MCR300-1T/1S
Gigabit Ethernet to SFP Media Converter

OVERVIEW
The IFS Gigabit Ethernet to SFP Media Converter is designed for the most demanding extended IP network applications offering the flexibility of SFP technology for Gigabit Ethernet transmission over optical fiber.

SFP Technology
The IFS MCR300-1T/1S converts 10/100/1000Base-T Ethernet on copper to 1000Base-LX/SX optical fiber via Small Form-format Pluggable (SFP) technology. This media converter can be custom configured to your exact system design specifications by utilizing a variety of IFS SFP Mini-GBIC modules. IFS SFP Mini-GBIC modules are available in a variety of versions from multi-mode or single mode fiber, 1 or 2 fibers and wide-temperature versions.

Enhanced Smart Link Management
The MCR300-1T/1S provides Auto MDI/MDI-X on its TP port and a DIP-switch to configure the Link Fault Pass-through function (LFP). The LFP function includes both Link Loss Carry Forward (LLCF) and Link Loss Return (LLR). The LLCF/LLR function combination provides efficient TP and optical transmission media monitoring and enables immediate alarm notification to network administrators in the event of a link problem.

Unified Enclosure Design
The MCR300-1T/1S is designed with a unified enclosure that can be used in a stand-alone installation or can easily be inserted into the IFS MCR-R15 media converter rack. The IFS Media Converter Rack can provide DC power for up to 15 MCR Series Media Converters.

STANDARD FEATURES

Ethernet
- 10/100/1000Base-TX
- Complies with IEEE 802.3 10Base-T; IEEE 802.3u 100Base-TX; and IEEE 802.3ab 1000Base-T
- Auto-negotiation and Auto-MDI/MDI-X
- Half-duplex or Full-duplex for 10/100Mbps; full-duplex for 1000Mbps
- Supports OAM (TS-1000 and IEEE 802.3ah)
- 9K jumbo frame supported

SFP (Mini-GBIC) Port
- IEEE 802.3z 1000Base-LX/SX standards
- 1 SFP slot provides custom configuration
- Optical fiber and distance varies by SFP (ordered separately)

Installation & Diagnostics
- Compact size, plug-n-play installation
- LED indicators for easy local network diagnostics
- DIP-switch for LFP function (Enable / Disable) setting
- Unified design for stand-alone or rack mount installation (MCR-R15 chassis)

Warranty
- 3-year warranty
## Specifications

<table>
<thead>
<tr>
<th>Ethernet</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Data Rate</strong></td>
<td>10/100/1000Mbps</td>
</tr>
</tbody>
</table>
| **Packet Forwarding Rate** (64 bytes) | 14,880pps @10Mbps  
148,810pps @100Mbps  
1,488,000pps @ 1000Mbps |
| **OAM** | TS-1000, IEEE 802.3ah terminal |
| **Jumbo Packet Size** | 9K |
| **Flow Control** | Half/Duplex |
| **Connector** | RJ-45 (Auto-MDI/MDI-X) |
| **Cable Type and Distance** | 10Base-T: 2-pair UTP Cat. 3,4,5, up to 100 m  
100Base-TX: 2-pair UTP Cat. 5, up to 100 m  
1000Base-T: 2-pair UTP Cat. S5e/6, up to 100m |

### Fiber

| **Data Rate** | 1000Base-LX/SX |
| **Connector** | SFP (Mini-GBIC) port |
| **Fiber Type and Distance** | Varies by SFP module |

#### LED Indicators & Controls

| **Power/Status** | Green/On – power detected (+5VDC) |
| **10/100/100Base-T port link/activity** | Green/On – link established  
Green/blinking – active port (TX/RX) |
| **10/100/1000Base-T port speed** | Green/On – 1000Mbps full duplex mode operation  
Green/Off – 10/100Mbps full duplex mode operation |
| **SFP (Mini-GBIC) port link** | Green/On – link established  
Green/blinking – active port (TX/RX) |
| **DIP switch** | LFP function (Enable/Disable) setting |

#### Electrical & Mechanical

| **Power** | 5VDC, 2A (5.6 watts) |
| **Enclosure** | Metal |
| **Dimensions (W x D x H) in, mm** | 3.82 x 2.76 x 1.02 in.; (97 x 70 x 26 mm) |
| **Weight** | 0.41 lbs. / 190 grams |

#### Environmental

| **Operating Temperature** | 0°C – 50°C |
| **Storage Temperature** | -10°C – 70°C |
| **Relative Humidity** | 5% – 90% (non-condensing) |
| **MTBF** | > 50,000 hrs @ 25°C |

#### Standards Compliance

| **IEEE** | IEEE 802.3, 10Base-T  
IEEE 802.3u, 100Base-TX  
IEEE 802.3ab 1000Base-T  
IEEE 802.3ae 1000Base-SX/LX/BX |
| **EMI** | EN 55022 CLASS A  
EN61000-3-2:2006  
IEC 61000-4-2:2001  
IEC 61000-4-3:2008  
IEC 61000-4-4:2004  
IEC 61000-4-5:2005  
IEC 61000-4-6:2008  
IEC 61000-4-8:2001 |
**Typical Application**

- **IP Camera**: Cat 5e Cable
- **IP Access**: Cat 5e Cable
- **Network Switch**: Cat 5e Cable
- **IP Intercom**: Cat 5e Cable
- **Coaxial Cable**: MCR200-1T/1CX Ethernet to Coax Media Converter
- **Optical Fiber**: MCR205-1T/1S Fast Ethernet to SFP Media Converter
- **Optical Fiber**: MCR300-1T/1S GigE Ethernet to SFP Media Converter
- **Coax** – up to 3Km
- **Fiber** – varies by SFP and fiber type
- **MCR-R15**: Media Converter Rack
- **Network Switch**: Cat 5e Cable

---

**Dimensional Diagrams**

- **Height**: 3.82 in. (97 mm)
- **Width**: 1.02 in. (26 mm)
- **Length**: 2.76 in. (70 mm)
MCR300-1T/1S
Gigabit Ethernet to SFP Media Converter

Ordering Information

| MCR300-1T/1S | Gigabit Ethernet to SFP Media Converter |

Important Ordering Information: This unit requires a Small Form-factor Pluggable (SFP) for operation. IFS SFPPs are available for multi-mode, single mode, 1 or 2 fibers for various transmission distances over optical fiber. Please refer to the IFS SFP data sheet to select the appropriate SFP for your particular application needs. This unit uses Gigabit SFPPs only.

Note: Power Supply must be ordered separately.

Accessories

| PS5VDC2A-US | SVDC82A Wall-mount Power Supply |
| MCR-R15 | MCR Series Media Converter Chassis |