

IEX-402-SHDSL Series

Managed SHDSL Ethernet extender

Preliminary



- > Automatic CO/CPE negotiation reduces configuration time
- > Link Fault Pass-through (LFP) support and interoperable with Turbo Ring and Turbo Chain
- > Turbo speed connections, up to 15.3 Mbps over twisted copper wires
- > Easy network management by web browser, Telnet/serial console, Windows utility, ABC-01, and MXview.



Introduction

The IEX-402-SHDSL is an entry-level industrial managed Ethernet extender designed with one 10/100BaseT(X) and one DSL port. The Ethernet extender provides a point-to-point extension over twisted copper wires based on the G.SHDSL.bis standard. The device supports a data rate of up to 15.3 Mbps and a long transmission distance of up to 8 km.

The IEX-402-SHDSL series is designed for use in harsh operating environments. The DIN-rail mount, wide operating temperature range (-40 to 75°C), and dual power input make it ideal for installation in

industrial applications.

To simplify configuration, the IEX-402-SHDSL uses CO/CPE auto negotiation. By factory default, the device will automatically assign CPE status to one of each pair of IEX devices. In addition, Link Fault Pass-through (LFP) and network redundancy interoperability enhance the reliability and accessibility of communication networks. Advanced managed and monitored functionality through MXview, including a virtual panel, improve the user experience for quick trouble shooting.

Features and Benefits

- Automatic CO/CPE negotiation reduces configuration time
- Standard G.SHDSL data rate up to 5.7 Mbps, with up to 8km transmission distance (performance varies by cable quality)
- Moxa proprietary Turbo Speed connections up to 15.3 Mbps
- Supports Link Fault Pass-Through(LFP) and Line-swap fast recovery
- Supports SNMP v1/v2c/v3 for different levels of network management
- Interoperable with Turbo Ring/Turbo Chain network redundancy
- Support Modbus/TCP protocol for device management and monitoring
- Compatible with EtherNet/IP and PROFINET protocols for transparent transmission
- Easy network management through web browser, Telnet/Serial console, Windows utility, MXview, and ABC-01
- IPv6 Ready

Specifications

Technology

Standards:

IEEE 802.3 for 10BaseT
 IEEE 802.3u for 100BaseT(X)
 IEEE 802.3x for Flow Control
 IEEE 802.1p for Class of Service
 ITU-T G.991.2 for Single-pair high-speed digital subscriber line (G.SHDSL) transceivers
Protocols: SNMPv1/v2c/v3, DHCP Client, TFTP, SNMP, HTTP, Telnet, Syslog, LLDP, Modbus/TCP
MIB: MIB-II

Flow Control: IEEE 802.3x flow control, back pressure flow control

Switch Properties

MAC Table Size: 1K
Packet Buffer Size: 512K

Interface

DSL Port: DSL Port: RJ-11(RJ-45 connector) or detachable 2-contact terminal block

RJ45 Ports: 10/100BaseT(X) auto negotiation speed, Full/Half duplex mode, and auto MDI/MDI-X connection

Console Port: RS-232 (RJ45 connector)

DIP Switches: Reset button, CO/CPE, SNR/SPEED, ANNEX B/ANNEX A, STD/TURBO

LED Indicators: PWR1, PWR2, FAULT, STATE, LINK/ACT, CO/CPE, 10/100 (TP port)

Power Requirements

Input Voltage: 12/24/48 VDC (9.6 to 60 VDC), redundant dual inputs

Input Current: 0.36A @ 24V

Overload Current Protection: Present

Connection: 2 removable 2-contact terminal block

Reverse Polarity Protection: Present

Physical Characteristics

Housing: Metal, IP30 protection

Dimensions:

35 x 130 x 105 mm (1.37 x 5.12 x 4.13 in)

Weight: 290 g

Installation: DIN-rail mounting, wall mounting (with optional kit)

Altitude: Up to 2000 m

Note: Contact Moxa for products guaranteed to function at higher altitudes.

Environmental Limits

Operating Temperature:

Standard Models: -10 to 60°C (14 to 140°F)

Wide Temp. Models: -40 to 75°C (-40 to 167°F)

Storage Temperature: -40 to 85°C (-40 to 185°F)

Ambient Relative Humidity: 5 to 95% (non-condensing)

Standards and Certifications

Safety: UL 508 (Pending)
EMI: FCC Part 15 Subpart B Class A, EN 55022 Class A
EMS:
 EN 61000-4-2 (ESD) Level 3, EN 61000-4-3 (RS) Level 3,
 EN 61000-4-4 (EFT) Level 3, EN 61000-4-5 (Surge) Level 3,
 EN 61000-4-6 (CS) Level 3, EN 61000-4-8
Rail Traffic: EN 50121-4 (Pending)
Shock: IEC 60068-2-27
Freefall: IEC 60068-2-32

Vibration: IEC 60068-2-6

Note: Please check Moxa's website for the most up-to-date certification status.

MTBF (mean time between failures)

Time:

1,310,000 hrs

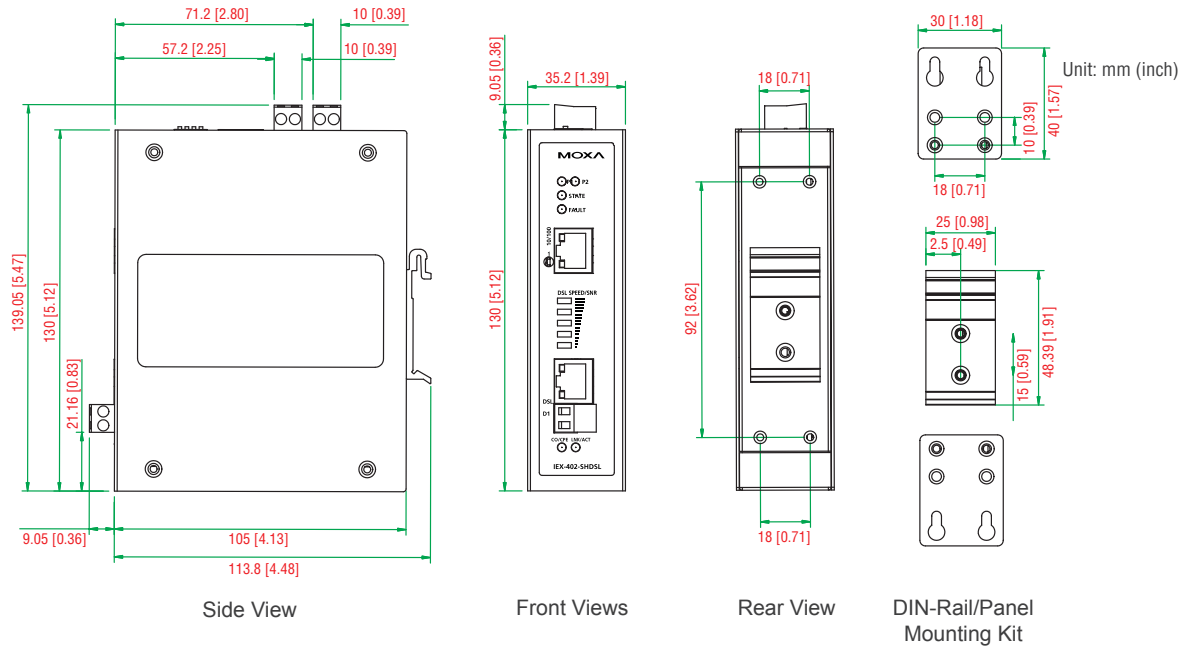
Database: Telcordia (Bellcore), GB

Warranty

Warranty Period: 5 years

Details: See www.moxa.com/warranty

Dimensions



Ordering Information

Available Models		Port Interface	
Standard Temperature (0 to 60 °C)	Wide Temperature (-40 to 75 °C)	10/100BaseT(X)	DSL
IEX-402-SHDSL	IEX-402-SHDSL-T	1	1

Optional Accessories (can be purchased separately)

MXview: Moxa industrial network management software with 50, 100, 250, 500, 1000, or 2000 nodes

EDS-SNMP OPC Server Pro: OPC server software that works with all SNMP devices

ABC-01: Configuration backup and restoration tool for managed Ethernet switches, 0 to 60°C operating temperature

DR-4524/75-24/120-24: 45/75/120 W DIN-Rail 24 VDC power supplies

MDR-40-24/60-24: 40/60 W DIN-rail 24 VDC power supplies, -20 to 70°C operating temperature

RK-4U: 4U-high 19" rack mounting kit

WK-46: Wall mounting kit

Package Checklist

- IEX-402 DSL Ethernet Extender
- RJ45 to DB9 console port cable
- Documentation and software CD
- Hardware installation guide (printed)
- Warranty card