The ComNet™ FDX57 series Self-Healing Ring Transceiver unit is a fully-digital modem designed for implementing RS232, RS422 or RS485 2 or 4-wire data communications networks of the highest possible reliability. A network of FDX57 units can support one full-duplex or two half-duplex data channels. These transceivers also feature data translation to convert between data protocols. Data re-cycling and regeneration permit an almost unlimited number of transceiver/controller units to be used within the network. These environmentally hardened transceivers are ideal for use in unconditioned out-of-plant or roadside installations and, unlike many competing designs, only one optical fiber is required between units to implement a fully self-healing ring. Plug-and-play design ensures ease of installation, and no electrical or optical adjustments are ever required.

FEATURES

› Meets EIA RS232 and RS422/RS485 (2 or 4-wire) specifications (Simplex or Duplex Operation)
› Two Data Channel Capability: One full duplex or two half-duplex channels
› Only one optical fiber required between units for Fault Tolerant/Self-Healing Ring Operation
› Full data re-cycling and regeneration: no limit to the number of transceiver units used within the network
› Supports supervised multiple master architecture for unparalleled network reliability
› Remote Fault Indication allows the user to determine when a fiber break or loss of prime operating power has occurred, or a transceiver in the field has failed
› May be used to provide serial data protocol conversion between nodes (consult factory)
› Tested and certified by an independent laboratory for 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.
› Robust design assures extremely high reliability in unconditioned out-of-plant/roadside environments
› NTCIP compatible

› Voltage transient protection on all power and signal input/output lines provides protection from power surges and other voltage transient events.
› Wide optical dynamic range: optical attenuators are never required
› Indicating LEDs display equipment operating status, including the location of fiber breaks or failed transceivers
› Hot-swappable rack modules
› Interchangeable between stand-alone or rack mount use – ComFit
› May be DIN-rail mounted by the addition of ComNet model DINBKT1 or DINBKT4 adaptor plate.
› Lifetime Warranty

APPLICATIONS

› High Reliability Traffic Signalization Networks
› Access Control Networks
› Industrial Control/Factory Automation and SCADA Networks
› Serial Data Protocol Conversion

* 1 channel of full-duplex or 2 channels of half-duplex serial data

LIFETIME WARRANTY  WWW.COMNET.NET  TECH SUPPORT: 1.888.678.9427
FDX57 SERIES

SPECIFICATIONS

Data
- Data Format: RS232, RS422, 2 or 4-wire RS485 with/Tri-State, Manchester, bi-phase
- Data Rate: DC-250 k baud, max
- Operating Mode: Asynchronous, simplex or full-duplex
- Bit Error Rate: <10^-12 @ Maximum Optical Loss Budget

Wavelength
- 1310/1550 nm

Fibers
- 1 In/1 Out

Optical Emitter
- Laser

LED Indicators
- Power
- Status
- Receive Data Active
- Transmit Data Active
- Port A Fiber Link Status
- Port B Fiber Link Status

Ring-Failure Relay
- Normally closed contact
- Solid-State relay contacts rated at 0.5 mA, resistive load.

Connectors
- Power: Terminal Plug
- Data: Terminal Plug
- Optical: ST

Power
- Operating Voltage Range: 8 to 15 VDC (or from C1 Rack, sold separately)
- Power Consumption: 4 W

Electrical & Mechanical
- Number of Rack Slots: 1
- Current Protection: Automatic Resettable Solid-State Current Limiters
- Circuit Board: Meets IPC Standard
- Size (in./cm): (L×W×H) 6.1 × 5.3 × 1.1 in (15.5 × 13.5 × 2.8 cm)
- Shipping Weight: <2 lbs / 0.9 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 Distance</th>
<th># Rack Slots</th>
</tr>
</thead>
<tbody>
<tr>
<td>FDX57M1</td>
<td>Repeater</td>
<td>1</td>
<td>Multimode² 62.5/125µm</td>
<td>16 dB</td>
<td>4 km (2.5 miles)</td>
<td>1</td>
</tr>
<tr>
<td>FDX57S1</td>
<td>Repeater</td>
<td>2</td>
<td>Single Mode 9/125µm</td>
<td>19 dB</td>
<td>40 km (25 miles)</td>
<td>1</td>
</tr>
</tbody>
</table>

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

Options
- [1] Add ‘/C’ for Conformally Coated Circuit Boards to extend to condensation conditions (Extra charge, consult factory)
- DIN-Rail Mounting Adaptor Plate Kit – With mounting hardware (Optional, order model DINBKT1 or DINBKT4)

NOTE: This product requires a fiber installation with a minimum 30 dB connector return loss. The use of Super Polish Connectors is recommended. 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.

[2] For 50/125µm fiber, subtract 4 dB from the optical power budget.

TYPICAL APPLICATION

1 Fiber

OPTICAL FIBER

TWISTED PAIR