fiber length of 412m.

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

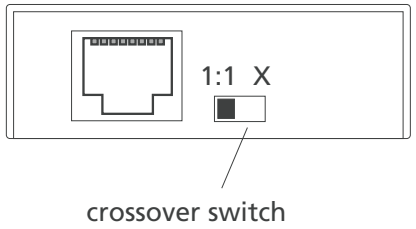


Figure 2: Twisted pair crossover switch

Installation

To connect the converter to other devices a standard 1:1 twisted pair patchcable can be used.

To connect the converter to an end-device (PC, print server, etc.) the crossover switch must be set to position “X” (Fig. 2).

To connect the converter to a hub or switch the crossover switch must be set to position “1:1” (Fig. 2).

Always connect fiber optic transmitter to fiber optic receiver and vice versa.
The fiber link LED indicates the successful installation of the connection.
Attention: Because of the link-trough functionality of the converter there will be no link-indication as long as there is no active device (hub, PC) connected.

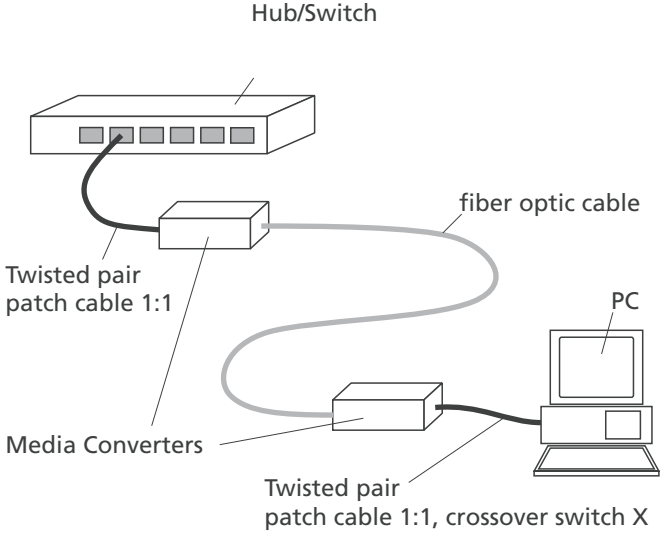


Figure 3: Typical connection of converters

LED Display

Six LEDs show the status of the converter and can be used for error diagnostics:

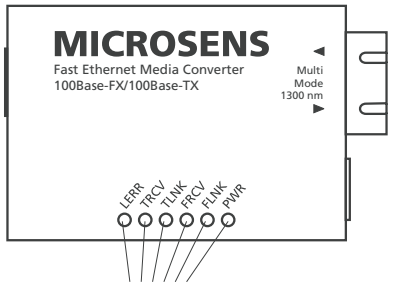


Fig. 4: Converter LED display

LED	name	description
LERR	link error	fiber link missing
TRCV	TP receive	data received via TX port
TLNK	TP link	TP link ok
FRCV	fiber receive	data received via SX port
FLNK	fiber link	fiber link ok
PWR	power	converter power ok