



## HIGH-DENSITY SWITCHING MODULES



6H302-48/6G306-06

### Comprehensive Traffic Control at Critical Network Access Points

Traffic regulation to and from servers and desktop users at the network edge  
Guaranteed delivery of critical applications such as Voice over IP and multicast video  
Advanced security filtering based on Layer 2-4 information  
Traffic shaping with per-port bandwidth provisioning and queue management, enabling service level agreements (SLAs)

### Low Cost of Ownership

Advanced Layer 2-4 traffic control without expensive, complex routing solutions  
True investment protection – Fully compatible with both the Matrix E7 and SmartSwitch 6000 platforms

### High-Density, Scalable Switching for Data Centers and High-Performance Wiring Closets

Up to 336 10/100 ports in the Matrix E7  
Up to 42 Gigabit ports in the Matrix E7  
Wire-speed Layer 2-4 services

### High Availability Features Based on Emerging Industry Standards

Link aggregation (IEEE 802.3ad)  
Per-VLAN spanning (IEEE 802.1s)  
Quick Convergence Spanning Tree (IEEE 802.1w)

### Intuitive Management for Rapid Deployment and Troubleshooting

SMON and full RMON I  
802.1Q IETF MIB (RFC 2674)  
GUI-based NetSight device and VLAN management applications

### 48-Port 10/100 Ethernet (RJ21 or RJ45), 6-Port Gigabit Ethernet

*These modules deliver pinpoint control to critical network entry areas without the expense and complexity of routed solutions.*

### High-Performance Switching

Ethernet has become the undisputed LAN technology of choice, accounting for over 85% of all network connections. As new applications have driven the need for increased bandwidth, Ethernet has cost-effectively scaled from 10 Mbps to 1000 Mbps. Currently, the leading desktop network technology is 10/100 Ethernet, and Gigabit Ethernet is becoming dominant for backbone and server connectivity.

Network infrastructure is a source of competitive advantage for enterprises and service providers. Switching solutions for 10/100 and Gigabit

Ethernet must therefore be high performance, intelligent, manageable, and cost effective.

The 6H302-48, 6H303-48 and 6G306-06 High-Density Switching Modules are the first of Enterasys' third-generation 10/100 and Gigabit Ethernet switching solutions for the Matrix E7 and SmartSwitch 6000. These modules deliver pinpoint control to critical network entry areas, without the expense and complexity of routed solutions. The third-generation modules also provide the throughput and port

densities needed to eliminate bandwidth concerns and serve in the largest networks.

By embedding Layer 2-4 services on advanced ASICs, these modules bring comprehensive quality of service, security and traffic containment to desktops and servers at the network edge. Network managers can now guarantee delivery of high-priority applications, enable service level agreements (SLAs) by provisioning bandwidth, and prevent security breaches by stopping them at their sources.



# specifications **(6H30X-48/6G306-06)**

## Distributed Switching Architecture

*Each module has on-board processors. Performance scales as additional modules and users are added—eliminating any single point of failure. Modules are hot-swappable and include advanced multilayer switching services and all nine RMON groups.*

## Technical

### Memory

Main Memory: 20MB (Expandable to 32MB on 6G306-06)  
Buffer Memory: 4MB  
Flash Memory: 8MB (Expandable to 16MB)  
Address Table Size: 16,000 entries

### Module Performance

Throughput Capacity: 3,500,000 pps (Measured in 64 Byte packets)  
Switching Fabric Bandwidth Capacity: 6 Gbps

### Management Options

In-Band Management: Via SNMP using SPECTRUM Enterprise Manager or NetSight Element Manager

Out-of-Band Management: Via RS232 COM Port, Telnet  
Embedded Webview: Web-based management

### System CPU LED Indicators

Red-Blinking—Hardware failure has occurred  
Red-Solid—Resetting, normal power up reset  
Amber-Blinking—Crippled  
Amber-Solid—Testing  
Green-Solid—Functional  
Amber/Green-Booting—Blinks amber and green while booting

### Module MTBF

Predicted: >200,000 hrs

### Standards Support

IEEE 802.1Q, 802.1D, 802.1p, 802.3u, 802.3x, 802.3  
Gigabit Ethernet: IEEE 802.3z

## Physical

### Interfaces

6H302-48: 48 10/100Base-TX via RJ45 connectors  
6H303-48: 48 10/100Base-TX ports via RJ21 connectors  
6G306-06: 6 ports 1000 Mbps Gigabit Ethernet via GPIM uplink modules

### Module Dimensions

18.28" H x 2.38" W x 11.62" D

### Weight

4.5 lbs

## Environmental

### Operating Temperature

41° to 104°F (5° to +40°C)

### Non-Operating Temperature

-22° to 194°F (-30° to +90°C)

### Operating Humidity

5 to 90% RH, non-condensing

### Power Consumption

100-125 VAC or 200-250 VAC  
50-60 Hz

## Agency and Standards

### Safety

UL1950, CSA C22.2 No. 950, EN60950, IEC950, 72/73/EEC

### Electromagnetic Compatibility

FCC Part 15, CSA C108.8, EN555022  
VCCI V-3/93.01, EN50082-1, 89/336/EEC

## Gigabit Ethernet Port Interface Modules

Using Industry Standard GBIC Interfaces

### GPIM-01

Gigabit Ethernet Port Interface Module, 1000Base-SX

### GPIM-09

Gigabit Ethernet Port Interface Module, long haul, 1000Base-LX

### GPIM-08

Gigabit Ethernet Port Interface Module, extended long haul, 1000Base-ELX

## IEEE 802.3z Characteristics

### GPIM-01

Segment Length\*: IEEE 802.3z 62.5  $\mu$ m MMF 275 meters  
Transmit Power (min): -9.5 dBm, (62.5  $\mu$ m MMF)  
Receive Sensitivity: -17 dBm, (62.5  $\mu$ m MMF)  
Link Power Budget: 7.5 dBm, (62.5  $\mu$ m MMF)

### GPIM-09

Segment Length\*: IEEE 802.3z 62.5  $\mu$ m MMF 500 meters, 10  $\mu$ m SMF 10 kilometers  
Transmit Power (min): -11.5 dBm, (62.5  $\mu$ m MMF 50  $\mu$ m MMF)  
-9.5 dBm (10  $\mu$ m SMF)

Receive Sensitivity: -17 dBm, (62.5  $\mu$ m MMF) -20 dBm (10  $\mu$ m SMF)  
Link Power Budget: 7.5 dBm, (62.5  $\mu$ m MMF) 10.5 dBm (10  $\mu$ m SMF)

### GPIM-08

Segment Length\*: 10  $\mu$ m SMF 70 kilometers  
Transmit Power (min): 0 dBm, (10  $\mu$ m SMF)  
Receive Sensitivity: -22dBm  
Link Power Budget: 22 dB

\*The maximum drive distance depends on the quality of the installed single-mode fiber-optic cable segment. Use the link power budget to calculate the maximum cable length of the attached segment. The link power budget must not be exceeded.

## Ordering Information

### 6H302-48

10Base-T/100Base-TX Ethernet Switch, 48 ports, RJ45

### 6H303-48

10Base-T/100Base-TX Ethernet Switch, 48 ports, RJ21

### 6G306-06

1000Base-X/1000Base-SX/LX Gigabit Ethernet Switch, 6 ports using GPIMs (sold separately)

### GPIM-01

Gigabit Ethernet Port Interface Module, 1000Base-SX

### GPIM-08

Gigabit Ethernet Port Interface Module, extended long haul, 1000Base-ELX

### GPIM-09

Gigabit Ethernet Port Interface Module, long haul, 1000Base-LX



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Lit. #9011976 3/00