

Vi35024

24-Port L2+/L3 Lite Managed Fiber Network Switch

Features

- Provides 24 x 10/100/1000Mbps MSA compliant fiber Ethernet ports
- 4 Copper uplink ports
- Able to operate on DC power from PoE or DC power sources
- Full Layer 2+ and Layer 3 lite static routing
- Able to operate on either AC or DC power
- Jumbo Frame handling up to 10K bytes, even at 100Mbps
- Hardened with high temperature operating range
- Wide band 48Gbps switch fabric
- Uses MSA compliant standard SFP to any fiber configuration
- Easy to use GUI for set-up and operations
- Port security with limit control configurations
- Able to evaluate status and health of connected devices and networks
- Built in TCP/UDP/ICMP test generator with read outs of connected system status
- Able to download port status reports



Applications

- Upgrading existing analog CCTV installations to IP Systems
- Core network switch for any networking application
- CCTV system for casinos, airports, school campuses, and many more

VigitrON's Vi35024 is a next generation enterprise level fiber switch providing 24 MSA compliant fiber ports with 4 combination fiber/copper ports. Focusing on network and port security, Layer 2+ provides all of the features required for network operation while each port is programmed with an individual MAC address, allowing for secured Layer 3 signal routing without any exposure to outside unsecured access. Jumbo frames can be programmed at 100Mbps for direct connection to the cameras and most IP security devices, reducing the potential for data loss while providing the ability to handle the largest megapixel cameras. Each port can be configured for individual and different subnet VLANs. The system syslog provides detailed performance and immediately reports potential problem areas while the Vi35024 route tracing can be used during set-up and operations to determine the network connectivity status. The Vi35024 is the perfect core switch solution for connecting up to 24 networks to a single location.

The Vi35024 is designed to meet the growing power and bandwidth requirements for IP security cameras by providing both reliability and conductivity with the ability to locate and determine network system problems:

- Layer 3 lite capability for operations across different subnets while maintaining network security
- Programmable video/data packet transmission up to the Jumbo Frame limit of 9600 bytes for transmitting the highest megapixel cameras at 100Mbps and 1Gbps port speeds
- High 48Gbps switch fabric assuring all required bandwidth, even with all ports at their maximum bandwidth assuring video and data quality
- Redundant 48V power supply back-up
- Able to operate on DC power from IEEE 802.3at PoE sources
- Programmable multicasting for compatibility and performance with largest IP video network systems
- Programmable Rapid Spanning Tree for redundant network configuration assuring maintenance of network communication not using multiple paths
- Able to use ICMP, TCP, and UDP packet transmission to test network connectivity through multiple hops
- Automatic MAC address detection for connected devices for easy connection verification and security hops
- Complete SFP read out for units containing DDMI capacity
- High operating temperature up to 60°C provides the ability to be installed in locations where normal switches would not operate.

Technical Specification*

Electrical

Ethernet Interface	1Gbps Combo port RJ45 x2 1Gbps Combo port MSA Fiber x2 10/100/1000 MSA Fiber x24
Throughput	35.712Mbps
Power	100-240VAC 50~60Hz 24-48VDC 24VDC @ 1.21A, 29W total
Status LEDs	Power, Traffic, Link, and PoE
Switch Fabric	48Gbps
Ports	Total system ports: 24 GbE RJ45 Ports: 21 GbE RJ45/SFP (100/1G x4) Combo: 2 each SFP (100/1G): 20 Terminal 9 pin serial port
MAC Table	Up to 32K MAC addresses
Jumbo Frames	10,000 Bytes

Regulatory

FCC	Part 15, Class A
Safety	CE, FCC, UL, cUL
Environmental	RoHS, WEEE

Environmental

Humidity	0 to 95%, non-condensing Operating: 10% to 90%, relative, non-condensing
Temperature	Operating: 0°C to +60°C Storage: -40°C to +85°C

Mechanical

Dimensions	17.16x1.73x8.31 in, 43.5x4.4x2.1cm (HxWxL)
Weight	6.8lb (3.1Kg)
Housing	Sheet Metal

Accessories

- Power Cord
- Mounting Kit
- USB Drive: Operations Manual, Datasheet

Minimum Requirements

- Web Browser: Mozilla Firefox v2.5 or later, Microsoft Internet Explorer v6 or later
- Category 5/6 Ethernet network cable
- TCP/IP, network adapter, and network operating system (such as Microsoft Windows or Linux) installed on each computer in the network
- MSA Compliant SFPs

*Specifications subject to change without notice.

Ordering Information

Part No.	Description
Vi35024	24-Port L2+/L3 Lite Managed Fiber Network Switch

Vi35024 Compatible ANSI/IEEE Standards

IEEE 802.3	Ethernet 10baseT UTP
IEEE 802.3u	Fast Ethernet 1000baseTX UTP
IEEE 802.3ab	Ethernet 1000baseTX UTP
IEEE 802.3z	Ethernet 1000baseX
IEEE 802.3x	Flow control Capability
IEEE 802.1q	VLAN
IEEE 802.1p	Class of Service
IEEE 802.1x	Access Control
IEEE 802.1d	Spanning Tree
IEEE 802.1w	Rapid Spanning Tree
IEEE 802.1s	Multiple Spanning Tree
IEEE 802.1ad	Link Aggregation Control Protocol (LACP)
IEEE 802.1AB	Link Layer Discovery Protocol (LLDP)
IEEE 802.3ad	Trunking
IEEE 802.1Q	Tag Based VLAN
ANSI/IEEE 802.3	Auto – negotiation



Technical Specifications*

Layer 3 Switching

IPv4 Static Routing	IPv4 Unicast: Static Routing
IPv6 Static Routing	IPv6 Unicast: Static Routing

Layer 2 Plus

Spanning Tree Protocol (STP)	Standard Spanning Tree 802.1d Rapid Spanning Tree (RSTP) 802.1w Multiple Spanning Tree (MSTP) 802.1s
VLAN	Supports up to 4K VLANs simultaneously (out of 4096 VLAN IDs) <ul style="list-style-type: none">• Port-based VLAN• 802.1Q tag-based VLAN• MAC-based VLAN• Management VLAN• Private VLAN Edge (PVE)
Easy Port	Voice or IP video is automatically assigned to specific VLANs with appropriate levels of QoS.
Generic VLAN Registration (GVRP)	Protocol for automatically propagating and configuring VLANs in a bridged domain.
DHCP Relay (Layer 2)	Relay of DHCP traffic to DHCP server in different VLAN. Works with DHCP Option 82.
IGMP v1/v2/v3 Snooping	IGMP limits bandwidth-intensive multicast traffic to only the requesters. Supports 1024 multicast groups (source-specific multicasting is also supported)
IGMP Querier	IGMP querier is used to support a Layer 2 multicast domain of snooping switches in the absence of a multicast router.
IGMP Proxy	Supports IGMP Proxy
MLD v1/v2 Snooping	Delivers IPv6 multicast packets only to the required receivers.

Security

Secure Shell (SSH)	SSH secures Telnet traffic in or out of the switch, SSH v1 and v2 are supported.
Secure Sockets Layer (SSL)	SSL encrypts the http traffic, allowing advanced secure access to the browser-based management GUI in the switch.
IEEE 802.1X	IEEE802.1X: RADIUS authentication, authorization and accounting, MD5 hash, guest VLAN, single/multiple host mode and single/multiple sessions. Supports IGMP-RADIUS based 802.1X Dynamic VLAN assignment
Layer 2 isolation Private VLAN Edge (PVE)	PVE (also known as protected ports) provides L2 isolation between clients in the same VLAN. Supports multiple uplinks.
Port Security	Locks MAC Addresses to ports, and limits the number of learned MAC addresses.
IP Source Guard	Prevents datagram with spoofed addresses from being in the network.
Radius/ Tacacs+	Supports RADIUS and TACACS+ authentication. Switch as a client.
Storm control	Prevents traffic on a LAN from being disrupted by a broadcast, multicast, or unicast storm on a port.
ACLs	Drop or rate limitation based on source and destination MAC, VLAN ID or IP address, protocol, port, differentiated services code point (DSCP) / IP precedence, TCP/ UDP source and destination ports, 802.1p priority, Ethernet type, Internet Control Message Protocol (ICMP) packets, IGMP packets, TCP flag. Supports up to 256 entries.

Technical Specifications*

Quality of Service

Hardware Priority Queue	Supports 8 hardware queues
Scheduling	Strict priority and weighted round-robin (WRR). Queue assignment based on DSCP and class of service (802.1p/ CoS).
Classification	Port based; 802.1p VLAN priority based; IPv4/IPv6 precedence/ type of service (ToS) / DSCP based; Differentiated Services (DiffServ); classification and re-marking ACLs, trusted QoS.
Rate Limiting	Ingress policer; egress shaping and rate control; per VLAN, per port and flow based.
IPv6/IPv4 Applications	Web/ SSL, Telnet/ SSH, ping, Simple Network Time Protocol (SNTP), Trivial File Transfer Protocol (TFTP), SNMP, RADIUS, Syslog, DNS Client, protocol-based VLANs.

Management

Web GUI Interface	Built-in switch configuration utility for browser-based device configuration (HTTP/ HTTPS). Supports configuration, system dashboard, maintenance, and monitoring.
Dual Image	Dual image provides independent primary and secondary OS files for backup while upgrading.
SNMP	SNMP version1, 2c and 3 with support for traps, and SNMP version 3 user-based security model (USM).
(RMON) Remote Monitoring	Embedded RMON software agent supports RMON groups 1,2,3,9 (history, statistics, alarms, and events) for enhanced traffic management, monitoring and analysis.
IPv4 and IPv6 dual stack	Coexistence of both protocol stacks to migration.
Firmware Upgrade	<ul style="list-style-type: none">• Web browser upgrade (HTTP/ HTTPS) and TFTP• Upgrade through console port as well
Port mirroring	Traffic on a port can be mirrored to another port for analysis with a network analyzer or RMON probe. Up to N-1 (N is Switch's Ports) ports can be mirrored to single destination port. A single session is supported.
Easy Port Configuration	Easily to configure of clients' QoS and Security capabilities.
Other	Single IP management; HTTP/HTTPS; SSH; RADIUS; DHCP Client/ DHCPv6 Client; SNTP; cable diagnostics; ping; syslog; Telnet client (SSH secure support).
s-Flow	The industry standard technology for monitoring high speed switched networks. It gives complete visibility into the use of networks enabling performance optimization, accounting/billing for usage, and defense against security threats.
UPnP	The Universal Plug and Play Forum, an industry group of companies working to enable device-to-device interoperability by promoting Universal Plug and Play.

Green Ethernet

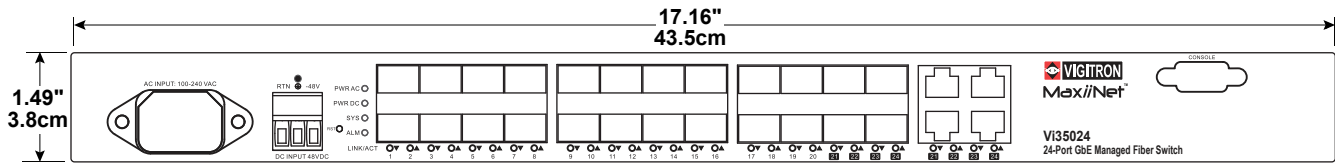
Link Detection	Compliant with IEEE802.3az Energy Efficient Ethernet Task Force. Automatically turns off power on Gigabit Ethernet RJ-45 port when detecting link down or idle of client. Active mode is resumed without loss of any packets when the switch detects the link up.
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Discovery

Link Layer Discovery Protocol (LLDP)	Used by network devices for advertising their identities, capabilities, and neighbors on a IEEE 802 local area network, principally wired Ethernet.
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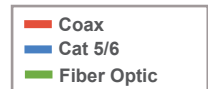


Mechanical Drawings

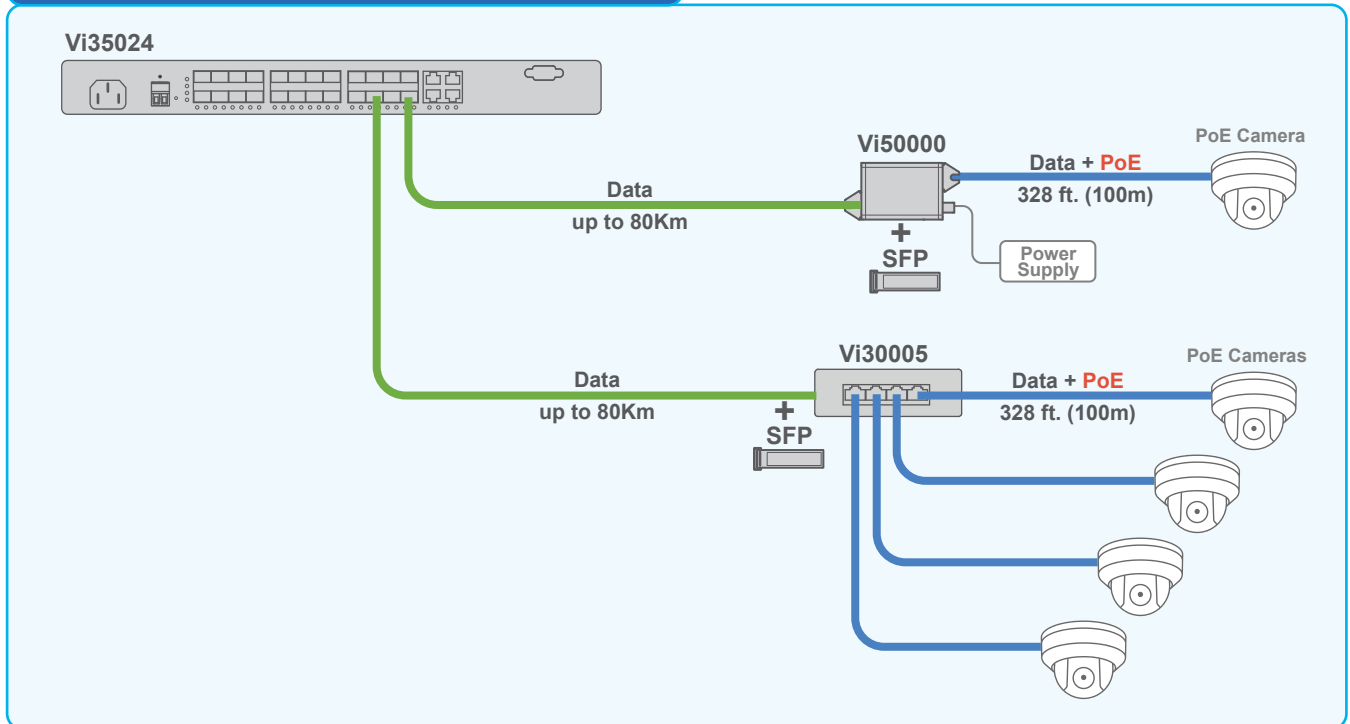


Front View

Application Diagrams

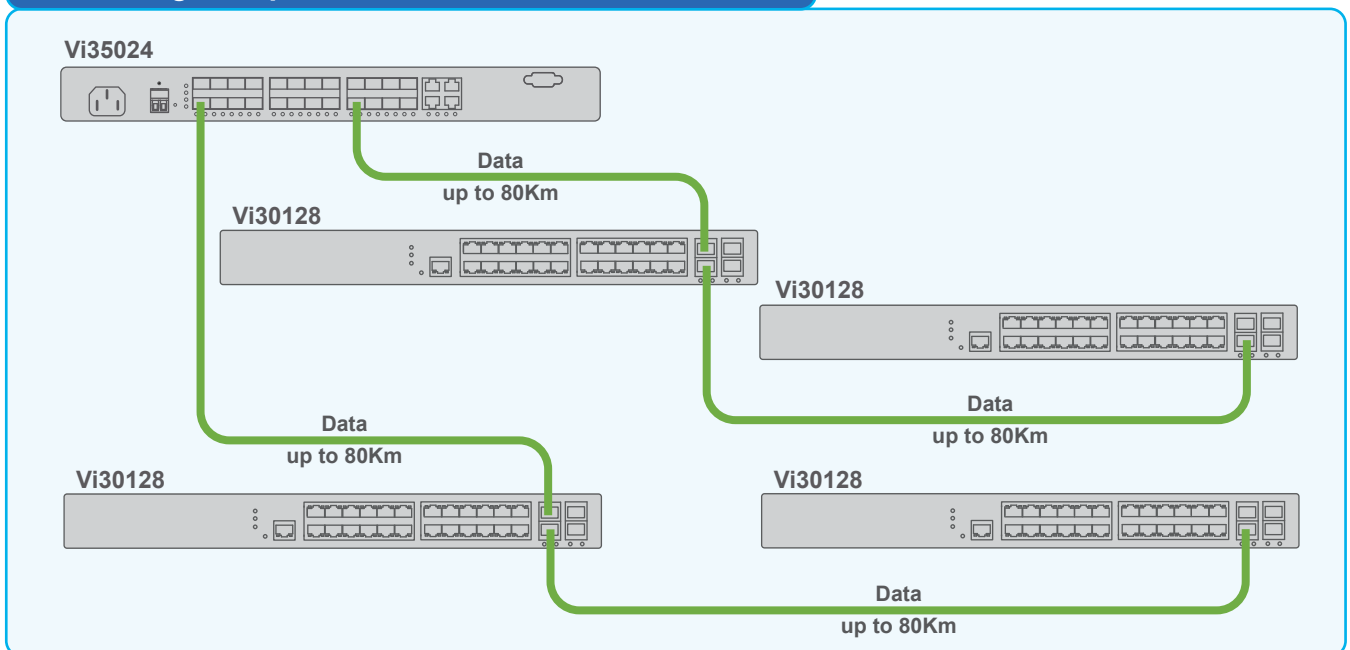


Connecting PoE Cameras over Fiber cables



Vigtron media converters and switches with Fiber connection can be used with Vi35024 to provide PoE to cameras or other PoE devices.

Connecting Multiple Network Switches and Networks



The built-in generator for ICMP, TCP, and UDP packets simplifies set-ups and allows for in-system troubleshooting over direct connections and hops between individual camera or multiple switch connections.