

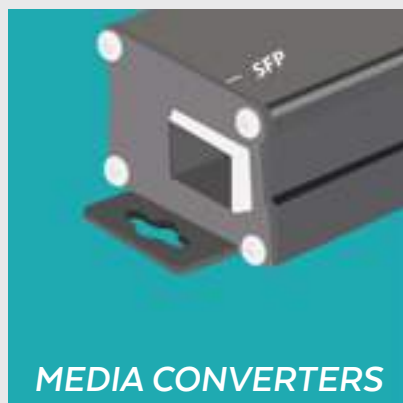
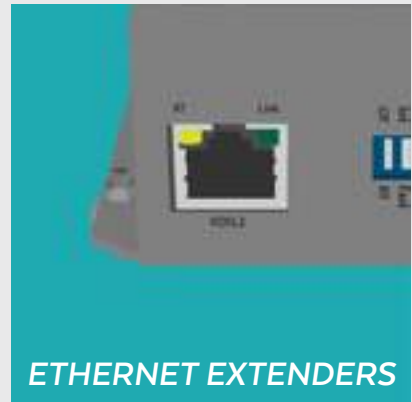


Versa Technology, Inc. is dedicated to helping network administrators build dependable and secure networks with our state-of-the-art networking equipment. Our comprehensive product portfolio offer a vast array of networking equipment including DSLAM units, Ethernet Extenders, Wireless Access Points, and Fiber Converters. We help users simplify their networks with the simplicity of Power over Ethernet (PoE) technology. Our PoE Injectors eliminate the expense of having to install additional electrical circuitry in locations where power outlets are absent.

Versa Technology offers US-based tech support and fast shipping options to ensure our customers' satisfaction. Versa Technology helps network administrators achieve their connectivity goals with products that future-proof their networks. Shop our products today!

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# PoE Power over Ethernet

Versa Technology offers a comprehensive selection of Power of Ethernet (PoE) networking equipment including splitters, injectors, and extenders. PoE technology simplifies the deployment of a network by delivering power and data via a standard Ethernet cable. PoE gives network administrators the freedom to deploy networking equipment at any location, without having to rely on power outlet sources. Versa Technology offers a wide range of networking equipment with PoE capabilities to help network administrators build flexible and reliable networks with 802.3at and 802.3af-compliant devices.

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Click on a model number to go to that page.

## PoE Injectors:

- VX-1000GPP
- VX-Pi100
- VX-Pi1000GB
- VX-Pi1000ATM
- VX-Pi148G
- VX-Pi148

## PoE Splitter:

- VX-Pi1000SP

## PoE Extenders:

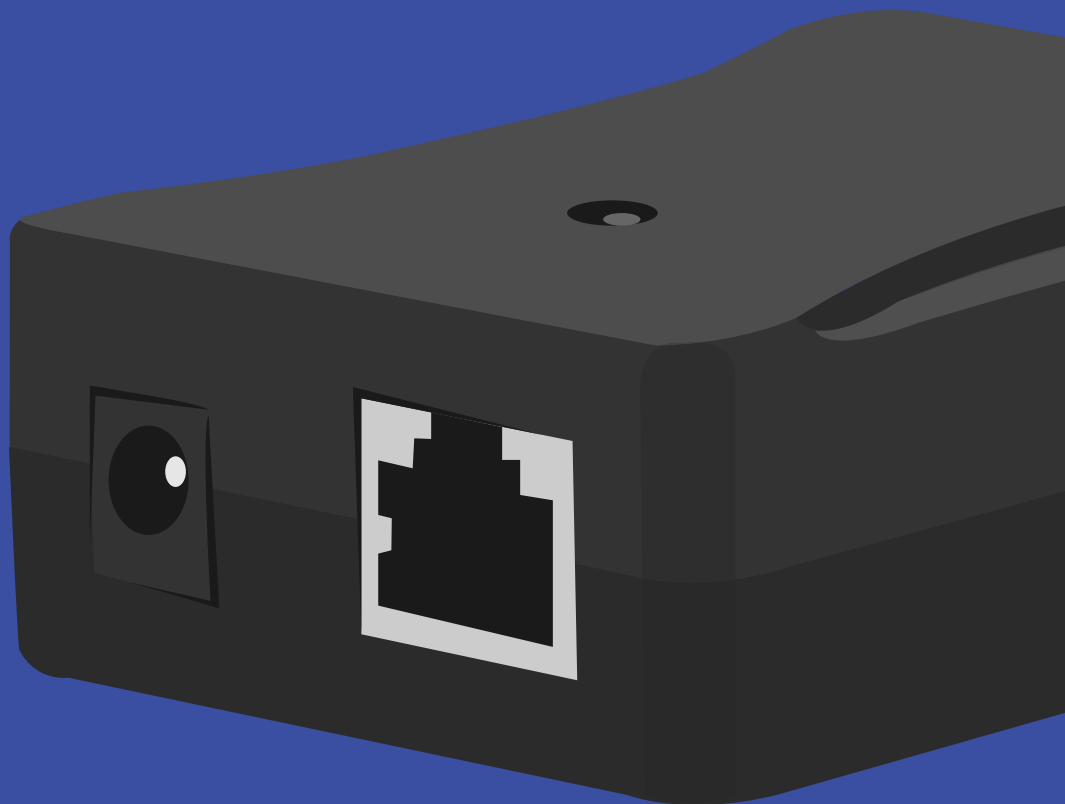
- VX-Pi1000EX
- VX-160POE

## PoE Switches:

- VX-GPF1626
- VX-GPH1610

## Industrial PoE Switch:

- VX-IGP-1204F



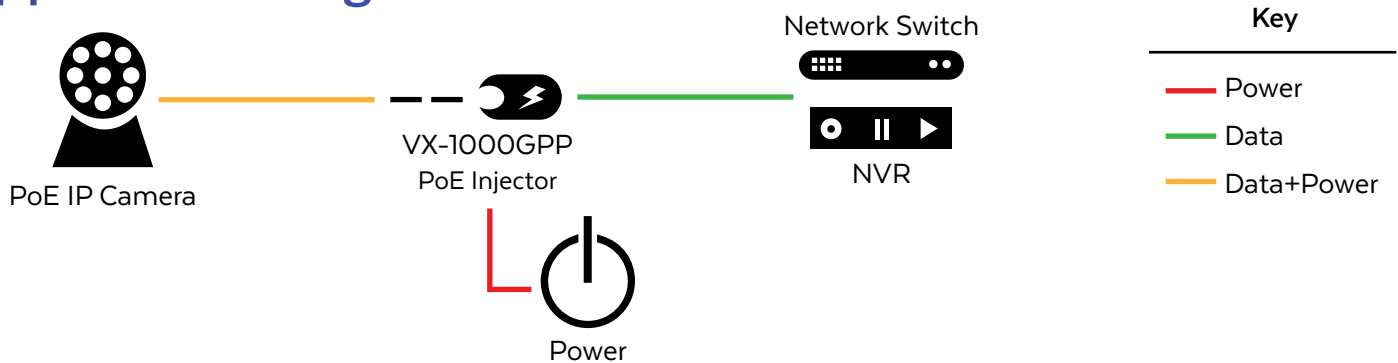


## VX-1000GPP 90W PoE Injector

The VX-1000GPP hardened Gigabit single-port Power over Ethernet Plus (PoE+) IEEE 802.3at 10/100/1000Base-TX Injector from Versa Technology is a 90W PoE injector.

- **Interface:** 2 x RJ-45 (Data-In, Data+PoE Out)
- **Ethernet Data Rate:** 10/100/1000Mbps
- **Power Input:** 48-57VDC (Terminal Block)
- **Power Output:** 90 Watts
- **Standard:** 802.3at, LTPoE++ 90W
- **Operating Temp:** -40 to 75°C

## Application Diagram



## Spec Chart

Standards	• IEEE 802.3af/at Power over Ethernet
Processing Type	• Forward • Half-duplex, Full duplex
Forward Filter Rate	• 1,488,000pps (1000Mbps)
Cabling	• 1000BASE-TX: Cat5 or above
Maximum Distance	• Cat5 UTP up to 100m
Connector	• 2 x RJ45
Input Power	• 48-57VDC (Terminal Block)
Power Consumption	• 95W Max.
LED Indicators	• Power: Power Status • PoE: PoE Status
PoE	• IEEE 802.3at, LTPoE++90W • 4 pair output power for LTPoE++ (90W) • 2 pair output power for PoE+ (30W)
Dimensions (WxDxH) & Weight	• 31 x 80 x 96 mm, 0.2 kg
Casing & Mounting Options	• Aluminum case, DIN Rail/ Wall Mount
Operating Temperature	• -40° to 75°C (-40° to 167°F)
Storage Temperature	• -40° to 85°C (-40° to 185°F)
Relative Humidity	• 5% to 95% non-condensing
MTBF	• > 200,000 hrs

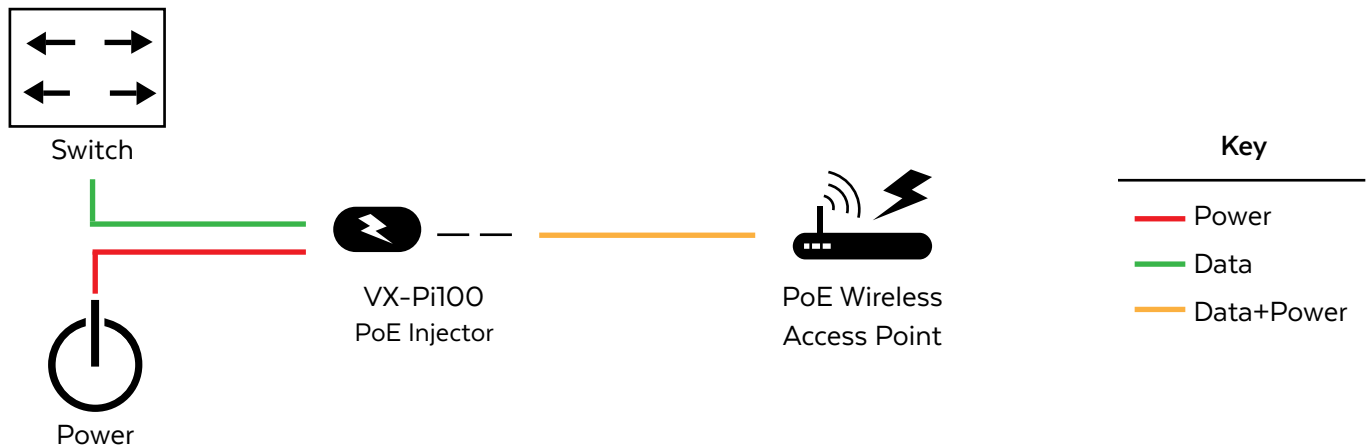
## VX-Pi100 PoE Injector



VX-Pi100 802.3af Compatible PoE Injector supplies Power over Ethernet to LAN devices such as Access Points, VoIP Phones, IP Cameras and HDMI Extenders.

- **Interface:** 2 x RJ-45 (Data-In, Data+PoE Out)
- **DC Output Voltage:** 48VDC
- **Standard:** 802.3af compatible
- **Operating Temp:** -10 to 50°C
- **Power Input:** 110/220VAC
- **Ethernet Data Rate:** 10/100Mbps
- **End-Span/Mid-Span:** Mid-Span
- *UL and C-Tick Certified*

## Application Diagram



## Spec Chart

Output Voltage	48V / 27W
Output Rating	0.5A
Input Voltage	AC 90~264V
Input Frequency	47 ~ 63Hz
Input Current	0.5A Maximum
Inrush Current	40A Maximum
Cabling	Cat5 / Cat6
Line Regulation	2% Maximum
Load Regulation	±5%
Ripple & Noise	1% Typical
Efficiency	83% Typical
Temperature Coefficient	0.05%/°C
Over-Voltage Coefficient	96V Maximum
Storage Temperature	-20° to 85°C
Safety Description	I/P

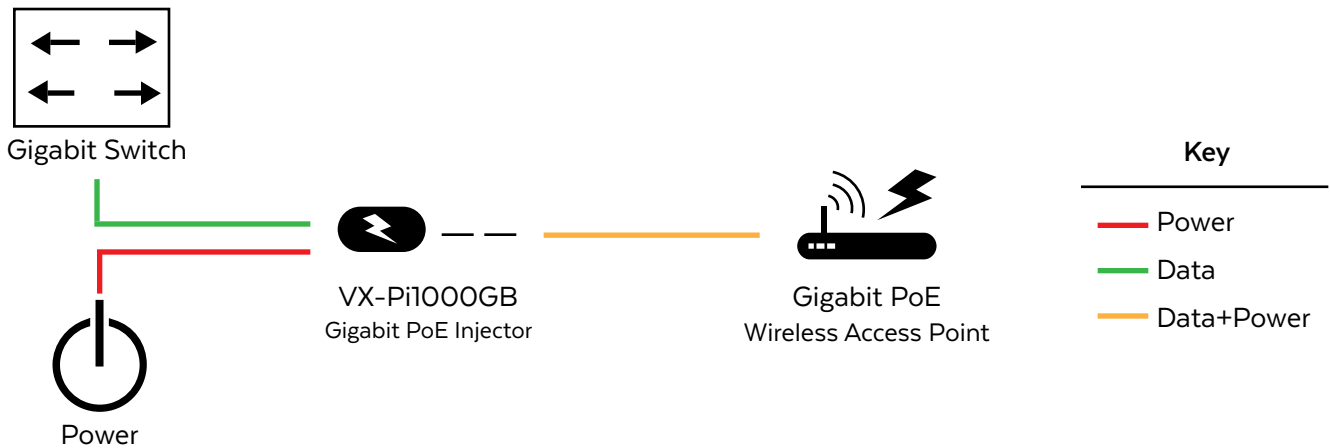
## VX-Pi1000GB Gigabit PoE Injector 48V



The VX-Pi1000GB Gigabit Power over Ethernet (PoE) IEEE 802.3af 10/100/1000Base-T Injector from Versa Technology is the ideal choice when you need a simple and quick power over Ethernet solution.

- **Interface:** 2 x RJ-45 (Data-In, Data+PoE Out)
- **DC Output Voltage:** 48VDC
- **Standard:** 802.3af compatible
- **Operating Temp:** -10 to 50°C
- **Power Input:** 110/220VAC
- **Ethernet Data Rate:** 10/100/1000Mbps
- **End-Span / Mid-Span:** Mid-Span
- *UL and C-Tick Certified*

## Application Diagram



## Spec Chart

Output Voltage	48V
Output Rating	0.5A
Input Voltage	AC 90~264V
Input Frequency	47 ~ 63Hz
Input Current	0.65A Maximum
Inrush Current	40 A Maximum
Line Regulation	2% Maximum
Load Regulation	±5%
Ripple & Noise	1% Typical
Efficiency	83% Typical
Temperature Coefficient	0.05%/°C
Over-Voltage Coefficient	96V Maximum
Operating Temperature	-10° to 55°C
Storage Temperature	-20° to 85°C
Safety Description	I/P

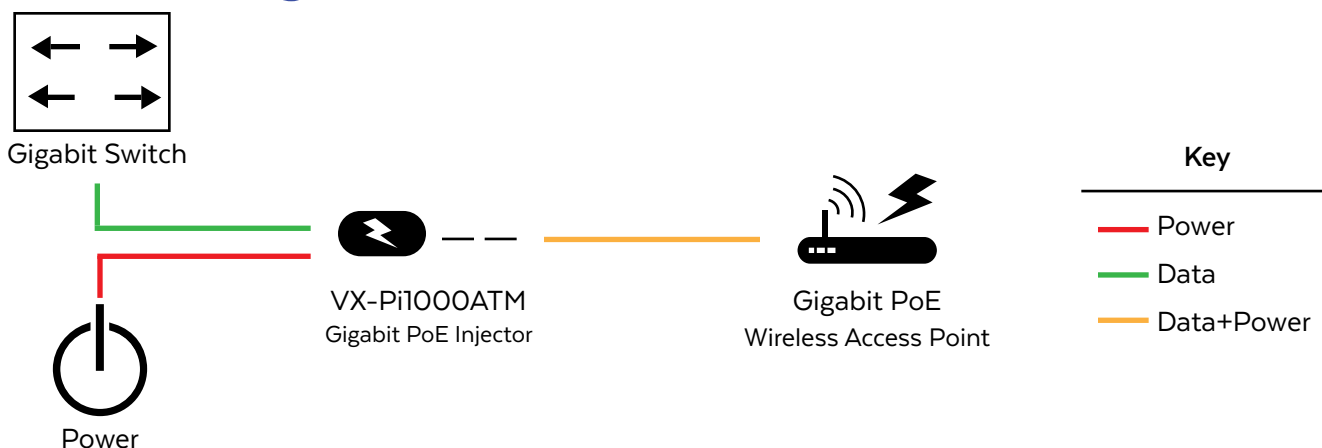
## VX-Pi1000ATM Gigabit PoE Injector 56V



The Versa Technology VX-Pi1000ATM is a 802.3at compatible Gigabit power Over Ethernet injector that operates with any and all 802.3at PoE compatible access points.

- **Interface:** 2 x RJ-45 (Data-In, Data+PoE Out)
- **DC Output Voltage:** 56V
- **Standard:** 802.3AT compatible
- **Operating Temp:** 0 to 50°C
- **Power Input:** 110/220VAC
- **Ethernet Data Rate:** 10/100/1000Mbps
- **End-Span/ Mid-Span:** Mid-Span

## Application Diagram



## Spec Chart

Output Voltage	DC 56V
Output Rating	1.1 A
Input Voltage	AC 90~264V
Input Frequency	47 ~ 63Hz
Input Current	0.75 A Maximum
Inrush Current	40 A Maximum
Line Regulation	2% Maximum
Load Regulation	±5%
Ripple & Noise	1% Typical
Efficiency	83% Typical
Temperature Coefficient	0.05%/°C
Over-Voltage Coefficient	96V Maximum
Operating Temperature	0° to 50°C
Storage Temperature	-20° to 85°C
Safety Description	I/P

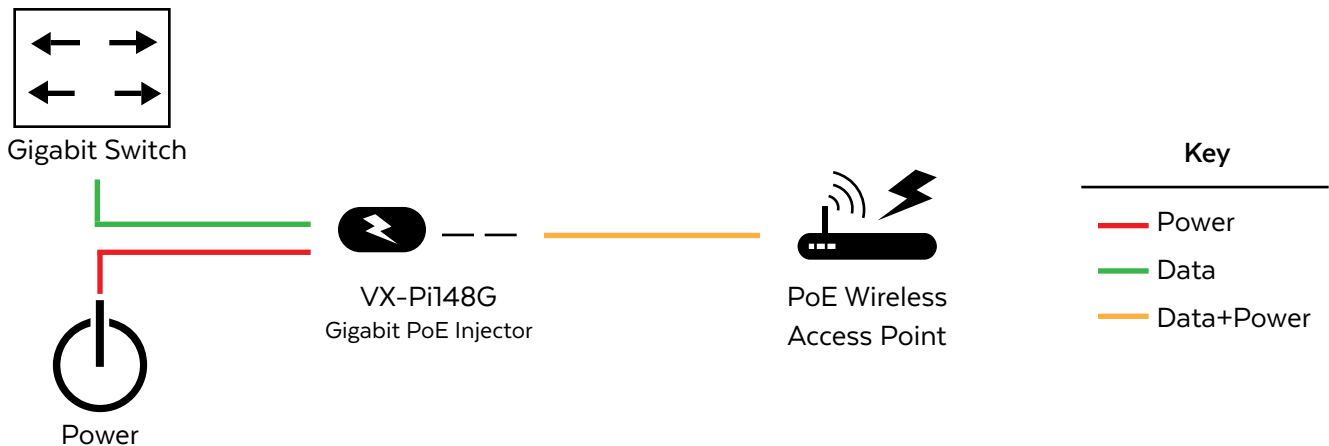
## VX-Pi148G Gigabit PoE Passive Injector



The VX-Pi148G from Versa Technology is a dependable Power Over Ethernet Passive Injector that is IEEE 802.3af compatible and supplies 48VDC of Power over Ethernet cables.

- **Interface:** 2 x RJ-45 (Data-In, Data+PoE Out)
- **DC Output Voltage:** Passive (Dependent on DC In)
- **Standard:** 802.3af compatible
- **Operating Temp:** -10 to 50°C
- **Power Input:** 5VDC - 56VDC
- **Ethernet Data Rate:** 10/100/1000Mbps
- **End-Span / Mid-Span:** Mid-Span

## Application Diagram



## Spec Chart

Wattage	24 Watts
Dimensions	75 x 54 x 25mm
Standard	802.3af Compatible
DC Jack Pin Size	2.1mm (0.083in)
Output Voltage	48V
Output Rating	0.5A
Input Voltage	48V DC
Input Current	0.65 Maximum
Operating Temperature	-40° to 75°C
Storage Temperature	-40° to 85°C

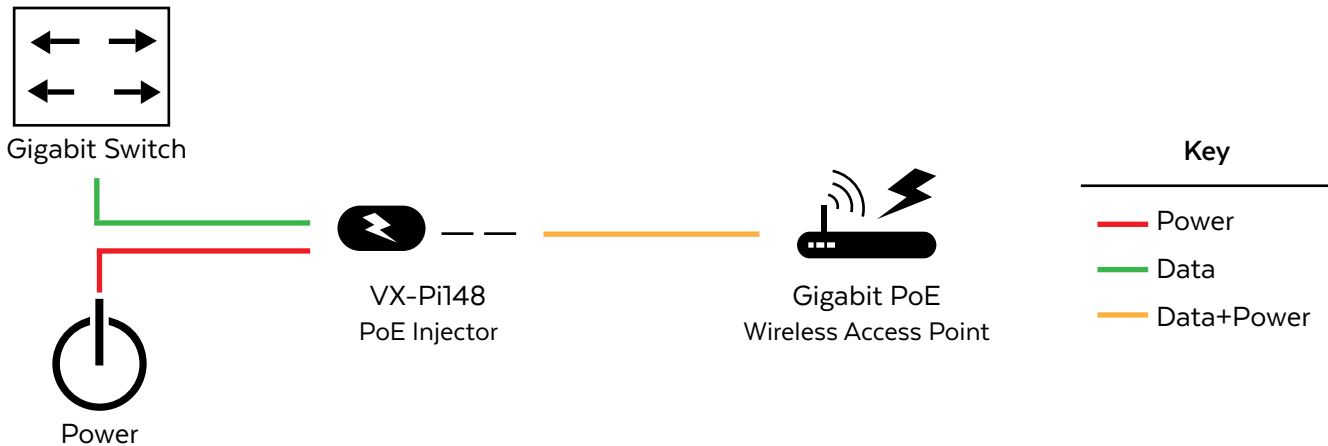
## VX-Pi148 PoE Passive Injector Adapter

The VX-Pi148 is a 802.3af compatible 10/100M Power Over Ethernet PoE Passive Injector Adapter from Versa Technology.

- **Interface:** 2 x RJ-45 (Data-In, Data+PoE Out)
- **DC Output Voltage:** Passive (Dependent on DC In)
- **Standard:** 802.3af compatible
- **Operating Temp:** -10 to 50°C
- **Power Input:** 5VDC- 56VDC
- **Ethernet Data Rate:** 10/100Mbps
- **End-Span/ Mid-Span:** End-Span



## Application Diagram



## Spec Chart

Wattage	24 Watts
Dimensions	75 x 54 x 25mm
DC Jack Pin Size	2.1mm (0.083in)
Output Voltage	48V
Output Rating	0.5A
Input Voltage	48V
Input Current	0.65 Maximum
Operating Temperature	-40° to 75°C
Storage Temperature	-40° to 85°C



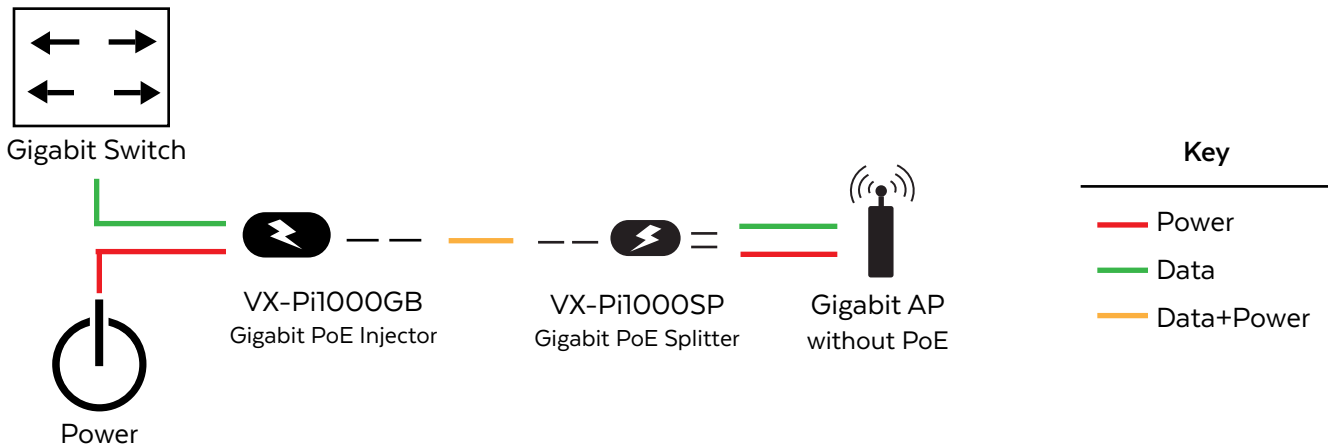
## VX-Pi1000SP Gigabit PoE Splitter



Versa Technology's VX-Pi1000SP PoE Splitter is designed to run Gigabit speed PoE cables over long distances. This device splits the PoE signal into separate data and power sources and relays them into non-PoE devices.

- **Interface:** 2 x RJ-45, 1 x DC Jack
- **DC Output Voltage:** 5V(2A), 7.5V(1.33A), 9V(1.11A), 12V(0.86A)
- **Standard:** IEEE 802.3af compatible
- **Operating Temp:** 0 to 45°C
- **Power Input:** 48VDC, 0.6A
- **Ethernet Data Rate:** 10/100/1000Mbps
- **End-Span / Mid-Span:** Mid-Span

## Application Diagram



## Spec Chart

Standards	<ul style="list-style-type: none"> <li>• IEEE 802.3 10Base-T</li> <li>• IEEE 802.3u 100Base-TX</li> <li>• IEEE 802.3ab Gigabit Ethernet</li> <li>• IEEE 802.3af Power over Ethernet</li> </ul>
Network Media	<ul style="list-style-type: none"> <li>• 10Mbps: UTP/STP Cat3, 4, 5; Up to 100 Meters</li> </ul>
Ports	<ul style="list-style-type: none"> <li>• 1 x PoE-In Port (Data+Power): Data pin: 1,2,3,6 Power in: 4, 5(V+), 7, 8(V-) and 1, 2(V+), 3, 6(V-)</li> <li>• 1 x Data-Out Port (Data) Pin 1, 2, 3, 6</li> </ul>
Switch	<ul style="list-style-type: none"> <li>• Adjustable output power DIP switch (5V, 7.5V, 9V, 12V)</li> </ul>
Power	<ul style="list-style-type: none"> <li>• Power In: 56VDC 0.6A</li> <li>• Power Out: 5V(2A), 7.5V(1.33A), 9V(1.11A), 12V (0.86A)</li> </ul>
Power Consumption	<ul style="list-style-type: none"> <li>• 10 Watts</li> </ul>
Jumper Cable	<ul style="list-style-type: none"> <li>• Plug Dimensions: 5.5 x 2.0mm and 5.5 x 2.5mm</li> </ul>
Diagnostic LEDs	<ul style="list-style-type: none"> <li>• Power: Green</li> </ul>

Temperature	<ul style="list-style-type: none"> <li>• Operating: 0° to 45°C (32° to 113°F)</li> <li>• Storage: -40° to 70°C (40° to 158°F)</li> </ul>
Humidity	<ul style="list-style-type: none"> <li>• 10% - 90% (non-condensing)</li> </ul>
Dimensions (L x W x H)	<ul style="list-style-type: none"> <li>• 80 x 54 x 24mm (3.2 x 2.13 x 0.9in)</li> </ul>
Power Splitter Plug Size	<ul style="list-style-type: none"> <li>• Output Plug Size: Outside Diameter: 5.5mm, Length 9.5mm, Pin Size: 2.1mm</li> <li>• Input Plug 1 Size: Outside Diameter: 5.5mm, Length: 9.5mm, Pin Size: 2.1mm</li> <li>• Input Plug 2 Size: Outside Diameter: 5.5mm, Length: 9.5mm, Pin Size: 2.5mm</li> </ul>
Weights	<ul style="list-style-type: none"> <li>• 80g (2.8oz.)</li> </ul>

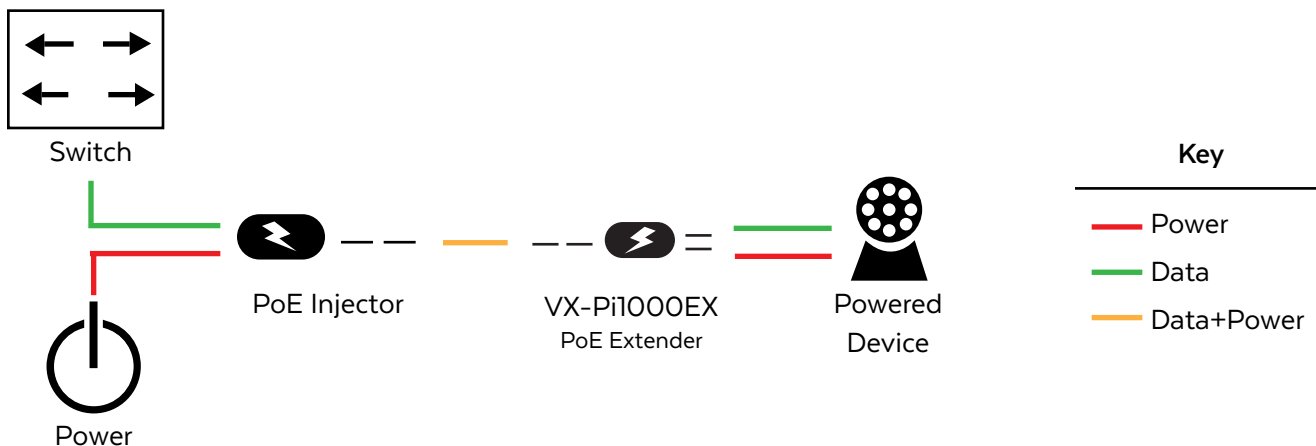
## VX-Pi1000EX Gigabit PoE Extender



The VX-Pi1000EX from Versa Technology is a quality unit that lengthens the range of Gigabit Ethernet Data and PoE standards of up to 100m (328 ft.) This unit utilizes a CAT5e/6 UTP cable to 200m, 300m or longer.

- **Network Connector:** 10/100/1000Mbps
- **Operating Temp:** 0 to 40°C
- **Type:** Mid-Span
- **Standard:** 802.3af compatible

## Application Diagram



## Spec Chart

Output Voltage	48V
Output Rating	0.3 A
Input Voltage	DC 38~56V
Input Frequency	47 ~ 63Hz
Input Current	0.65 A Maximum
Inrush Current	40 A Maximum
Line Regulation	2% Maximum
Load Regulation	±5%
Ripple & Noise	1% Typical
Efficiency	80% Typical
Temperature Coefficient	0.05%/°C
Over-Voltage Coefficient	96V Maximum
Operating Temperature	0° to 40°C
Storage Temperature	-20° to 85°C
Safety Description	I/P

## VX-160POE Local Powered PoE Extender over 2-Wire Kit

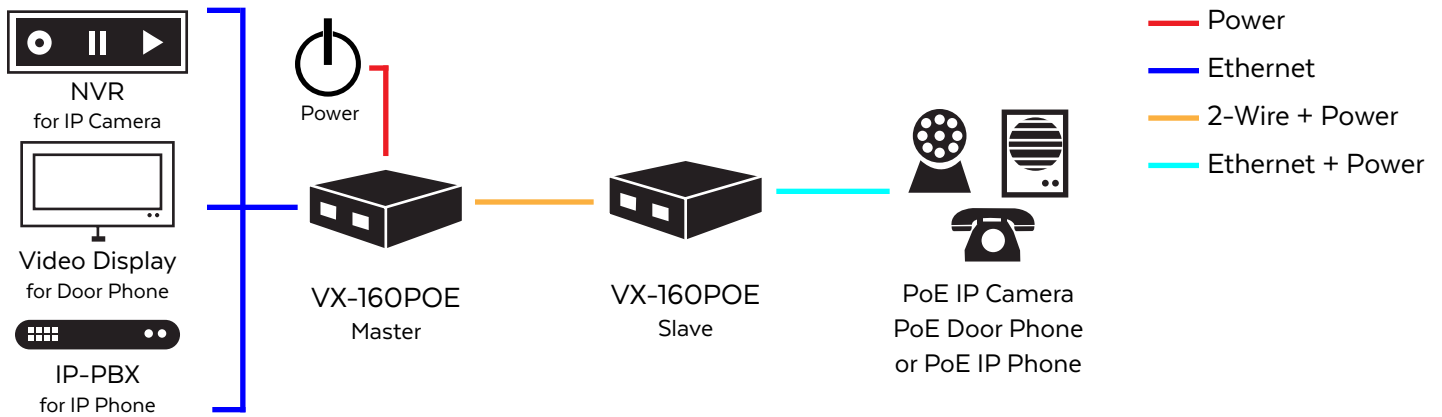


The VX-160POE Local Powered PoE Extender kit simultaneously transmits data and power to the remote slave unit.

- **Network Connector:** 10/100Mbps
- **Operating Temp:** 0 to 50°C
- **Type:** End-Span (CO)/ Mid-Span (Remote)
- **Standard:** 802.3af
- **Max. PoE Power Budget:** 15.4 watts
- **Distance:** Up to 3,000ft

**\*KIT INCLUDES:** 2 - VX-160POE PoE Ethernet Extenders - Both CO & CPE Units, 2 - Power Adapters, 1 - One Year Manufacturer Warranty

## Application Diagram



## Spec Chart

Network Connector	10/100Mbps
Type	End-Span (CO) / Mid-Span (CPE)
Standard	802.3af
Max. PoE Power Budget	15.4 watts
Distance	Up to 3,000 ft.
Dimension	120 x 90 x 28 (mm)
Humidity	5% to 95% non-condensing
Operating Temperature	0° to 50°C
Regulatory Compliance	FCC Rules Part 15 Class A CE
Enclosure	Compact Metal Box
Input Power by	Master: Local high power Client: 2-wire
Transmit Ether / PoE over (Master)	2-wire
Output via Cat5 Cable with (Client)	Ethernet / PoE-PSE

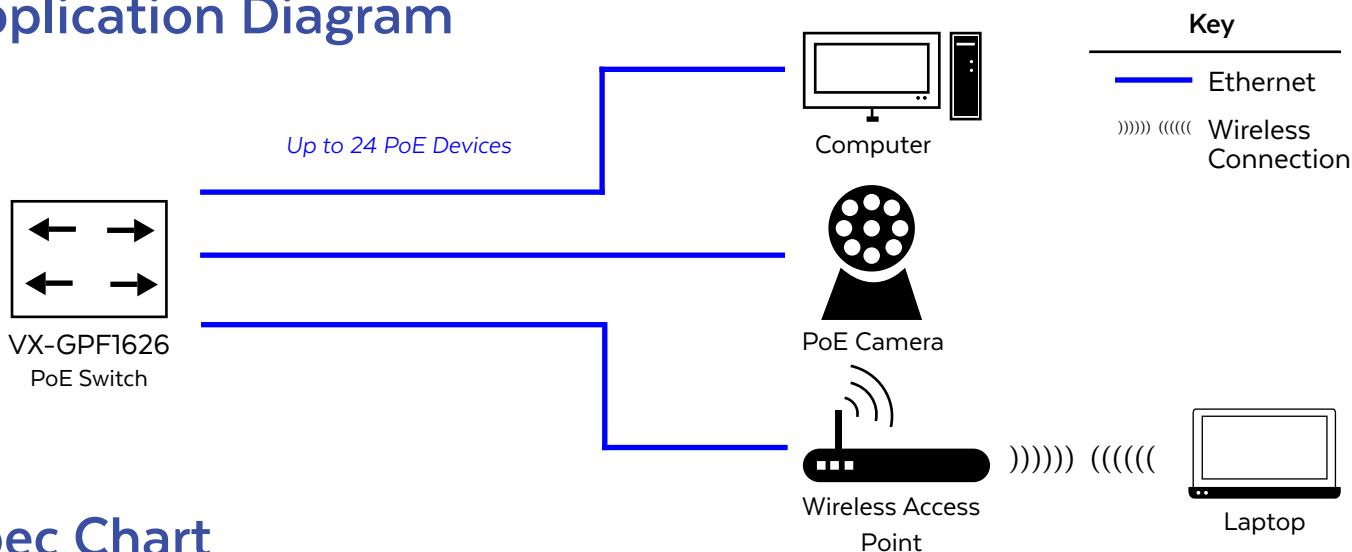
## VX-GPF1626 24-Port + 2-Port SFP Web Smart+ GbE Managed PoE+ Switch

The VX-GPF1626 is a Web Smart+ Managed PoE+ Switch offering powerful L2 features, Layer 3 Static Routing, and reliable PoE functionality.



- **Ports:** 24 10/100/1000TX PoE + 2 100/1000SFP
- **Type of Switch:** Managed
- **PoE Ports:** 24
- **Standards:** 802.3at/af
- **Max. PoE Power Budget:** 370 Watts
- **Operation Temp:** 0 to 40°C
- **Voltage:** 100-240VAC
- **Forwarding Capacity:** 36.68Mpps

### Application Diagram



### Spec Chart

Port Configuration	<ul style="list-style-type: none"> <li>• 24 RJ45 (10M/100M/10G)</li> <li>• 2 RJ45/SFP Combo Uplinks (100M/10G)</li> </ul>
Hardware Performance	<ul style="list-style-type: none"> <li>• Forwarding Capacity: 36.68Mpps</li> <li>• Switching Capacity: 52Gbps</li> <li>• MAC Table: 32K</li> <li>• Jumbo Frames: 9216Bytes</li> </ul>
Environmental Range	<ul style="list-style-type: none"> <li>• Operating Temperature: 0 to 45°C (32° to 113°F)</li> <li>• Storage Temperature: -20° to 70°C (-4° to 158°F)</li> <li>• Operating Humidity: 10% ~ 90% (non-condensing)</li> <li>• Altitude: &lt;3,000M (&lt;10,000ft.)</li> </ul>
Dimension	• 442 x 44 x 211mm (17.4 x 1.73 x 8.3in)
Weight	• 5.9lbs (2.7kg)
Voltage	• 100-240VAC
Frequency	• 50-60Hz
PoE Power	• 370W (Each of port 1-24 support PoE/PoE+ within available PoE Power)
Regulatory Compliance	<ul style="list-style-type: none"> <li>• FCC Rules Part 15 Class A</li> <li>• CE</li> </ul>

Spanning Tree Protocol (STP)	<ul style="list-style-type: none"> <li>• Standard Spanning Tree 802.1d</li> <li>• Rapid Spanning Tree (RSTP) 802.1w</li> <li>• Multiple Spanning Tree (MSTP) 802.1s</li> </ul>
Trunking	<p>Link Aggregation Control Protocol (LACP) IEEE 802.3ad</p> <ul style="list-style-type: none"> <li>• Up to 13 groups</li> <li>• Up to 4 ports per group</li> </ul>
VLAN	<p>Support for up to 4K VLANs simultaneously (out of 4096 VLAN IDs)</p> <ul style="list-style-type: none"> <li>• Port-based VLAN</li> <li>• 802.1Q tag-based VLAN</li> <li>• Management VLAN</li> <li>• Q-in-Q (double tag) VLAN</li> </ul>
IGMP v1/v2/v3 Snooping	<ul style="list-style-type: none"> <li>• IGMP limits bandwidth-intensive multicast traffic to only the requesters. Supports 1024 multicast groups</li> </ul>
IGMP Querier	<ul style="list-style-type: none"> <li>• IGMP querier is used to support a Layer 2 multicast domain of snooping switches in the absence of a multicast router</li> </ul>
IGMP Proxy	<ul style="list-style-type: none"> <li>• IGMP snooping with proxy reporting or report suppression actively filters IGMP packets in order to reduce load on the multicast router</li> </ul>
Graphical Monitoring	<ul style="list-style-type: none"> <li>• Topology view: Support intuitive way to configure and manage switches and devices with visual relations.</li> <li>• Floor view: It's easy to drag and drop PoE devices and help build you to build smart workforces.</li> <li>• Map view: Enhance efficiency to drag and drop devices and monitor surroundings on Google map</li> </ul>
Find my Switch	<ul style="list-style-type: none"> <li>• Search your real switches quickly and manage directly</li> </ul>
Traffic Monitoring	<ul style="list-style-type: none"> <li>• Display visual chart of network traffic of all devices and monitor every port at any time from switches</li> </ul>
Trouble Shooting	<ul style="list-style-type: none"> <li>• Network diagnostic between master switch and devices</li> <li>• Support protection mechanism, such as rate-limiting to protect your devices from brute-force downloading</li> </ul>
IPv4/IPv6 Static Routing	<ul style="list-style-type: none"> <li>• IPv4/IPv6 Unicast: Static routing</li> </ul>
Secure Shell (SSH)	<ul style="list-style-type: none"> <li>• SSH secures Telnet traffic in or out of the switch, SSH v1 and v2 are supported</li> </ul>
Secure Sockets Layer (SSL)	<ul style="list-style-type: none"> <li>• SSL encrypts the http traffic, allowing advanced secure access to the browser-based management GUI in the switch</li> </ul>
IEEE 802.1X	<ul style="list-style-type: none"> <li>• IEEE802.1X: RADIUS authentication, authorization and accounting, MD5 hash, guest VLAN, single/multiple host mode and single/multiple sessions</li> <li>• Supports IGMP-RADIUS based 802.1X</li> <li>• Dynamic VLAN assignment</li> </ul>
Layer 2 Isolation Private VLAN Edge	<ul style="list-style-type: none"> <li>• PVE (also known as protected ports) provides L2 isolation between clients in the same VLAN. Supports multiple uplinks</li> </ul>
Port Security	<ul style="list-style-type: none"> <li>• Locks MAC addresses to ports, and limits the number of learned MAC addresses</li> </ul>
Storm Control	<ul style="list-style-type: none"> <li>• Prevents traffic on a LAN from being disrupted by a broadcast, multicast, or unicast storm on a port</li> </ul>

Hardware Queue	<ul style="list-style-type: none"> <li>• Supports 8 hardware queues</li> </ul>
Scheduling	<ul style="list-style-type: none"> <li>• Strict priority and weighted round-robin (WRR)</li> <li>• Queue assignment based on DSCP and class of service</li> </ul>
Classification	<ul style="list-style-type: none"> <li>• Port based</li> <li>• 802.1p VLAN priority based</li> <li>• IPv4/IPv6 precedence/DSCP based</li> <li>• Differentiated Services (DiffServ)</li> <li>• Classification and re-marking ACLs</li> </ul>
Rate Limiting	<ul style="list-style-type: none"> <li>• Ingress policer</li> <li>• Egress shaping and rate control</li> <li>• Per port</li> </ul>
DHCP Server	<ul style="list-style-type: none"> <li>• Supports DHCP server to assign IP to DHCP clients</li> </ul>
Zero Touch Upgrade	<ul style="list-style-type: none"> <li>• Upgrades single switch automatically when you get notifications</li> </ul>
Port Mirroring	<ul style="list-style-type: none"> <li>• 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.</li> </ul>
UPnP	<ul style="list-style-type: none"> <li>• The Universal Plug and Play Forum, an industry group of companies working to enable device-to-device interoperability by promoting Universal Plug and Play</li> </ul>
IEEE 802.1ab (LLDP)	<ul style="list-style-type: none"> <li>• Used by network devices for advertising their identities, capabilities, and neighbors on an IEEE 802ab local area network</li> <li>• Support LLDP-MED extensions</li> </ul>
Web GUI Interface	<ul style="list-style-type: none"> <li>• Built-in switch configuration utility for browser-based device configuration</li> </ul>
Dual Image	<ul style="list-style-type: none"> <li>• Independent primary and secondary images for backup while upgrading</li> </ul>
SNMP	<ul style="list-style-type: none"> <li>• SNMP version 1, 2c and 3 with support for traps, and SNMP version 3 user-based security model (USM)</li> </ul>
Firmware Upgrade	<ul style="list-style-type: none"> <li>• Web browser upgrade (HTTP/ HTTPS) and TFTP</li> <li>• Upgrade through console port as well</li> </ul>
NTP	<ul style="list-style-type: none"> <li>• Network Time Protocol (NTP) is a networking protocol for clock synchronization between computer systems over packet-switched</li> </ul>
Other Management	<ul style="list-style-type: none"> <li>• HTTP/HTTPS; SSH</li> <li>• DHCP Client/ DHCPv6 Client</li> <li>• Cable Diagnostics</li> <li>• Ping</li> <li>• Syslog</li> <li>• IPv6 Management</li> </ul>
Port Configuration	<ul style="list-style-type: none"> <li>• Supports per port PoE configuration function</li> </ul>
PoE Scheduling	<ul style="list-style-type: none"> <li>• Supports per port PoE scheduling to turn on/off the PoE devices (PDs)</li> </ul>
Auto-Checking	<ul style="list-style-type: none"> <li>• Checks the link status of PDs. Reboot PDs if there is no response</li> </ul>
Power Delay	<ul style="list-style-type: none"> <li>• The switch provides power to the PDs based on delay time when PoE switch boots up, in order to protect switch from misuse of the PDs</li> </ul>

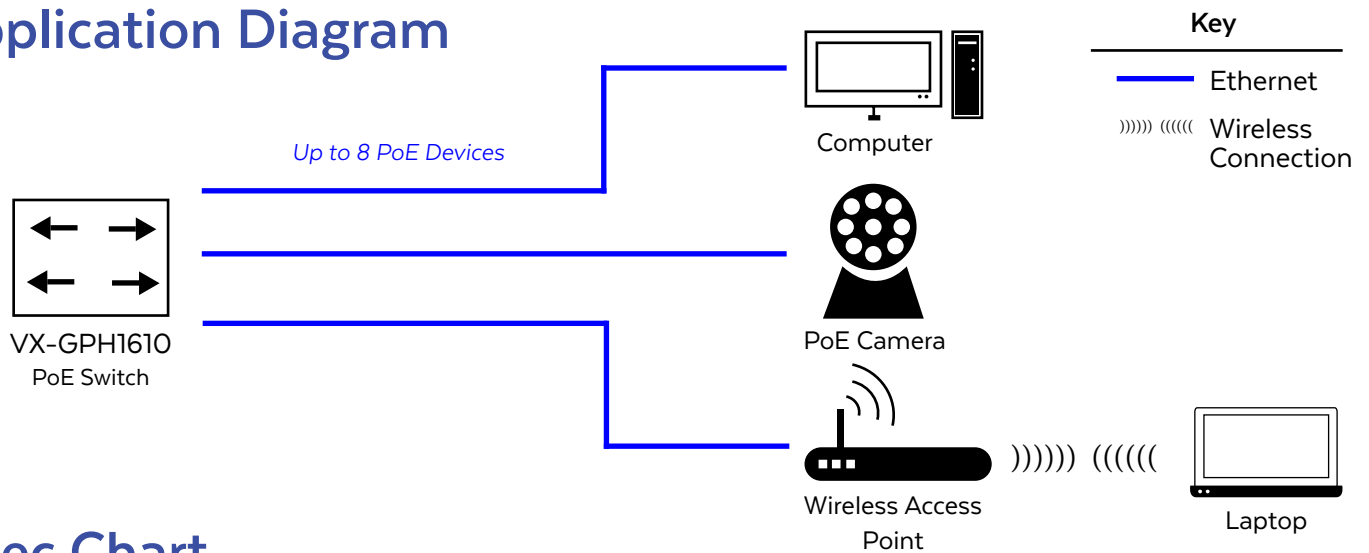
## VX-GPH1610 8-Port + 2 Combo SFP Web Smart+ GbE Managed PoE+ Switch

The VX-GPH1610 is a Web Smart+ Managed PoE+ Switch that offers powerful L2 features, Layer 3 Static Routing, and reliable PoE functionality.

- **Ports:** 8 10/100/1000TX PoE + 2 100/1000SFP
- **Type of Switch:** Managed
- **PoE Ports:** 8
- **Standards:** 802.3at/af
- **Max. PoE Power Budget:** 250 Watts
- **Operation Temp:** 0 to 40°C
- **Voltage:** 100-240VAC
- **Forwarding Capacity:** 14.88Mpps



## Application Diagram



## Spec Chart

Port Configuration	<ul style="list-style-type: none"> <li>• 8 RJ45 (10M/100M/10G)</li> <li>• 2 RJ45/SFP Combo Uplinks (100M/10G)</li> </ul>
Hardware Performance	<ul style="list-style-type: none"> <li>• Forwarding Capacity: 14.88Mpps</li> <li>• Switching Capacity: 20Gbps</li> <li>• MAC Table: 8K</li> <li>• Jumbo Frames: 9216Bytes</li> </ul>
Environmental Range	<ul style="list-style-type: none"> <li>• Operating Temperature: 0 to 40°C (32° to 104°F)</li> <li>• Storage Temperature: -20° to 70°C (-4° to 158°F)</li> <li>• Operating Humidity: 10% - 90% (non-condensing)</li> <li>• Altitude: &lt;3,000M (&lt;10,000ft.)</li> </ul>
Dimension	• 220 x 44 x 242mm (8.7 x 1.73 x 9.53in)
Weight	• 5.1lbs (2.3kg)
Voltage	• 100-240VAC
Frequency	• 50-60Hz
PoE Power	• 250W (Each of port 1-8 support PoE/PoE+ within available PoE Power)
Regulatory Compliance	<ul style="list-style-type: none"> <li>• FCC Rules Part 15 Class A</li> <li>• CE</li> </ul>



Spanning Tree Protocol (STP)	<ul style="list-style-type: none"> <li>• Standard Spanning Tree 802.1d</li> <li>• Rapid Spanning Tree (RSTP) 802.1w</li> <li>• Multiple Spanning Tree (MSTP) 802.1s</li> </ul>
Trunking	<p>Link Aggregation Control Protocol (LACP) IEEE 802.3ad</p> <ul style="list-style-type: none"> <li>• Up to 5 groups</li> <li>• Up to 2 ports per group</li> </ul>
VLAN	<p>Support for up to 4K VLANs simultaneously (out of 4096 VLAN IDs)</p> <ul style="list-style-type: none"> <li>• Port-based VLAN</li> <li>• 802.1Q tag-based VLAN</li> <li>• Management VLAN</li> <li>• Q-in-Q (double tag) VLAN</li> </ul>
IGMP v1/v2/v3 Snooping	<ul style="list-style-type: none"> <li>• IGMP limits bandwidth-intensive multicast traffic to only the requesters. Supports 1024 multicast groups</li> </ul>
IGMP Querier	<ul style="list-style-type: none"> <li>• IGMP querier is used to support a Layer 2 multicast domain of snooping switches in the absence of a multicast router</li> </ul>
IGMP Proxy	<ul style="list-style-type: none"> <li>• IGMP snooping with proxy reporting or report suppression actively filters IGMP packets in order to reduce load on the multicast router</li> </ul>
Graphical Monitoring	<ul style="list-style-type: none"> <li>• Topology view: Support intuitive way to configure and manage switches and devices with visual relations.</li> <li>• Floor view: It's easy to drag and drop PoE devices and help build you to build smart workforces.</li> <li>• Map view: Enhance efficiency to drag and drop devices and monitor surroundings on Google map</li> </ul>
Find my Switch	<ul style="list-style-type: none"> <li>• Search your real switches quickly and manage directly</li> </ul>
Traffic Monitoring	<ul style="list-style-type: none"> <li>• Display visual chart of network traffic of all devices and monitor every port at any time from switches</li> </ul>
Trouble Shooting	<ul style="list-style-type: none"> <li>• Network diagnostic between master switch and devices</li> <li>• Support protection mechanism, such as rate-limiting to protect your devices from brute-force downloading</li> </ul>
IPv4/IPv6 Static Routing	<ul style="list-style-type: none"> <li>• IPv4/IPv6 Unicast: Static routing</li> </ul>
Secure Shell (SSH)	<ul style="list-style-type: none"> <li>• SSH secures Telnet traffic in or out of the switch, SSH v1 and v2 are supported</li> </ul>
Secure Sockets Layer (SSL)	<ul style="list-style-type: none"> <li>• SSL encrypts the http traffic, allowing advanced secure access to the browser-based management GUI in the switch</li> </ul>
IEEE 802.1X	<ul style="list-style-type: none"> <li>• IEEE802.1X: RADIUS authentication, authorization and accounting, MD5 hash, guest VLAN, single/multiple host mode and single/multiple sessions</li> <li>• Supports IGMP-RADIUS based 802.1X</li> <li>• Dynamic VLAN assignment</li> </ul>
Layer 2 Isolation Private VLAN Edge	<ul style="list-style-type: none"> <li>• PVE (also known as protected ports) provides L2 isolation between clients in the same VLAN. Supports multiple uplinks</li> </ul>
Port Security	<ul style="list-style-type: none"> <li>• Locks MAC addresses to ports, and limits the number of learned MAC addresses</li> </ul>
Storm Control	<ul style="list-style-type: none"> <li>• Prevents traffic on a LAN from being disrupted by a broadcast, multicast, or unicast storm on a port</li> </ul>

Hardware Queue	<ul style="list-style-type: none"> <li>• Supports 8 hardware queues</li> </ul>
Scheduling	<ul style="list-style-type: none"> <li>• Strict priority and weighted round-robin (WRR)</li> <li>• Queue assignment based on DSCP and class of service</li> </ul>
Classification	<ul style="list-style-type: none"> <li>• Port based</li> <li>• 802.1p VLAN priority based</li> <li>• IPv4/IPv6 precedence/DSCP based</li> <li>• Differentiated Services (DiffServ)</li> <li>• Classification and re-marking ACLs</li> </ul>
Rate Limiting	<ul style="list-style-type: none"> <li>• Ingress policer</li> <li>• Egress shaping and rate control</li> <li>• Per port</li> </ul>
DHCP Server	<ul style="list-style-type: none"> <li>• Supports DHCP server to assign IP to DHCP clients</li> </ul>
Zero Touch Upgrade	<ul style="list-style-type: none"> <li>• Upgrades single switch automatically when you get notifications</li> </ul>
Port Mirroring	<ul style="list-style-type: none"> <li>• 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.</li> </ul>
UPnP	<ul style="list-style-type: none"> <li>• The Universal Plug and Play Forum, an industry group of companies working to enable device-to-device interoperability by promoting Universal Plug and Play</li> </ul>
IEEE 802.1ab (LLDP)	<ul style="list-style-type: none"> <li>• Used by network devices for advertising their identities, capabilities, and neighbors on an IEEE 802.1ab local area network</li> <li>• Support LLDP-MED extensions</li> </ul>
Web GUI Interface	<ul style="list-style-type: none"> <li>• Built-in switch configuration utility for browser-based device configuration</li> </ul>
Dual Image	<ul style="list-style-type: none"> <li>• Independent primary and secondary images for backup while upgrading</li> </ul>
SNMP	<ul style="list-style-type: none"> <li>• SNMP version 1, 2c and 3 with support for traps, and SNMP version 3 user-based security model (USM)</li> </ul>
Firmware Upgrade	<ul style="list-style-type: none"> <li>• Web browser upgrade (HTTP/ HTTPS) and TFTP</li> <li>• Upgrade through console port as well</li> </ul>
NTP	<ul style="list-style-type: none"> <li>• Network Time Protocol (NTP) is a networking protocol for clock synchronization between computer systems over packet-switched</li> </ul>
Other Management	<ul style="list-style-type: none"> <li>• HTTP/HTTPS; SSH</li> <li>• DHCP Client/ DHCPv6 Client</li> <li>• Cable Diagnostics</li> <li>• Ping</li> <li>• Syslog</li> <li>• IPv6 Management</li> </ul>
Port Configuration	<ul style="list-style-type: none"> <li>• Supports per port PoE configuration function</li> </ul>
PoE Scheduling	<ul style="list-style-type: none"> <li>• Supports per port PoE scheduling to turn on/off the PoE devices (PDs)</li> </ul>
Auto-Checking	<ul style="list-style-type: none"> <li>• Checks the link status of PDs. Reboot PDs if there is no response</li> </ul>
Power Delay	<ul style="list-style-type: none"> <li>• The switch provides power to the PDs based on delay time when PoE switch boots up, in order to protect switch from misuse of the PDs</li> </ul>

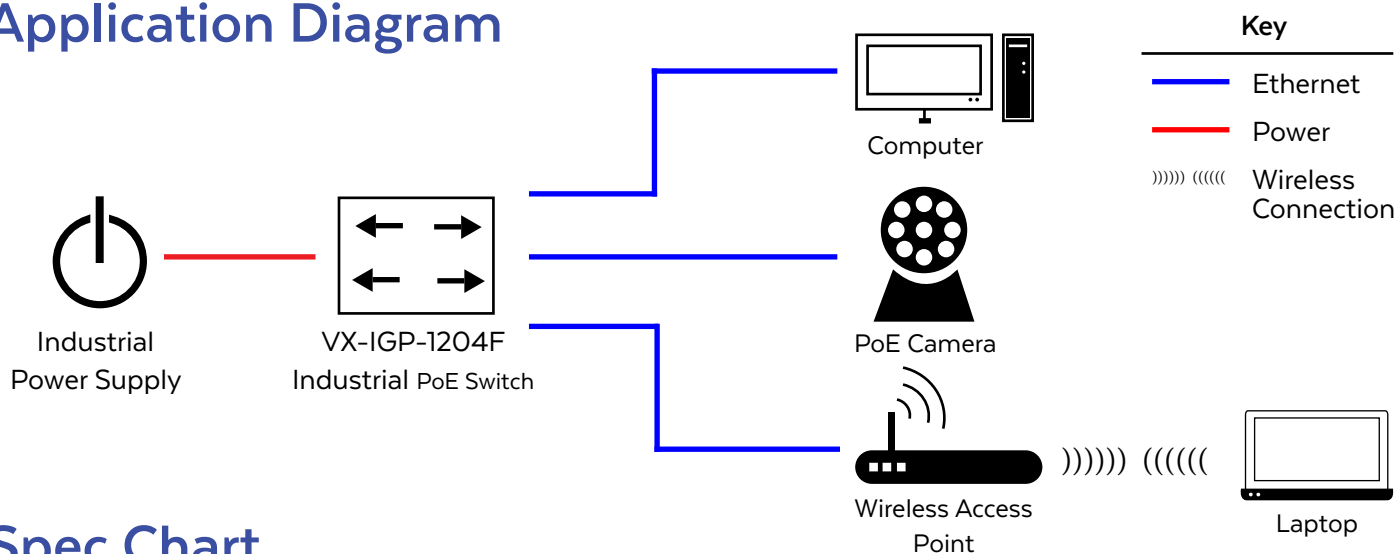


### VX-IGP-1204F 12-Port Managed Industrial Switch with 8 IEEE 802.3at PoE Ports

Versa Technology's VX-IGP-1204F Managed Gigabit Ethernet switch provides 8 10/100/1000BaseT PoE PSE ports and 4 100/1000Base SFP ports.

- **Ports:** 8 10/100/1000TX PoE + 4 100/1000FX SFP
- **Type of Switch:** Managed
- **Supports:** Fast Failover Protection Rings
- **PoE Ports:** 8
- **Standards:** 802.3at
- **Max. PoE Power Budget:** 240W PSE
- **Voltage:** 46-58VDC
- **Operation Temp:** -40° to 75°C

## Application Diagram



## Spec Chart

Operating Mode	• Store and forward, L2 wire-speed/ non-blocking switching engine
MAC Address	• 8K
Jumbo Frames	• 9K Bytes
Speed	• 10/100/1000Mbps
MDI/MDIX Auto-Crossover	• Supports straight or cross wired cables
Auto-Negotiating	• 10/100/1000Mbps speed auto-negotiation; Full and half duplex
Ethernet Isolation	• 1500 VRMS 1 minute
Port Types Supported	• SFP (pluggable) Ports 100/1000Base SFP slot • Supports 100FX SFP transceiver • Supports 100/1000BaseT SFP transceiver
Fiber Port Connector	• LC typically for fiber (depends on module)
Optimal Fiber Cable	• Typical 50 or 62.5/125µm for multimode (MM) • Typical 8 or 9/125µm for single mode (SM)
Fast Failover Protection Rings	• Link loss recovery <20ms • Supports single & multiple rings, ring coupling, dual-homing, chain
Spanning Tree Protocol	• IEEE 802.1D STP, IEEE 802.1w RSTP, IEEE 802.1s MSTP

Port Trunk with LACP	<ul style="list-style-type: none"> <li>• Static trunk or Dynamic via LACP (Link Aggregation Control Protocol)</li> </ul>
Flow Control	<ul style="list-style-type: none"> <li>• IEEE 802.3x (Full Duplex) and Back-Pressure (Half-Duplex)</li> </ul>
Max. VLANs	<ul style="list-style-type: none"> <li>• 1024</li> </ul>
VLAN Types	<ul style="list-style-type: none"> <li>• Port-based VLANs, MAC-based VLANs, IP Subnet-based VLANs</li> <li>• Protocol-based VLANs</li> <li>• IEEE 802.1Q tag-based VLANs</li> <li>• RADIUS-assigned VLAN</li> <li>• IEEE 802.1ad Double Tagging (Q in Q)</li> </ul>
Multicast Protocols	<ul style="list-style-type: none"> <li>• IGMP v1, v2 with up to 255 multicast groups</li> <li>• IGMP snooping and querying</li> <li>• Immediate leave and leave proxy</li> <li>• Throttling and filtering</li> </ul>
LLDP	<ul style="list-style-type: none"> <li>• IEEE 802.1ab Link Layer Discovery Protocol (LLDP)</li> </ul>
Priority	<ul style="list-style-type: none"> <li>• IEEE 802.1p QoS</li> </ul>
Number of Queues per Port	<ul style="list-style-type: none"> <li>• 8</li> </ul>
Scheduling Schemes	<ul style="list-style-type: none"> <li>• SPQ, WRR</li> </ul>
Traffic Shaper	<ul style="list-style-type: none"> <li>• Port-based shaping</li> </ul>
RADIUS QoS	<ul style="list-style-type: none"> <li>• RADIUS-assigned QoS Class</li> </ul>
Port Security	<ul style="list-style-type: none"> <li>• IP and MAC-based access control</li> <li>• IEEE 802.1X authentication Network Access Control</li> <li>• Authentication via local database, RADIUS or TACACS+AAA (Authentication, Accounting and Authorization)</li> </ul>
Storm Control	<ul style="list-style-type: none"> <li>• Multicast / Broadcast / Flooding Storm Control</li> </ul>
User Management Interfaces	<ul style="list-style-type: none"> <li>• Cisco-like CLI (Command Line Interface)</li> <li>• WEB-based Management</li> <li>• SNMP v1, v2c, v3</li> <li>• Telnet (5 sessions)</li> </ul>
Management Security	<ul style="list-style-type: none"> <li>• HTTPs, SSH</li> <li>• Radius Client for Management</li> </ul>
Upgrade & Restore	<ul style="list-style-type: none"> <li>• FTP for Configuration Import/Export</li> <li>• FTP for Firmware Upgrade</li> </ul>
Diagnostic	<ul style="list-style-type: none"> <li>• Syslog</li> <li>• Per VLAN mirroring</li> <li>• Ethernet Copper connection diagnostic tool</li> <li>• SFP with DDM (Digital Diagnostic Monitoring)</li> </ul>
MIBs	<ul style="list-style-type: none"> <li>• RFC-1757 RMON 1, 2, 3, 9; RFC 2674 Q-Bridge MIB</li> <li>• RFC-1213 MIB-II; RFC-1493 Bridge MIB; RFC-2233 IF MIB</li> </ul>
DHCP	<ul style="list-style-type: none"> <li>• Client, Server, Relay, Snooping, Option 82</li> </ul>
NTP/SNTP	<ul style="list-style-type: none"> <li>• Yes</li> </ul>
System Status	<ul style="list-style-type: none"> <li>• Device info/status, Ethernet port status, PoE status</li> </ul>
PoE Management	<ul style="list-style-type: none"> <li>• Scheduling, power control, PoE PD power consumption</li> </ul>
Power Input	<ul style="list-style-type: none"> <li>• Redundant Input Terminals</li> </ul>
Input Voltage Range	<ul style="list-style-type: none"> <li>• 46-58V DC</li> </ul>
Total PoE Output Power Budget	<ul style="list-style-type: none"> <li>• 240W</li> </ul>
PoE PSE Port Output Power Mgmt.	<ul style="list-style-type: none"> <li>• Scheduling, power control, PoE PD power consumption monitoring</li> </ul>

Reverse Power Protection	• Yes
Transient Protection	• > 15,000 watts peak
Power Consumption	• Max. 14W without PD connection • Max. 265W with 240W PSE power delivered
Power Status Indicator	• Indication of power input status
Ethernet Port Indication	• Link & Speed
PoE Status	• Indication of PoE Power applying
System Alarm	• Profile-defined System Alarm
Alarm Relay Output	• Relay output with current carrying capacity of 0.5A @ 24V DC
Alarm Notification	• Configurable alarm profile to enable Alarm LED, Alarm relay & SNMP traps
Operating Temperature	• -40° to 75°C (cold startup at -40°C)
Storage Temperature	• -40° to 85°C
Humidity	• 5 to 95% RH, non-condensing
Vibration, Shock & Freefall	• IEC68-2-6, -27, -32
Certification Compliance	• CE/FCC, UL508* (pending)
Electrical Safety	• CSA C22, EN61010-1, CE
EMC	• FCC Part 15, CISPR 22 (EN55022) Class A • IEC61000-4-2, -3, -4, -5, -6
RoHS and WEEE	• RoHS (Pb free) and WEEE compliant
MTBF	• >25 years
Ingress Protection	• IP30
Installation Option	• DIN-rail mounting, wall mounting
Dimension	• 77 x 154 x 128mm (WxHxD)
Weight	• 1410g

# DSLAM

Digital-Subscriber-Line-Access-Multiplexer

Versa Technology offers a wide-range of xDSL solutions including VDSL2 DSLAMs, ADSL2+ DSLAMs, VDSL2 Modems, and ADSL2+ Modems. As the demand for high-speed broadband continues to increase, service providers are upgrading their equipment to ADSL2+ and VDSL2 technologies to future-proof their networks and retain their competitive edge.

Our VDSL2 DSLAMS and ADSL2+ DSLAMS deliver triple play services over existing copper plants. VDSL2 allows for symmetrical speeds of up to 100Mb and offers longer distances than standard VDSL technology using the same upstream frequencies. Our VDSL2 and ADSL2+ units help network administrators create dependable and profitable broadband networks.

Click on a model number to go to that page.

## VDSL2 DSLAMs:

VX-M208S  
VX-M2024S  
VX-MD4024  
VX-MD3024

## ADSL2+ DSLAMs:

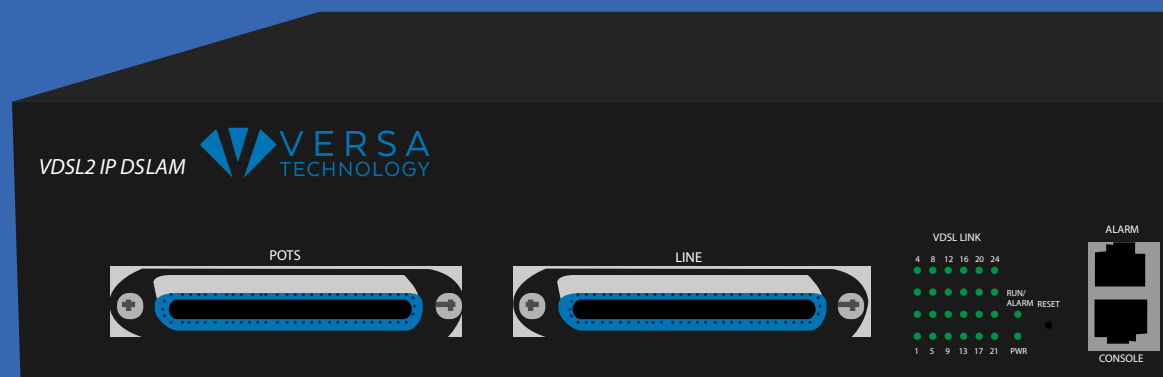
VX-1000MDx  
VX-1000HDx

## VDSL2 Modems:

VX-VEB160R1  
VX-VEB165  
VR-3030  
VX-VER522

## ADSL2+ Modems:

VX-VER170S



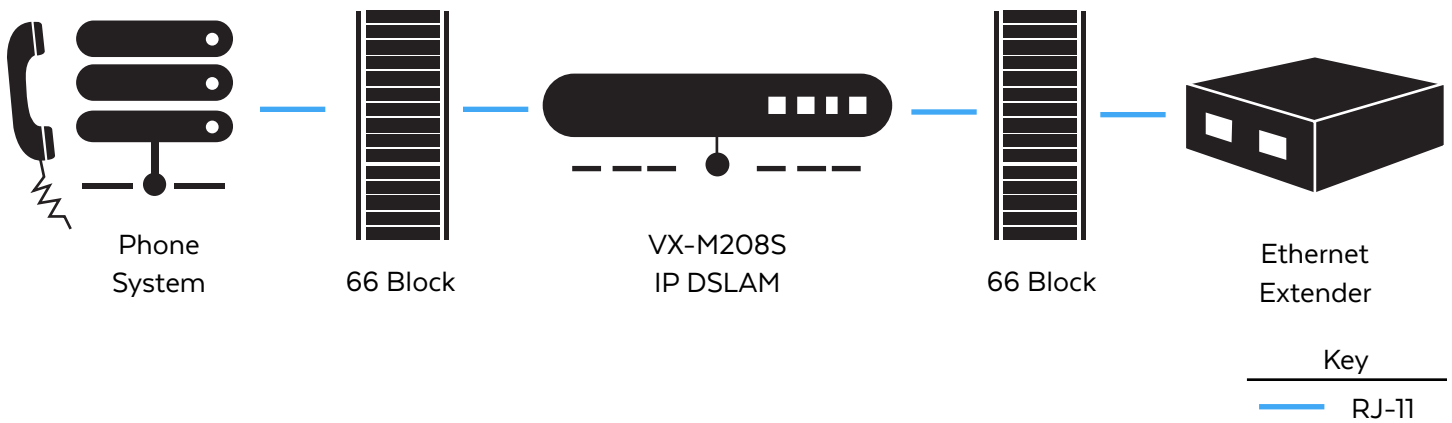
## VX-M208S 8-Port VDSL2 Mini IP DSLAM



The VX-M208S is a compact 8-port VDSL2 IP DSLAM with 2 Gigabit Ethernet Combo interfaces and a built-in POTS splitter.

- 1U compact design with 8 VDSL2 ports and built-in POTS splitter.
- Supports VDSL2 Profiles 8a/8b/8c/8d/12a/17a/30a
- Supports powerful traffic classification tools including QoS, ToS and DSCP.
- Web-based management with a user friendly interface.

## Application Diagram



## Spec Chart

Hardware Interface	<ul style="list-style-type: none"> <li>• RJ-11 x 8 VDSL2 Ports</li> <li>• RJ-11 x 8 POTS Ports</li> <li>• 2 x Gigabit Ethernet Combo ports (100/1000 Based-T and SFP)</li> <li>• 1 x RJ-45 Console Port</li> <li>• 1 x RJ-45 Alarm Port for 4 Alarm Inputs</li> </ul>
LED Indicators	<ul style="list-style-type: none"> <li>• System: PWR</li> <li>• Gigabit Port: LINK/ACT, SPEED 1000/100</li> <li>• Alarm: RUN/ALARM</li> <li>• VDSL: VDSL Link/Sync</li> </ul>
Standards Support	<ul style="list-style-type: none"> <li>• VDSL2 ITU-T G.993.2</li> <li>• VDSL2 Profiles: 8a, 8b, 8c, 8d, 12a, 12b, 17a and 30a</li> <li>• 802.1d L2 Bridging</li> <li>• DHCP /Client/Relay/Option82</li> <li>• IEEE 802.1q VLAN Tag base</li> <li>• VLAN Stacking (Q-in-Q)</li> <li>• IEEE 802.1d Spanning Tree Protocol (STP)</li> <li>• IEEE 802.3ad Link Aggregation</li> </ul>

Protocol Support	<ul style="list-style-type: none"> <li>• IGMP Snooping/Proxy v1, v2 and v3</li> <li>• Multicast Forwarding with IGMP Snooping v1 and v2 (RFC 1112 and RFC 2236)</li> <li>• Multicast MAC address mapping</li> <li>• Up to 512 Multicast Channels</li> <li>• Fast and Normal Leave Modes</li> </ul>
Security	<ul style="list-style-type: none"> <li>• L2 Frame Filtering by MAC Addresses</li> <li>• L3 Frame Filtering by IP Addresses, protocol ID, and TCP/UDP</li> <li>• DHCP and ARP Broadcasting Frames Filtering</li> <li>• Support Secured Forwarding</li> <li>• Profile-based Access Control (up to 8 profiles)</li> </ul>
Management	<ul style="list-style-type: none"> <li>• Local Management: RS-232 and Telnet CLI, Web/SNMP management.</li> <li>• Remote in-band Management: Web/SNMP/Telnet</li> <li>• Support SNMP v1/v2/v3</li> </ul>
Operating Environment	<ul style="list-style-type: none"> <li>• Operating Temperature: -10°C to 50°C</li> <li>• Storage Temperature: -40°C to 70°C</li> <li>• Humidity: 10% - 95% (non-condensing)</li> </ul>
Physical / Electrical	<ul style="list-style-type: none"> <li>• Dimensions: 404 x 174 x 44.5 mm, 1U height</li> <li>• Power: 100-240 V AC, 50-60 Hz</li> <li>• Power Consumption: 30Watts maximum</li> </ul>
Regulatory Compliance	<ul style="list-style-type: none"> <li>• CE</li> <li>• FCC Part 15 Subpart B</li> <li>• VCCI</li> <li>• EN60950</li> </ul>



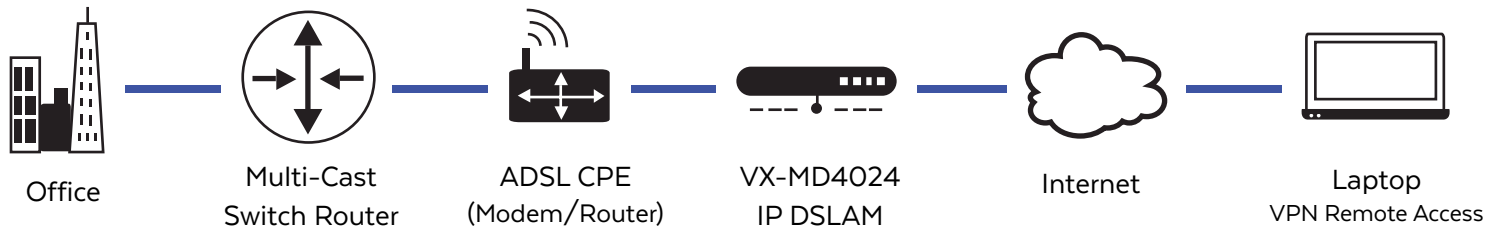
## VX-M2024S 24-Port VDSL2 IP DSLAM

The VX-M2024S from Versa Technology is a 1.5U compact 24-port VDSL2 IP DSLAM with 2 Gigabit Ethernet Combo interfaces and built-in POTS/ISDN splitter.



- 1.5U compact design with 24 VDSL2 ports and built-in POTS splitter.
- Supports VDSL2 Profiles 8a/8b/8c/8d/12a/17a/30a.
- Supports powerful traffic classification tools including QoS, ToS and DSCP.
- Web-based management with a user friendly interface.

## Application Diagram



## Spec Chart

Hardware Interface	<ul style="list-style-type: none"> <li>• RJ-21 x 24 VDSL2 Ports</li> <li>• RJ-21 x 24 POTS/ISDN splitter (optional)</li> <li>• 2 x Gigabit Ethernet Combo ports (100/1000 Based-T and SFP)</li> <li>• 1 x RJ-45 Console Port</li> <li>• 1 x RJ-45 Alarm Port for 4 Alarm Inputs</li> </ul>
LED Indicators	<ul style="list-style-type: none"> <li>• System: PWR</li> <li>• Gigabit Port: LINK/ACT, SPEED 1000/100</li> <li>• Alarm: RUN/ALARM</li> <li>• VDSL: VDSL Link/Sync</li> </ul>
Standards Support	<ul style="list-style-type: none"> <li>• VDSL2 ITU-T G.993.2</li> <li>• VDSL2 Profiles: 8a, 8b, 8c, 8d, 12a, 12b, 17a and 30a</li> <li>• 802.1d L2 Bridging</li> <li>• DHCP /Client/Relay/Option82</li> <li>• IEEE 802.1q VLAN Tag base</li> <li>• VLAN Stacking (Q-in-Q)</li> <li>• IEEE 802.1d Spanning Tree Protocol (STP)</li> <li>• IEEE 802.3ad Link Aggregation</li> </ul>

Protocol Support	<ul style="list-style-type: none"> <li>• IGMP Snooping/Proxy v1, v2 and v3</li> <li>• Multicast Forwarding with IGMP Snooping v1 and v2 (RFC 1112 and RFC 2236)</li> <li>• Multicast MAC address mapping</li> <li>• Up to 512 Multicast Channels</li> <li>• Profile-based Multicast Access Control (up to 24 profiles)</li> <li>• Fast and Normal Leave Modes</li> </ul>
Security	<ul style="list-style-type: none"> <li>• L2 Frame Filtering by MAC Addresses</li> <li>• L3 Frame Filtering by IP Addresses, protocol ID, and TCP/UDP</li> <li>• DHCP and ARP Broadcasting Frames Filtering</li> <li>• Support Secured Forwarding</li> </ul>
Management	<ul style="list-style-type: none"> <li>• Local Management: RS-232 and Telnet CLI, Web/SNMP management.</li> <li>• Remote in-band Management: Web/SNMP/Telnet</li> <li>• Support SNMP v1/v2/v3</li> </ul>
Operating Environment	<ul style="list-style-type: none"> <li>• Operating Temperature: -20°C to 60°C</li> <li>• Storage Temperature: -40°C to 70°C</li> <li>• Humidity: 5% - 95% (non-condensing)</li> </ul>
Physical / Electrical	<ul style="list-style-type: none"> <li>• Dimensions: 435 x 230 x 67 mm, 1.5U height</li> <li>• Power: 100-240 V AC, 50-60 Hz</li> <li>• Power Consumption: 90Watts maximum</li> </ul>
Regulatory Compliance	<ul style="list-style-type: none"> <li>• CE</li> <li>• FCC Part 15 Subpart B</li> <li>• VCCI</li> <li>• EN60950</li> </ul>

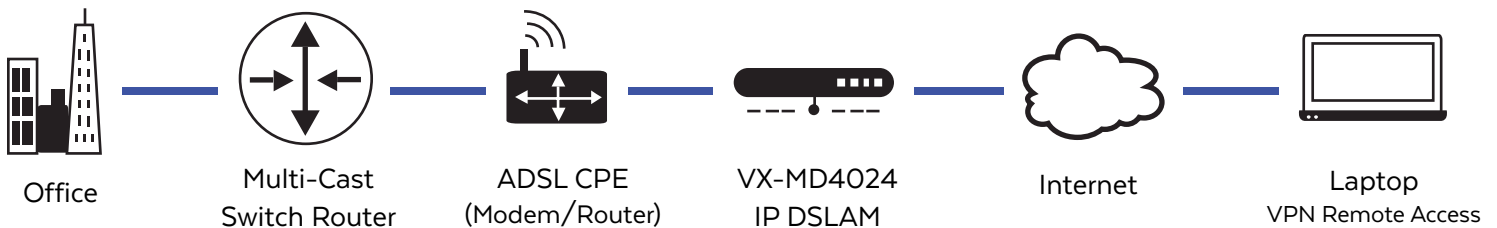
## VX-MD4024 24-Port VDSL2 IP DSLAM

The VX-MD4024 is a rack-mountable VDSL2 IP DSLAM. The unit supports two Gigabit Ethernet (GbE) trunk interfaces and 24 VDSL2 ports (ADSLx backward compatible). Its ideal for deploying in space-constrained indoor areas, MDU, or external cabinets.



- 1.5U compact design with 24 VDSL2 ports with ADSL2 fall-back and built-in POTS splitter.
- Supports VDSL2 profiles 8a/8b/8c/8d/12a/12b/17a/30a
- Supports powerful traffic classification tools including QoS, ToS and DSCP.
- Web-based management with a user-friendly interface.

## Application Diagram



## Spec Chart

Network Interface	<ul style="list-style-type: none"> <li>• 2 x Gigabit Ethernet Combo ports (100/1000 Based-T and SFP-option)</li> </ul>
Subscriber Interface	<ul style="list-style-type: none"> <li>• 24 ports VDSL2 (G.993.2)</li> <li>• Built-in POTS/ISDN splitter</li> </ul>
VDSL2	<ul style="list-style-type: none"> <li>• ITUT G.993.2 compliant*</li> <li>• Profile 8a/8b/8c/8d/12a/12b/17a/30a</li> <li>• ADSL backwards compatible*</li> <li>• Maximum 20.5 dBm transmit power</li> <li>• Long-Reach VDSL (VLR)*</li> <li>• PTM packet Pre-emption</li> <li>• Loop Diagnostic DETL/SELT</li> </ul>
ATM	<ul style="list-style-type: none"> <li>• QoS (UBR, rt-VBR, nrt-VBR, CBR)</li> <li>• PVC default priority and PVC-to-VLAN mapping</li> <li>• Trac scheduling/shaping/policing</li> </ul>
Ethernet	<ul style="list-style-type: none"> <li>• IEEE 802.1d/w/s Spanning tree protocol (STP/RSTP/MSTP)</li> <li>• IEEE 802.3ad Link aggregation</li> <li>• IEEE 802.3af Power over Ethernet (option)</li> </ul>

\* Denotes features that will be supported via firmware upgrade.

Network Management	<ul style="list-style-type: none"> <li>• RS-232 serial and 10/100 Ethernet port for local management</li> <li>• Multiple TELNET sessions</li> <li>• Remote software upgrade</li> <li>• Memory back-up and restore</li> <li>• Database export and import functionality</li> <li>• Web-based GUI management</li> <li>• EMS for Multiple Nodes Management based on SNMP (optional)</li> <li>• In-band and Out-band management</li> <li>• SNMP v1 and v2c management</li> </ul>
Management Information Base (MIB)	<ul style="list-style-type: none"> <li>• RFC 2514, 2515 ATM MIB</li> <li>• RFC 1213 SNMP MIB II</li> <li>• RFC 1493 Bridge MIB</li> <li>• RFC 1643 Ethernet MIB</li> <li>• RFC 2674 Q MIB</li> <li>• RFC 1757 RMON MIB, group 1,2,3,9</li> <li>• ADSL MIB</li> <li>• VDSL MIB</li> <li>• Tailyn proprietary MIB</li> </ul>
OSI Layer 2 Functionality	<ul style="list-style-type: none"> <li>• Access control list (ACL)/filtering</li> <li>• Hardware-based multicasting</li> <li>• Broadcast control and broadcast rate limit</li> <li>• Port-based and 802.1p/q based virtual local area network (VLAN) with VLAN-stacking support</li> <li>• IGMP snooping/proxy v1, v2 and v3*</li> </ul>
Performance Monitoring	<ul style="list-style-type: none"> <li>• Monitors of line attenuation, noise margin, current rate, loss of signal, loss of framing loss of power and error second performance data of ADSL/VDSL statistics. Ethernet RMON denied statistics are also provided.</li> <li>• Provides 15-minute and 1-day counters for history record</li> </ul>
Alarm & Status Surveillance	<ul style="list-style-type: none"> <li>• Automatic alarm/LED indication for alarm and system status</li> <li>• Maintenance signal for OAM functionality</li> <li>• Four housekeeping inputs and One alarm contact closure outputs</li> </ul>
Dimensions	<ul style="list-style-type: none"> <li>• 1.5U: 66mm x 482mm x 304mm (H W D)</li> </ul>
Environmental	<ul style="list-style-type: none"> <li>• Operating Temperature: -40° to 65°C (-40° to 149°F)</li> <li>• Operating Humidity: 5% to 95% non- condensing</li> </ul>
Power Requirements	<ul style="list-style-type: none"> <li>• AC or DC power option</li> <li>• DC: 48V DC (42V to 56V)</li> <li>• Dual A+B -48 V DC power input terminal</li> <li>• AC: 100-240V 50-60Hz</li> </ul>
Certification	<ul style="list-style-type: none"> <li>• ITU-T K.20, K.21</li> <li>• ETSI 300-019, 300-386</li> <li>• EN 60950</li> <li>• Conform to CE requirements</li> </ul>

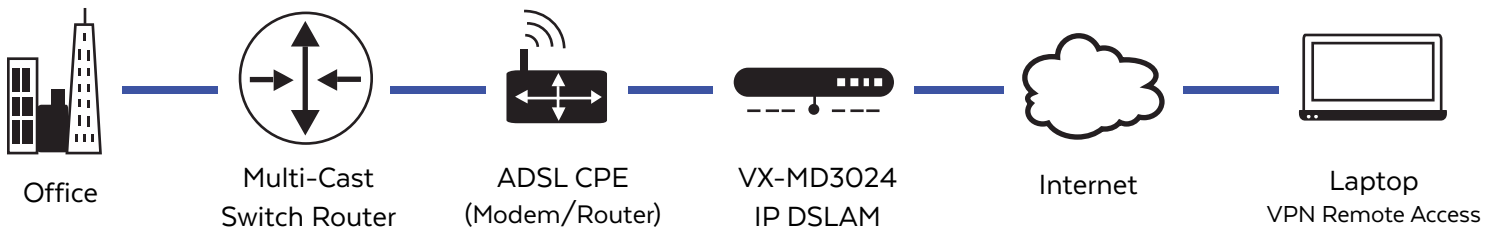
**VX-MD3024 24-Port VDSL2 IP DSLAM w/ 2 Gigabit Uplink Ports**



The VX-MD3024 VDSL2 DSLAM from Versa Technology gives users a dependable choice for deployment. The VX-MD3024 makes deployment truly simple since the unit utilizes existing twisted pair wiring.

- 1.5U compact design with 24 VDSL2 ports and built-in POTS splitter.
- Supports VDSL2 Profiles 8a/8b/8c/8d/12a/12b/17a/30a
- Supports powerful traffic classification tools including QoS, ToS and DSCP.

## Application Diagram



## Spec Chart

Uplink Interface	<ul style="list-style-type: none"> <li>• 100Base-FX/GBIC: max. 2 ports per Switch Card</li> <li>• 100/1000Base-TX: max. 2 ports per Switch Card, FD, RJ-45</li> </ul>
VDSL2 Interface	<ul style="list-style-type: none"> <li>• 24 VDSL2 ports</li> <li>• Standard IEEE 993.2 VDSL2 Band Plan: 25KHz-138KHz(U0) Option band used</li> <li>• Dynamic rate adaptation, UPBO, coexistence with POTS/ ISDN</li> <li>• Long reach Symmetrical transmission rates:               <ul style="list-style-type: none"> <li>• Up to 200m at 100Mbps</li> <li>• Up to 1Km at 50Mbps</li> <li>• Up to 2Km at 8Mbps Asymmetrical</li> </ul> </li> </ul>
Protocol and Service	<ul style="list-style-type: none"> <li>• Tag-based and port-based VLAN, Link aggregation (802.1ad)</li> <li>• 802.1p QoS supporting 4-priority queues, 802.3x flow control</li> <li>• MAC filtering, IP filtering, DHCP filtering</li> <li>• NetBEUI, NETBIOS, NBT filtering</li> <li>• MAC address limitation</li> <li>• IGMP snooping, Broadcast storm control</li> <li>• Rate limitation</li> <li>• Stacking and Single IP Management</li> <li>• Storm control</li> </ul>

Ethernet Interface	<ul style="list-style-type: none"> <li>• SNMP for embedded agent, EMS supporting Java based GUI and CLI</li> <li>• Remote download, Loop-back test</li> <li>• Craft interface: RS-232 Async or Ethernet (10Base-T)</li> </ul>
Power Assumption	<ul style="list-style-type: none"> <li>• 90VAC ~ 220VAC, 50 ~60Hz</li> </ul>
Environmental Conditions	<ul style="list-style-type: none"> <li>• Operating Temperature: -20°C ~ 60°C</li> <li>• Humidity: 10% ~ 90%</li> </ul>
Dimensions	<ul style="list-style-type: none"> <li>• Physical: 450mm(W) x 66mm(H) x 300mm(D), Rack mountable shelf</li> <li>• LED: Power, Link fault indication</li> </ul>

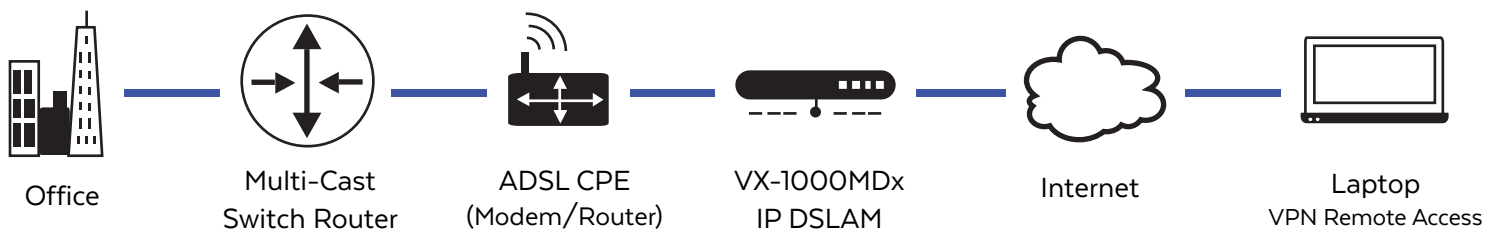
## VX-1000MDx 24-Port ADSL2+ IP DSLAM

The VX-1000MDx ADSL2+ IP DSLAM unit from Versa Technology is a mini-DSLAM designed for deployment for access networks.



- 1.5U compact design with 24 ADSL2+/2+ ports and built-in POTS splitter.
- Supports ADSL, ADSL2/2+ AnnexA and AnnexM
- Supports powerful traffic classification tools including QoS, ToS and DSCP.

## Application Diagram



## Spec Chart

Network Interface	• 2 x 100/1000 Based-TX or 2 x mini-GbE
Subscriber Interface	• 24 ports ADSL2+/POTS/ISDN (G.992.1.2.3.5)
System Configuration	• Multiple-session TELNET • Supports point-to-point VCC link • Software Remote upgrade
Alarm & Status Surveillance	• Automatic alarm / LED indication for alarm and system status • Maintenance signal for OAM functionality • 4 housekeeping inputs and 1 alarm contact closure outputs
Networking Management	• Memory back-up • Database export and import functionality • RS-232 serial and Ethernet 10/100 port for local management • NMS/EMS for Multiple Nodes Management based on SNMP (option)
Ethernet	• IEEE 802.1d Spanning tree protocol (STP) • IEEE 802.3ad Link aggregation • Security on console access
OSI Layer 2 Functionality	• MAC filtering and count limit • Access control list (ACL) • Multicasting Support • Broadcast control and broadcast rate limit • Port-based and 802.1p/q Tag-based virtual local area network (VLAN) • IGMP v1/v2/v3 snooping and Proxy • SNMP v1 and v2c • Remote Statistic (1, 2, 3, 9 groups)

Management Information Base (MIB)	<ul style="list-style-type: none"> <li>• FC 1213 SNMP MIB II</li> <li>• RFC 1493 Bridge MIB</li> <li>• RFC 1643 Ethernet MIB</li> <li>• RFC 2674 Q MIB</li> <li>• RFC 1757 RMON MIB, group 1,2,3,9</li> <li>• ADSL Line MIB</li> <li>• Versa Technology proprietary MIB</li> </ul>
Dimensions	<ul style="list-style-type: none"> <li>• 1.5U: 66mm x 482mm x 265mm (H x W x D) 24 Ports with splitter built-in</li> </ul>
Environmental	<ul style="list-style-type: none"> <li>• Operating Temperature: -10°C to 65°C</li> <li>• Operating Humidity: 5% to 95% non-condensing</li> </ul>
Power Requirements	<ul style="list-style-type: none"> <li>• Input: AC 100 VAC to 240 VAC</li> <li>• Input: -48 V DC (-42 V to -56 V) (optional)</li> <li>• Dual A+B -48 V DC power input terminal (optional)</li> </ul>
Certification	<ul style="list-style-type: none"> <li>• FCC-Class A</li> <li>• ITU-T K.20</li> <li>• ETSI 300-019, 300-386</li> <li>• EN 60950</li> <li>• Conform to CE requirement</li> <li>• RoHS Compliant</li> </ul>



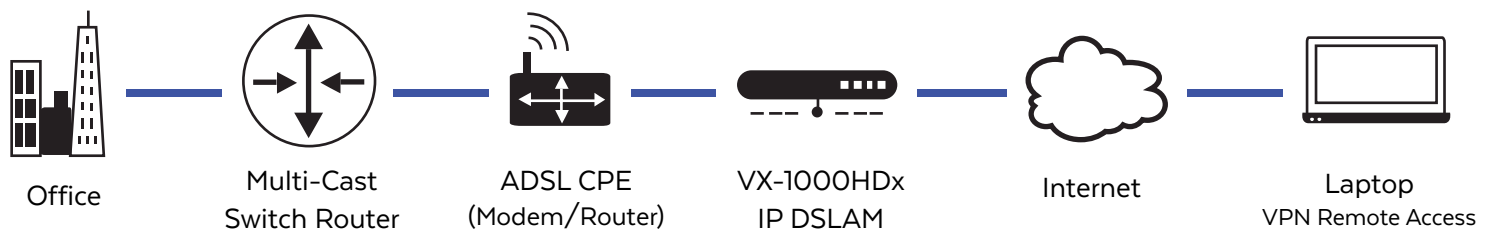
## VX-1000HDx 48-Port ADSL2+ IP DSLAM

The VX-1000HDx ADSL2+ IP DSLAM unit from Versa Technology is a mini-DSLAM designed for the deployment of access networks.

- 1.5U compact design with 48 ADSL2+/2+ ports and built-in POTS splitter.
- Supports ADSL, ADSL2/2+ AnnexA and AnnexM
- Supports powerful traffic classification tools including QoS, ToS and DSCP.



## Application Diagram



## Spec Chart

Network Interface	• 2 x 100/1000 Based-TX or 2 x mini-GbE
Subscriber Interface	• 48 ports ADSL2+/POTS/ISDN (G.992.1.2.3.5)
System Configuration	• Multiple-session TELNET • Supports point-to-point VCC link • Software Remote upgrade
Alarm & Status Surveillance	• Automatic alarm / LED indication for alarm and system status • Maintenance signal for OAM functionality • 4 housekeeping inputs and 1 alarm contact closure outputs
Networking Management	• Memory back-up • Database export and import functionality • RS-232 serial and Ethernet 10/100 port for local management • NMS/EMS for Multiple Nodes Management based on SNMP (option)
Ethernet	• IEEE 802.1d Spanning tree protocol (STP) • IEEE 802.3ad Link aggregation • Security on console access
OSI Layer 2 Functionality	• MAC filtering and count limit • Access control list (ACL) • Multicasting Support • Broadcast control and broadcast rate limit • Port-based and 802.1p/q Tag-based virtual local area network (VLAN) • IGMP v1/v2/v3 snooping and Proxy • SNMP v1 and v2c • Remote Statistic (1, 2, 3, 9 groups)

Management Information Base (MIB)	<ul style="list-style-type: none"> <li>• FC 1213 SNMP MIB II</li> <li>• RFC 1493 Bridge MIB</li> <li>• RFC 1643 Ethernet MIB</li> <li>• RFC 2674 Q MIB</li> <li>• RFC 1757 RMON MIB, group 1,2,3,9</li> <li>• ADSL Line MIB</li> <li>• Versa Technology proprietary MIB</li> </ul>
Dimensions	<ul style="list-style-type: none"> <li>• 1.5U: 66mm x 482mm x 265mm (H x W x D) 48 Ports with splitter built-in</li> </ul>
Environmental	<ul style="list-style-type: none"> <li>• Operating Temperature: -10°C to 65°C</li> <li>• Operating Humidity: 5% to 95% non-condensing</li> </ul>
Power Requirements	<ul style="list-style-type: none"> <li>• Input: AC 100 VAC to 240 VAC</li> <li>• Input: -48 V DC (-42 V to -56 V) (optional)</li> <li>• Dual A+B -48 V DC power input terminal (optional)</li> </ul>
Certification	<ul style="list-style-type: none"> <li>• FCC-Class A</li> <li>• ITU-T K.20</li> <li>• ETSI 300-019, 300-386</li> <li>• EN 60950</li> <li>• Conform to CE requirement</li> <li>• RoHS Compliant</li> </ul>

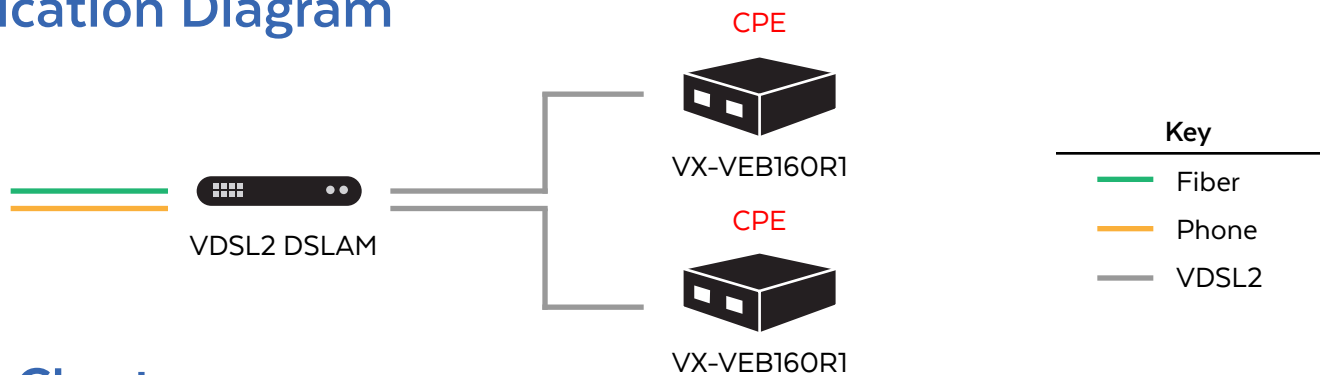
## VX-VEB160R1 Ethernet over VDSL2 Converter



Versa Technology's VX-VEB160R1 is a VDSL2 to Ethernet Bridge that can operate as a point-to-point Ethernet extender.

- **VDSL Standard:** ITU-T G.993.2
- **VDSL Profile:** 17a, 30a
- **Max. Speed:** Up to D 100 / U 100 Mbps
- **Max. Distance:** Up to 1400M

## Application Diagram



## Spec Chart

4-Position DIP Switch	<ul style="list-style-type: none"> <li>• Selectable CO or CPE mode</li> <li>• Selectable 30a or 17a (VDSL2 Profile)</li> <li>• Selectable Band plan (Symmetric or Asymmetric)</li> <li>• Selectable target SNR margin (9dB or 6dB)</li> </ul>
LAN Interface	<ul style="list-style-type: none"> <li>• RJ-45 connector</li> <li>• Complying with IEEE 802.3 / 802.3u / 802.3x</li> <li>• 10/100 Base-T Auto-Negotiation, Auto-MDI / MDI-X</li> </ul>
LED	<ul style="list-style-type: none"> <li>• LAN: ACT / LNK, 10/100Mbps, Half / Full Duplex</li> <li>• VDSL: Power On / Off, CO / CPE, Idle / Trained / Link</li> </ul>
VDSL Interface	<ul style="list-style-type: none"> <li>• RJ-45 connector</li> <li>• DMT Encoding</li> <li>• Complying with ITU-T G993.1 / 993.2 / G.997.1</li> <li>• On-board surge protection</li> </ul>
Power Supply	<ul style="list-style-type: none"> <li>• Option 1: 5 -20 VDC over terminal block (External Power Adaptor not included)</li> <li>• Option 2: 12 VDC over 2.1mm DC Jack (External Power Adaptor included)</li> <li>• Power Consumption: 4.2 Watts maximum</li> </ul>
Dimension	• 73.4mm x 96.2mm x 22.8mm
Operating Temperature	• -20°C ~ 65°C
Humidity	• 0% ~ 95% RH (non-condensing)
Regulatory Compliance	<ul style="list-style-type: none"> <li>• CE</li> <li>• FCC Part 15 Class A</li> <li>• EN60950</li> </ul>

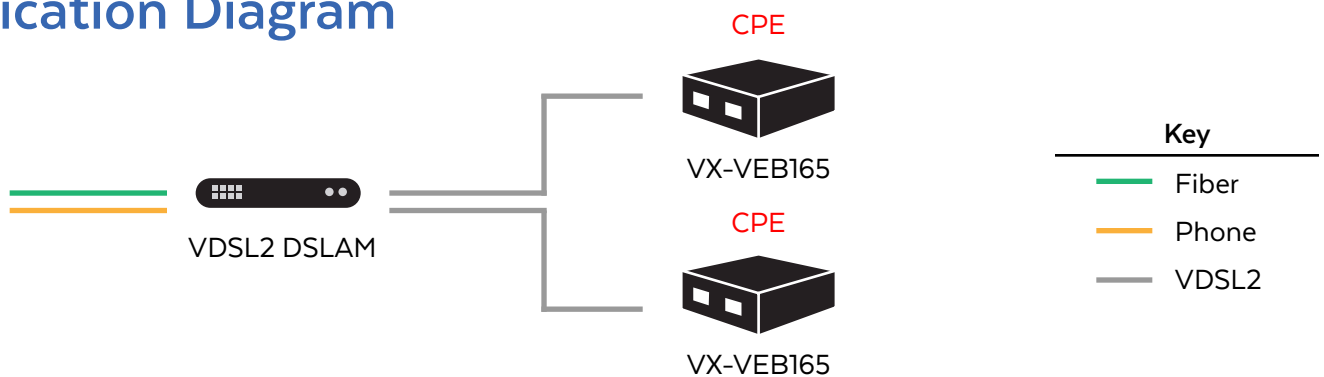


### VX-VEB165 Long Reach IP VDSL2 Modem (30a)

Versa Technology’s VDSL2 solution powers true broadband access at Ethernet speeds while maximizing coverage over the existing copper infrastructure.

- **VDSL Standard:** ITU-T G.993.1 VDSL2
- **VDSL Profile:** 12a / 17a / 30a
- **Max. Speed:** Up to 300m at 100Mbps / Up to 1Km at 40Mbps
- **Max. Distance:** 1500m

### Application Diagram



### Spec Chart

Link Rate	<ul style="list-style-type: none"> <li>• Up to 300m at 100Mbps/ up to 1Km at 40Mbps</li> <li>• Up to 2Km at 20Mbps /up to 3Km at 8Mbps</li> </ul>
Dimension	• 160mm(W) x 38mm(H) x 110mm(D)
Weight	• 1.5lbs/680g
Line Interface	<ul style="list-style-type: none"> <li>• Type: 2-wire, Cat 3-5, 19 AWG to 26 AWG CPEV, T1V</li> <li>• Connector: RJ-11</li> <li>• Line Coding: QAM-based</li> </ul>
LAN Interface	<ul style="list-style-type: none"> <li>• Type: IEEE802.3 standard compliant 10/100Base-TX</li> <li>• Connector: RJ-45</li> <li>• Auto-negotiation: Always ON</li> </ul>
LED	• PWR, LINE, DATA, LAN
OAM	<ul style="list-style-type: none"> <li>• LOF, LOS, LPR, etc. Remote loopback</li> <li>• Remote software downloaded</li> </ul>
Power	<ul style="list-style-type: none"> <li>• DC 5V / 2A</li> <li>• 100-220VAC, 50-60Hz</li> <li>• Surge protection (1st Fuse &amp; Inrush limiting)</li> </ul>
Environment	<ul style="list-style-type: none"> <li>• Operating Temperature: 0°C ~ 40°C</li> <li>• Temperature Storage -5°C ~ 45°C</li> <li>• Operating Humidity: 20% ~ 80%</li> <li>• Humidity Storage 5% ~ 95%</li> </ul>

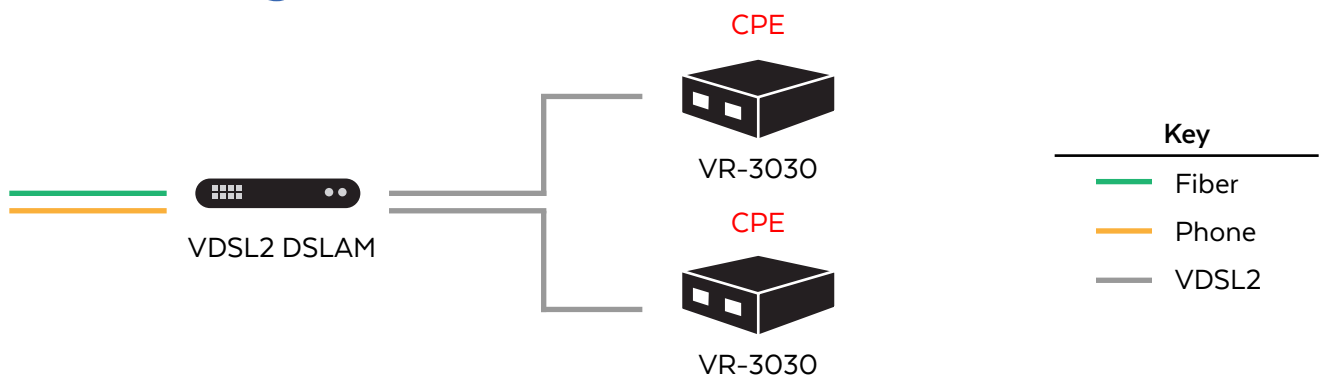
## VR-3030 VDSL2 Router / Modem (17a)



The VR-3030 Multi-DSL Router provides wired access for high-bandwidth applications in the home or office.

- Support for G.inp, G.vector and PhyR
- Comply with ITU-T G.992.5, ITU-T G.992.3, ITU-T G.992.1, ANSI T1.413 Issue 2, AnnexM
- Comply with G.993.2 (supporting profile 8a, 8b, 8c, 8d, 12a, 12b, 17a)
- RJ-11 x1 for ADSL2+/VDSL2
- RJ-45 x 1 for LAN, (10/100 BaseT auto-sense)

## Application Diagram



## Spec Chart

Hardware	<ul style="list-style-type: none"> <li>• RJ-11 x 1 for ADSL2+ / VDSL2</li> <li>• RJ-45 x 1 for LAN, (10/100 Base-T auto-sense)</li> <li>• Reset Button x 1</li> <li>• Power Switch x 1</li> </ul>
WAN/LAN	<ul style="list-style-type: none"> <li>• Support for G.inp, G.vector and PhyR</li> <li>• Comply with ITU-T G.992.5, ITU-T G.992.3, ITU-T G.992.1</li> <li>• ANSI T1.413 Issue 2, AnnexM</li> <li>• G.992.5 (ADSL2+) Downstream: 24 Mbps Upstream: 1.3 Mbps</li> <li>• G.992.3 (ADSL2) Downstream: 12 Mbps Upstream: 1.3 Mbps</li> <li>• G.DMT Downstream: 8Mbps Upstream: 832Kbps</li> <li>• Comply with G.993.2 (supporting profile 8a, 8b, 8c, 8d, 12a, 12b, 17a)</li> <li>• IEEE 802.3, IEEE 802.3u; Support MDI/MDX</li> <li>• IEEE 802.3, IEEE 802.3u</li> <li>• Support MDI/MDX</li> <li>• Multiple Subnets on LAN</li> </ul>
ATM Attributes	<ul style="list-style-type: none"> <li>• EFC 2364 (PPPoA); EFC 2684 (RFC 1483) Bridge / Router</li> <li>• RFC 2516 (PPPoE); RFC 1577 (IPoA)</li> <li>• Support up to 16 PVCs; AAL5: UBR/CBR/VBR-rt/VBR-nrt</li> <li>• UNI 3.1/4.0; OAM F4/F5</li> </ul>

ATM Attributes	<ul style="list-style-type: none"> <li>• EFC 2364 (PPPoA); EFC 2684 (RFC 1483) Bridge / Router</li> <li>• RFC 2516 (PPPoE); RFC 1577 (IPoA)</li> <li>• Support up to 16 PVCs; AAL5: UBR/CBR/VBR-rt/VBR-nrt</li> <li>• UNI 3.1/4.0; OAM F4/F5</li> </ul>
PTM Attributes	<ul style="list-style-type: none"> <li>• Dual Latency</li> </ul>
Management	<ul style="list-style-type: none"> <li>• TR-069/TR-098/TR-104/TR-111, SNMP, Telnet, Web-based management, Configuration backup and restoration</li> <li>• Software upgrade via HTTP, TFTP server, or FTP server</li> </ul>
Security Functions	<ul style="list-style-type: none"> <li>• PAP, CHAP, Packet and MAC address filtering, SSH</li> <li>• VPN termination</li> <li>• Three level login including local admin, local user and remote technical support access</li> </ul>
Dimensions (W x H x D)	171 x 38 x 120 mm
Networking Protocols	<ul style="list-style-type: none"> <li>• RFC2684 VC-MUX, LLC/SNAP encapsulations for bridged or routed packet; RFC2364 PPP over AAL5; IPoA, PPPoA, PPPoE, Multiple PP-PoE sessions on single PVC, PPPoE pass-through, PPPoE filtering of on-PPPoE packets between WAN and LAN.</li> <li>• Transparent bridging between all LAN and WAN interfaces</li> <li>• 802.1p/802.1q VLAN support; Spanning Tree Algorithm</li> <li>• IGMP Proxy V1/V2/V3, IGMP Snooping V1/V2/V3, Fast leave</li> <li>• Static route, RIP v1/v2, ARP, RARP, SNTP</li> <li>• DHCP Server/Client/Relay, DNS Relay, Dynamic DNS</li> <li>• IPv6 subset</li> </ul>
QoS	<ul style="list-style-type: none"> <li>• Packet level QoS classification rules, priority queuing using ATM TX queues, IP TOS/Precedence, 802.1p marking, DiffServ DSCP marking, Src/dest MAC addresses classification.</li> </ul>
Firewall / Filtering	<ul style="list-style-type: none"> <li>• Stateful Inspection Firewall; Stateless Packet Filter; Day-time Parental Control; URI/URL filtering; Denial of Service (DOS): ARP attacks, Ping attacks, Ping of Death, LAND,SYN, Smurf, Unreachable, Teardrop; TCP/IP/Port/interface filtering rules Support both incoming and outgoing filtering</li> </ul>
NAT / NAPT	<ul style="list-style-type: none"> <li>• Support Port Triggering and Port forwarding</li> <li>• Symmetric port-overloading NAT, Full-Cone NAT</li> <li>• Dynamic NAPT (NAPT N-to-1)</li> <li>• Support DMZ host</li> <li>• Virtual Server</li> <li>• VPN Passthrough (PPTP, L2TP, IPSec)</li> </ul>
Application Layer Gateway (ALG)	<ul style="list-style-type: none"> <li>• SIP, H.323, Gmail Chat, ICQ, RealPlayer, Net2Phone, NetMeeting, MSN, X-box, Microsoft DirectX games, etc.</li> </ul>
Environment Condition	<ul style="list-style-type: none"> <li>• Operating Temperature: 0 to 40°C</li> <li>• Relative Humidity: 5% to 95% (non-condensing)</li> </ul>
Kit Components	<ul style="list-style-type: none"> <li>• 1*VR-3030, 1*RJ11 cable, 1*RJ45 cable, 1*power adapter, 1*CD-ROM = 1 kg; Power 100 VAC -240 VAC, 12VDC/1.0A</li> </ul>

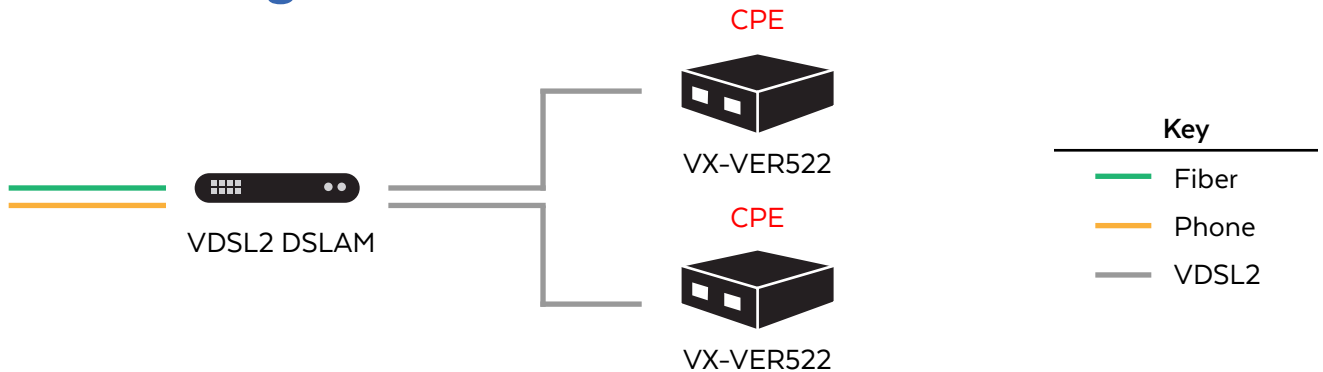


## VX-VER522 VDSL2 w/ADSL2+ fallback 802.11n Wireless Router (17a)

Versa Technology's VDSL2 with ADSL2+ fall back 802.11n router has integrated wireless 802.11n draft 2.0 technology, making it possible to provide high-speed wireless data rates of up to 300mbps and superior wireless coverage.

- ITU-T G.992.5 (ADSL2+), supporting Annex A or B, Annex L and Annex M
- ITU-T G.993.2(G.vdsl2) (Profile 8a, 8b, 8c, 8d, 12a,12b and 17a)
- Support Band Plan 997 and 998 and 3/4/5/6 band
- Data Transmission Rate: Up to US 50/DS 100 Mbps
- Rate Adaptive at 32 Kbps steps
- Interoperable with all major DSLAM equipments
- Complies with IEEE 802.11n, 802.11g and 802.11b
- 11n: Up to 300Mbps (dynamic)

## Application Diagram



## Spec Chart

Ports	<ul style="list-style-type: none"> <li>• 1 DSL line port (RJ11)</li> <li>• IEEE 802.3u</li> <li>• 1 Gigabit LAN port (RJ45) (MDI/MDIX)</li> <li>• 3 10/100M LAN ports (RJ45)(MDI/MDIX)</li> </ul>
LED Indicators	<ul style="list-style-type: none"> <li>• PWR, LINE 1-4, WLAN, DSL, INET</li> </ul>
QoS	<ul style="list-style-type: none"> <li>• Classification Rules</li> <li>• Priority Queuing</li> <li>• 802.1p</li> </ul>
Management Support	<ul style="list-style-type: none"> <li>• Web Based GUI</li> <li>• Upgrade or update via FTP/HTTP</li> <li>• Command Line Interface via serial interface or Telnet</li> <li>• Diagnostic Test</li> <li>• Firmware upgrade-able for future feature enhancement</li> <li>• Supports Remote Access Control</li> </ul>

Security Support	<ul style="list-style-type: none"> <li>• PAP/CHAP Authentication for PPP mode</li> <li>• NAT for basic Firewall support</li> <li>• State Packet Inspection (SPI) for Firewall with denial-of-service (DoS) protection</li> <li>• ALG (Application-level gateway) for NAT/PAT support</li> <li>• 2 Level (User/Admin) Password Authentication to Router</li> <li>• IP Filtering</li> <li>• MAC Filtering</li> <li>• Parental control</li> </ul>
Data Transmission Rate	<ul style="list-style-type: none"> <li>• Upstream: Up to 50Mbps</li> <li>• Downstream: Up to 100Mbps</li> <li>• Rate Adaptive at 32Kbps steps</li> <li>• Interoperable with all major DSLAM equipment</li> </ul>
VDSL & ADSL Features	<ul style="list-style-type: none"> <li>• Full-rate ANSI T1.413 issue 2</li> <li>• ITU-T G.992.1 (G.dmt), supporting Annex A or B</li> <li>• ITU -TG.992.2 (G.lite), supporting Annex A or B</li> <li>• ITU-T G.992.3 (G. dmt.bis), supporting Annex A or B, Annex L and Annex M</li> <li>• ITU-T G.992.4 (G.lite.bis), supporting Annex A or B</li> <li>• ITU-T G.992.5 (ADSL2+), supporting Annex A or B, Annex L and Annex M</li> <li>• ITU-T G.993.2 (G.vdsl2) (Profile 8a, 8b, 8c, 8d, 12a,12b and 17a)</li> <li>• ITU-T G.994.1 (G.hs) and G.993.1 VDSL</li> <li>• Support Band Plan 997 and 998 and 3/4/5/6 band</li> </ul>
Environment	<ul style="list-style-type: none"> <li>• Operating Temperature: 0 ~ 40°C</li> <li>• Storage Temperature: -30°C ~ 60°C</li> <li>• Operating Humidity: 10% ~ 90% non-condensing</li> <li>• Storage Humidity: 5% ~ 90% non-condensing</li> </ul>



## VX-VER170S ADSL2+ Modem to Ethernet Bridge/Router

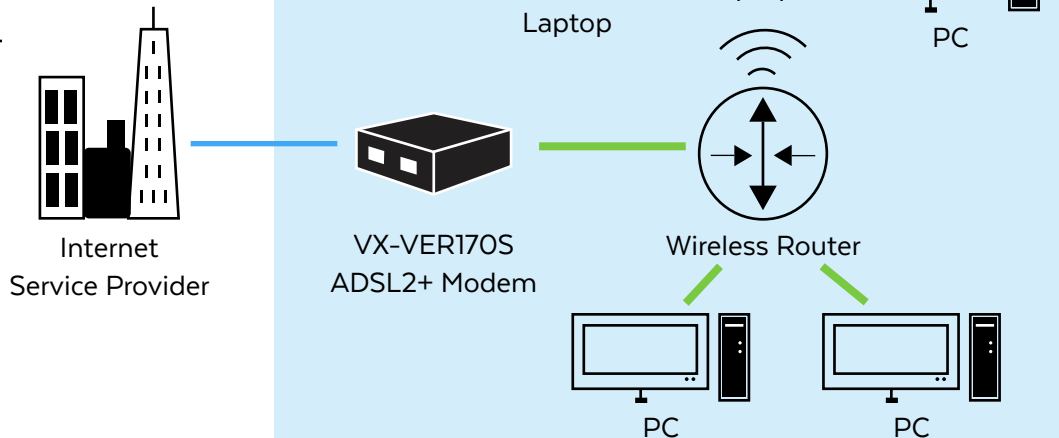
The VX -VER170S ADSL2+ bridge/router from Versa Technology provides advanced long Reach/Rate, and crosstalk-free technology.

- **Ethernet:** 110/100TX
- **Standard:** ADSL2/2+
- **Max. Speed:** Up to 24Mbps downstream and 3Mbps upstream
- **Operating Temp:** 0 to 50°C
- **Power Supply:** 5VDC 2A



## Application Diagram

- Key**
- Phone Line (ADSL Signal)
  - Ethernet (RJ45)
  - SOHO/ Home



## Spec Chart

Interfaces	<ul style="list-style-type: none"> <li>• Line Interface: RJ-11</li> <li>• LAN Interface: RJ-45 Auto-negotiate/MDIX</li> <li>• Industry standard line-coding</li> </ul>
Performance	<ul style="list-style-type: none"> <li>• Data Rate: <ul style="list-style-type: none"> <li>- 12.0 /24.0Mbps up to 8K ft (proprietary)</li> <li>- 8.0Mbps up to 8K ft (industry)</li> <li>- 640Kbps up to 18.0K ft</li> <li>- 64Kbps up to 20.0K ft</li> </ul> </li> <li>• Distance: <ul style="list-style-type: none"> <li>- 0ft. ~ 20K ft; 0Km ~ 6.5Km</li> </ul> </li> </ul>
LED Display	<ul style="list-style-type: none"> <li>• Power Indicator</li> <li>• 10/100Mbps Link Status/Activity</li> <li>• 10/100Mbps Full-duplex/Collision</li> <li>• ADSL2+ Link status</li> <li>• ADSL2+/ADSL Activity</li> </ul>
System	<ul style="list-style-type: none"> <li>• Power Consumption: 5.0W Max.</li> <li>• Dimension: 6.25"W x 4.13"D x 1.13"H</li> <li>• Temperature: 0 to 50°C</li> <li>• Humidity: 5% to 95% non-condensing</li> </ul>

# Ethernet Extenders

Versa Technology's Ethernet Extender kits help network administrators extend a network beyond Ethernet's standard 100 meter limitation via an RJ11 line. Ethernet Extenders allow network administrators to establish high-speed network links between distant locations such as enterprises, campuses, and other localities. Our Ethernet Extender Kits devices can easily extend a network up to at least 6,000 meters. These units support high-speed connections without additional copper wiring. Versa Technology offers Ethernet Extender units for every networking environment.

Click on a model number to go to that page.

## Kits:

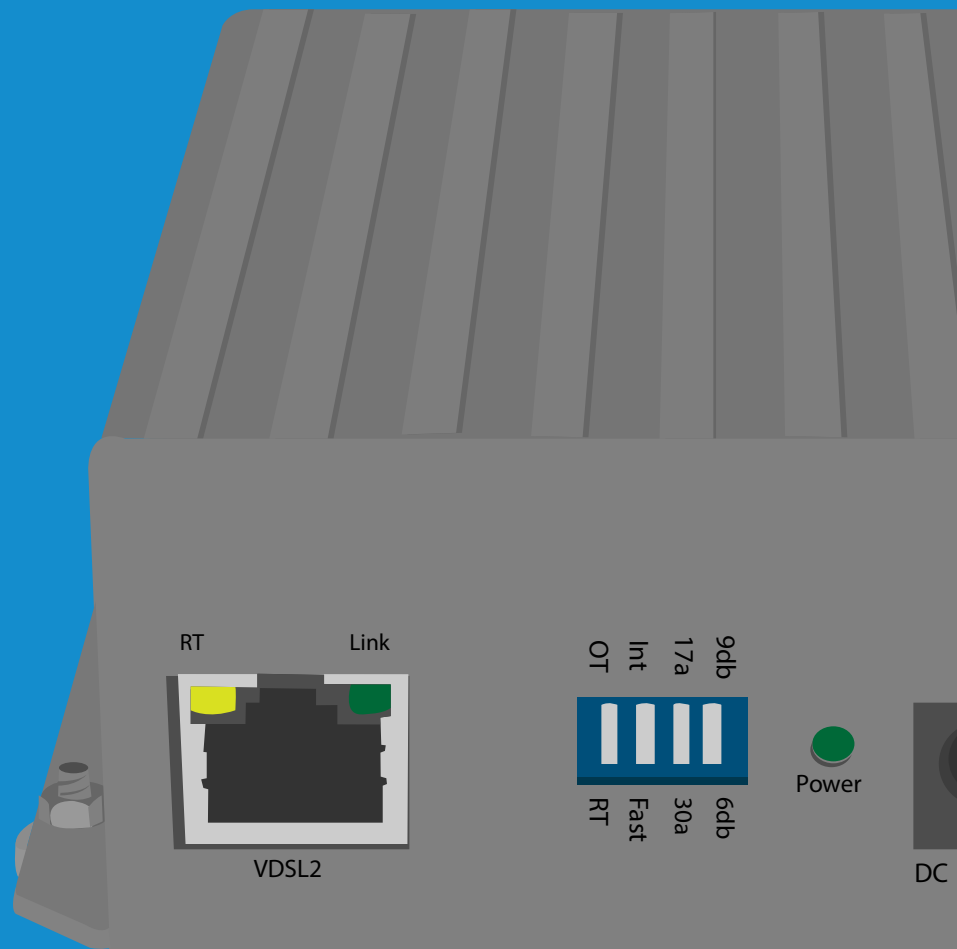
- VX-160 Series
- VX-5640N
- VX-VEB160G4 (V2)
- VX-EL600

## PoE Extenders:

- VX-160COAX

## Surge Protection:

- VX-LPRJ11
- VX-LPRJ45E
- VX-LPRJ45P



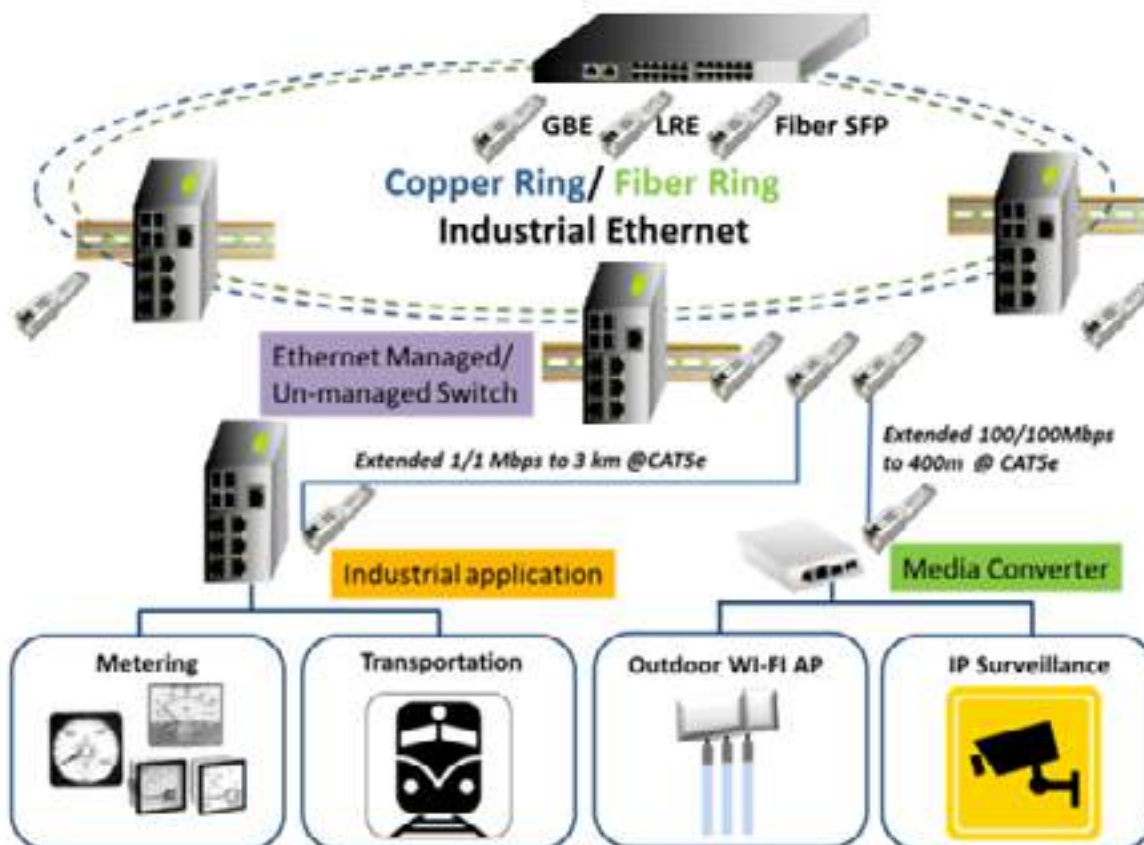
### VX-160 Series VDSL2 SFP Modems (CO & CPE)



Versa Technology's VX-160 Series is an MSA compliant SFP modem that allows traditional Ethernet switches, media converters and other network appliances to connect beyond typical Ethernet coverage (100 meters) over UTP by incorporating VDSL2 technology.

- VX-160KIT (Both CPE & CO Modules)
- VX-160CPE (Only CPE Module)
- VX-160CO (Only CO Module)

## Application Diagram



## Spec Chart

VDSL2 Profiles	• 8a, 8b, 8c, 8d, 12a, 12b, 17a, 30a
Data Rate (VDSL2)	• Up to 100 Mbps upstream / 100 Mbps downstream
Annex (VDSL2)	• A/B/C
Parameter	• 997.0 Compliant
Configurability	• Implement the system setting via the EBM Program

Annex (ADSL2+)	• A/ B/ M
Data Rate (ADSL2+)	• Up to 24Mbps
Modes	• PTM & ATM (AAL5 and OAM cell's)
PVC	• Up to 8 PVCs
VC	• Up to 65k VCs
G.inp	• Supports G.inp described by ITU
G.vector	• Supports all CPE features of G.vector
ROC	• Supports Robust Overhead Channel
Dual Latency	• Supported
OLR	• Supports bit swapping, SRA, SoS and dynamic Interleaver depth (D) change
USO	• Supported
PBO	• Both UPBO and DPBO supported
Booting	• Serial Flash
QoS	• Flexible packet sorting based on Ether Type, VLAN ID or VLAN priority (supports QinQ).
Hardware	<ul style="list-style-type: none"> <li>• RJ-45 female connector (Fully compatible with RJ-11 male connector)</li> <li>• SGMII/SERDES connect to host</li> <li>• LED 1 (Remain Undefined)</li> <li>• LED 2 (PWR/Link Status Indicator)</li> </ul>
Software	<ul style="list-style-type: none"> <li>• Self Boot &amp; Managed by Internal Flash</li> <li>• Support Ethernet Boot &amp; Management</li> </ul>
Power Requirements	• 2.1 W
Power Supply	• 3.3 V
Certification	• CE / FCC
Operating Temperature	• -20 to 75°C (SFP Cage)
Storage Temperature	• -20 to 85°C
Operating Humidity	• 10% to 90% (non-condensed)
Storage Humidity	• 5% to 95% (non-condensed)
Surge Protection	• 2kV

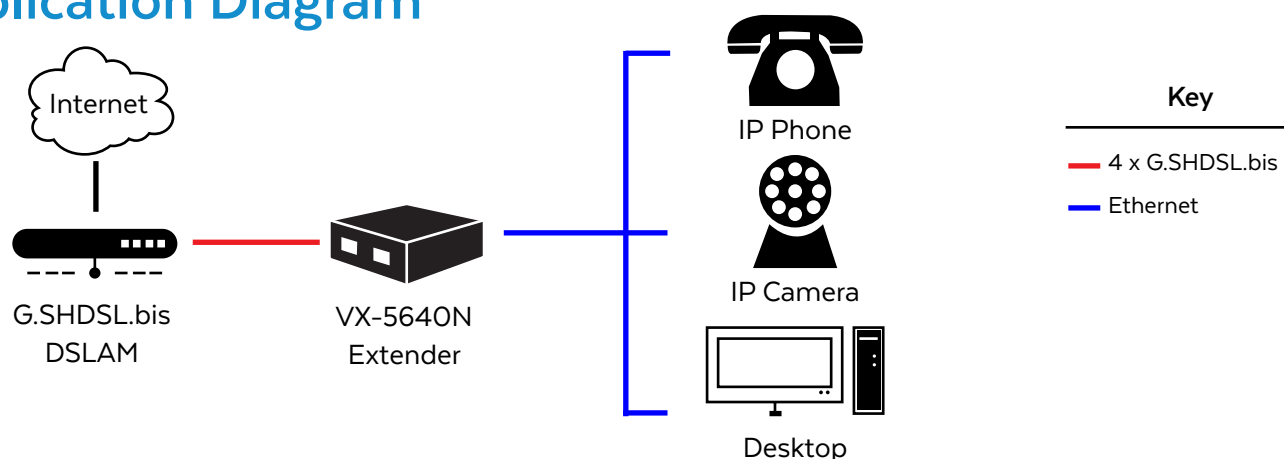
## VX-5640N 4-Pair 2BASE-TL EFM Network Extender Kit



The VX-5640N Ethernet Extender kit is a bridge mode modem that delivers Ethernet services with symmetrical bandwidth at rates up to 15.3 Mbps/Pair (TC-PAM 128).

- **Interface:** 4 x 10/100/1000Base-TX LAN, 1 WAN, 1 Mgmt, 1 Console
- **Speed Symmetrical:** Up to 61.2Mbps
- **Power Supply:** 100-240VAC, 50-60Hz
- **Power:** 12VDC
- **Operating Temperature:** -20°C to 40°C
- **Standard:** SHDSL
- **Distance:** Up to 34K (10.4Km)

## Application Diagram



## Spec Chart

LAN	<ul style="list-style-type: none"> <li>• 4- Port switching hub</li> <li>• 10/100BASE-T auto-negotiation &amp; sensing</li> <li>• Auto MDI/MDI-X</li> </ul>
WAN	<ul style="list-style-type: none"> <li>• ITU-T G.991.2.(2004)</li> <li>• 2BASE-TL</li> <li>• EFM bonding (IEEE 802.3ah PAF)</li> <li>• Data Rate: <ul style="list-style-type: none"> <li>N x 64 Kpbs (N=3-89) using TC-PAM 16/32 <ul style="list-style-type: none"> <li>- Max. 5.696Mbps (1-Pair)</li> <li>- Max. 11.392Mbps (2-Pair)</li> <li>- Max. 22.784Mbps (4-Pair)</li> </ul> </li> <li>N x 64 Kbps (N=3-213) using TC-PAM 64/128 <ul style="list-style-type: none"> <li>- Max. 15.296 Mbps (1-Pair)</li> <li>- Max. 30.592 Mbps (2-Pair)</li> <li>- Max. 61.184 Mbps (4-Pair)</li> </ul> </li> </ul> </li> <li>• Support of Annex A , Annex B , Annex AF &amp; Annex BG</li> <li>• Support TC-PAM 16/32/64/128</li> <li>• Impedance: 135 ohms</li> </ul>

LAN Protocols	<ul style="list-style-type: none"> <li>• 802.1d Transparent Bridging</li> <li>• Up to 2K MAC Address learning bridge</li> </ul>
WAN (DSL) Interface	<ul style="list-style-type: none"> <li>• 1 x RJ-45</li> </ul>
LAN Interface	<ul style="list-style-type: none"> <li>• 4 x RJ-45</li> </ul>
Management Interface	<ul style="list-style-type: none"> <li>• 1 x RJ-45</li> </ul>
Console Port	<ul style="list-style-type: none"> <li>• 1 x RJ-45</li> </ul>
Reset Button	<ul style="list-style-type: none"> <li>• Load Factory Default</li> </ul>
DC Power Jack	<ul style="list-style-type: none"> <li>• 1</li> </ul>
LAN Indicator	<ul style="list-style-type: none"> <li>• Link/Act, 10/100 per port</li> </ul>
WAN Indicator	<ul style="list-style-type: none"> <li>• Link per loop</li> </ul>
System Indicator	<ul style="list-style-type: none"> <li>• Power, Alarm, MGMT</li> </ul>
Management Interface Features	<ul style="list-style-type: none"> <li>• Easy to use web-based GUI for quick setup, configuration and management</li> <li>• Menu-driven interface/Command line interface (CLI ) for local console and telnet access</li> <li>• Password protected management and access control list for administration</li> <li>• SNMP v1/v2 (RFC1157/1901/1905) agent and MIB II (RFC1213/1493)</li> <li>• EFM OAM (IEEE 802.3ah)</li> <li>• Software upgrade via web-browser/TFTP</li> </ul>
ATM Mode	<ul style="list-style-type: none"> <li>• Framing ATM, 64B/65B</li> <li>• 1 PVC</li> <li>• AAL5</li> <li>• VC multiplexing and SNAP/LLC</li> <li>• Ethernet over ATM (RFC 2684/1483)</li> </ul>
VLAN Support	<ul style="list-style-type: none"> <li>• IEEE 802.1q VLAN Tagging</li> <li>• Port Based VLAN</li> <li>• Up to 8 802.1q VLANs (ID Range 1 ~ 4094)</li> <li>• VLAN Stacking (Q-in-Q)</li> </ul>
QoS Support	<ul style="list-style-type: none"> <li>• Rate limiting by rule-based/port-based</li> <li>• Traffic classification based on port/802.1p/ DSCP</li> <li>• WRR (Weighted Round Robin)/ SPQ (Strict Priority Queuing) scheduling algorithm</li> </ul>
Operating Temperature	<ul style="list-style-type: none"> <li>• -20 to 40°C</li> </ul>
Storage Temperature	<ul style="list-style-type: none"> <li>• -20 to 85°C</li> </ul>
Relative Humidity	<ul style="list-style-type: none"> <li>• 98%, non-condensing</li> </ul>
Regulations	<ul style="list-style-type: none"> <li>• ISO 9001 Quality Management</li> <li>• CE Approval &amp; EN60950 Certificate</li> <li>• FCC Part 15 Subpart B</li> </ul>
Dimension	<ul style="list-style-type: none"> <li>• 195 x 48 x 168 mm</li> </ul>
AC Power Adapter	<ul style="list-style-type: none"> <li>• 100~240VAC with 50~60Hz</li> </ul>
Weight	<ul style="list-style-type: none"> <li>• 5610N: 1300g</li> <li>• 5620N: 1320g</li> <li>• 5640N :1340g</li> </ul>
Memory	<ul style="list-style-type: none"> <li>• 2MB Flash Memory , 16MB SDRAM</li> </ul>

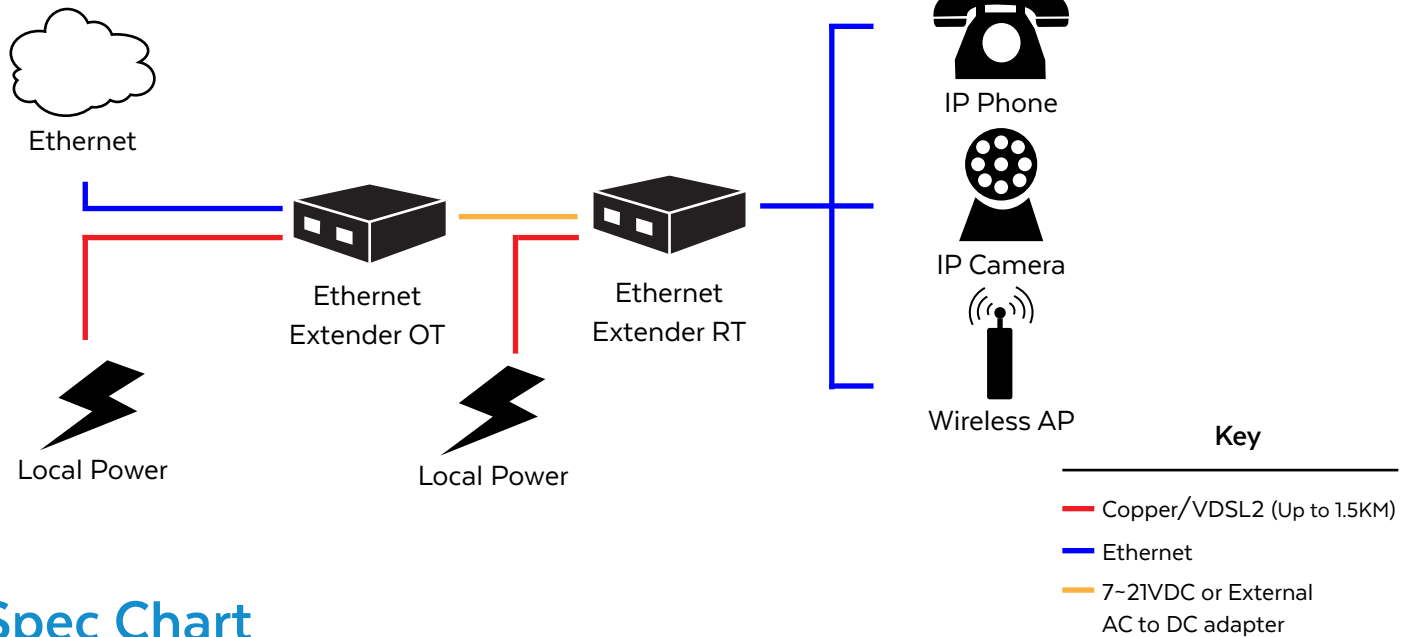
## VX-VEB160G4(V2) 300Mbps Ethernet Extender Kit



Versa Technology's VX-VEB160G4 (V2) is the fastest Copper Ethernet Extender available on the market. The second generation Ethernet Extender can achieve up to 300Mbps and withstand harsh environments.

- Interface: 4 x 10/100/1000Base-T, 1 x VDSL2
- Speed DS / US: Up to 190Mbps / Up to 110Mbps
- Power Supply: 12VDC over 2.1mm DC Jack
- Power Consumption: 4.5 Watts Max.
- Operating Temperature: -40°C to 75°C
- Standard: IEEE 802.3 compliant
- Distance: Up to 9,000 ft.

## Application Diagram



## Spec Chart

VDSL Interface	<ul style="list-style-type: none"> <li>• RJ-45</li> <li>• DMT Encoding</li> <li>• Complying with ITU-T G993.1 / 993.2 / G.997.1</li> <li>• On-board surge protection</li> </ul>
LAN Interface	<ul style="list-style-type: none"> <li>• 4 x RJ-45 connectors</li> <li>• 10/100/1000 Base-T; Auto-Negotiation, Auto-MDI MDI-X</li> <li>• Complying with IEEE 802.3 / 802.3u / 802.3z</li> </ul>
4-Position DIP Switch	<ul style="list-style-type: none"> <li>• Selectable CO or CPE mode</li> <li>• Selectable Fast or interleave mode</li> <li>• Selectable 30a or 17a (VDSL2 Profile)                             <ul style="list-style-type: none"> <li>- Profile 30a: High Throughput Mode</li> <li>- Profile 17a: Long Reach Mode</li> </ul> </li> <li>• Selectable target SNR margin (6dB or 9dB)</li> </ul>

LED	<ul style="list-style-type: none"> <li>• Power: On (Green)/Off</li> <li>• LAN: Fast Ethernet (Green)/Gigabit Ethernet (Orange)</li> <li>• VDSL2: Mode - CO/CPE (Orange)</li> <li>• VDSL2: Sync - Idle/Trained/Link (slow blink/fast blink/solid)</li> </ul>
Power Supply	<ul style="list-style-type: none"> <li>• Option 1: 7-21 VDC over terminal block - (External Power Adaptor is not included)</li> <li>• Option 2: 12 VDC over 2.1mm DC Jack - (External Power Adaptor included)</li> <li>• Power Consumption: 4.5 Watts maximum</li> </ul>
Operating Temperature	• -40° to 75°C
Dimension	• 90.5 x 40 x 117 mm
Humidity	• 0% to 95% RH (non-condensing)
Installation	• Wall mounting or magnet kit (optional)
Regulatory Compliance	<ul style="list-style-type: none"> <li>• CE</li> <li>• FCC Part 15 Class A</li> <li>• EN60950</li> </ul>

**Kits Includes:** 2 VX-VEB160G4 (V2) units and each unit contains 1 RJ11phone cable, 1 RJ-45 Ethernet cable, 1 splitter/filter, 1 12V 1A (output) power supply, and 1 quick installation guide

*\*The VX-VEB160G4 (V2) is backwards compatible with the previous model of the VX-VEB160G4.*



## VX-EL600 Stormport 400 Ethernet Extender Kit

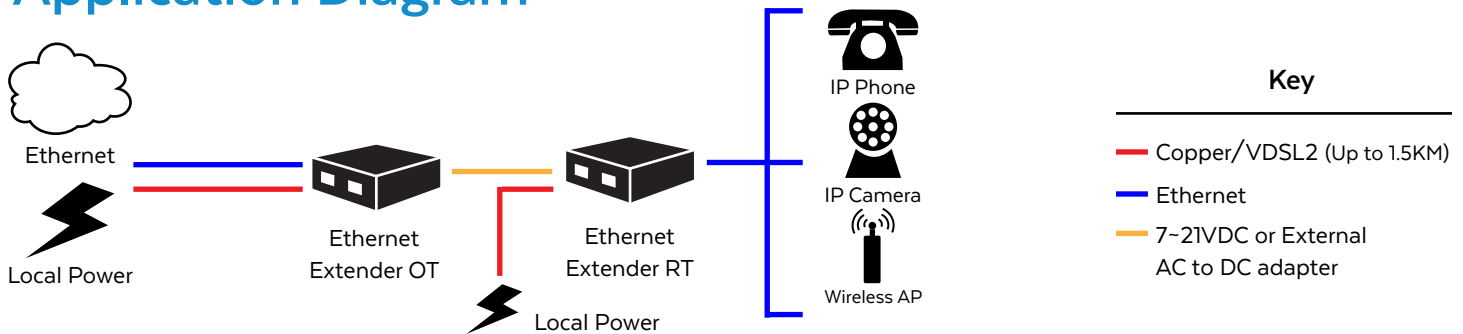


The VX-EL600 CPE modem features EtherLoop™ technology. This unit offers superior high speed connection for communications and voice.

- **Interface:** 1 x RJ-45 10Mb Half duplex, 1 x RJ-11 long reach Ethernet, 1 x RJ-11 Analog voice splitter
- **Power Supply:** 110-120VAC
- **Power Consumption:** 6 watts
- **Operating Temp:** 5 to 40C
- **Standard:** IEEE 802.3 compliant
- **Distance:** Up to 16,000ft

*\*KIT INCLUDES: -Two VX-EL600 Ethernet Extenders (both CO & CPE units), two RJ-11 phone cables, two power adapters, two splitters, & two RJ45 Ethernet cables.*

## Application Diagram



## Spec Chart

Transmission Speed	<ul style="list-style-type: none"> <li>• Maximum data transmission rate of 4 Mbps upstream or downstream</li> <li>• Extended reach to 21,000ft. and beyond, 26 AWG cable</li> <li>• Dynamically maximizes data rate based on available bandwidth, loop conditions, service interactions, loop length</li> </ul>
Operating Temperature	• 5° to 40°C (41° to 104°F)
Relative Humidity	• 1% to 90%
Power	<ul style="list-style-type: none"> <li>• Wall mount power adapter: USA 110-120VAC, 50/60 Hz</li> <li>• 6 watts</li> </ul>
Physical Dimensions (H x W x D) & Weight	<ul style="list-style-type: none"> <li>• 2.375 x 7.75 x 10 in. (6.03 x 19.69 x 25.4 cm)</li> <li>• 1 lbs. (0.45 kg)</li> </ul>
Connection Ports	<ul style="list-style-type: none"> <li>• Line connection: Standard RJ-11 jack, 2 lines</li> <li>• Phone connection: Standard RJ-11 jack, 2 lines, 1st filtered, 2nd pass-through</li> <li>• 10/Base-T Ethernet RJ-45</li> </ul>
Data Transmission Protocols	• IEEE 802.3 Ethernet compliant
LED Indicators	<ul style="list-style-type: none"> <li>• Power</li> <li>• Data Transfer</li> </ul>
Spectral & Electrical Compliance	<ul style="list-style-type: none"> <li>• Electromagnetic Emissions: Per FCC Part 15 Class B</li> <li>• CE Mark</li> <li>• Safety - UL1950, CSA 22.2</li> <li>• T1.417 Spectrum management compliant</li> </ul>

## VX-160COAX Local Powered PoE Extender over Coaxial Kit

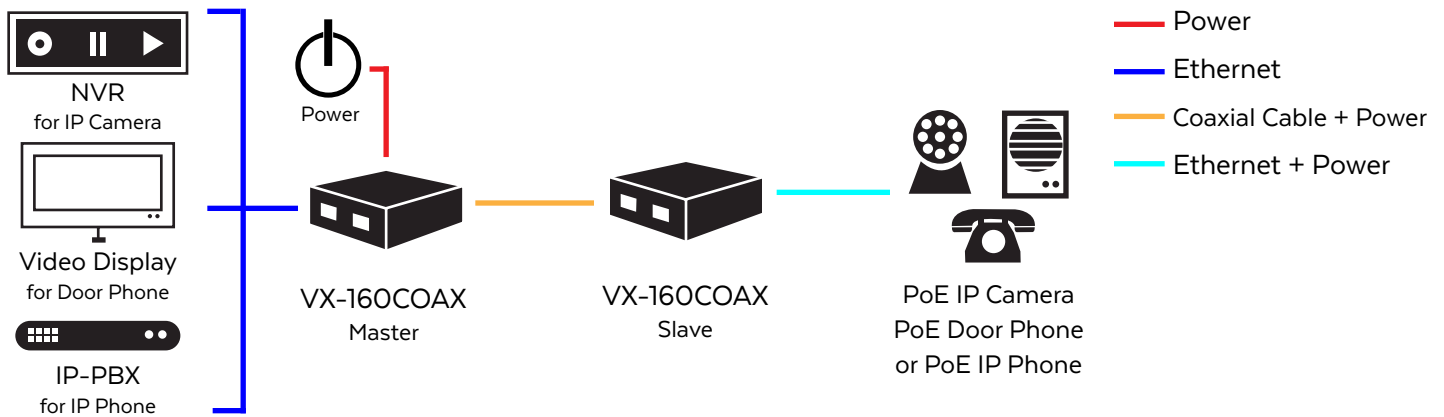
The VX-160COAX kit simultaneously transmits data and power to the remote slave unit through the coaxial cable.

- **Network Connector:** 10/100Mbps
- **Operating Temp:** 0 to 50°C
- **Type:** End-Span (CO)/ Mid-Span (Remote)
- **Standard:** 802.3af
- **Max. PoE Power Budget:** 15.4 watts
- **Distance:** Up to 4,500ft

**\*KIT INCLUDES:** 2 - VX-160COAX PoE Ethernet Extenders - Both CO & CPE Units, 2 - Power Adapters, 1 - One Year Manufacturer Warranty



## Application Diagram



## Spec Chart

Network Connector	10/100Mbps
Type	End-Span (CO) / Mid-Span (CPE)
Standard	802.3af
Max. PoE Power Budget	15.4 watts
Distance	Up to 4,500 ft.
Dimension	120 x 90 x 28 (mm)
Humidity	5% to 95% non-condensing
Operating Temperature	0° to 50°C
Regulatory Compliance	FCC Rules Part 15 Class A CE
Enclosure	Compact Metal Box
Input Power by	Master: Local high power Client: Coaxial Cable
Transmit Ether / PoE over (Master)	Coaxial Cable
Output via Cat5 Cable with (Client)	Ethernet / PoE-PSE



## VX-LPRJ11

### Telephone Surge Protection Device

Versa Technology's VX-LPRJ11 Telephone Surge Protection Device is based on the IEC61000-4-5-TK20 and ITU standard K21 & Design. This design is a multi-level protection circuit utilizing the latest high-speed surge protection devices.



## VX-LPRJ45E

### RJ-45 Ethernet Port Surge Protection Device

Versa Technology's new RJ-45 network signal Surge Protector is based on the IEC61000-4-5-TK20 and ITU standard K21 & Design. This design is a multi-level protection circuit utilizing the latest high-speed surge protection devices.



## VX-LPRJ45P

### RJ-45 Ethernet PoE Port Surge Protection Device

Versa Technology's new PoE Port Surge Protector is based on the IEC61000-4-5-TK20 and ITU standard K21 & Design. This unit is a multi-level protection circuit that is used in the latest high-speed surge protection devices. This unit features fast response, output residual depression, and superior transmission performance.

# Media Converters

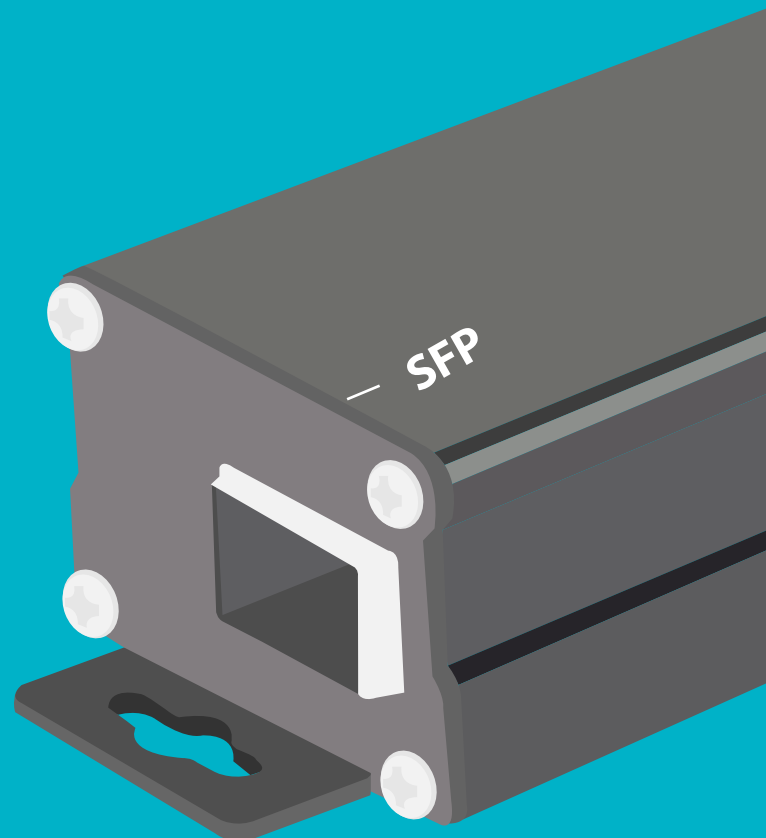
Versa Technology offers 100BaseFX and Fast Ethernet 10/100BaseTX media converters to connect different networks utilizing different mediums. These stand-alone converters allow network administrators to connect an Ethernet twisted-pair network to an optical-fiber network. These 10/100 Media Converters support a maximum distance of 2km in a Multimode fiber connection and up to 80km in a Single mode fiber connection. Versa Technology's media converters are fully compliant with IEEE 802.3 and 802.3u standards.

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Click on a model number to go to that page.

## Micro Media Converters:

- VX-200M-1212-2
- VX-200M-2222-20
- VX-200MT-X2
- VX-200MT-X3
- VX-200M-X3
- VX-R10



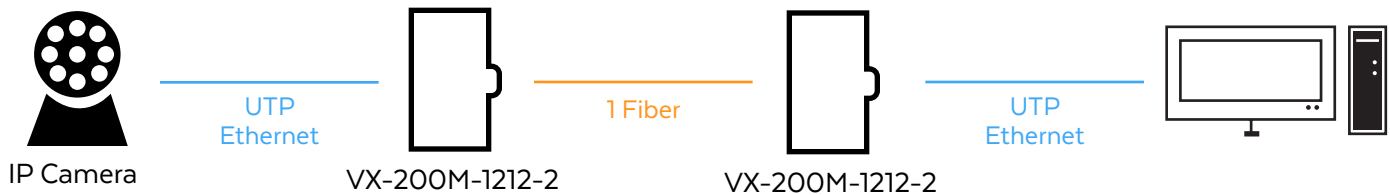


**VX-200M-1212-2 Industrial Micro 10/100Base-TX to 100Base-FX Ethernet Media Converter**

VX-200M-1212-2 is a micro media converter that supports multi-mode two SC type Fiber and meets EN55022.

- **Speed:** 100TX to 100FX
- **Mode:** Multi-Mode
- **Wavelength:** 1310nm
- **Distance:** 2km
- **Fiber Connection:** SC
- **Operating Temp:** -10 to 60°C
- AC to DC power adapter included

**Application Diagram**



**Spec Chart**

Standards	<ul style="list-style-type: none"> <li>• IEEE 802.3 10BASE-T</li> <li>• IEEE 802.3u 100BASE-TX / FX</li> <li>• IEEE 802.3x Flow Control</li> </ul>
Processing Type	<ul style="list-style-type: none"> <li>• Store and forward</li> <li>• Half-duplex, Full-duplex</li> </ul>
Forward Filter Rate	<ul style="list-style-type: none"> <li>• 14,880pps (10Mbps)</li> <li>• 148,800pps (100Mbps)</li> </ul>
Cabling	<ul style="list-style-type: none"> <li>• 10Base-T: Cat 5 or above</li> <li>• 100Base-TX: Cat 5 or above</li> </ul>
Max. Distance	<ul style="list-style-type: none"> <li>• Cat5 UTP up to 100m</li> </ul>
Connector	<ul style="list-style-type: none"> <li>• 1 x RJ-45</li> </ul>
Address Table Size	<ul style="list-style-type: none"> <li>• 2048 MAC Addresses</li> </ul>
Optical	<ul style="list-style-type: none"> <li>• Cabling: 62.5 / 125µm (Multimode)</li> <li>• Max. Distance: 2km (Multimode)</li> <li>• Wavelength: 1310nm</li> <li>• Connector: SC</li> </ul>
Input Power	<ul style="list-style-type: none"> <li>• 12VDC or 24VAC (terminal block)</li> </ul>
Power Consumption	<ul style="list-style-type: none"> <li>• 2.4W Max. 0.2A @ 12VDC</li> </ul>
LED Indicators	<ul style="list-style-type: none"> <li>• Power: Power Status</li> <li>• 10/100TX (Per Port): Link/Activity, Speed</li> <li>• 100FX (Per Port): Link Activity</li> </ul>

Dimensions (WxDxH)	• 36.2 x 98 x 24.5 mm
Weight	• 0.12kg (0.22kg with PA)
Casing	• Aluminum case
Mounting Option	• Wall-Mount / VX-R10 1U Rack
Temperature	• Operating: -10° to 60°C (14° to 140°F) • Storage: -40° to 85°C (40° to 185°F)
Humidity	• 5% to 95% non-condensing

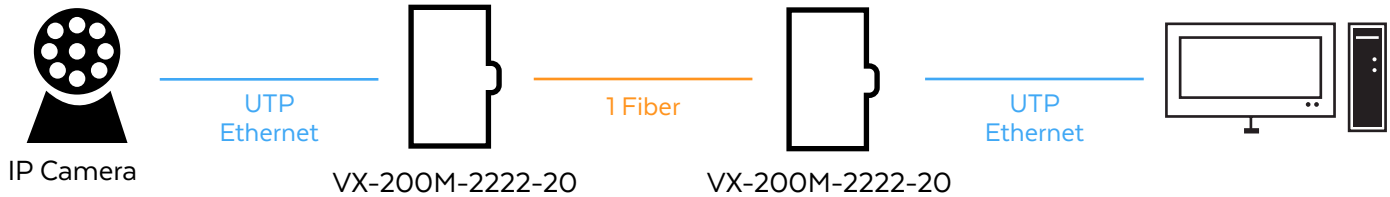


### VX-200M-2222-20 Industrial Micro 10/100Base-TX to 100Base-FX Ethernet Single Mode Media Converter

The VX-200M-2222-20 is a micro media converter that supports single mode two SC type Fiber and meets EN55022.

- **Speed:** 100TX to 100FX
- **Mode:** Single-Mode
- **Wavelength:** 1310nm
- **Distance:** 20km
- **Fiber Connection:** SC
- **Operating Temp:** -10 to 60°C
- AC to DC power adapter included

## Application Diagram



## Spec Chart

Standards	<ul style="list-style-type: none"> <li>• IEEE 802.3 10BASE-T</li> <li>• IEEE 802.3u 100BASE-TX / FX</li> <li>• IEEE 802.3x Flow Control</li> </ul>
Processing Type	<ul style="list-style-type: none"> <li>• Store and forward</li> <li>• Half-duplex, Full-duplex</li> </ul>
Forward Filter Rate	<ul style="list-style-type: none"> <li>• 14,880pps (10Mbps)</li> <li>• 148,800pps (100Mbps)</li> </ul>
Cabling	<ul style="list-style-type: none"> <li>• 10Base-T: Cat 5 or above</li> <li>• 100Base-TX: Cat 5 or above</li> </ul>
Max. Distance	<ul style="list-style-type: none"> <li>• Cat5 UTP up to 100m</li> </ul>
Connector	<ul style="list-style-type: none"> <li>• 1 x RJ-45</li> </ul>
Address Table Size	<ul style="list-style-type: none"> <li>• 2048 MAC Addresses</li> </ul>
Optical	<ul style="list-style-type: none"> <li>• Cabling: 9/125µm (Multimode)</li> <li>• Max. Distance: 20km (Single mode)</li> <li>• Wavelength: 1310nm</li> <li>• Connector: SC</li> </ul>
Input Power	<ul style="list-style-type: none"> <li>• 12VDC or 24VAC (terminal block)</li> </ul>
Power Consumption	<ul style="list-style-type: none"> <li>• 2.4W Max. 0.2A @ 12VDC</li> </ul>
LED Indicators	<ul style="list-style-type: none"> <li>• Power: Power Status</li> <li>• 10/100TX (Per Port): Link/Activity, Speed</li> <li>• 100FX (Per Port): Link Activity</li> </ul>

Dimensions (WxDxH)	• 36.2 x 98 x 24.5 mm
Weight	• 0.12kg (0.22kg with PA)
Casing	• Aluminum case
Mounting Option	• Wall-Mount / VX-R10 1U Rack
Temperature	• Operating: -10° to 60°C (14° to 140°F) • Storage: -40° to 85°C (40° to 185°F)
Humidity	• 5% to 95% non-condensing



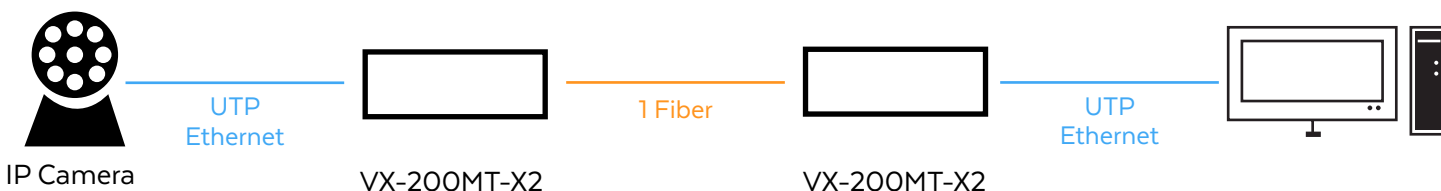


### VX-200MT-X2 Hardened Micro 100Base-T to 100Base SFP Ethernet Media Converter

The VX-200MT-X2 is a micro media converter that supports external SFP modules and meets EN55022.

- **Speed:** 100TX to 100FX SFP
- **Duplex:** Full/Half
- **Operating Temp:** -40 to 75°C
- External SFP
- Auto MDI/ MDI-X
- AC to DC power adapter included

## Application Diagram



## Spec Chart

Standards	<ul style="list-style-type: none"> <li>• IEEE 802.3u 1000BASE-TX/FX</li> <li>• IEEE 802.3x Flow Control</li> </ul>
Processing Type	<ul style="list-style-type: none"> <li>• Forward</li> </ul>
Forward Filter Rate	<ul style="list-style-type: none"> <li>• 148,800pps (100Mbps)</li> </ul>
Cabling	<ul style="list-style-type: none"> <li>• 1000Base-T: Cat 5 or above</li> </ul>
Max. Distance	<ul style="list-style-type: none"> <li>• Cat5 UTP up to 100m</li> </ul>
Connector	<ul style="list-style-type: none"> <li>• 1 x RJ-45</li> </ul>
Optical Port	<ul style="list-style-type: none"> <li>• 1 x SFP 100Base-X</li> </ul>
Input Power	<ul style="list-style-type: none"> <li>• 12VDC (terminal block)</li> </ul>
Power Consumption	<ul style="list-style-type: none"> <li>• 2.4W Max. 0.2A @ 12VDC</li> </ul>
LED Indicators	<ul style="list-style-type: none"> <li>• Power: Power Status</li> <li>• 10/100TX (Per Port): Link/Activity, Speed</li> <li>• 100FX (Per Port): Link Activity</li> </ul>
Dimensions (WxDxH)	<ul style="list-style-type: none"> <li>• 36.2 x 117 x 24.5 mm</li> </ul>
Weight	<ul style="list-style-type: none"> <li>• 0.15kg</li> </ul>
Casing	<ul style="list-style-type: none"> <li>• Metal case</li> </ul>
Mounting Option	<ul style="list-style-type: none"> <li>• Wall-Mount / VX-R10 1U Rack</li> </ul>
Temperature	<ul style="list-style-type: none"> <li>• Operating: -40° to 75°C (-40° to 167°F)</li> <li>• Storage: -40° to 85°C (40° to 185°F)</li> </ul>
Humidity	<ul style="list-style-type: none"> <li>• 5% to 95% non-condensing</li> </ul>



### VX-200MT-X3 Hardened Micro 1000Base-T to 1000Base SFP Ethernet Media Converter

The VX-200MT-X3 is a micro media converter that supports external SFP modules and meets EN55022.

- **Speed:** 1000TX to 1000FX SFP
- **Duplex:** Full/Half
- **Operating Temp:** -40 to 75°C
- External 1000BASE SFP
- Auto MDI/MDI-X
- AC to DC power adapter included

## Application Diagram



## Spec Chart

Standards	<ul style="list-style-type: none"> <li>• IEEE 802.3ab 1000Base-T</li> <li>• IEEE 802.3az Gigabit Fiber</li> <li>• IEEE 802.3x Flow Control</li> </ul>
Processing Type	<ul style="list-style-type: none"> <li>• Forward</li> </ul>
Forward Filter Rate	<ul style="list-style-type: none"> <li>• 1,488,000pps (1000Mbps)</li> </ul>
Cabling	<ul style="list-style-type: none"> <li>• 1000Base-T: Cat 5 or above</li> </ul>
Max. Distance	<ul style="list-style-type: none"> <li>• Cat5 UTP up to 100m</li> </ul>
Connector	<ul style="list-style-type: none"> <li>• 1 x RJ-45</li> </ul>
Optical Port	<ul style="list-style-type: none"> <li>• 1 x SFP 1000Base-X</li> </ul>
Input Power	<ul style="list-style-type: none"> <li>• 12VDC (terminal block)</li> </ul>
Power Consumption	<ul style="list-style-type: none"> <li>• 2.4W Max. 0.2A @ 12VDC</li> </ul>
LED Indicators	<ul style="list-style-type: none"> <li>• Power: Power Status</li> <li>• 10/100TX (Per Port): Link/Activity, Speed</li> <li>• 100FX (Per Port): Link Activity</li> </ul>
Dimensions (WxDxH)	<ul style="list-style-type: none"> <li>• 36.2 x 117 x 24.5 mm</li> </ul>
Weight	<ul style="list-style-type: none"> <li>• 0.15kg</li> </ul>
Casing	<ul style="list-style-type: none"> <li>• Metal case</li> </ul>
Mounting Option	<ul style="list-style-type: none"> <li>• Wall-Mount / VX-R10 1U Rack</li> </ul>
Temperature	<ul style="list-style-type: none"> <li>• Operating: -40° to 75°C (-40° to 167°F)</li> <li>• Storage: -40° to 85°C (40° to 185°F)</li> </ul>
Humidity	<ul style="list-style-type: none"> <li>• 5% to 95% non-condensing</li> </ul>

## VX-200M-X3 Industrial Micro 1000Base-T to 1000Base SFP Ethernet Media Converter

The VX-200M-X3 is a micro media converter that supports external SFP modules and meets EN55022.

- **Speed:** 1000TX to 1000FX SFP
- **Duplex:** Full/Half
- **Operating Temp:** -10 to 60°C
- External 1000BASE SFP
- Auto MDI/MDI-X
- AC to DC power adapter included



## Application Diagram



## Spec Chart

Standards	<ul style="list-style-type: none"> <li>• IEEE 802.3ab 1000BASE-T</li> <li>• IEEE 802.3az Gigabit Fiber</li> <li>• IEEE 802.3x Flow Control</li> </ul>
Processing Type	• Forward
Forward Filter Rate	• 1,488,000pps (1000Mbps)
Cabling	• 1000BASE-T: Cat5 or above
Max. Distance	• Cat5 UTP up to 100m
Connector	• 1 x RJ-45
Optical Port	• 1 x SFP 1000Base-X
Input Power	• 12VDC (Terminal Block)
Power Consumption	• 2.4W Max. 0.2A @ 12VDC
LED Indicators	<ul style="list-style-type: none"> <li>• Power: Power Status</li> <li>• 10/100TX (Per Port): Link/Activity, Speed</li> <li>• 100FX (Per Port): Link Activity</li> </ul>
Dimensions (WxDxH)	• 36.2 x 117 x 24.5 mm
Weight	• 0.15Kg
Casing	• Metal case
Mounting Option	• Wall-Mount / VX-R10 1U Rack
Temperature	<ul style="list-style-type: none"> <li>• Operating: -10° to 60°C (14° to 140°F)</li> <li>• Storage: -40° to 85°C (40° to 185°F)</li> </ul>
Humidity	• 5% to 95% non-condensing

## VX-R10 Micro Media Converter 19" 1U Rack (Tray)



The VX-R10 rack is designed for all Versa Technology micro media converters which houses and supplies power to all units.

- 1U 19"
- Includes 12V Power Adaptor
- Operating Temp: -40° to 75°C
- Hot-swappable design

## Spec Chart

Input Power	• 110 ~ 240VAC, 50/60Hz
Output Power	• 40W Max. 3.34A @ 12VDC
Protections	• Short circuit, Overload, Over Voltage
Dimensions (WxDxH)	• 483 x 135 x 44 mm
Weight	• 0.7kg
Mounting Option	• 19" Rack, 1U Height
Temperature	• Operating: -40° to 75°C (-40° to 167°F) • Storage: -40° to 85°C (40° to 185°F)
Humidity	• 0% to 95% non-condensing

# CMTS

## Cable Modem Termination Systems

Versa Technology's Cable Modem Termination Systems (CMTS), based on the DOCSIS 3.0 and C-DOCSIS protocols, allow HFC networks to offer fiber speeds to their cable subscribers via legacy co-axial lines. DOCSIS 3.0 uses cutting-edge channel bonding technology to boost both downstream and upstream data rates. DOCSIS 3.0 allows CMTS units to deliver downstream data rates of up to 1.1 Gbps. These DOCSIS 3.0 mini-CMTS units help ISPs provide cable connectivity to a small scale network at a fraction of a cost when compared to a full-fledged CMTS. Our outdoor and mini-CMTS units help Internet Service Providers (ISPs) deploy cable broadband in Multi-Dwelling Units (MDUs) such as apartments, condominiums and small enterprises. Our latest product, the VX-7900i is a mini-CMTS with QoS and layer 3 routing functions to support Internet Protocol Television (IPTV) or Video on Demand (VOD).

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Click on a model number to go to that page.

### CMTS:

[VX-8900i](#)

[VX-7900i](#)



**Cable Modem Terminal System**

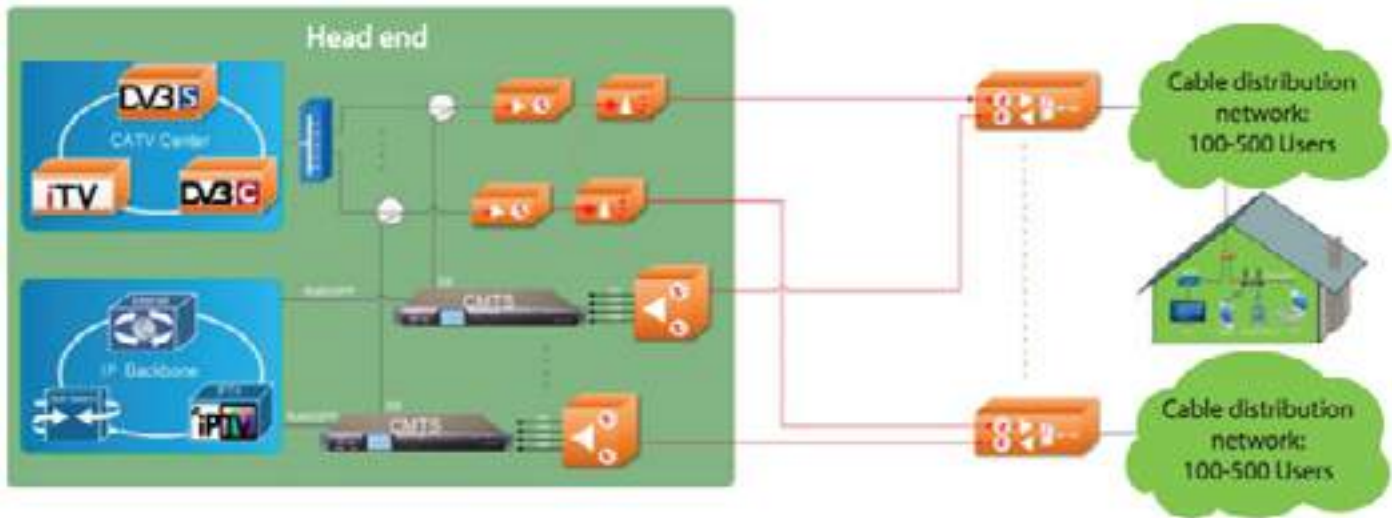
VX-7900i

## VX-8900i Indoor Mini-CMTS Head End



Versa Technology's VX-8900i allows HFC networks to offer fiber speeds to their cable subscribers via legacy COAX lines.

## Application Diagram



## Spec Chart

Downstream		Upstream	
QAM Modulation Mode	Annex A, B	Upstream Modulation	QFSK, 16QAM, 64QAM
QAM Modulation	64 QAM, 256 QAM	Data Rate	30Mbps @ 64QAM (6.4MHz)
Data Rate	36Mbps @ 64QAM 50Mbps @ 256QAM	Upstream Channel Quality	4 channel
Downstream Channel Quality	16 channel	Upstream Max Rate	120Mbps
Downstream Max Speed	800Mbps	Input Frequency Range	5MHz-65MHz
Frequency Range	87MHz-100MHz	Input Level Range Bandwidth	6.4MHz: -7dBmV, -23dBmV 3.2MHz: -10dBmV, -20dBmV 16MHz: -13dBmV, -17dBmV
Channel Bandwidth	8MHz / 6MHz	Output Power	49dBmV (8 channel) 45dBmV (16 channel)
Power Adjusted Range	Adjusted 25dB, step size 0.5dB	Pre-Equalizer MER	42dB

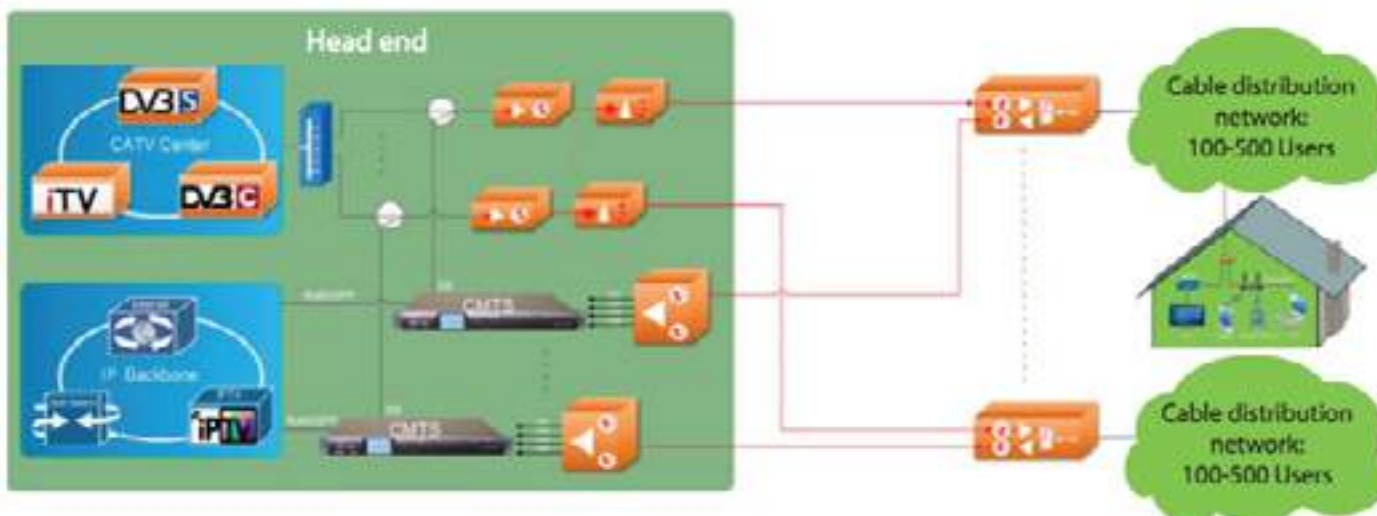
RF Output			
RF OUT Connector	(1) F connector, 75Ω	RF IN Connector	(1) F connector, 75Ω
Port Insert Loss		< 4dB	
Port Reflect Loss		< 12dB	
Data Port			
SPEC		Values & Settings	
2 Net Port Rate		10/100/1000Mbps	
Net Port Type		Managed connector, 1 RJ45 Data connector, 1 SFP, 1 RJ45	
1 GPON ONU Port		NET / SEP	
1 Console Port		RS-232	
Communication Interface			
Command Line Interface (CLI)		RS-232 serial port, Telnet or SSH	
SNMPv2		DOCSIS MIBs	
Other Functions / General			
Max Cable Modem Amount		400 DOCSIS 2.0 400 (Max 250 DOCSIS 3.0 + 150 DOCSIS 2.0)	
Dynamic Load Balanced		Supported	
DHCP Relay		Supported	
Power		< 35W (without optical receiver), < 45W (with optical receiver)	
Power Supply		220V / 110V AC, -48VDC (optional)	
Working Conditions		Temperature: -10° ~ 50°C	
Dimension (LxDxH)		19" x 16" x 1.7"	

## VX-7900i Indoor Mini-CMTS Head End



Versa Technology's VX-7900i CMTS allows operators to transmit data at fiber speeds using DOCSIS 3.0 and C-DOCSIS protocols in HFC networks.

### Application Diagram



### Spec Chart

Downstream			Upstream			
	Euro-DOCSIS	DOCSIS				
Modulation Mode	64/256/1024 QAM		256/64/32/16/8 QAM/QPSK			
Frequency Range (MHz)	112-1002 adjustable	91-857 adjustable	5-65			
Single Channel Bandwidth	8MHz	6MHz	Single Channel Bandwidth	6.4MHz	3.2MHz	1.6MHz
Binding Channel Quantity	16 channel		4 channel			
Max Total Data Bandwidth	1000Mbps	857Mbps	160Mbps			
Single Channel Data Rate (Mbps)	64QAM: 41 256QAM: 55	64QAM: 27 256QAM: 38	256QAM	40.96	20.48	10.24
			128QAM	35.84	17.92	8.96
			64QAM	30.72	15.36	7.68
			32QAM	25.60	12.80	6.40
			16QAM	20.48	10.24	5.12
			8QAM	15.36	7.68	3.84
			QPSK	10.24	5.12	2.56



<b>Output Level (dBmV)</b>	45~58 adjustable 1 stepping	<b>Input Level (dBmV)</b>	-1~+29	-4~+26	-7~+23
<b>Single Channel Baud Rate (Msyms)</b>	64QAM: 6.952 256QAM: 6.952	<b>Single Channel Bandwidth</b>	5.12MHz	2.56MHz	1.28MHz
<b>RF Port Number</b>	1	1			
<b>Reflect Loss (dB)</b>	> 14	> 14			
<b>Reflection Loss (dB)</b>	> 14	> 14			
<b>Output Impedance (<math>\Omega</math>)</b>	> 75	<b>Input Impedance (<math>\Omega</math>)</b>	> 75		
<b>Supported Protocols</b>	Euro-DOCSIS / DOCSIS 30. / 2.0, TCP/ IP, ARP, RIPv2, ICMP, VLAN, multicast, OSPF, DHCP, TFTP, SNMP, PPPoE, DHCP relay agent, Telnet Etc.				
<b>Physical Parameters</b>					
<b>WAN Port</b>	GE SFP GE RJ-45				
<b>RF Port</b>	F Type socket (imperial)				
<b>Console Port</b>	RJ-45				
<b>Status Display</b>	LED				
<b>Input Voltage</b>	100~230VAC (AC Model), -48VDC (DC Model)				
<b>Consumed Power</b>	< 50W				
<b>Net Weight</b>	2.50Kg				
<b>Working Conditions</b>	Temperature: 0° ~ 40°C Humidity: < 90%				
<b>Dimension (WxHxD)</b>	430mm x 44mm x 285mm				