Media Converter 12 port 10Base-FL/10Base-T TELCO /RJ-45

MICROSENS

MS416700 /1
MS416704 /7

Features

The MICROSENS 12 Port Ethernet Media Converter enables the direct repeaterless coupling of twisted pair and fiber optical segments to Ethernet network.

The compact design

It is designed as 19“ unit with a mounting height of 1 HU.
All 12 and/or 6 converters and a 230V ac power supply are mounted in the unit.
The flat design permits a high port density in a distribution rack.
The converter is particularly useful for the economical conversion of numerous TP-ports to optical fiber.

Full duplex

The converter supports half as well as full duplex connections. In full-duplex operation can transfer and receive data simultaneously. The effective data rate increases to 20 Mbps.

Link-transparency

The Link status of the segment is transmitted by the converter (‘Link-Through’), which means that in case of a link failure on the optical side, no link on the twisted pair side is generated (and vice versa).

Option TELCO / RJ-45

The converter is available either with twelve RJ45 jacks or one TELCO connector on the 10Base-T side.

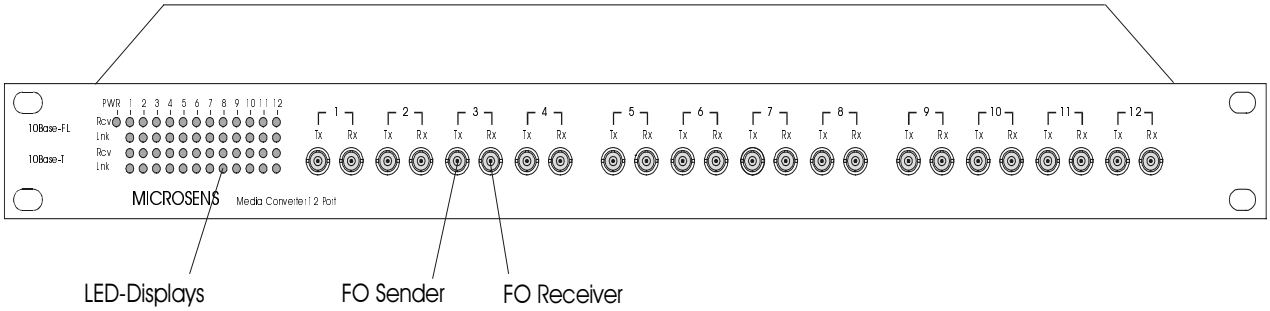
Technical Specifications

Type	12 Port Media Converter10Base-T/10Base-FL for 19" mounting, (IEEE 802.3)
Fiber type	Shielded Twisted Pair Kabel, 100 Ohm, Category 5
Data rate	10 Mbps
Opt. power	-19 dBm (850 nm multimode, typ.)
Opt. senstivity	-32,5 dBm (850 nm, typ.)
LED display	4 status / activity indications per port
Power supply	230 V AC, 50 Hz
Power consumption	max. 15 VA
Operating temperature	0°C to 55°C
Storage temperature	-20°C to 80°C
Rel. humidity	5% to 80% non condensing
Dimensions	1 HU x 84 DU x 220 (w x d x h)

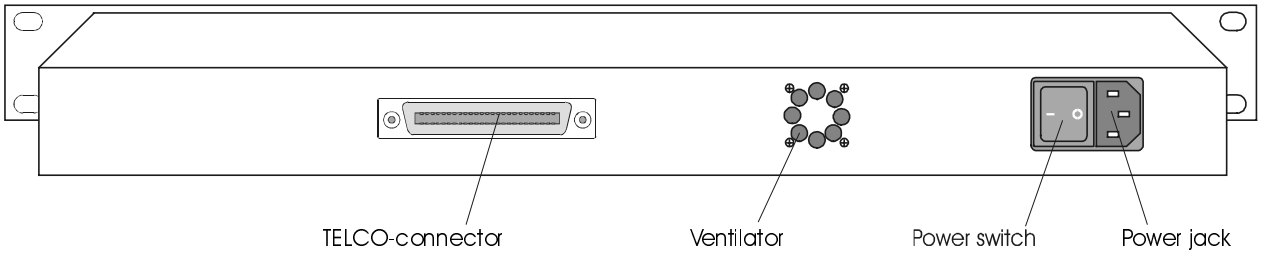
Order Information

Article No.	**Description**	**Connectors**
MS416700	12 port Ethernet Media Converter, 10Base-T/ 10Base-FL, Multimode RJ-45	24 x ST 12 x RJ-45 1 x power connector
MS416707	12 port Ethernet Media Converter, 10Base-T/ 10Base-FL, Multimode RJ-45	24 x SC 12 x RJ-45 1 x power connector
MS416701	12 port Ethernet Media Converter, 10Base-T/ 10Base-FL, Multimode TELCO	24 x ST 1 x TELCO 1 x power connector
MS416704	12 port Ethernet Media Converter, 10Base-T/ 10Base-FL, TELCO	24 x SC 1 x TELCO 1 x power connector

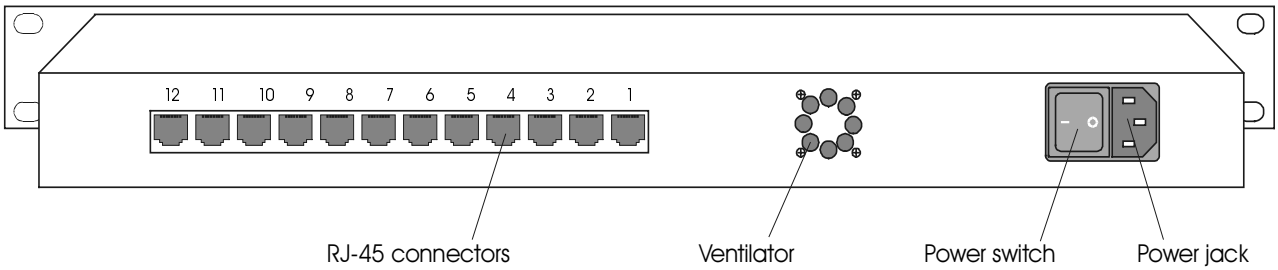
Connectors



Connectors on the front side



Connections on the rear side (TELCO Version)



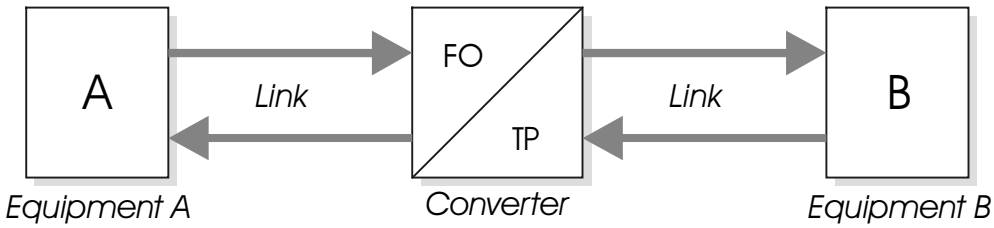
Connections on the rear side (RJ-45 Version)

Link-transparency

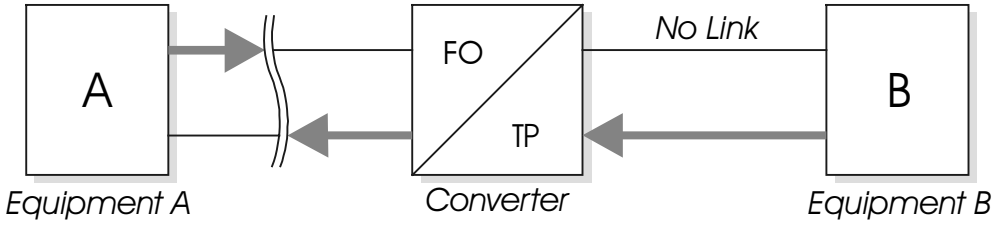
The converter transports those LINK signal through ("link-Thru"), i.e. if no link is received on the FO side, no link is send on the TP side (and vice versa).

The converter recognizes the state of the opposite side via the combined equipment. Status information of the net management is not corrupted by the converter.

a) Normal state: Link-signal into both directions



B) Error: interruption of the transmission

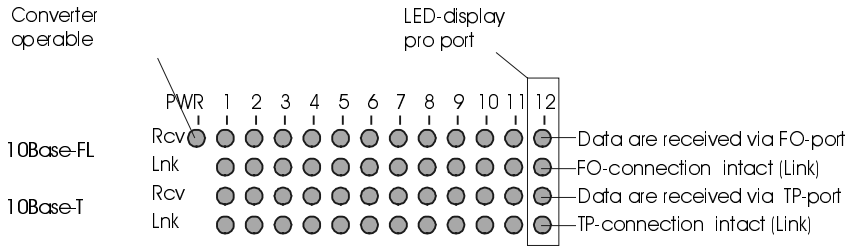


Length reduction

The converter has a signal delay of a maximum 15 bit times, which means that the reduction of the segment length can be ignored.

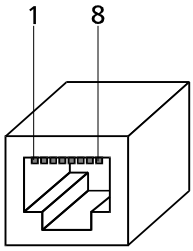
LED-Display

In total 49 LED'S show the state of the converter. For each port four LED'S show the link status and the port activities.



Pin assignment (RJ-45 Version)

The RJ45 connector has the assignment of a non-crossed 10Base-T port.

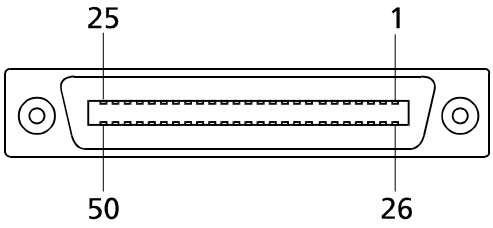


Pin	Direction	Signal
1	out	TD+
2	out	TD-
3	in	RD+
4,5	-	unused
6	in	RD-
7,8	-	unused

- It can be connected in 1:1 patch cable with a hub and / or switch jack.
- For the connection to an end device (e.g. PC card or transceiver a crossed RJ-45 patch cable) must be used.

Pin assignment (TELCO Version)

The TELCO connector (50 polarize, feminine) is reserved as follows:



Pin	Direction	Signal
1,26	out	TD1+, TD1-
2,27	in	RD1+, RD1-
3,28	out	TD2+, TD2-
4,29	in	RD2+, RD2-
5,30	out	TD3+, TD3-
6,31	in	RD3+, RD3-
7,32	out	TD4+, TD4-
8,33	in	RD4+, RD4-
9,34	out	TD5+, TD5-
10,35	in	RD5+, RD5-
11,36	out	TD6+, TD6-
12,37	in	RD6+, RD6-
13,38	out	TD7+, TD7-
14,39	in	RD7+, RD7-
15,40	out	TD8+, TD8-
16,41	in	RD8+, RD8-
17,42	out	TD9+, TD9-
18,43	in	RD9+, RD9-
19,44	out	TD10+, TD10-
20,45	in	RD10+, RD10-
21,46	out	TD11+, TD11-
22,47	in	RD11+, RD11-
23,48	out	TD12+, TD12-
24,49	in	RD12+, RD12-

Connection / startup

The equipment is completely ready to use. For initiation, the converter is connected over 230 V power cable by the disconnected power switch with one / 50 Hz adapter connection. The power consum amounts to max.15 VA.
After activation of the power switch, only the Power-LED may light up (provided that no further acting equipment is connected to the net ports).

FO-Connection

FO segments are connected with the ST/SC connectors on the equipment front.
It is connected with a fiber optic cable from FO Sender to the fiber-optic receiver port (legend Rx). The fiber optic cable from FO Receiver connects with FO Sender port (legend Tx).

Caution
If TP connection is not installed at this time / or this is not active, the equipment connected via the FO route announces no link (LINK transparency).

TP-Connection (RJ-45)

TP segments are connected with RJ-45 connector via patch cable. If the converter is connected with a hub or switch (normal case), 1:1 standard patch cable can be used.

If end device ports are connected, crossed patch cable (pair 1,2 to 3,6) must be used.
If connection is correct and all equipment are active, the TP link LED which belongs to the port, must light up at the converter.

Caution
If TP connection is not installed at this time / or this is not active, the equipment connected via the FO route announces no link (LINK transparency).

TP-Connection (TELCO)

A 1:1 TELCO cable can connect all twelve ports of the converter with a corresponding connector to a switch or hub.
If connection is correct and all equipment is active, twelve TP link LEDs must light up at the converter.

Caution
If TP connection is not installed at this time / or this is not active, the equipment connected via the FO route announces no link (LINK transparency).