

Enterasys® I-Series

Secure, Policy-based Industrial Ethernet L2 Switch



The First hardened switch that brings advanced network security to industrial environments

Provides Fast Ethernet connectivity with optional Gigabit uplinks (Modular SFP)

High-end Secure Networks switch functionality

Modular architecture provides greater flexibility

Product Overview

The Enterasys® I-Series is an industrially hardened Ethernet switch especially designed to handle networking in physically demanding environments like manufacturing plants, oil refineries and utilities. The I-Series is in a form factor that uses convection cooling, DC power, and industrial-grade components that ensure continued uptime. The I-Series is unique for a hardened device because it incorporates far more advanced features than other products in this space. Enterasys' unique role-based architecture ensures that devices and users are enabled and confined to specific behavior on the network. In addition, Enterasys' advanced QoS provides deterministic control of the proprietary applications found in industrial environments. The I-Series provides the automation industry with a fully hardened switch without sacrificing high-end functionality.

Features and Benefits

Industrial-Grade Reliability: Maintenance-free reliability can provide years of uninterrupted service in a wide range of severe temperature and hazardous gas conditions.

Advanced Security and Traffic Control Features in a Hardened Switch: No switch vendor matches Enterasys Secure Networks for providing a secure infrastructure. This same functionality is now available in a fully industrialized switch.

Fully Managed Solution: The I-Series is fully SNMP managed to allow control of the device by authorized users from anywhere on the network, while all events and traffic statistics are reported and tracked by Enterasys NetSight® network management application.

Easy Installation: Optional memory configuration card allows non-technical personnel to field-replace I-Series switches with a simple removal and reinsertion of a memory configuration card. The card carries a copy of the switch configuration and allows settings to be quickly transferred to another I-Series switch.

Benefits

Fully Hardened Ethernet Switch

- Designed to run in extreme temperature ranges
- Redundant DC power connections
- Convection cooled

First industrially hardened switch with high-end policy capabilities

- End-to-end visibility and control over users, services and bandwidth
- Multiple user authentication types and policy management on every port
- Advanced QoS capabilities to provide deterministic performance

Modular Design Lowers Costs

- 2 slots for I/O modules
- 2 slots for gigabit mini-GBIC uplinks

Multiple I/O modules for flexible connectivity

- 12 port 100 Base-TX
- 8 port 100 Base-FX
- 4 port 100 Base-FX
- 6 port 10/100 with memory configuration slot
- 4 port 100 Base-FX with memory configuration slot
- 8 port 10/100 and 2 port 100 Base-FX

There is nothing more important than our customers.

Standards and Protocols

Layer 2 Capabilities

- IEEE 802.1D – Spanning Tree
- IEEE 802.1t – 802.1D Maintenance
- IEEE 802.1p – Traffic Management/Mapping to 6 of 8 hardware queues
- IEEE 802.1Q – Virtual LANs w/ Port based VLANs
- IEEE 802.1S – Multiple Spanning Tree
- IEEE 802.1v – Protocol-based VLANs
- IEEE 802.1W – Rapid Spanning Tree Reconvergence
- IEEE 802.1X – Port-based Authentication
- IEEE 802.3 – 10 Base-T
- IEEE 802.3ab – 1000 Base-T
- IEEE 802.3ac – VLAN Tagging
- IEEE 802.3ad – Link Aggregation
- IEEE 802.3u – 100 Base-T
- IEEE 802.3x – Flow Control
- Private Port (Private VLAN)
- Many-to-One Port Mirroring, One-to-One Port Mirroring
- Port Description
- Per-Port Broadcast Suppression
- Spanning Tree Backup Route
- STP Pass Thru
- RFC 1213 – MIB II
- RFC 1493 – Bridge MIB
- RFC 1643 – Ethernet-like MIB
- RFC 2233 – Interfaces Group MIB using SMI v2
- RFC 2618 – RADIUS Authentication Client MIB
- RFC 2620 – RADIUS Accounting MIB
- RFC 2674 – VLAN MIB
- RFC 2737 – Entity MIB version 2
- RFC 2819 – RMON Groups 1, 2, 3 & 9
- IEEE 802.1X MIB (IEEE 802.1-PAE-MIB)
- IEEE 802.3AD MIB (IEEE802.3-AD-MIB)

Authentication

- MAC Authentication
- Web Authentication (PWA)
- 802.1X Authentication
- RFC 3580 – Dynamic VLAN Assignment
- Radius Client
- Radius Accounting for MAC Authentication
- EAP Pass Through
- Dynamic and Static Mac Locking

QoS

- Strict or weighted Round Robin
- Inbound Rate Limiting
- 8 Hardware Queues/Port
- 802.3x Flow Control
- 64 kbps increment granularity

Management

- NetSight Console
- NetSight Policy Manager
- NetSight Inventory Manager
- NetSight Automated Security Manager
- WebView
- SSL Interface to WebView
- Telnet with SSH
- Radius Control to Management Interface
- RMON (4 Groups: History, Statistics, Alarms and Events)
- Text-based Configuration Upload/Download
- Simple Network Time Protocol (SNTP)
- Alias Port Naming
- Node/Alias Table
- RFC 854 – Telnet
- RFC 1157 – SNMP
- RFC 1901 – Community-based SNMP v2
- RFC 2271 – SNMP Framework MIB
- RFC 3413 – SNMP v3 Applications
- RFC 3414 – User-based Security Model for SNMP v3
- RFC 3415 – View-based Access Control Model for SNMP

Specifications

Physical Ports

- 2 slots for I/O modules
- 2 slots for gigabit mini-GBIC uplinks

I/O Modules

- 12 port 100 Base-TX
- 8 port 100 Base-FX
- 4 port 100 Base-FX
- 6 port 10/100 with memory configuration slot
- 4 port 100 Base-FX with memory configuration slot
- 8 port 10/100 and 2 port 100 Base-FX

LED

- 1 red/green LED showing system status
- 2 green showing each power input status
- 2 green LEDs showing link activity of SFP ports

Capacity & Performance

- Address Table Size – 8k MAC Addresses
- 1024 VLANs supported
- 8 Hardware Queues/Port
- VLAN Spanning Tree (802.1S)
- 4 Instances Supported
- 802.3AD Link Aggregation
- 8 ports per trunk group, 6 groups supported
- Main memory: 256 MB
- Flash memory: 32 MB

Physical Specifications

Dimensions (H x W x D):

8.89cm x 18.41cm x 33.86cm
(3.5" x 7.25" x 13.33")

I/O Module Dimensions:

4.57cm x 10.7cm x 11.4cm (1.8" x 4.21" x 4.5")

Weight:

I3H252-12TX	4.60 kg (10.12 lbs)
I3H252-4FXM	4.58 kg (10.08 lbs)
I3H252-4FX-MEM	4.59 kg (10.10 lbs)
I3H252-6TX-MEM	4.61 kg (10.14 lbs)
I3H252-8FXM	5.06 kg (11.13 lbs)
I3H252-8TX-2FX	4.54 kg (10.00 lbs)
I3H-12TX	0.24 kg (0.50 lbs)
I3H-4FX-MM	0.24 kg (0.50 lbs)
I3H-4FXM-MEM	0.23 kg (0.50 lbs)

I3H-6TX-MEM	0.25 kg (0.50 lbs)
I3H-8FX-MM	0.32 kg (0.50 lbs)
I3H-8TX-2FX	0.20 kg (0.45 lbs)

MTBF

I3H252-12TX	182,146 hours
I3H252-4FXM	184,898 hours
I3H252-4FX-MEM	159,144 hours
I3H252-6TX-MEM	164,848 hours
I3H252-8FXM	164,891 hours
I3H252-8TX-2FX	177,472 hours
I3H-12TX	657,722 hours
I3H-4FX-MM	695,075 hours
I3H-4FXM-MEM	432,172 hours
I3H-6TX-MEM	819,538 hours
I3H-8FX-MM	477,350 hours
I3H-8TX-2FX	600,601 hours

Environmental Specifications

Operating Temperature:

-40 °C to 60 °C (-40 °F to 140 °F)

Storage Temperature:

-40°C to 70 °C (-40 °F to 158°F)

Operating Humidity:

95% Relative Humidity Non-Condensing

Power Consumption:

The I-Series accepts 24 volt DC power only. The customer must provide DC power to the switch or purchase the optional external DC power unit (I3H-PWR).

Operation Shock:

50 G trapezoidal shock

Agency and Standards Specifications

Standard Safety:

UL 60950-1, CSA 22.2, EN60950-1

Electromagnetic compatibility:

47 CFR Parts 2 and 15, CSA C108.8, EN 55022, EN 55024, EN 61000-3-2, EN 61000-3-3, AS/NZS CISPR 22, and VCCI V-3

Standard EMC:

FCC Part 15-Class A, ICES-003 Class A, BSMI, VCCI-Class I, CISPR 22-Class A, EN 55024, EN 55022B Class A

Industrial EMC:

EN55011

Hazardous Locations:

ISA12.12.01 Class I, Div 2 A-D55022B Class A

Industrial EMC:

EN55011

Hazardous Locations:

ISA12.12.01 Class I, Div 2 A-D

Service and Support

Enterasys Networks provides comprehensive service offerings that range from Professional Services to design and implement customer networks, customized technical training, to service and support tailored to individual customer needs. Please contact your Enterasys account executive for more information about Enterasys Service and Support.

Warranty

The Enterasys® I-Series is warranted to be materially free from defects in material and workmanship under normal use and service for five (5) years after shipment of the product. For the first two (2) years of the warranty period, customers are entitled to receive no-charge firmware and maintenance updates.

Ordering Information

Part Number	Description
I3H252-12TX	Factory Configured I-Series base unit with one I3H-12TX
I3H252-4FXM	Factory Configured I-Series base unit with one I3H-4FX-MM
I3H252-4FX-MEM	Factory Configured I-Series base unit with one I3H-4FXM-MEM
I3H252-6TX-MEM	Factory Configured I-Series base unit with one I3H-6TX-MEM
I3H252-8FXM	Factory Configured I-Series base unit with one I3H-8FX-MM
I3H252-8TX-2FX	Factory Configured I-Series base unit with one I3H-8TX-2FX
I3H-12TX	12 port I/O card 10/100 TX
I3H-4FX-MM	4 port I/O card 100 FX I/O card
I3H-4FXM-MEM	4 port I/O card 100 FX I/O card with Memory Configuration Slot
I3H-6TX-MEM	6 port I/O card 10/100 TX I/O card with Memory Configuration Slot
I3H-8FX-MM	8 port I/O card 100 FX I/O card
I3H-8TX-2FX	10 port I/O card (8 port 100 TX and 2 port 100 FX)
I3H-DIN-KIT	DIN Rail Kit for I-Series
I3H-PWR	24VDC Power Unit for I-Series
I3H-RACK-MNT	19" Rack Mount Kit for I-Series
I3H-MEM	Memory Configuration Card for the I-Series only.
I-MGBIC-GLX	Mini GBIC 1000Base-LX, multimode or single-mode fiber, maximum distance 550 meters, industrial version for use with I-Series only.
I-MGBIC-GSX	Mini GBIC 1000Base-SX, multimode fiber, maximum distance 550 meters, industrial version for use with I-Series only.

Contact Us

For more information, call Enterasys Networks toll free at **1-877-801-7082**, or +1-978-684-1000 and visit us on the Web at enterasys.com



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