IEX-408E Series

Industrial managed 6 FE + 2 VDSL2 Ethernet extender switches

Features and Benefits

- VDSL2 high-speed long-distance copper connections; up to 300 m at 100 Mbps and up to 3 km at 1 Mbps over twisted-pair copper wires

- Automatic CO/CPE negotiation reduces configuration time

- Turbo Ring and Turbo Chain on both Fast Ethernet and VDSL2 ports for fast recovery

- Controllable bypass mode on VDSL2 ports gives higher availability in a daisy-chain topology

- Flexible deployment with 2-pin or RJ11/45 connector on VDSL2 ports

- Easy network management by web browser, Telnet/serial console, Windows utility, ABC-02, and MXview

Certifications

EN 50121-4   NEMA TS2   CE   FC

Introduction

The IEX-408E-2VDSL2 is an industrial managed Ethernet extender switch for establishing long-distance Ethernet transmissions over twisted-pair copper wiring. IEX-408E-2VDSL2 units can easily be linked in series to form a long-distance multi-drop configuration, with one IEX-408E-2VDSL2 unit located at each drop-point. Adjacent drop points can be separated theoretically by up to 3 km, with a transmission speed of 1 Mbps achieved using a VDSL2 connection (with a connection distance of 300 m, a transmission speed of 100 Mbps can be theoretically achieved). Each IEX-408E-2VDSL2 unit provides six 10/100BaseT(X) and two DSL ports, giving users an incredible amount of flexibility for linking together a wide variety of devices separated by vast distances.

Ethernet redundancy is provided by Turbo Ring, Turbo Chain, RSTP/STP, and MSTP, and a controllable bypass solution on the DSL ports that increases system reliability and the availability of your network. The IEX-408E-2VDSL2 Series also supports advanced management and security features. It is the perfect solution for reducing the cost of deploying new network cable installations using existing twisted-pair copper wiring to extend copper cable networks beyond the conventional distance limitations imposed by the Ethernet protocol.

The wide operating temperature range (-40 to 75°C), and dual power inputs make it ideal for deployment in industrial applications such as ITS, rail wayside, oil and gas, mining, factory automation, and process automation applications. In addition, its compact design that includes a DIN-rail, makes it ideal for installation in places with space limitations such as a cabinet.

To simplify configuration, the IEX-408E-2VDSL2 uses CO/CPE automatic negotiation (the factory default setting). The device will automatically assign CPE status to one of each pair of IEX devices. In addition, advanced management and monitoring functionalities can be performed through a NMS, including a virtual panel, which can improve the user experience by enabling quick troubleshooting.

Specifications

Input/Output Interface

Alarm Contact Channels	Resistive load: 1 A @ 24 VDC
Digital Inputs	+13 to +30 V for state 1 -30 to +3 V for state 0 Max. input current: 8 mA
Buttons	Reset button

Ethernet Interface

10/100BaseT(X) Ports (RJ45 connector)	6 Auto negotiation speed Full/Half duplex mode Auto MDI/MDI-X connection
Combo Port, RJ-11 (RJ45 connector) or Detachable 2-Contact Terminal Block	2
Standards	IEEE 802.3 for 10BaseT IEEE 802.3u for 100BaseT(X) and 100BaseFX IEEE 802.1X for authentication IEEE 802.1D-2004 for Spanning Tree Protocol IEEE 802.1w for Rapid Spanning Tree Protocol IEEE 802.1s for Multiple Spanning Tree Protocol IEEE 802.1Q for VLAN Tagging IEEE 802.1p for Class of Service IEEE 802.3x for flow control IEEE 802.3ad for Port Trunk with LACP ITU G.993.2 for very high speed digital subscriber line transceivers 2

Ethernet Software Features

Filter	802.1Q VLAN, Port-based VLAN, IGMP v1/v2, GVRP, GMRP
Industrial Protocols	EtherNet/IP, Modbus TCP, PROFINET
Management	SNMPv1/v2c/v3, LLDP, Syslog, RMON, DHCP Server/Client, DHCP Option 66/67/82, Back Pressure Flow Control, BOOTP, Flow control, RARP, SMTP, SNMP Inform, Telnet, TFTP
MIB	MIB-II, Bridge MIB, Ethernet-like MIB, P-BRIDGE MIB, Q-BRIDGE MIB, RMON MIB Groups 1, 2, 3, 9, RSTP MIB
Redundancy Protocols	STP, MSTP, RSTP, Link Aggregation, Turbo Chain, Turbo Ring v1/v2
Security	HTTPS/SSL, RADIUS, TACACS+, Port Lock, SSH, Broadcast storm protection, Sticky MAC, NTP authentication
Time Management	NTP Server/Client, SNTP

Switch Properties

IGMP Groups	256
MAC Table Size	16 K
Max. No. of VLANs	64
Packet Buffer Size	1 Mbits 1.5 Mbits for Fast Ethernet 8 kilobits for DSL
Priority Queues	4
VLAN ID Range	VID 1 to 4094

USB Interface

Storage Port	USB Type A

LED Interface

LED Indicators	PWR1, PWR2, FAULT, STATE LINK/ACT, CO/CPE, 10/100 (Fast Ethernet port) MSTR/HEAD, CPLR/TAIL, DSL BYPASS

Serial Interface

Console Port	USB-serial console (Type B connector)

DIP Switch Configuration

Ethernet Interface	Turbo Ring, Master, Coupler, Reserve

Power Parameters

Connection	IEX-408E-2VDSL2-HV Series: 1 removable 4-contact and 1 removable 5-contact terminal blocks IEX-408E-2VDSL2-LV Series: 2 removable 4-contact terminal blocks
Input Voltage	IEX-408E-2VDSL2-HV Series: 110/220 VDC/VAC (redundant dual inputs) IEX-408E-2VDSL2-LV Series: 12/24/48 VDC
Input Current	IEX-408E-2VDSL2-LV Series: 1 A @ 12 VDC, 0.48 A @ 24 VDC, 0.26 A @ 48 VDC IEX-408E-2VDSL2-HV Series: 0.097/0.05 A @ 110/220 VDC, 0.23/0.149 A @ 110/220 VAC
Operating Voltage	IEX-408E-2VDSL2-LV Series: 9.6 to 60 VDC IEX-408E-2VDSL2-HV Series: 88 to 300 VDC, 85 to 264 VAC
Overload Current Protection	Supported
Reverse Polarity Protection	Supported

Physical Characteristics

Housing	Metal
IP Rating	IP30
Dimensions	74 x 111 x 135 mm (2.91 x 4.37 x 5.32 in)
Weight	IEX-408E-2VDSL2-HV Series: 1260 g (2.78 lb) IEX-408E-2VDSL2-LV Series: 1230 g (2.71 lb)
Installation	DIN-rail mounting, Wall mounting (with optional kit)

Environmental Limits

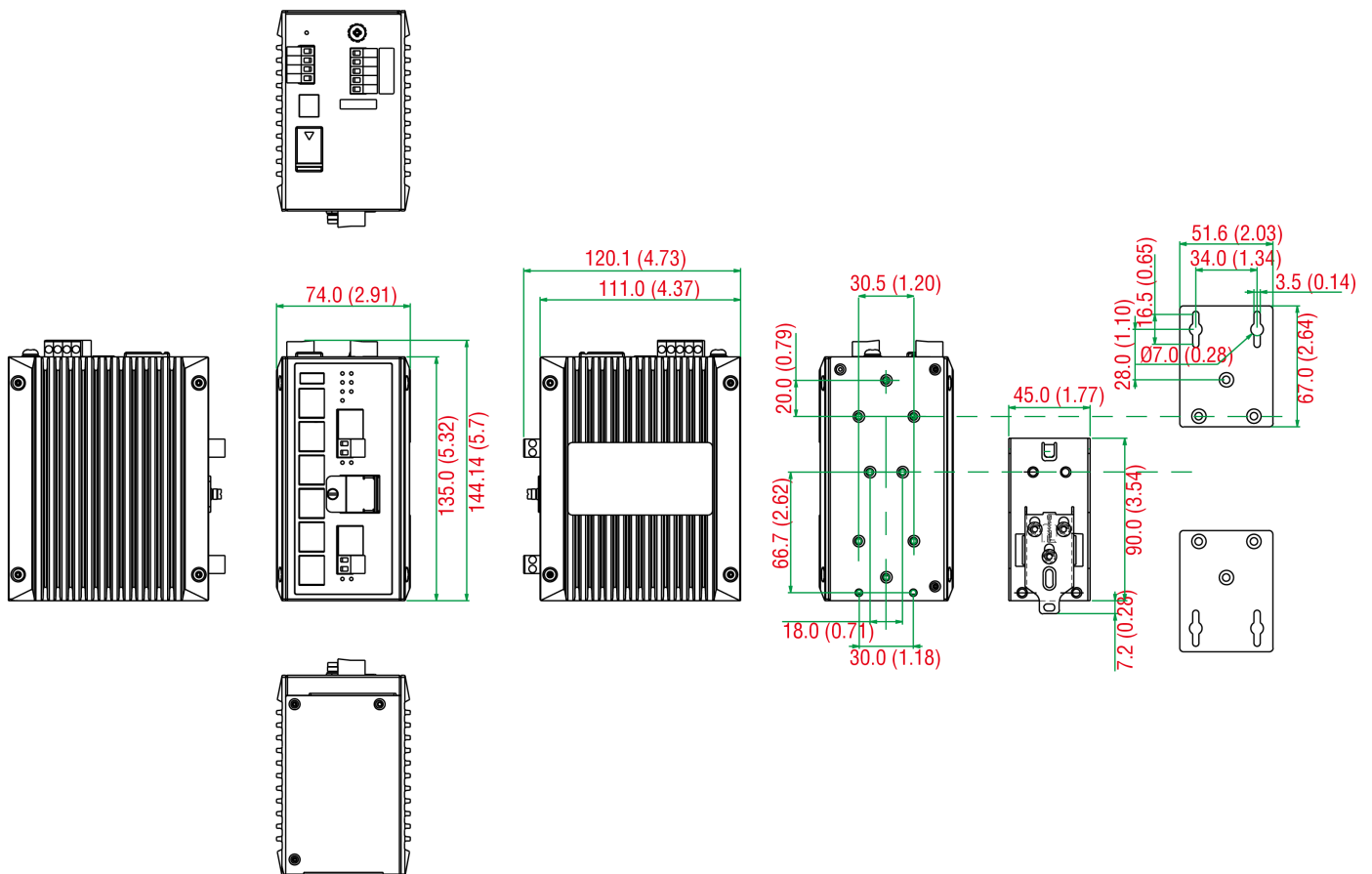|	
Altitude	2000 m
Operating Temperature	Standard Models: -10 to 60°C (14 to 140°F) Wide Temp. Models: -40 to 75°C (-40 to 167°F)
Storage Temperature (package included)	-40 to 85°C (-40 to 185°F)
Ambient Relative Humidity	5 to 95% (non-condensing)

Standards and Certifications

Safety	All models: UL 61010-2-201 IEX-408E-2VDSL2-LV Series: EN 60950-1
EMC	EN 55032/24
EMI	CISPR 32, FCC Part 15B Class A
EMS	IEC 61000-4-2 ESD: Contact: 8 kV; Air: 15 kV IEC 61000-4-3 RS: 80 MHz to 1 GHz: 10 V/m IEC 61000-4-4 EFT: Power: 4 kV; Signal: 4 kV IEC 61000-4-5 Surge: Power: 4 kV; Signal: 4 kV IEC 61000-4-6 CS: 10 V IEC 61000-4-8 PFMF
Traffic Control	NEMA TS2
Railway	EN 50121-4
Shock	IEC 60068-2-27

Freefall	IEC 60068-2-32
Vibration	IEC 60068-2-6

MTBF

Time	782,910 hrs
Standards	Telcordia (Bellcore), GB

Warranty

Warranty Period	5 years
Details	See www.moxa.com/warranty

Package Contents

Device	1 x IEX-408E Series switch
Cable	1 x USB type A male to USB type B male
Installation Kit	4 x cap, plastic, for RJ45 port
Documentation	1 x document and software CD 1 x quick installation guide 1 x product certificates of quality inspection, Simplified Chinese 1 x product notice, Simplified Chinese 1 x warranty card

Dimensions

Unit: mm (inch)

Ordering Information

Model Name	ITU G.993.2 for very high speed digital subscriber line transceivers	10/100BaseT(X) Ports RJ45 Connector	Combo Port, RJ-11 (RJ45 connector) or detachable 2-contact terminal	Input Voltage	Operating Temp.
IEX-408E-2VDSL2-LV	✓	6	2	12/24/48 VDC	-10 to 60°C
IEX-408E-2VDSL2-LV-T	✓	6	2	12/24/48 VDC	-40 to 75°C
IEX-408E-2VDSL2-HV	✓	6	2	110/220 VDC/VAC	-10 to 60°C
IEX-408E-2VDSL2-HV-T	✓	6	2	110/220 VDC/VAC	-40 to 75°C

Accessories (sold separately)

Software

MXview	Industrial network management software designed for converged automation networks

Storage Kits

ABC-02-USB	Configuration backup and restoration tool, firmware upgrade, and log file storage tool for managed Ethernet switches and routers, 0 to 60°C operating temperature
ABC-02-USB-T	Configuration backup and restoration tool, firmware upgrade, and log file storage tool for managed Ethernet switches and routers, -40 to 75°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
DR-120-48	120W/2.5A DIN-rail 48 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-75-48	75W/1.6A DIN-rail 48 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
DRP-240-48	DIN-rail 48 VDC power supply with 240W/5A, 85 to 264 VAC, or 120 to 370 VDC input, -10 to 70°C operating temperature
SDR-480P-48	DIN-rail 48 VDC power supply with 480W/10A, 90 to 264 VAC, or 127 to 370 VDC input, (current sharing up to 3840 W), -25 to 70°C operating temperature

Wall-Mounting Kits

WK-51-01	Wall-mounting kit, 2 plates, 6 screws, 51.6 x 67 x 2 mm
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

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