**MC11x Series**

**Fast Ethernet Media Converters**

**AT-MC115XL**
10/100TX to 10FL/100SX 850nm fiber ST media converter

**AT-MC116XL**
10/100TX to 10FL/100SX 850nm fiber SC media converter

**Fiber Connections**
The Allied Telesis range of 850nm fiber Fast Ethernet media converters allows users to extend the size of UTP networks with the use of fiber cabling. Converting between 10T and 10FL or 100TX and 100SX fiber quickly and reliably, the AT-MC115XL and AT-MC116XL address the growing demand for a low-cost solution for fiber installations of up to 300 meters for 100SX and up to 2km for 10FL. To maximize flexibility, the converters are available in ST (AT-MC115XL) and SC (AT-MC116XL) fiber connector styles.

**Auto-Negotiation**
The AT-MC115XL and AT-MC116XL auto-negotiate during the link-up phase of the connection to set the speed (10/100) and operation mode (full or half-duplex). When connecting media converters to auto-negotiating Fast Ethernet switches, these media converters will automatically connect the link in either full or half-duplex mode, allowing the link to be established with the greatest bandwidth.

**MissingLink™**
The MissingLink feature allows accurate reporting to network management systems as well as allowing devices with redundant link capability to be inter-connected with these media converters. Failure in one fiber link will be signalled to the switch, allowing the second link to become active.

**Simple Installation**
All the media converters with a UTP connection feature an internal MDI/MDI-X switch, allowing the converter to be connected to either a PC, hub or switch with a simple UTP cable. The media converters also allow the installer to test the integrity of fiber connection, by forcing the converters to communicate over the fiber cable. This link test feature allows installers to check for cable faults without the need for expensive fiber optic test equipment.

**Standalone or Rack-mountable**
Each media converter is powered by an external power supply unit for use in standalone applications. Where multiple media converters are being used, up to 12 devices can be inserted into a low-cost rack-mount chassis, allowing all the converters to be powered by a single internal power supply. In critical applications, a second load sharing internal power supply can be installed into the rack-mount chassis.

**Key Features**
- EnergyStar power adapters save customers a minimum of 20% power consumption*
- 10/100TX copper port
- 10/100SX fiber port
- Half and full-duplex operation
- Transparent to IEEE 802.1Q packets
- Rack-mountable using optional AT-MCR12, AT-TRAY4 or AT-TRAY1 chassis
- MDI/MDI-X
- MissingLink
- Link test
- Auto-negotiation
- Wall-mountable using optional AT-WLMT bracket

* Compared to previous models

Allied Telesis www.alliedtelesis.com

Powered by an ENERGY STAR® qualified adapter for a better environment
## Technical Specifications

### Status Indicators

<table>
<thead>
<tr>
<th>Power</th>
<th>Indicates power is applied to the converter</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal</td>
<td>Indicates converter is operating in normal mode</td>
</tr>
<tr>
<td>Receive</td>
<td>Indicates port receiving or transmitting data</td>
</tr>
<tr>
<td>10</td>
<td>Indicates link established at 10Mbps</td>
</tr>
<tr>
<td>100</td>
<td>Indicates link established at 100Mbps</td>
</tr>
</tbody>
</table>

### Power Characteristics

- **External power supply**: 120V AC, 60Hz (US model)
- **240V AC, 50Hz (European models)**
- **Input supply voltage**: 12vDC
- **Max current**: 500mA
- **Power consumption**: 6W

### Environmental Specifications

- **Operating temp.**: 0°C to 50°C
- **Storage temp.**: -20°C to 80°C
- **Relative humidity**: 5% to 95% non-condensing
- **Operating altitude**: 0 to 3.000m (10.000ft)

### Packet Transmission Characteristics

- **Round trip delay**: 0.4µs maximum
- **Bit Error Rate (BER)**: <10^-12

### Twisted Pair Interface

<table>
<thead>
<tr>
<th>UTP Differential Output Voltage</th>
<th>Typical</th>
<th>Min.</th>
<th>Max.</th>
</tr>
</thead>
<tbody>
<tr>
<td>900mv</td>
<td>950mv</td>
<td>1050mv</td>
<td></td>
</tr>
</tbody>
</table>

- **Overshoot Voltage**
  - **Typical**: 4%
  - **Max.**: 5%

<table>
<thead>
<tr>
<th>Signal Amplitude Symmetry</th>
<th>Typical</th>
<th>Min.</th>
<th>Max.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.0062</td>
<td>0.98</td>
<td>1.02</td>
<td></td>
</tr>
</tbody>
</table>

- **Rise and Fall Time**
  - **Typical**
    - **Rise**: 4.6ns
    - **Fall**: 4.2ns
  - **Min.**
    - **Rise**: 3.0ns
    - **Fall**: 3.0ns
  - **Max.**
    - **Rise**: 5.0ns
    - **Fall**: 5.0ns

<table>
<thead>
<tr>
<th>Rise and Fall Time Symmetry</th>
<th>Typical</th>
<th>Max.</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.4ns</td>
<td>0.5ns</td>
<td></td>
</tr>
</tbody>
</table>

### Electrical/Mechanical Approvals

- **EMC**: FCC Class A, FCC Class B
- **Safety**: UL-Cul, CSA/CSA, NRTL, TUV, CE compliant

### Fiber Interface Parameters

<table>
<thead>
<tr>
<th>Wavelength</th>
<th>Typical</th>
<th>Min.</th>
<th>Max.</th>
</tr>
</thead>
<tbody>
<tr>
<td>850nm</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Transmit power</th>
<th>Typical</th>
<th>Min.</th>
<th>Max.</th>
</tr>
</thead>
<tbody>
<tr>
<td>-12 dBm</td>
<td>-15dBm</td>
<td>-10dBm</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Receive sensitivity</th>
<th>Typical</th>
<th>Min.</th>
<th>Max.</th>
</tr>
</thead>
<tbody>
<tr>
<td>-34.4dBm</td>
<td>-7.6dBm</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Link budget</th>
<th>Typical</th>
</tr>
</thead>
<tbody>
<tr>
<td>11.7dBm</td>
<td></td>
</tr>
</tbody>
</table>

## Power Characteristics

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<tr>
<td>Input supply voltage</td>
<td>12vDC</td>
</tr>
<tr>
<td>Max current</td>
<td>500mA</td>
</tr>
<tr>
<td>Power consumption</td>
<td>6W</td>
</tr>
</tbody>
</table>

## Ordering Information

- **AT-MC115XL-XX**: 10/100TX to 10FL/100SX 850nm media converter with ST fiber connectors
- **AT-MC116XL-XX**: 10/100TX to 10FL/100SX 850nm media converter with SC fiber connectors

Where xx =

- 10 AC power supply, US power cord
- 20 AC power supply, European power cord
- 30 AC power supply, UK power cord
- 40 AC power supply, Australian power cord

### Associated Products

- **AT-MCR12-xx**: 12 slot power distribution chassis
- **AT-TRAY4**: 19-inch rack-mount chassis for up to four media converters
- **AT-TRAY1**: 19-inch rack-mount chassis for one media converter
- **AT-WLMT**: Wall-mount bracket for one media converter

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