

Managed Industrial Ethernet Switch

ISW-800M / ISW-802M

Preliminary Release January 2006

The PLANET Management Industrial Ethernet Switch provides substation hardened, fully managed, Ethernet switches specifically designed to operate reliably in electrically and environmentally harsh environments. It provides IEEE 1613 Class 2 error-free communications performance under EMI stress. The feature of operating temperature range from 0 to 60 Degree C allows to the switch be placed in almost any location. The Switch also provides a wide range of power supply options suitable for multiple industries and for worldwide operability.

The management switch models offer advanced Layer 2 networking features and network management via the Web interface. The feature of the switching is the performance of its IEEE 802.1w Rapid Spanning Tree Protocol (RSTP) used for implementing fault tolerant ring and mesh network architectures. The protocol has been optimized to support ring and fault recovery times in the order of less than 300ms.

The management function provides improved system reliability and advanced networking features making it ideally suited for creating Ethernet networks for mission-critical, real-time, control applications.



Key Features

Hardware Feature

- Complies with IEEE 802.3, IEEE 802.3u
- CSMA/CD Protocol
- RJ-45 Port support auto MDI/MDI-X function
- 2K MAC address table
- 1Mbit memory buffer
- 2.0Gbps back-plane
- Wide-range redundant power design
- Stores and forwards switch architecture
- DIN rail and 3-way wall mount design

Industrial Conformance

- 12~48V DC, redundant power with polarity reverse protect function
- 0 to 60 Degree C operation temperature
- IP-30 Aluminum case
- Relay alarm for port breakdown, power failure
- FCC Class A, CE compatibility
- Free fall, Shock and Vibration Stability

Switching Feature

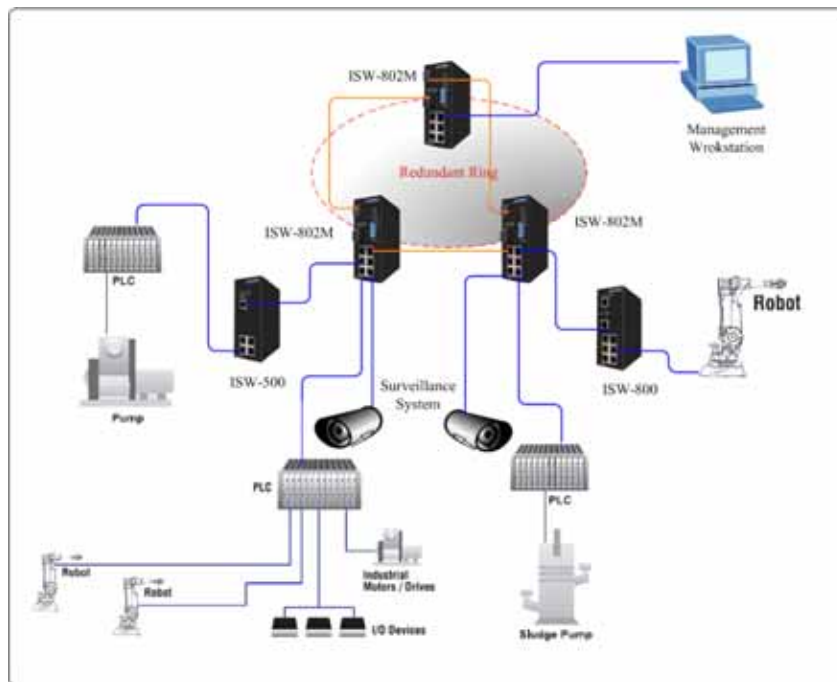
- Ring function data redundant, 300ms data recovery
- 802.1q Tagged VLAN/Port-based VLAN
- IEEE 802.1p class of service, 4 priority queues
- IGMP v1 and Query mode
- 802.1d STP/802.1w Rapid STP
- Ingress/Egress bandwidth control

System

- Web/SNMP management
- System event log support
- Configuration backup/restore
- E-mail event alert
- IP security for illegal access prevention
- TFTP firmware upgrade

- Port mirror transmission monitoring

Application



SPECIFICATION

Model	ISW-800M	ISW-802M
Hardware		
Standard	IEEE 802.3af, IEEE 802.3, IEEE802.3u, 10/100Base-TX	
10/100Mbps TP	8	6
100Base-FX	-	2 (MM, SC)
Protocol	CSMA/CD	
Switching Architecture	Store and forward	
Transfer Rate	144,880 pps for Ethernet port and 1448,800 pps for Fast Ethernet port	
MAC address	2K	
Memory Buffer	1Mbit	
Network Cable	10Base-T : 2-pair UTP/STP Cat 3, 4, 5 cable 100Base-TX: 2-pair UTP/STP Cat. 5 cable 10Base-T: EIA/TIA-568 100-ohm (100m)	
Optical Cable	-	SC (Multi-mode): 50/125um~62.5/125um Available distance: 2KM (Multi-mode) Wavelength: 1310nm (multi-mode/ single mode)
LED	Per port: Link/Activity (Green), Full duplex/Collision (Yellow) Per unit: Power (Green), Power 1 (Green), Power 2 (Green), Fault (Yellow), Master (Green)	
Back-plane	1.6Gbps	
Packet throughput ability	1.19Mpps@64bytes (8TX)	
Power Supply	12 to 48 V DC, Redundant power with polarity reverse protection function	
Power Consumption	8-Port TX: 4.6 Watts	
Installation	Provide DIN rail kit and wall mount ear for 3-way installation	
Operating environment	0~60 Degree C, 5%~90%RH (Non-condensing)	

Storage environment	-40~85 Degree C, 5%~90%RH (Non-condensing)
Dimension (W x D x H)	54 x 105 x 155 mm
Emission	FCC Class A, CE mark
Stability testing	IEC60068-2-32(Free fall), IEC60068-2-27(Shock), IEC60068-2-6(Vibration)
Management	
Management Interface	Web, SNMP v1,v2c, v3
SNMP MIB	RFC 1213 MIBII, RFC 1493 Bridge MIB, RMON RFC 1757, RFC 2674 VLAN MIB, RFC 1643 Ethernet like MIB, RFC1215 Trap MIB, IGMP MIB. Private MIB for switch information, super ring, port alarm, TFTP firmware upgrade, reset, port mirror, IP security.
SNMP Trap	Up to 3 Trap stations. Cold start, Port link Up, Port link down, Authentication Failure, Private Trap for power status, Port Alarm configuration, Fault alarm, super ring.
Management IP security	Support IP address security to prevent unauthorized intruder.
Firmware update	Support TFTP firmware update, TFTP configuration backup and restore.
System event log	Provides 1000 event log entries.
Alarm	Provides one relay output for port breakdown, power fail and provide DIP switch to mask link down port. Alarm Relay current carry ability: 1A @ DC 24V
DHCP client	Provide DHCP client function to obtain IP address from DHCP serve.
Switching	
Redundant ring	2 ports for Redundant ring to provide redundant backup feature and the recovery time below 300ms. It also supports coupling ring function. Ring and coupling port configure by web interface and ringmaster by hardware DIP switch.
VLAN	Support Port based VLAN and IEEE802.1Q Tag VLAN. Both of port based and Tag based VLAN group up to 64 VLANs.
Class of service	IEEE802.1p class of service support, per port provides 4 priority queues.
Quality of service	The quality of service support port based, Tag based and IPv4 Type of service.
IGMP	Support IGMP v1 and Query mode. Up to 256 groups.
Spanning tree	IEEE802.1d spanning tree and IEEE802.1w rapid spanning tree.
SNTP	Support simple network time protocol.
SMTP	Support simple mail transfer protocol.
Bandwidth control	Support ingress packet filter and egress packet limit. The egress rate control supports all of packet type and the limit rates are 128Kbps, 256Kbps, 512Kbps, 1MB, 2MB, 4MB, and 8MB. Ingress filter packet type combination rules are Broadcast/Multicast/Unknown Unicast packet, Broadcast/Multicast packet, Broadcast packet only and all of packet. The packet filter rate can be set follow as:1Mbps, 2Mbps, 4Mbps, 8Mbps, 16Mbps, 32Mbps, 64Mbps.
Port mirror	Support TX packet only or both of TX and RX packet.
Packet filter	4 selection rules for different type of packet combination: 1. All of packet 2. Broadcast/ multicast/ unknown unicast packet 3. Broadcast/ multicast packet 4. Broadcast packet only
Network Standard	IEEE 802.3 10Base-T Ethernet IEEE 802.3u 100Base-TX Fast Ethernet IEEE802.3x Flow Control and Back-pressure IEEE802.1d spanning tree / IEEE802.1w rapid spanning tree IEEE802.1p class of service

Ordering Information

ISW-800M	8-Port Managed Industrial Ethernet Switch
ISW-802M	6-Port 10/100Mbps TP + 2-Port 100Base-FX Industrial Ethernet Switch