

# IEX-402 Series

## Industrial managed VDSL2/SHDSL Ethernet extenders



### Features and Benefits

- Automatic CO/CPE negotiation reduces configuration time
- Link Fault Pass-Through (LFPT) support and interoperable with Turbo Ring and Turbo Chain
- LED indicators to simplify troubleshooting
- Easy network management by web browser, Telnet/serial console, Windows utility, ABC-01, and MXview

### Certifications



EN 50121-4



## Introduction

The IEX-402 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 or VDSL2 standard. The device supports data rates of up to 15.3 Mbps and a long transmission distance of up to 8 km for G.SHDSL connection; for VDSL2 connections, the data rate supports up to 100 Mbps and a long transmission distance of up to 3 km.

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

To simplify configuration, the IEX-402 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. In addition, advanced managed and monitored functionality through MXview, including a virtual panel, improve the user experience for quick troubleshooting.

### Additional Features and Benefits

- Standard G.SHDSL data rate up to 5.7 Mbps, with up to 8 km 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 and Turbo Chain network redundancy
- Support Modbus TCP protocol for device management and monitoring
- Compatible with EtherNet/IP and PROFINET protocols for transparent transmission
- IPv6 Ready

## Specifications

### Ethernet Interface

10/100BaseT(X) Ports (RJ45 connector)	1 Auto negotiation speed Full/Half duplex mode Auto MDI/MDI-X connection
Combo Port, RJ-11 (RJ45 connector) or Detachable 2-Contact Terminal Block	1
Standards	IEEE 802.1p for Class of Service IEEE 802.3 for 10BaseT IEEE 802.3u for 100BaseT(X) IEEE 802.3x for flow control IEX-402-VDSL2 Series: ITU G.993.2 for very high speed digital subscriber line transceivers 2 IEX-402-SHDSL Series: ITU-T G.991.2 for single-pair high-speed digital subscriber line (G.SHDSL) transceivers

## Ethernet Software Features

Management	SNMPv1/v2c/v3, Modbus TCP, Back Pressure Flow Control, DHCP Client, HTTP, LLDP, Syslog, Telnet, TFTP
MIB	MIB-II
Time Management	SNTP

## Switch Properties

MAC Table Size	1 K
Packet Buffer Size	512 kbits

## LED Interface

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

## Serial Interface

Console Port	RS-232 (TxD, RxD, GND), 10-pin RJ45 (115200, n, 8, 1)
--------------	---

## DIP Switch Configuration

Ethernet Interface	All models: CO/CPE, SNR/SPEED IEX-402-VDSL2 Series: STD/INP IEX-402-SHDSL Series: ANNEX B/ANNEX A, STD/TURBO
--------------------	--

## Power Parameters

Power Connector	2 removable 2-contact terminal block(s)
Input Voltage	12/24/48 VDC, 9.6 to 60 VDC
Input Current	IEX-402-SHDSL Series: 0.388 A @ 12 VDC, 0.196 A @ 24 VDC, 0.097 A @ 48 VDC IEX-402-VDSL2 Series: 0.34 A @ 24 VDC
Overload Current Protection	Supported
Reverse Polarity Protection	Supported

## Physical Characteristics

Housing	Metal
IP Rating	IP30
Dimensions	35 x 130 x 105 mm (1.38 x 5.12 x 4.13 in)
Weight	IEX-402-SHDSL Series: 290 g (0.64 lb) IEX-402-VDSL2 Series: 275 g (0.61 lb)
Installation	DIN-rail mounting, Rack mounting (with optional kit)

## Environmental Limits

Altitude	2000 m <sup>1</sup>
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 (package included)	-40 to 85°C (-40 to 185°F)
Ambient Relative Humidity	5 to 95% (non-condensing)

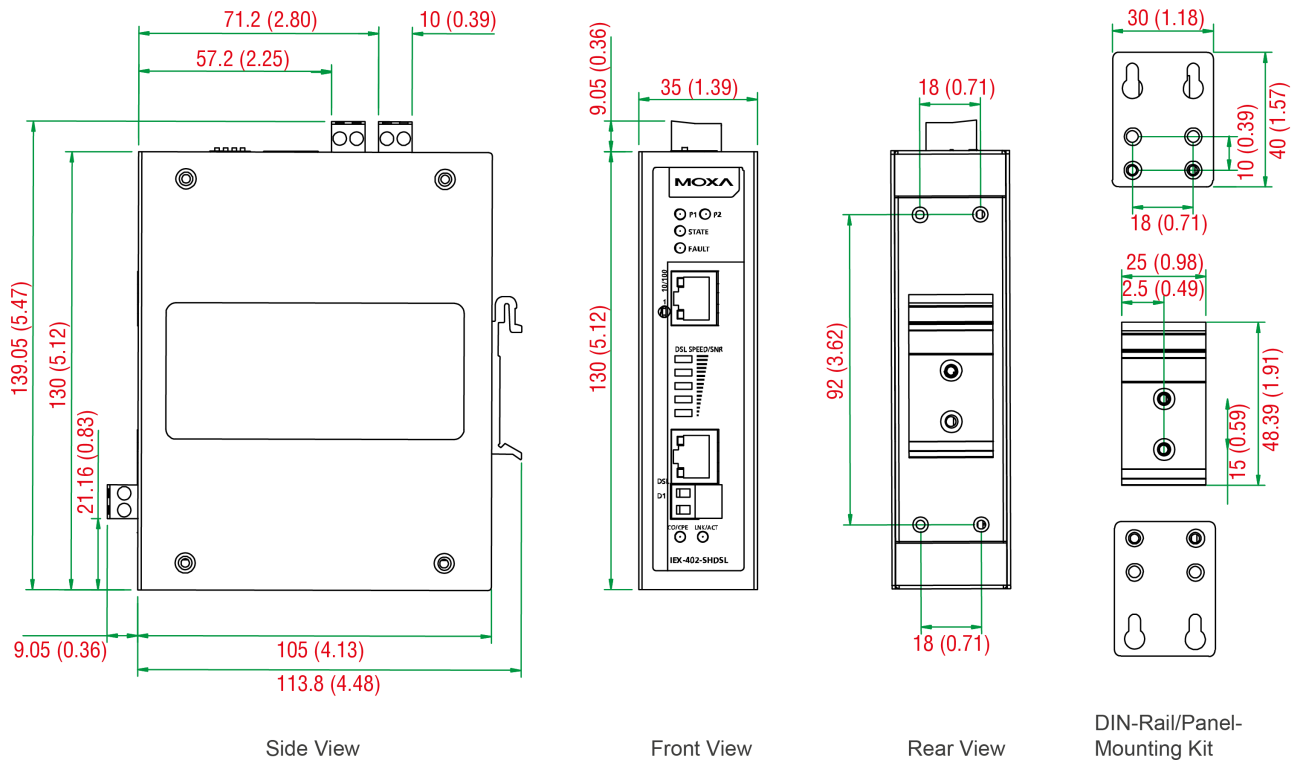
1. Please contact Moxa if you require products guaranteed to function properly at higher altitudes.

## Standards and Certifications

Safety	UL 508
Hazardous Locations	IEX-402-VDSL2 Series: ATEX, Class I Division 2
EMC	EN 55032/24
EMI	CISPR 32, FCC Part 15B Class A
EMS	IEC 61000-4-2 ESD: Contact: 6 kV; Air: 8 kV IEC 61000-4-3 RS: 80 MHz to 1 GHz: 10 V/m IEC 61000-4-4 EFT: Power: 2 kV IEC 61000-4-5 Surge: Power: 2 kV IEC 61000-4-6 CS: 150 kHz to 80 MHz: 10 V/m; Signal: 10 V/m IEC 61000-4-8 PFMF
Traffic Control	IEX-402-VDSL2 Series: NEMA TS2
Railway	EN 50121-4
Shock	IEC 60068-2-27
Freefall	IEC 60068-2-32
Vibration	IEC 60068-2-6
<b>MTBF</b>	
Time	IEX-402-SHDSL Series: 1,311,455 hrs IEX-402-VDSL2 Series: 1,498,312 hrs
Standards	Telcordia (Bellcore), GB
<b>Warranty</b>	
Warranty Period	5 years
Details	See <a href="http://www.moxa.com/warranty">www.moxa.com/warranty</a>
<b>Package Contents</b>	
Device	1 x IEX-402 Series switch
Cable	1 x RJ45-to-DB9 console cable
Documentation	1 x document and software CD 1 x quick installation guide 1 x warranty card 1 x product certificates of quality inspection, Simplified Chinese 1 x product notice, Simplified Chinese

## Dimensions

Unit: mm (inch)



## Ordering Information

Model Name	ITU G.993.2 for very high speed digital subscriber line transceivers	ITU-T G.991.2 for single-pair high-speed digital subscriber line (G.SHDSL) transceivers	10/100BaseT(X) Ports RJ45 Connector	Combo Port, RJ-11 (RJ45 connector) or detachable 2-contact terminal	Operating Temp.
IEX-402-VDLSL2	✓	-	1	1	-10 to 60°C
IEX-402-VDLSL2-T	✓	-	1	1	-40 to 75°C
IEX-402-SHDSL	-	✓	1	1	-10 to 60°C
IEX-402-SHDSL-T	-	✓	1	1	-40 to 75°C

## Accessories (sold separately)

### Software

MXview	Industrial network management software designed for converged automation networks
--------	---

### Storage Kits

ABC-01	Configuration backup and restoration tool for managed Ethernet switches and AWK Series wireless APs/bridges/clients, 0 to 60°C operating temperature
--------	--

### Power Supplies

DR-120-24	120W/2.5A DIN-rail 24 VDC power supply with universal 88 to 132 VAC or 176 to 264 VAC input by switch, or 248 to 370 VDC input, -10 to 60°C operating temperature
DR-4524	45W/2A DIN-rail 24 VDC power supply with universal 85 to 264 VAC or 120 to 370 VDC input, -10 to 50°C operating temperature
DR-75-24	75W/3.2A DIN-rail 24 VDC power supply with universal 85 to 264 VAC or 120 to 370 VDC input, -10 to 60°C operating temperature
MDR-40-24	DIN-rail 24 VDC power supply with 40W/1.7A, 85 to 264 VAC, or 120 to 370 VDC input, -20 to 70°C operating temperature

MDR-60-24	DIN-rail 24 VDC power supply with 60W/2.5A, 85 to 264 VAC, or 120 to 370 VDC input, -20 to 70°C operating temperature
-----------	---

**Wall-Mounting Kits**

WK-30	Wall-mounting kit, 2 plates, 4 screws, 40 x 30 x 1 mm
-------	---

**Rack-Mounting Kits**

RK-4U	19-inch rack-mounting kit
-------	---------------------------

© Moxa Inc. All rights reserved. Updated Nov 12, 2018.

This document and any portion thereof may not be reproduced or used in any manner whatsoever without the express written permission of Moxa Inc. Product specifications subject to change without notice. Visit our website for the most up-to-date product information.