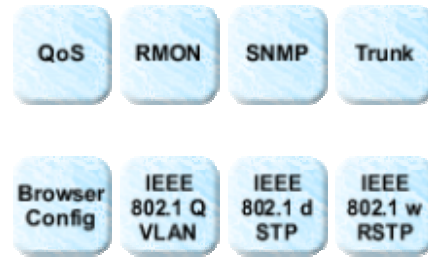


FML-24K 24Ports 10M/100M Layer3 Intelligent Switch



▶ Feature

The FML-24K Layer 3 Switch provides superior cost performance by implementing the cutting-edge routing function and network management function. Optional Gigabit modules of four types can be attached to the expansion slots, which enables the establishing of a broad network.

■ High-speed routing achieved via Wire Speed and Non-Blocking

The latest switch chip enables fast routing at wire speed. The packet relaying operation is performed by ASIC (application specific IC), which results in a significant increase in the volume of packets processed per unit time, compared with tests that use a router for the relaying task. The packet transmission at the highest speed available on LAN (wire speed) is performed with no packet loss, and bottlenecks on relay devices likely to occur in case the traditional router is used have been eliminated.

■ Gigabit Expansion Slot

In addition to twenty-four 10/100BASE ports, the FML-24K provides two expansion slots supporting Gigabit connectivity. Combined with the optional modules, the switch supports up to two additional 1000BASE-SX/1000BASE-LX/1000BASE-T ports, or two GBIC slots. By installing and connecting the higher bandwidth Gigabit ports to network backbone or servers, where network traffic is the heaviest, the user can eliminate bottlenecks and achieve highly responsive network environment.

■ Intelligent management feature

The product supports SNMP, RMON as well as a protocol for controlling multicast packets. When combined with other intelligent switch products, the FML-24K allows the construction of networks with superior management functions. Network configuration can be performed via Telnet, the console serial port, and also WWW browser. The web browser interface facilitates network management via its GUI-based configuration screens.

*SNMP(simple network management protocol)

A set of protocols used to manage TCP/IP-based networks. It is used as a standard protocol for sending management information stored on network devices (agents) such as routers and switches to management systems (managers).

Supported Protocols:MIB II/Bridge MIB/Forwarding Table MIB/Interfaces Evolution MIB/Ethernet MIB/Extended Bridge MIB/RIP1 MIB/RIP2 MIB/RMON MIB/Entity MIB/RADIUS Authentication Client MIB/Private MIB

***RMON(remote network monitoring)**

A network management protocol used to collect and analyze information on network traffic. The network management protocol SNMP has been expanded so as to cover functions for managing data traffic on remote networks.

Supported RMON Functions: Statistics/History/Alarm/Event

***Multicast Control**

A system for sending data simultaneously to multiple users connected to a LAN or the Internet. Unlike broadcast, data is sent only to a specific group of users, which allows reducing network traffic.

Supported Control Protocols:IGMP(v1/v2) Snooping,GMRP

■ Routing Protocols

The product supports IP Static and RIP v1/v2 as TCP routing protocols.

* Scheduled to support OSPF.

■ IEEE802.1Q Tagging VLAN and QoS add flexibility to network systems

IEEE802.1Q Tagging VLAN technology that supports up to 255 VLAN groups allows dividing nodes (networked PC's) into separate VLAN groups. This feature enables the construction of logical network segments independently of the original physical network configuration.

Furthermore, the product also complies with IEEE802.1p QoS (4 levels maximum) to control the quality of data communication. By prioritizing network traffic, QoS reserves communication band to increase the availability of network applications including groupware and databases.

■ Trunk technology establishes a broadband link between two switches

The Trunk feature combines two to four physical ports (links) to form one logical link, achieving up to 800Mbps of broadband transmission (up to 6 groups, full duplex) between two switches. (Utilizing 2 optional Gigabit modules allows achieving up to 4Gbps at full duplex).

■ Highly advanced security features

The product supports ACL(Access Control List) function that checks both the IP/MAC address of source/destination and TCP/UDP port number to control data communication. Information on any access to the management screen (interface) can be saved to an external RADIUS server to heighten network manageability. Its console access control fully supports IEEE802.1x authentication to further improve network security.

■ Redundant switch link (STP) function

In a network environment where cables between multiple switches form a loop, the switch recognizes the formation of a loop and automatically blocks one of the available routes This way, the switch not only prevents the formation of an endless loop but also ensures automatic routing redundancy in case of network failure. The redundant switch link function supports both 1)IEEE802.1d compliant Spanning Tree and 2)IEEE802.1w compliant Rapid Spanning Tree, and enables the switch to operate in a multi-vendor environment that supports one of these standards.

■ Supports Port Mirroring

The FML-24K supports port mirroring, a function that copies packets sent or received on a specific port to another port. Using this feature, the user can attach a monitoring device such as Sniffer or Rmon probe to analyze the details of the packets that

pass the source port.

■ **All ports support Auto MDI/MDI-X**

All ports support Auto MDI/MDIX, a built-in function that automatically recognizes the type (straight/crossover) of the attached cable. This feature effectively removes all wiring troubles caused by a cable type mismatch.

► **Specification**

Model Number	FML-24K
Access Method	CSMA/CD 10/100/1000Mbps
Supported Standards	IEEE802.3ab 1000BASE-T IEEE802.3u 100BASE-TX IEEE802.3 10BASE-T IEEE802.3z 1000BASE-SX/LX IEEE802.3x Flow Control IEEE802.1Q TaggingVLAN IEEE802.1p QoS IEEE802.1d Spanning Tree IEEE802.1ad Link Aggregation
Number of Ports	100BASE-TX/10BASE-T x 24(Autonegotiation Full/Half AutoMDI/MDI-X)
Number of Expansion Slots	2 (1000BASE-T/SX/LX,GBIC)
Internal Bus Speed	8.8Gbps
Packet Buffer Memory	8MB
MAC Address	8192 entries
Latency	10.0us
Data Transfer Mode	Store-and-Forward
Packet Transfer/Filtering Speed	1000M-1000M 1,488,100pps(64Byte) 100M-100M 148,810pps(64Byte) 10M-10M 14,881pps(64Byte)
Flow Control	Full Duplex:IEEE802.3x/Half Duplex:Back Pressure
SNMP	MIB II Bridge MIB Forwarding Table MIB Interfaces Evolution MIB Ethernet MIB

	<p>Extended Bridge MIB</p> <p>RIP1 MIB</p> <p>RIP2 MIB</p> <p>RMON MIB</p> <p>Entity MIB</p> <p>Private MIB</p> <p>RADIUS Authentication Client MIB</p>
RMON	Statistics/History/Alarm/Event(1,2,3,9 groups)
Routing Protocol	IP Static RIPv1/v2 *Scheduled to support OSPF)
Configuration Interface	Serial console(RS-232 D-sub9pin), Telnet, Web browser
Console Port	RS-232 D-sub 9pin
Port Mirroring	Supported
VLAN	IEEE802.1q Port Base VLAN(up to 255 groups)VLAN Tagging,Private VLAN
Trunk	<p>100M:2-4Trunk(up to 6 groups)</p> <p>1000M:2Trunk(with the optional modules)</p>
Link Aggregation (LACP)	Supported (IEEE802.3ad)
QoS(IEEE802.1p)	IEEE802.1p compliant (4-level)
Multicast Control	IGMP(v2), IGMP(Snooping) DVMRP,PIM-DM
Spanning Tree	Supported(IEEE802.1w) (IEEE802.1d)
Input Power	100-240 VAC, 50to60Hz, internal power supply
Power Consumption	70W Max
Operating temperature	0 to 45 degrees Celcius
Operating humidity	35 to 80%(Non-condensing)
Dimensions	440(W) x 44(H) x 410(D)mm(1U)
Weight	5.0kg
19" Rack-Mounting	Supported
Warranty period	3 years
EMI	<p>FCC Class A</p> <p>CE</p> <p>VCCI Class A</p>

▶ **Option Module**



F24K-1SX

1000BASE-SX
(SC connector)



F24K-1LX

1000BASE-LX
(SC connector)



F24K-1TE

1000BASE-T



F24K-1GB

GBIC



GBIC-SX-P

1000BASE-SX(SC
Connector) GBIC
Module(Multi Mode
Fiber)
(Extended module)



GBIC-LX-P

1000BASE-LX(SC
Connector) GBIC
Module(Single Mode
Fiber)
(Extended module)



MGBIC-SX-P

1000BASE-SX(LC Connector)Mini
GBIC Module



MGBIC-LX-P

1000BASE-LX(LC Connector)Mini
GBIC Module

