HARDENED NETWORKS

ITS-8020

Where Innovation Meets Reliability

New Flex-Technology

- Hardened Advanced Layer 2+
- IP Guard Security Feature
- RADIUS and TACACS+ security
- (7) 100/1000Mb Copper Ports
- (3) 10/100/1000 Combo Copper/ Hybrid Fiber SFP Ports

- 8.6 Gbps Back-Plane
- FL APL Approval #: 684-002-007
- Exceeds NEMA TS-2 Specifications
- Internal Manual-Based Help System by Topic and Setting in GUI

Our exciting new Flex-Technology revolutionizes speed upgrades in hardened switches!
Now you can purchase switches with any higher speed SFPs 10gig /2.5 gig and connect them to your existing slower speed 100 or 1000 optics without requiring like optics. Make your upgrade path fast, simple, and pain-free!

Ask your sales representative today!

- Designed for heavy video use in unicast/multi-cast in extreme environments
- Full Layer 2+ management, 802.1x authentication
- Traffic monitor - rapid change in data rates trigger alarms
- Adaptive switching provides low latency in cut through mode while monitoring errors with automatic fall back to store and forward mode
- Easy to configure web interface designed by ITS users
- Optical monitoring with mapping capabilities
- Multiple switch configurations: HTTP, HTTPS, Telnet, SSH, CLI
- CAT5/6 rapid cable test to identify pair or distance issues
- Layer 2 IGMP V1/V2/V3 dynamic multicast group membership and Multicast VLAN Registration (MVR)
- Event notification: email SMTP, syslog, SNMP and relay output
- Fast ITS ring recovery time < 10ms over 250 units of connections
- Mix and match fiber 100/1000 and multimode/ single-mode fiber and BX single strand fiber
- IP Guard Security Feature
- Notifications for link up, link down, SFP temperature, ring topology change ring environment, etc.
- SNMP (V1/V2C/V3) management
- RMON system and port monitoring with sFlow packet sampling
- Supports HTTP/HTTPS/TFTP firmware updates, configurations backup and restore
- Modifiable switch management security per protocol (HTTP, HTTPS, Telnet, SSH, SNMP)
- Traffic Prioritization: configuration policy, port-based priority, COS/802.1p, TOS/DSCP

ITS Express/ Hardened Networks switches have been specifically engineered to handle the challenging demands of extreme environmental conditions and 8k multi-cast high bandwidth video applications.

A vast array of redundancy protocols combined with dual redundant power capabilities ensure maximum uptime for mission-critical applications.

Hardened Networks provides state-of-the-art designed switches, which all feature next-generation ASICs, robust backplanes, and dependable firmware. This gives you the "best-of-breed" in environmentally challenging switch products.

Switch Model	ITS-8020
Physical Ports	
10Mb/100Mb Base-TX Copper	7
10Mb/100Mb/1000Mb TX Combo	3
Technology	
Ethernet Standards	-IEEE 802.3 for 10Base- T -IEEE 802.3u for 100Base- TX and 100Base-FX -IEEE 802.3z for 1000Base-X -IEEE 802. 3ab 1000 Base-T -IEEE 802.3x for Flow Control -IEEE 802.3ad Port Trunk with LACP (Link Aggregation Control Protocol) -IEEE 802.1d Spanning Tree -IEEE 802.1w for RSTP (Rapid Spanning Tree Protocol) -IEEE 802.1p for COS (Class of Service) -IEEE 802.1q VLAN Tagging -IEEE 802.1s for MSTP (Multiple Spanning Tree Protocol) -IEEE 802. 1x for Authentication -IEEE 802.1AB for (Link Layer Discovery Protocol)
Memory Buffer	128 Kbytes
Processing	Adaptive Cut-Through w/Store-and-Forward
Priority Queues	8
Network Redundancy	STP, RSTP, MSTP, and ITS Ring
Jumbo Frame	Max 9K bytes jumbo frame support
Firmware Update	Supports SFTP, SCP, FTP, TFTP, HTTP, HTTPs firmware updates and configuration backup/restore
Protocols	CSMA/CD
Fault Contact	Relay output for power failure warning
RS-232 Serial Console Port	RS-232 in RJ-45 connector with console cable. 9600bps, 8, N, 1
Port Mirror	Supports 3 mirroring types: RX, TX, and both packet
Switch Properties	Switching Latency: 7 us Max. Number of Available VLANs: 256 (VID 1-4094)
Security Features	-IP Police Security Feature -Enable/disable ports -MAC based port security -Port based network access control (802.1x) -VLAN (802.1Q) to segregate and secure network traffic -Radius centralized password management

Software Features	-MSTP/RSTP/STP (IEEE 802.1D/W/S) -Redundant Ring with recovery time less than 10ms over 250 units -TOS/ Diffserv supported -Quality of Service (802.1p) for real-time traffic -VLAN (802.1Q) with VLAN tagging -GARP VLAN registration protocol (GVRP) supported -IGMP v1, v2, &v3 snooping for multicast filtering -Port configuration, status, statistics, monitoring, and security -IGMP multicast groups: 256, port rate limiting: user define -SNMPv3 encrypted authentication and access security -Web/ Telnet/ Serial CLI/ Menu management -Full function real- time graphical user interface

Power	
Redundant power input	100-240 VAC
Power Supply	Dual DC inputs. 12~48VDC on 6-pin terminal block
Power Consumption (Typ.)	12 Watts

Physical Characteristics	
Weight (lb/g)	2.64 lb/1197g
Dimension (W x D x H)	74.3mm (W) x 109.2mm (D) x 153.6 (H)mm (2.93 x 4.3 x 6.05 inch)

Environmental	
Operating Temperature	-40 to 85C (-40 to 185F) (No Fans)

Regulatory Approvals	
EMI	-FCC Class A -CE EN 61000-4-2 -CE EN 61000-4-3 -CE EN 61000-4-4 -EN 61000-4-5 -CE EN61000-4-6 -CE EN 61000-4-8 -CE EN 61000-4-11 -CE EN61000- 4-12 -CE EN61000-6-2 -CE EN 61000-6-4 -NEMA TS-2 (traffic control equipment)
Safety Compliance	UL, cUL, CE/EN60950-1
Warranty	5 Years

Other Solutions

Hardened Networks has created variety of high quality products to fit your needs. If you did not find what you needed in the ITS- 8020, please browse our other solutions.

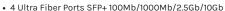| Ethernet Switches	Communications

ITS-8012-24 V3

- 4 Ultra Fiber Ports SFP+ 100Mb/1000Mb/2.5Gb/10Gb
- 4 Enhanced Fiber Ports SFP 100Mb/1000Mb/2.5Gb
- 16 Copper Ports 10Mb/100Mb/1000Mb
- 176 GBPS Back-Plane

ITS-8042 V3

- 2 Ultra Fiber Ports SFP+ 100Mb/1000Mb/2.5Gb/10Gb
- 2 Enhanced Fiber Ports SFP 100Mb/1000Mb/2.5Gb
- 8 Copper Ports 10Mb/100Mb/1000Mb
- 96 GBPS Back-Plane

ITS- MC-1000

- 10Mb/100Mb/1000tMbps Ethernet BASE-T/TX to SFP (MM or SM)
- Optical port supports 100Mb or 1000Mb full duplex data

ITS-8012-24+ V3

- 4 Ultra Fiber Ports SFP+ 100Mb/1000Mb/2.5Gb/10Gb
- 4 Enhanced Fiber Ports SFP 100Mb/1000Mb/2.5Gb
- 16 Copper Ports 10Mb/100Mb/1000Mb
- Two sets of bypass fiber ports
- 176 GBPS Back-Plane

ITS-8042+ V3

- 2 Ultra Fiber Ports SFP+ 100Mb/1000Mb/2.5Gb/10Gb
- 2 Enhanced Fiber Ports SFP 100Mb/1000Mb/2.5Gb
- 8 Copper Ports 10Mb/100Mb/1000Mb
- Two sets of bypass fiber ports
- 96 GBPS Back-Plane

ITS- MC-100

- 10Mb/100Mbps Ethernet BASE-T/TX to SFP (MM or SM)
- Flexible power 18-46VAC/12-60 VDC

ITS- VC-100

- High Speed VDSL-2 Technology
- 10Mb/100Mbps Ethernet BASE-T/TX to a pair of copper cables
- Flexible power 18-46VAC/12-60 VDC

We here at Hardened Networks are proud to carry products that are certified by:

Express Supply, Inc.   www.expresssupply.net   (407) 497-8614