

FX-2048IR 48+2G Ports 10/100Mbps Layer2 Unmanaged Ethernet Switch



Feature

The FX-2048IR (48+2G Ethernet Switches) are designed to allow simultaneous transmission of multiple packets via an internal high-speed data channel. This means that it can partition a network more efficiently than bridges or routers in most environments. This FX-2048IR (48+2G port Ethernet Switch) is a highly reliable network switch and is the ideal device for bridging Ethernet to Fast Ethernet workgroups or networks. Simple and cost-effective, the FX-2048IR (48+2G Ethernet Switching) supports IEEE 802.3u and IEEE 802.3 or 100Base-TX and 10Base-T. The FX-2048IR (48+2G Ethernet Switching) is therefore fast being recognized as one of the most important building blocks for today's networking technology..

- The front panel of the FX-2048IR (48+2G Ethernet Switch) provides LEDs for easy recognition of the switch operation status and for troubleshooting. These LEDs display the power status for the system and link, and receive activity status for each port.
- With FX-2048IR (48+2G Ethernet Switch) designed specifically for connecting workgroup devices and desktops, companies no longer have to invest in expensive and inflexible switches engineered primarily for backbone implementations. Instead, companies can deploy scalable, affordable switches that increase the aggregate bandwidth of the network by boosting throughput to the workgroups that need it most.

■ The application of a simple stand alone

The application of a simple stand alone switching hub is illustrated as below. The maximum distance between the switching hub to the workstation is 100 meters.

■ Key Features

- Complies with IEEE 802.3 Ethernet and IEEE 802.3u Fast Ethernet standard
- Comply with IEEE 802.3ab for Giga port
- Combinations could be 48, 48+2G, 56+1G or 64 10/100 ports
- 48 10/100Mbps auto MDI/MDI-X ports
- Optional two 8 10/100Mbps auto MDI/MDI-X ports modules to expand maximum 64 ports
- Optional two 1000Mbps expansion ports for gigabit uplink

■ This Ethernet Switch is implemented with an address table. This address table composed of many entries. Each entry is used to store the address information of some node in network, including MAC address, port number, etc. This information comes from the learning process of Ethernet Switch.

■ When one packet comes in from any port, the Ethernet Switch will record the source address, port number and the other

related information in address table. This information will be used to decide either forwarding or filtering for future packets.

- When one packet comes from some port of this Ethernet Switch, it will also check the destination address besides the source address learning. This Ethernet Switch will lookup the address-table for the destination address. If not found, this packet will be forwarded to all the other ports except the port, which this packet comes in. And these ports will transmit this packet to the network it connected. If found, and the destination address is located at different port from this packet comes in, this Ethernet Switch will forward this packet to the port where this destination address is located according to the information from address table. But, if the destination address is located at the same port with this packet comes in, when this packet will be filtered. Thereby increasing the network throughput and availability.
- Store-and-Forward is one type of packet-forwarding technique. A Store-and Forward Ethernet Switch stores the incoming frame in an internal buffer, do the complete error checking before transmission. Therefore, no error packets were occurring. It is the best choice when a network needs efficiency and stability.
- This Ethernet Switch scans the destination address from the packet-header, searches the routing table provided for the incoming port and forwards the packet, only if required. The fast forwarding makes the switch attractive for connecting servers directly to the network, thereby increasing throughput and availability. However, the switch is most commonly used to segment existing hubs, which nearly always improves overall performance. An Ethernet Switch can be easily configured in any Ethernet network environment to significantly boost bandwidth using conventional cabling and adapters.
- Due to the learning function of the Ethernet switch, the source address and corresponding port number of each incoming and outgoing packet are stored in a routing table. This information is subsequently used to filter packets whose destination address is on the same segment as the source address. This confines network traffic to its respective domain, reducing the overall load on the network.
- This Ethernet Switch performs "Store and forward" therefore, no error packets occur. More reliably, it reduces the retransmission rate. No packet loss will occur.
- **The STP ports on the switch have built-in "Auto-negotiation".**

This technology automatically sets the best possible bandwidth when a connection is established with another network device (usually at Power On or Reset). This is done by detect the modes and speeds at the second of both device is connected and capable of, both 10Base-T and 100Base-TX devices can connect with the port in either Half- or Full-Duplex mode.

IF attached device is:	The port will set to:
10Mbps, no auto-negotiation	10Mbps (Half Duplex)
10Mbps, auto-negotiation	10Mbps (Half Duplex)
100Mbps, no auto-negotiation	100Mbps (Half Duplex)
100Mbps, auto-negotiation	200Mbps (100Base,Full Duplex)
1000Mbps,no auto-negotiation	1000Mbps (Half Duplex)
1000Mbps, auto-negotiation	2000Mbps (100Base,Full Duplex)

■ **Optional Module**

FX-1TE	FX-2048IR Module, 1 port 1000 BASE-T
FX-1SX	FX-2048IR Module, 1 port 1000 BASE - SX(SC)

■ **The slots on the rear panel are provide for installing optional Gigabit or 8 ports module as described below:**

- Turn off switch's power (modules are not hot-swappable).
- Remove the cover plate on the appropriate slot by removing the two screws with a screwdriver.
- Before opening the package that contains the module, touch the bag to the switch casing to discharge any potential static electricity.
- Remove the module from the anti-static shielded bag.
- Holding the module level, gently push it all the way into the slot along the guide rails, ensuring that it engages with the connector as shown below.

► **Specification**

Model Number	FX-2048IR
Access Method	Comply with IEEE 802.3, IEEE 802.3u and IEEE 802.3ab for Giga port
Standards Conformance	IEEE802.3 10Base-T Ethernet IEEE802.3u 100Base-TX, 100Base-FX Fast Ethernet IEEE802.3ab 1000Base-T Gigabit Ethernet IEEE802.3x Full-duplex flow control
Maximum Number of Ports	48 10/100Mbps auto-negotiation MDI/MDI-X RJ-45 ports Optional two 10/100/1000Mbps module, per module could be install One 1000Base-T module or One 1000Base-FX module 8 ports 10/100Mbps extension module
Supported Cables	10Mbps: Category 3 or greater, 100Mbps: Category 5 or greater (UTP/STP cable)
Data Transfer Mode	Store-and-Forward
Internal Bus Speed	13.6Gbps
packet length up	1522 bytes
Packet Forwarding/Filtering Speed(64byte)	1000BASE-T 1488,000pps per port 100BASE-TX 148,800pps per port 10BASE-T 14,880pps per port
Packet Buffer	6.6MB
LED Indicators	Link/Act, Power
Power Consumption	InputVoltageRange: 90-264 VAC AC Line Frequency Range: 47 ~ 63 Hz
Operating Temperature	0 to 45 degrees Celsius

Operating Humidity	10 to 90% (non-condensing)
Dimensions	441(W) x 44(H) x 270(D) mm
Weight	3.5 kg
19 inch rack-mounting	Supported
EMI	FCC Class A ,CE
Package Contents	FX-2048IR, RS-232C straight cable (D-SUB 9pin male/female, straight type) for system configuration, power cord, rack-mounting bracket x 2, screws, rubber footpad x 4, User's Manual (CD-ROM)

▶ Product View

