

Product Specification

Industrial IP67 Rated 8-Port 10/100Mbps M12 Ethernet Switch

ISW-800T-M12

Version 1.0

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Change History:

Revision	Date	Author	Change List
Version 1.0	2011/7/29	Marc Liao	Initial release

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Reviewed by:	Kent Kang	Approved by:	Tom Shih

1. PRODUCT DESCRIPTION



The ISW-800T-M12 equipped with IP67 industrial case protection, provides a high level of immunity against electromagnetic interference and heavy electrical surges which are usually found on plant floors or in curb side traffic control cabinets. The compact, IP67 standard metal case of ISW-800T-M12 allows either DIN rail or wall mounting for efficient use of cabinet space.

The ISW-800T-M12 equipped with eight 10/100Base-TX auto-negotiation ports M12 connector interfaces, the M12 connector provides tightly, strong connection and guarantee stable Ethernet operation performance under high vibration and shock environment.

Environmentally Hardened Design

The ISW-800T-M12 provides a high level of immunity against electromagnetic interference and heavy electrical surges which are usually found on plant floors or in curb side traffic control cabinets. Being able to operate under the temperature range from -40 to 75 Degree C, the ISW-800T-M12 can be placed in almost any difficult environment. The ISW-800T-M12 also possesses an integrated power supply source with wide range of voltages (12 to 48V DC) for worldwide high availability applications requiring dual or backup power inputs.

High Performance

The ISW-800T-M12 has 2K MAC Address table and offers wire-speed packets transfer performance without risk of packet loss, the high data throughput of the device makes it ideal for most network environments. With a **1.6Gbps** internal switching fabric and featuring auto negotiation support in each Fast Ethernet port, the ISW-800T-M12 can handle large amounts of data in a secure topology linking to a backbone or high capacity servers.

Easy Installation

The flow control function enables the ISW-800T-M12 to provide fast and reliable data transfer, all of the M12 RJ-45 copper interfaces in the ISW-800T-M12 support 10/100Mbps Auto-Negotiation for optimal speed detection through RJ-45 Category 3, 4, 5, 5e, 6 cables. The standard Auto-MDI/MDI-X support can detect the type of connection to any Ethernet device without requiring special straight or crossover cables.

2. PRODUCT FEATURES

Physical Port

- 8-Port 10/100Mbps M12 Connector with IP67 protection

Layer 2 Features

- Supports Auto-negotiation and 10/100Mbps half / full duplex mode
- High performance Store and Forward architecture, runt/CRC filtering eliminates erroneous packets to optimize the network bandwidth
- Prevents packet loss with back pressure (Half-Duplex) and IEEE 802.3x PAUSE frame flow control (Full-Duplex)
- Backplane (Switching Fabric): 1.6Gbps
- Integrated address look-up engine, support 2K absolute MAC addresses
- Automatic address learning and address aging
- CSMA/CD Protocol

Industrial Case / Installation

- IP67 Aluminum metal case / Protection
- DIN Rail and Wall Mount Design
- Waterproof / dustproof design
- 12 to 48V DC, redundant power with polarity reverse protect function and connective removable terminal block for master and slave power
- Supports EFT protection 6000 VDC for power line
- Supports 6000 VDC Ethernet ESD protection
- -40 to 75 Degree C operating temperature

3. PRODUCT SPECIFICATION

3.1 MAIN COMPONENT

Switch ASIC: IC Plus IP178D X1

3.2 FUNCTION SPECIFICATION

Model	ISW-800T-M12
Hardware Specification	
10/100Base-TX Ports	8 x M12, 4-Pole D-coding female connector
Power Connector	1 x M12, 5-Pole A-Coding male connector
Enclosure	IP67 Aluminum
Installation	DIN rail kit and wall mount ear
ESD Protection	6KV DC
EFT Protection	6KV DC
Switch Specification	
Switch Processing Scheme	Store-and-Forward
Address Table	2K entries
Flow Control	Back pressure for half duplex IEEE 802.3x Pause Frame for full duplex
Switch Fabric	1.6Gbps
Throughput (packet per second)	1.19Mpps
Maximum Transmit Unit	1536 bytes
Network Cables	10Base-T: 2-Pair UTP Cat.3,4,5 up to 100m (328ft) 100Base-TX: 2-Pair UTP Cat.5, 5e, 6 up to 100m (328ft) EIA/TIA-568 100-ohm STP (100m, max.)
Standards Conformance	
Standards Compliance	IEEE 802.3 10Base-T Ethernet IEEE 802.3u 100Base-TX Fast Ethernet IEEE 802.3x Full-Duplex Flow Control
Stability Testing	IEC60068-2-32(Free fall) IEC60068-2-27(Shock) IEC60068-2-6(Vibration)

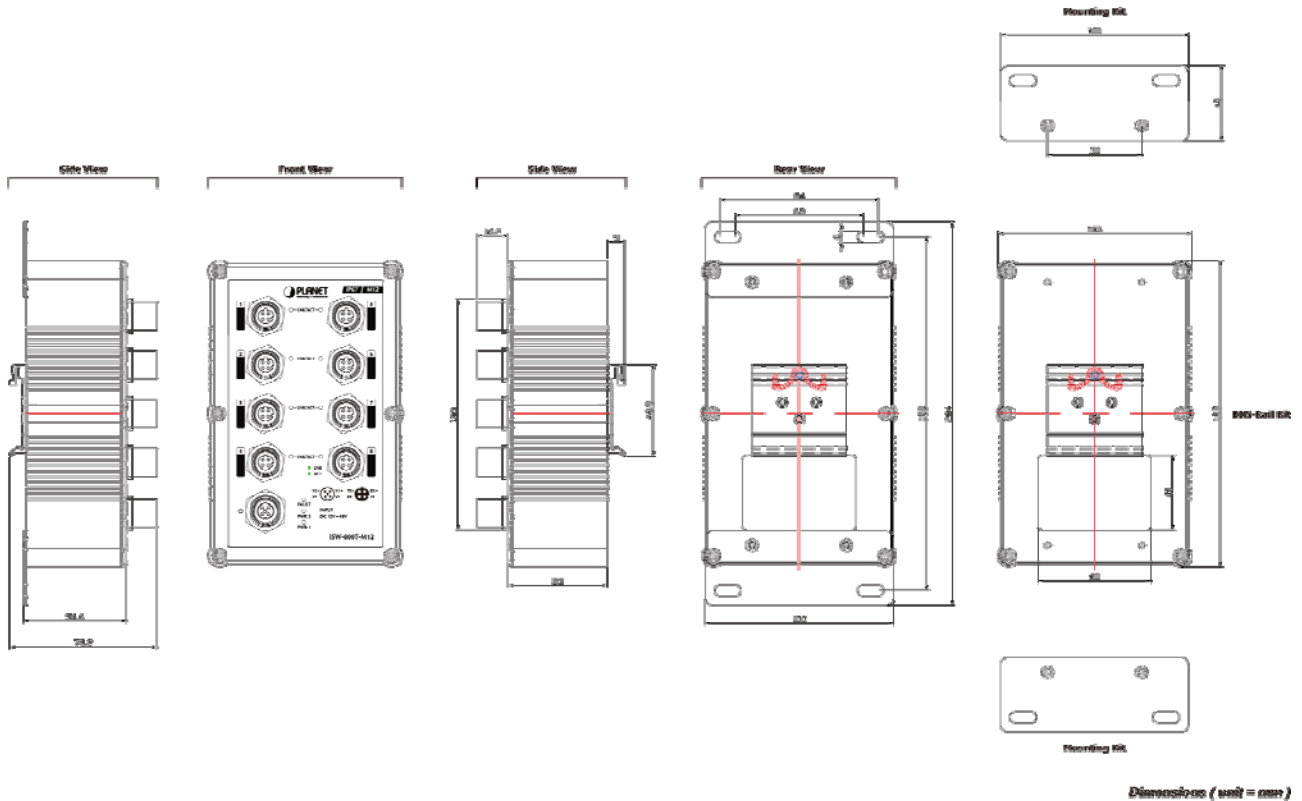
3.3 PHYSICAL SPECIFICATIONS:

Dimensions:

163 x 103 x 53mm (W x D x H)

Weight:

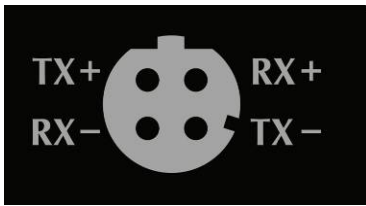
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LED Definition

LED	Color	Function
PWR 1	Green	Lit: indicate the power 1 has power.
PWR 2	Green	Lit: indicate the power 2 has power.
FAULT	Green	Lit: indicate the either power 1 or power 2 has no power.
LNK / ACT	Green	Lit: indicate the Switch is successfully connecting to the network at 10/100Mbps.
		Blink: indicate that the Switch is actively sending or receiving data over that port.
		Off: indicate the Switch is not connecting to the network at 10/100Mbps.

M12 4-Pin D-coded Ethernet Connector PIN Assignment



PIN	Signal	Color of UTP Cable
1	TX+	White / Orange
2	TX-	Orange
3	RX+	White / Green
6	RX-	Green

3.4 ENVIRONMENTAL SPECIFICATION

Operating:

Temperature: -40°C ~75 Degree C
Relative Humidity: 5% ~ 95% (non-condensing)

Storage:

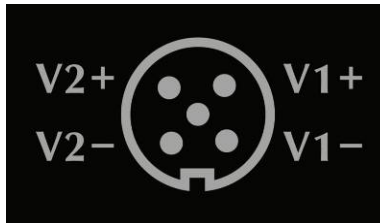
Temperature: -40°C ~75 Degree C
Relative Humidity: 5% ~ 95% (non-condensing)

3.5 ELECTRICAL SPECIFICATION

Power Requirement: 12~48V DC, Redundant power with polarity reverse protection function

Power Consumption: 4 Watts / 13 BTU

M12 5-Pin A-coded PIN Assignment:



3.6 REGULATORY COMPLIANCE

FCC Part 15 Class A, CE

3.7 REALIABILITY

MTBF > 100,000Hrs

3.8 BASIC PACKAGING

- Industrial IP67 Rated M12 Ethernet Switch x1
- User's Manual x 1
- 1.2m M12-to-RJ45 UTP Cable x1
- 1.2m M12 Power Cable x1
- DIN Rail Kit x 1
- Wall Mount Kit x 1

3.9 PACKING DIMENSION

Dimension: 176mm (W) x 238mm (D) x 117mm (H)

Weight: 1.3kg (Gross weight)

10pcs in one carton