Moog provides the military ground communications market a new family of best-in-class interconnect and optical / media conversion products integrated into a connector-based solution.

Leveraging Moog’s military fiber optic capabilities, we have developed micro components that are assembled into the jam nut receptacle of a TFOCA-II® or Expanded Beam connector to produce a connector based fiber-to-copper Ethernet converter operating at data rates up to 10 Gbps.

In addition, the Moog Micro-Flex™ line of multiplexers connects directly to the Fiber Optic Modem (FOM) and adds Ethernet switching or mixed signal multiplexing of many discrete signals to the FOM. Our flexible, building block approach allows communication systems engineers and Moog’s applications engineers to work together and develop the exact solution that provides optimal benefits to the end customer.

Moog and Amphenol Fiber Systems are working collaboratively to provide innovative tactical communication solutions.

**TFOCA-II and Expanded Beam connector based capabilities include:**
- Connector-based transmit and receive optical sub-assemblies (TOSA / ROSA)
- Connector-based optical to electrical media converter
- Connector-based, add-on multiplexers (Moog Micro-Flex multiplexers)
- Optical data transport rates up to 10 Gbps (1.0 Gbps and 10 Gbps are standard)
- Optical to electrical conversion at rates up to 10 Gbps (via 10 Gbps Ethernet)
### Tactical Connector Fiber Optic Modems - Optical Ethernet Data Transmission Modules

<table>
<thead>
<tr>
<th></th>
<th>At 1.0 Gbps</th>
<th>At 10 Gbps</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Wavelength</strong></td>
<td>1310 nm DFB</td>
<td>1310 nm</td>
</tr>
<tr>
<td><strong>Transmit Power</strong></td>
<td>+2.5 dBm typical</td>
<td>-3.8 dBm typical</td>
</tr>
<tr>
<td><strong>Receive Sensitivity</strong></td>
<td>-34 dBm typical</td>
<td>-14.4 dBm typical</td>
</tr>
<tr>
<td><strong>Optical Budget</strong></td>
<td>36.5 dB typical</td>
<td>10.6 dB typical</td>
</tr>
</tbody>
</table>

#### Optical Budget

- **At 1.0 Gbps**
  - **Wavelength**: 1310 nm DFB
  - **Transmit Power**: +2.5 dBm typical
  - **Receive Sensitivity**: -34 dBm typical
  - **Optical Budget**: 36.5 dB typical

- **At 10 Gbps**
  - **Wavelength**: 1310 nm DFB
  - **Transmit Power**: -3.8 dBm typical
  - **Receive Sensitivity**: -14.4 dBm typical
  - **Optical Budget**: 10.6 dB typical

#### Transmission Distance Over Fiber

- **At 1.0 Gbps**
  - Singlemode: Up to 120 kilometers
  - Multimode: Up to 275 meters

- **At 10 Gbps**
  - Singlemode: Up to 10 kilometers
  - Multimode: Up to 220 meters

#### DC Power Requirements

- **+5 VDC Power**
  - From < 500 mA to up to 1.0 A depending on configuration selected

#### Copper Interface

- **Signal**: Custom - depending on number and type of signal channels
- **Power**: Custom - depending on voltage availability

### Micro-Flex Multiplexers and Media Converters

#### DC Power Requirements

- **+5 VDC Vehicle Power**
  - From < 500 mA to up to 1.0 A depending on configuration selected

#### Copper Interface

- Custom - depending on number and type of signal channels

These products are specifically engineered for military applications. They are developed, tested, manufactured and supported at Moog Components Group, Springfield, PA, Operations (AS / EN / JISQ 9001 and ISO 9001:2008 Certified).

### Mechanical Information

![Mechanical Information Diagram]