

# Vi35136

# Preliminary

## 36-Port L2+/L3 Lite Managed Fiber/Copper Core Network Switch

### Features

- Hybrid Ethernet CAT Copper and Fiber connections
- (8) 10/100/1000Mbps RJ45 Copper ports
- (24) 100/1000Mbps Fiber SFP Ports
- (4) 1G/2.5G/10G SFP uplink ports
- 36 independent ports
- L2+/L3 Lite
- Dual AC power input for built in back up
- Full Layer 2+ and Layer 3 lite static routing
- Jumbo Frame handling up to 10,240 bytes, even at 100Mbps
- G.8032 V1/V2 standard ring protocol
- Wide band 144Gbps switch fabric
- Thermal protection port temperature settings
- Individual port +/-8kV contact discharge and +/-15KV air discharge
- Uses MSA compliant standard SFP to any fiber configuration
- Easy to use GUI for set-up and operations
- Port security with limit control configuration



### Applications

- Provides core switch for both Ethernet and fiber connections
- Maintains high bandwidth 10G uplinks for high resolution
- CCTV system for casinos, airports, school campuses, and many more

Vigatron's Vi35136 is a next generation enterprise level hybrid copper and fiber core switch providing 24 MSA complaint fiber ports, 8 ports of 10/100/1000Mbps UTP copper and 4 ports of fiber 1G/2.5G/10G. Individual copper ports have built in surge protection. 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 data. The Vi35136 is the perfect hybrid UTP/Fiber core switch solution for connecting up to 24 fiber network cables to a single location.

The Vi35136 is designed to meet the growing requirements for higher bandwidth for IP security cameras by providing reliability and connectivity with the ability to locate and identify network system problems:

- Layer 3 lite operations for operations across different subnets while maintaining network security
- Programmable video/data packet transmission up to the Jumbo Frame limit of 10240 bytes for transmitting the highest megapixel cameras at 100Mbps, 1, 2.5G and 10G port speeds
- Wide 144 Gbps switch fabric assuring all required bandwidth, even with all ports at their maximum bandwidth assuring video and data quality
- Dual AC power input for lossless back up
- Programmable G.8032 standard ring protocol
- 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 using multiple paths
- Ability 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

# Technical Specification\*

## Electrical

Ethernet Interface	8 x RJ45 ports at 10/100/1000Mbps 24 x Fiber MSA ports at 10/100/1000Mbps 4 x Fiber MSA Uplink ports at 1/2.5/10Gbps
Throughput	107.14Mbps
Power Input	2 x 100-240VAC 50~60Hz at 2A
Status LEDs	Power, Traffic, Link, and Sys
Switch Fabric	144Gbps
MAC Table	Up to 32K MAC addresses
Jumbo Frames	10,240 Bytes

## Regulatory

Emission	FCC Part 15, Class 15B
Safety	CE-EMC, Compliance with Directive 2014/30/EU
Environmental	RoHS, Directive 2011/65/EU Annex(EU) 2015/863 and amending Annex WEEE
Surge Protection	IEC61000-4-2(ESD): ±8kV contact discharge, ±15kV air discharge IEC61000-4-5(Lightning protection/Surge): Power:CM±4kV/DM±2kV; Port: ±6kV
Protection Level	IP30

## Environmental

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

## Mechanical

Dimensions	17.38x1.75x11.4 in, 44.2x4.5x29cm (HxWxL)
Weight	9.7lb (4.4Kg)
Housing	Sheet Metal

## Accessories

- 2 x Molded IEC 7 ft. (200 cm) Power Cord
- Mounting Kit
- Console Cable
- USB Memory Stick: 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
<b>Vi35136</b>	36-Port L2+/L3 Lite Managed Hybrid Fiber Network Switch

## Vi35136 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



TEL (+1) 858-484-5209 • FAX (+1) 858-484-1205

7810 Trade Street, Suite 100, San Diego, CA 92121, USA • support@vigatron.com • www.vigatron.com

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# Technical Specifications\*

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## Programming and Features

Spanning Tree Protocol (STP)	STP (IEEE802.1d) RSTP (IEEE802.1w) MSTP (IEEE802.1s) Rapid Spanning Tree (RSTP) 802.1w Multiple Spanning Tree (MSTP) 802.1s
VLAN	Supports port based VLANs (4k), IEEE802.1q Supports Access, Trunk, Hybrid three types of port configuration Supports QinQ configuration
Interface	IEEE802.3x flow control (full duplex) Broadcast storm suppression for port rate support speed limit for incoming and offline message traffic, with a minimum particle size of 64Kbps. Temperature protection setting Energy saving configuration of port IEEE Ethernet
Port Aggregation	Support LACP Support static polymerization Support the largest 8 aggregation groups, each aggregation group supports 8 ports.
Industrial Ring	Support G.8032 (ERPS), support 255 loops at most, and supports 1024 devices per ring. The self-healing time of the ring network is less than 50ms
Port Aggregation	Support LACP Support static polymerization Support the largest 8 aggregation groups, each aggregation group supports 8 ports.
Multicast	Support IGMP Snooping V1/V2 and support 1024 multicast groups at most. Support the user's quick departure mechanism Support MLD Snooping V1/V2 Support multicast VLAN
Image	Bi-directional traffic mirroring supporting the basic port
QoS	Diff-Serv QoS Each port supports 8 output queues Support 802.1p/DSCP priority mapping Support queue scheduling mechanism (SP, WRR, SP+WRR) priority tag Mark/Remark stream based packet filtering Support for stream-based redirection Support flow-based speed limit
ACL	Support L2 to L4 packet filtering function, can match the first 80 bytes of the message, provide based on the source MAC address, destination MAC address, source IP address, destination IP address, IP protocol type, TCP/UDP port, TCP/UDP port range, VLAN and other definition ACL. Support ACL based on port and VLAN
DHCP	Support DHCP Client Support DHCP Snooping Support DHCP Serve Support DHCP Relay

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# Technical Specifications\*

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## Layer3 Functions

L3 network management function, IPV4/IPV6 management support layer 3 of software line speed forwarding.  
Support different network segments, communication between different VLAN Static routing/default routing,128 maximum entries  
ARP protocol, 1024 maximum entries  
Support Mac filtering function.

## Safety and Security

Support user grading management and password protection  
Support IEEE802.1X authentication / centralized MAC address authentication  
Support AAA&RADIUS authentication  
Support the number of MAC address learning restrictions  
Support MAC address black hole  
Support SSH 2 to provide secure passwords for user login.  
Support SSL to ensure data transmission security  
Support port isolation  
Support the speed limit function of ARP message  
Support IP source address protection  
Support ARP intrusion detection function  
Support against DoS attacks  
Support port broadcast message suppression  
Support host data backup mechanism  
Binding capabilities of IP+MAC+VLAN+ ports

## Management and Maintenance

Support Console/AUX Modem/Telnet/SSH2.0 CLI command line configuration Support WEB network management (HTTPS)  
Support FTP, TFTP, Xmodem, SFTP file download management Support SNMP V1/V2C/V3  
Support one bond reduction  
Support NTP clock  
Support system work log  
Support Ping detection  
Support cable state detection  
Support CPU instant utilization status view  
Support link layer discovery protocol LLDP  
Support NMS intelligent management center

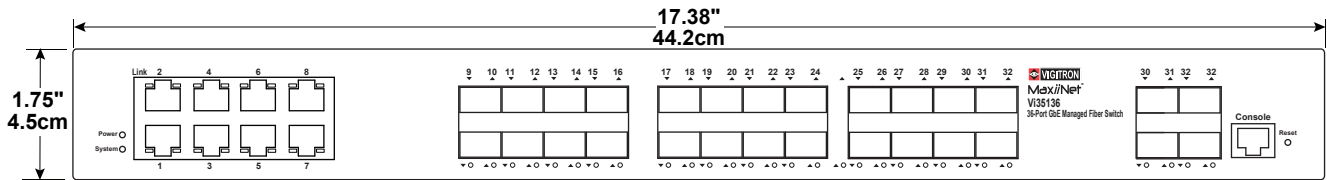
## System Requirements

Web browser: Mozilla Firefox 2.5 or higher, Google browser chrome V42 or higher,  
Microsoft Internet Explorer10 or later;  
Cat5e or better Ethernet cable;  
TCP/ IP, network adapter and network operating system (Microsoft Windows, Linux or  
Mac OS X) installed on every computer in the network.

It is suggested web browsers be operated in their private or incognito mode depending on browser



# Mechanical Drawings

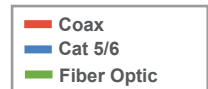


Front View

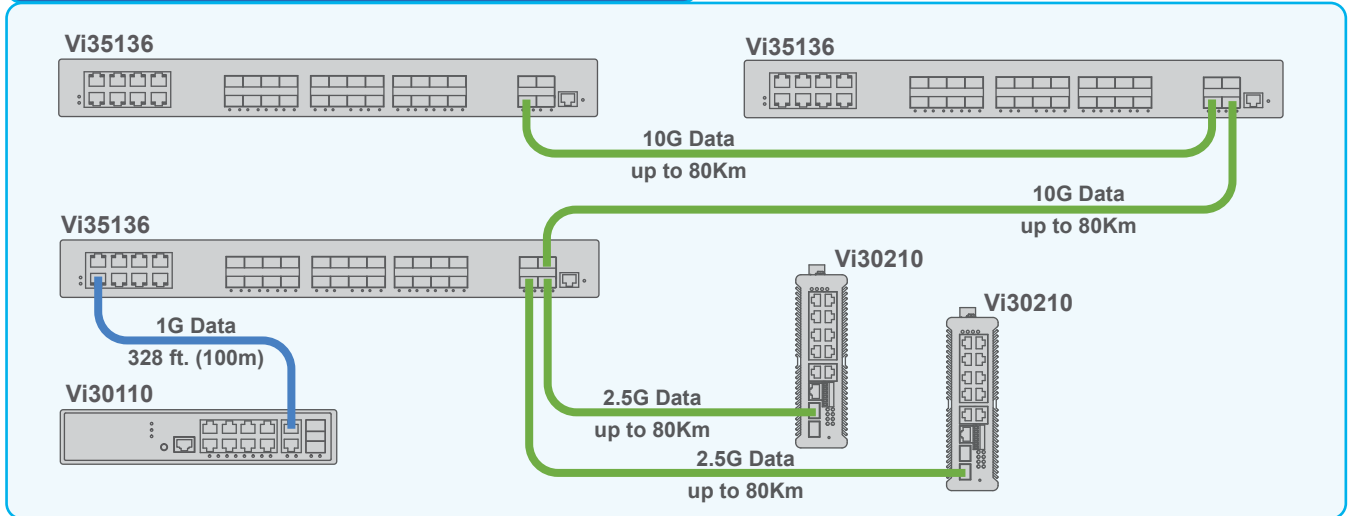


Rear View

# Application Drawings

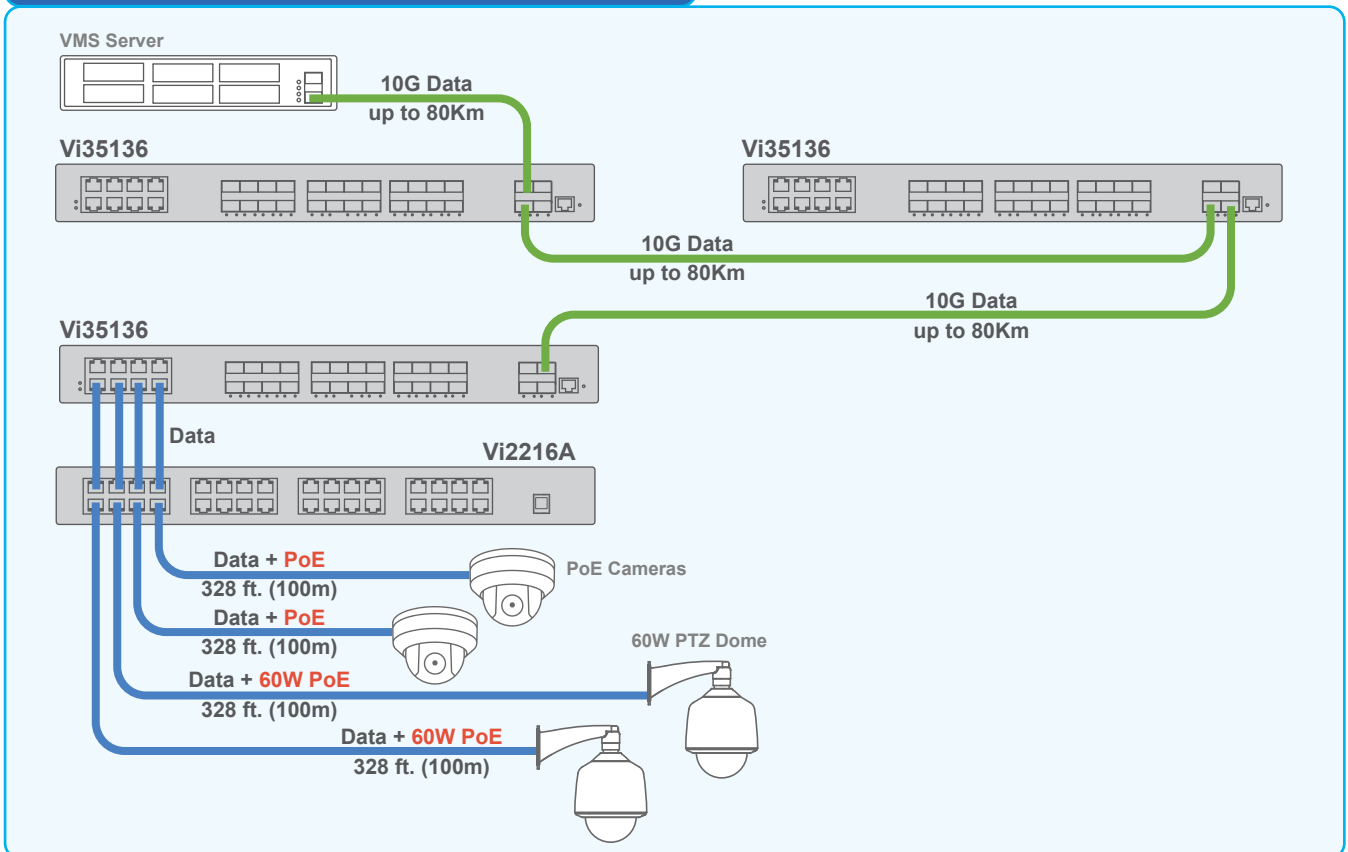


## Connecting Core Switches on a 10G Network



The Vi35136 Hybrid Core switches can be daisy chained to expand a 10G network.

## Connecting Core Switches on a 10G Network

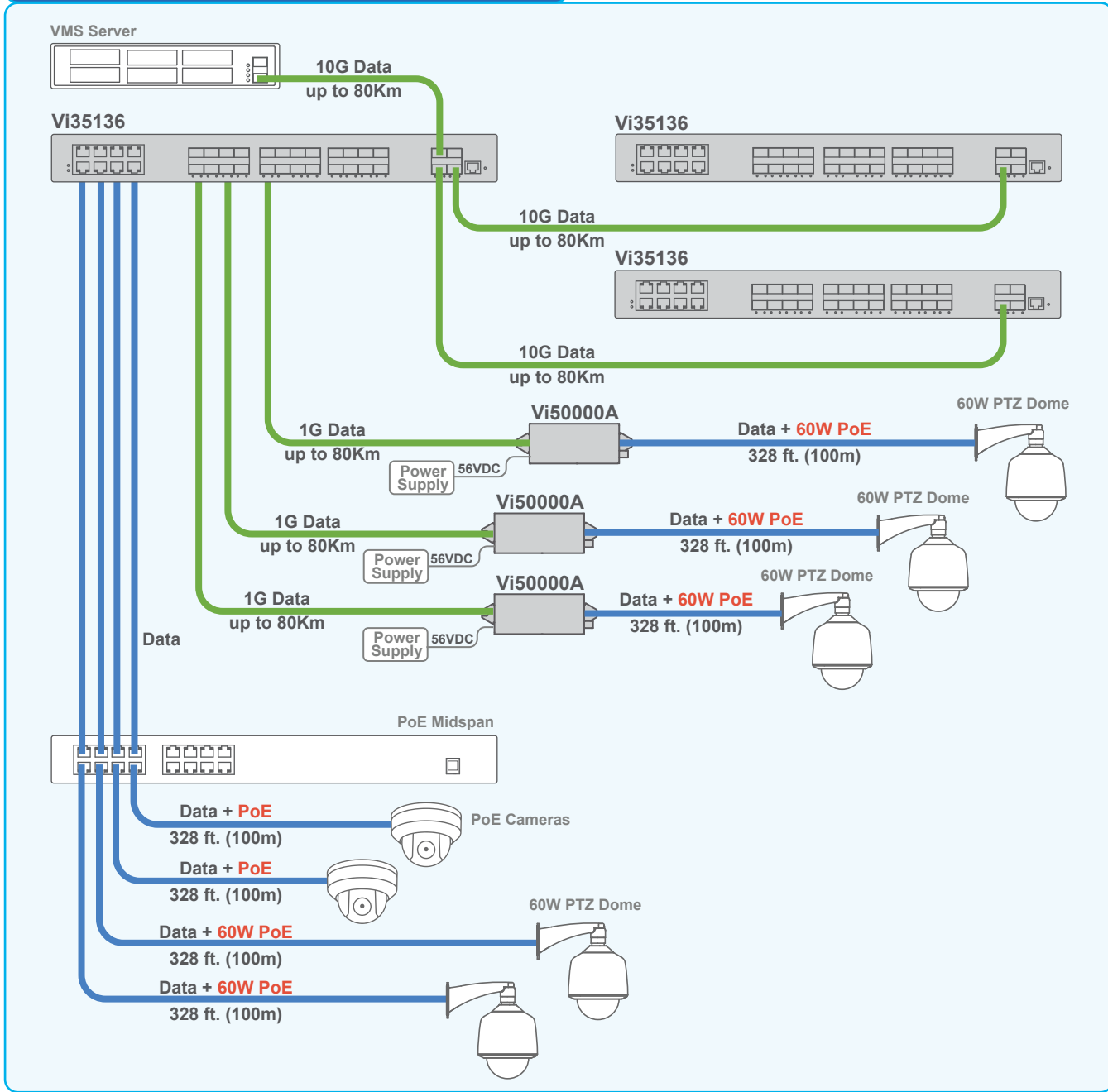


The Vi35136 Hybrid Core switches can be daisy chained and connected to PoE cameras using Vi2216A Midspans.

# Application Drawings

— Coax  
— Cat 5/6  
— Fiber Optic

## Connecting Vi35136s in a Star configuration



The Vi35136 Hybrid Core switches can be connected in star configuration to transmit data from a wide range of IP devices.



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