The ComNet™ FDC10 Series bi-directional contact closure transceiver provides bi-directional transmission of contact closure over one multimode or single mode optical fiber. The transceiver has a contact input and a 0.5 amp contact output. The bi-directional contact closure module has two relay outputs and one relay input. One relay output follows the “relay input” at the remote end. When the remote “relay input” is shorted, the local relay output is closed and vice-versa. The second relay output is closed when “carrier” is detected from the remote end, this indicates that the optical fiber is connected and that the remote end has power and is operating.

**FEATURES**

- Transmits a single contact closure in one or two directions
- Distances up to 69 km (43 miles)
- 30 VDC, 0.5 amp relay output, normally open
- Point-to-Point transmission architecture
- Designed to meet full compliance with the environmental requirements (ambient operating temperature, mechanical shock, vibration, humidity with condensation, high-line/low-line voltage conditions and transient voltage protection) of NEMA TS-1/TS-2 and the Caltrans Specification for Traffic Signal Control Equipment.
- Plug-and-play design ensures ease of installation requiring no electrical or optical adjustments.
- Relay contact for Carrier Detect (normally closed with carrier present)
- Automatic resettable solid-state current limiters
- Voltage transient protection on all power and signal input/output lines provides protection from power surges and other voltage transient events.

- FDC10(M,S)1(A,B) models are housed in a smaller-sized package for stand-alone mounting only, for use in those applications where space may be limited
- FDC10R(M,S)1(A,B) ComFit models may be utilized as a stand-alone package, or may be mounted within the ComNet C1 Card Cage, and is fully hot-swappable
- Indicating LEDs are provided for confirming equipment operating status. The relay position (open for RED and closed for GREEN) is indicated by separate bi-color indicators for each relay.
- Lifetime Warranty

**APPLICATIONS**

- Alarm Event Triggering
- Building Automation and Environmental Control Systems
- Fire and Alarm Systems
- Gate Control
- PIR Signal Transmission
- Traffic Signal Control Equipment
# SPECIFICATIONS

## Contacts
- **Contact Interface**: Response Time: 0.5 msec
- **Input**: Dry Contact Closure
- **Output**: SPST Relay, 30 VDC @ 0.5 A, Resistive loads only. 0.5 A Contact Rating - normally open

## Wavelength
- A end = 1310/1550 nm
- B end = 1550/1310 nm

## Number of Fibers
- 1

## Connectors
- **Optical**: ST
- **Contact and Power**: Terminal Block

## LED Indicators
- **Contact Relay**
- **Carrier Detect**

## Power
- **Operating Voltage Range**: 8 to 15 VDC
- **Power Consumption**: 2 W Max

## Electrical & Mechanical
- **Current Protection**: Automatic Resettable Solid-State Current Limiters
- **Circuit Board**: Meets IPC Standard
- **Size**: 6.1 × 5.3 × 1.1 in (15.5 × 13.5 × 2.8 cm)
- **Surface Mount**: 4.0 × 3.7 × 1.0 in (10.4 × 9.5 × 2.7 cm)
- **Shipping Weight**: <1 lb./0.5 kg

## Environmental
- **MTBF**: > 100,000 hours
- **Operating Temp**: -40˚ C to +75˚ C
- **Storage Temp**: -40˚ C to +85˚ C
- **Relative Humidity**: 0% to 95% (non-condensing)

## ORDERING INFORMATION

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
<th>Fibers Required</th>
<th>Fiber</th>
<th>Optical PWR Budget</th>
<th>Maximum Distance²</th>
<th># Rack Slots</th>
</tr>
</thead>
<tbody>
<tr>
<td>FDC10M1A</td>
<td>Small Size Contact Closure Transceiver (1310/1550 nm)</td>
<td>1</td>
<td>Multimode 62.5/125µm</td>
<td>16 dB</td>
<td>16 km (10 miles)</td>
<td>NA</td>
</tr>
<tr>
<td>FDC10M1B</td>
<td>Small Size Contact Closure Transceiver (1550/1310 nm)</td>
<td>1</td>
<td>Single Mode 9/125µm</td>
<td>23 dB</td>
<td>69 km (43 miles)</td>
<td>NA</td>
</tr>
<tr>
<td>FDC10S1A</td>
<td>Small Size Contact Closure Transceiver (1310/1550 nm)</td>
<td>1</td>
<td>Multimode 62.5/125µm</td>
<td>16 dB</td>
<td>16 km (10 miles)</td>
<td>1</td>
</tr>
<tr>
<td>FDC10S1B</td>
<td>Small Size Contact Closure Transceiver (1550/1310 nm)</td>
<td>1</td>
<td>Single Mode 9/125µm</td>
<td>23 dB</td>
<td>69 km (43 miles)</td>
<td>1</td>
</tr>
</tbody>
</table>

## Accessories
- **DC Plug-in Power Supply, 90-264 VAC, 50/60 Hz (Included)**

## Options
- [1] Add suffix '/C' for Conformally Coated Circuit Boards to extend to condensation conditions (Extra charge, consult factory)

[2] Optical transmission distance is limited to optical loss of the fiber and any additional loss introduced by connectors, splices and patch panels. Distance can also be limited by fiber bandwidth.

**NOTE:** Complies with FDA Performance Standard for Laser Products, Title 21, Code of Federal Regulations, Subchapter J

In a continuing effort to improve and advance technology, product specifications are subject to change without notice.

## TYPICAL APPLICATION

![Typical Application Diagram](image)