12 port media converter 100Base-FX/100Base-TX for 19" mounting, 1HU

MICROSENS

Description

Fast Ethernet media converter for the direct, repeaterless connection of twisted pair and fiber segments in a Fast Ethernet network.

Compact design

The converter is designed for mounting in a 19" rack and has a height of 1 HU. Due to this compact design it is possible to provide very high port densities in the distribution racks.

Management

An optional management module shows current information about the connection status, power supply, fan status and temperature. This information can be accessed via SNMP or web based management.

Redundant power supply

With an external power supply unit it is possible to supply up to six converter systems with redundant power.

Full Duplex

The converter supports half as well as full duplex transmission. In full duplex mode the transmit and receive channels can transfer data at the same time, which increases the effective data rate up to 200 Mbps.

Link-Transparency

The link status of the segment is forwarded by the converter (Link Through), which means in case of a missing link on the fiber side there is also no link generated on the twisted-pair side.

Max. Distance

Using multimode fiber with full duplex mode it is possible to cover distances up to 2 km. Using single mode fiber with full duplex mode it is possible to cover distances up to 15 km (standard version) and up to 40 km (extended version).

Technical specifications

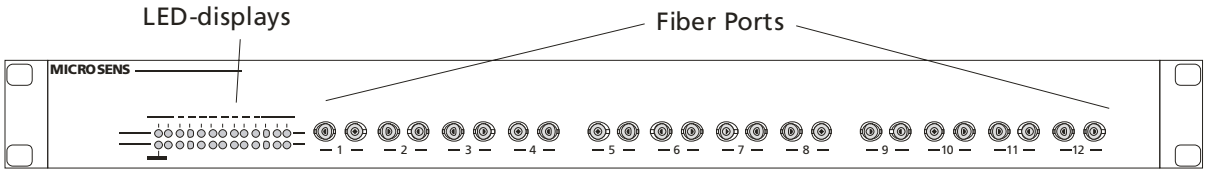
Type	Fast Ethernet media converter for the repeaterless connection of twisted pair (100Base-TX) and fiber (100Base-FX) segments
Fiber type	Multimode 50 or 62,5/125µm, single mode 9/125µm duplex with ST-/SC-connectors
Cable type	TELCO cable
Data rate	100 Mbps
Opt. power	-19 dBm min. (1300 nm multimode) -15 dBm min. (1300 nm single mode)
Sensitivity	-30 dBm min. (1300 nm multimode) -31 dBm min. (1300 nm single mode)
Max. distance	Full duplex: 2 km (Multimode) min. 15 km (Single mode) Half duplex: 362 m
LED displays	*PWR* Module active *LNK/RCV FX* FX connection established (steady) Data received on FX port (blinking) *LNK/RCV TX* TX connection established (steady) Data received on TX port (blinking) *MGR* Management active
Power supply	wide range 100..240 V AC, max. 100 VA, optional RPSU redundant (MS416030)
Operating-/store-temp.	0°C to 55°C / -20°C to 80°C
Rel. humidity	5% to 80% non condensing
Dimensions	1 HU x 84 DU x 245 mm
Management	Optional with management module (MS416023-B). Management stack of multiple converters is possible with slave module (MS416026).

Length reduction

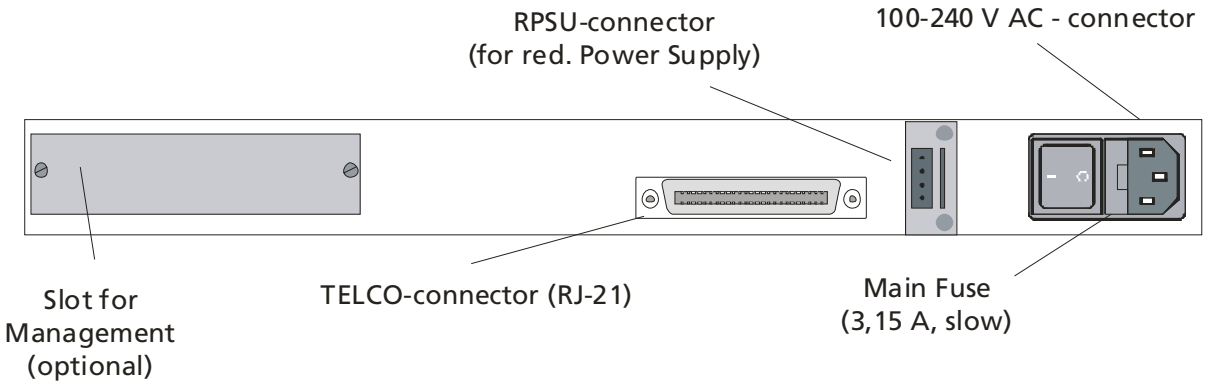
Half duplex segment
The converter has a signal delay of max. 50 bit times. The maximum segment length of 412 m is reduced by max. 50 m for the fiber side.

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

Front side

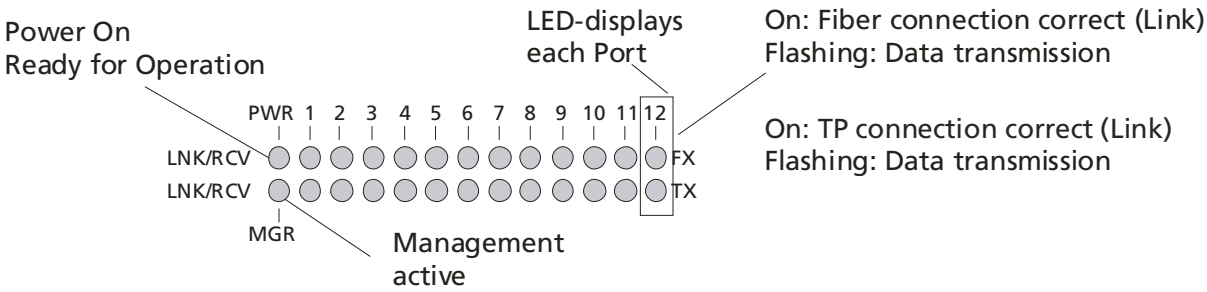


Back side



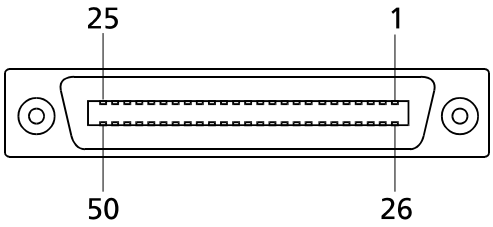
LED displays

Depending on the version there are multiple LEDs showing status information of the converter. For each port there is information about the links status and port activity shown.



Pinout

The TELCO connector (50 pin, female) has the following pinout:



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-

Since the converter has an autocrossing function it is not necessary to select between 1:1 and 1:X connections. If necessary the converter crosses RD and TD automatically.

Connection / Starting operation

The device is delivered ready for installation. The converter is connected with the included power cable to a 110-240 VAC / 50-60 Hz power supply. The position of the power switch must be off for this. The maximum power consumption is 100 VA.
After switching on the device, all LEDs are on for a short moment (only if there are no active network components connected to the converter).

Fiber connection

The fiber segments are connected with ST/SC fiber patch cords on the front side of the converter. The fiber coming from the transmitter at the opposite site is connected to the receive port of the converter (printing Rx), the fiber coming from the receiver must be connected to the transmitter (printing Tx). If the connection is correct the link LED of this port must be on.

TP connection (TELCO)

With a 1:1 TELCO cable it is possible to connect 12 ports to a hub or switch.
If the connection is correct the link LED of all connected ports must be on.

Attention
If there is no fiber connection or the connected device is not active, the device connected over the TELCO cable does not show a link (link transparency).

Order information

Part no.	Description	Connectors
MS416830M	12 Port Fast Ethernet Media converter 1310nm Multimode ST, manageable	1x TELCO 100Base-TX 24x ST 100Base-FX RPSU, Management slot
MS416831M	12 Port Fast Ethernet Media converter 1310nm Multimode SC, manageable	1x TELCO 100Base-TX 12x SC duplex 100Base-FX RPSU, Management slot
MS416833M	12 Port Fast Ethernet Media converter 1310nm Multimode VF-45, manageable	1x TELCO 100Base-TX 12x VF-45 100Base-FX RPSU, Management slot
MS416835M	12 Port Fast Ethernet Media converter 1310nm Single mode Laser ST, manageable	1x TELCO 100Base-TX 24x ST 100Base-FX RPSU, Management slot
MS416836M	12 Port Fast Ethernet Media converter 1310nm Single mode Laser SC, manageable	1x TELCO 100Base-TX 12x SC duplex 100Base-FX RPSU, Management slot
MS416839M	12 Port Fast Ethernet Media converter 1310nm Multimode MT-RJ, manageable	1x TELCO 100Base-TX 12x MT-RJ 100Base-FX RPSU, Management slot

MS416023-B	SNMP / web based management master module	2 x RJ45 1 x SUBD-9
MS416026	Management slave module	2 x RJ45
MS416031	Redundant power supply unit	6 x RPSU connector

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