



INCLUDED



HARDENED



1 OR 2*



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-clocking 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-clocking 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

SPECIFICATIONS

Data

Data Format	RS232, RS422, 2 or 4-wire RS485 w/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) ¹

AGENCY COMPLIANCE



ORDERING INFORMATION

Part Number	Description	Fibers Required	Fiber	Optical PWR Budget	Maximum Distance	# Rack Slots
FDX57M1	Repeater	1	Multimode ² 62.5/125µm	16 dB	4 km (2.5 miles)	1
FDX57S1	Repeater	2	Single Mode 9/125µm	19 dB	40 km (25 miles)	1
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

