

Media converter module 10Base-T/10Base-2

MICROSENS

MS416103/4

Description

Ethernet media converter for the direct repeaterless interconnection of coaxial and Twisted Pair segments in an Ethernet network. The repeaterless connection does not restrict the maximum number of repeaters in a segment.

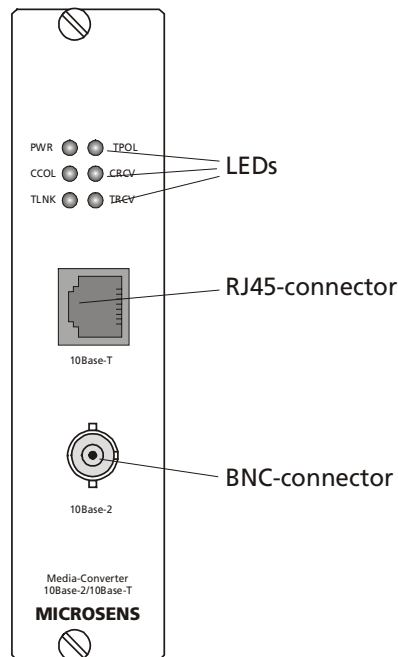
A second version of the converter module does a full repeating of the signal. This is recommended if long segments with many users are connected to the converter.

The converter is build in form of a module to be mounted in the MICROSENS 19" modular chassis. The power is supplied by the central power supply of the chassis. A maximum of 12 modules plus one power supply can be mounted in one chassis.

Technical Data

| | |
|----------------------------|--|
| Type | Ethernet media converter module for repeaterless / repeated connection of coaxial- (10Base-2) and TP-segments (10Base-T) according to IEEE 802.3. |
| Cable type | Shielded Twisted-Pair cable (Cat. 5) with RJ45 conn., 100Ω RG58 Coaxial-cable with BNC-connectors, 50Ω |
| Datarate | 10 Mbps |
| Cable length | Twisted Pair-cable max. 100 m Coaxial-cable max. 185 m (total length of both segments has to be calculated for repeaterless connection) |
| LED Display | <i>PWR</i> Power applied <i>TPOL</i> Polarity of TP-Signal <i>CCOL</i> Collision on 10Base-2 segment <i>CRCV</i> Data receive on 10Base-2 port <i>TLNK</i> 10Base-T link ok <i>TRCV</i> Data receive on 10Base-T port |
| Power Supply | 12 V DC / max. 400 mA via Backplane |
| Oper-/Storage-temp. | 0°C to 55°C / -20°C to 80°C |
| rel. humidity | 5% to 80% noncondensing |
| Dimensions | 128 x 31x 175 mm |

Connectors



LEDs

The LEDs on the converter have the following functions:

PWR ● ● **TPOL**
TLNK ● ● **TRCV**
CCOL ● ● **CRCV**

| | |
|----------------------------|---|
| PWR Power | Power applied |
| TPOL TP Polarity | Wrong polarity of the Twisted Pair signal |
| TLNK TP Link | 10Base-T link ok |
| TRCV TP Receive | Data receive on 10Base-T port |
| CCOL Coax Collision | Collision on 10Base-2 segment (lights up if coaxial cable is not terminated) |
| CRCV Coax Receive | Data receive on 10Base-2 port |

Difference to repeater version (MS416104):

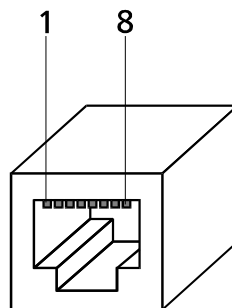
- **TLNK**- and **TRCV**-LED are blinking when data is received.
- **CRCV**-LED is blinking when coaxial cable is not terminated.

Termination

By a Jumper near the BNC connector on the board the coaxial segment can be terminated with 50Ω. Then one end of the coaxial cable can be connected directly. When using a T-connector with external terminator, the Jumper must be opened.

Pinout

The RJ45 jack has the pinout of an end device (1:1).



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

- Use a 1:1 patchcord to connect to a Hub- or Switch port.
- Use a crossed patchcable to connect to an end device (e.g. PC or Printer).

Installation Options

The converter module can be mounted in the MICROSENS modular chassis. It can be combined with any other type of converter module.

The power is supplied from a central power supply via the backplane of the chassis. A maximum of 12 modules plus one power supply can be mounted in one chassis.

Optional a second power supply can be installed for redundant operation. In this case 10 modules plus two power supplies can be mounted in one chassis.

Order Designation

| Art.-No. | Description | Connectors |
|----------|---|-------------------|
| MS416103 | Media Converter Module 10Base-T/10Base-2 repeaterless | 1x RJ45 1x BNC |
| MS416104 | Media Converter Module 10Base-T/10Base-2 with repeater function | 1x RJ45 1x BNC |

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