1-Port 10/100/1000T Ethernet over Coaxial Converter

High Performance Gigabit Ethernet over Coaxial Solution

To fulfill the needs of long distance and higher speed required Ethernet over Coaxial applications, PLANET Technology offers a new-generation Ethernet over Coaxial Converter, VC-232G. It features 1 **10/100/1000BASE-T RJ45** port and 1 **BNC** female connector with a compact-sized metal housing, making the placement of the unit convenient. Working well with a pervasive coaxial network, the VC-232G provides an excellent bandwidth of up to a total duplex data rate of **300Mbps** which can extend a maximum distance up to **1.4km**. It is ideal for extending the distance and signal conversion by transmitting the Ethernet data from the coaxial cable to another 100-meter UTP cable for any type of IP network device such as HD IP camera, wireless access point, NVR and digital signage.

Superior Upstream and Downstream Transmission

The VC-232G is based on the two-core networking technology, **Gigabit Ethernet** and **VDSL2** (Very-high-data-rate Digital Subscriber Line 2). The VC-232G offers a stable yet high-speed point-to-point network access up to a duplex data transmission of 300Mbps. It provides 2 selective transmission modes -- **asymmetric** mode or **symmetric** mode -- for the transmission of upstream and downstream signals.

- Asymmetric mode – downstream up to **200Mbps** and upstream up to **100Mbps**
- Symmetric mode – downstream up to **150Mbps** and upstream up to **150Mbps**

The symmetric mode provides similar transmission rate on both downstream and upstream. On the other hand, the asymmetric mode performs higher transmission quality in short range. In all, when the VC-232G is in symmetric mode, it provides better upstream performance, and when it is in asymmetric mode, it gives better downstream performance.

IP Ethernet over Long Distance Existing Coaxial Cables

The VC-232G is also a **Long Reach Ethernet (LRE)** solution which provides a quick replacement and smooth migration solution from existing analog system to full digital system. A normal UTP cable can only be extended up to 100 meters, but with the VC-232G, the distance for Ethernet networking can be extended up to **1,400 meters (4,593ft.)**, which is ideal for the following network applications:

- Long-distance IP network devices
- IP digital signage
- Cable TV to IPTV
- Distance video education
- Electronic billboards
- Other applications

- ITU-T G.993.5 G.Vectoring and G.INP

- Upstream/Downstream bandwidth up to 200/100Mbps

- CO/CPE mode selectable via DIP switch

- Selectable target band plan and SNR margin

- Half duplex back pressure and IEEE 802.3x full duplex pause frame flow control

- One BNC connector for VDSL connection

- Uses existing RG59/RG6 coaxial cable

- Used in pairs to extend Point-to-Point connection up to 1.4km

- Supports a packet size of up to 1522 bytes, IEEE 802.1Q VLAN tag transparency

- Advantage of minimum installation time (Simply by Plug-and-Play)

- Supports extensive LED indicators for network diagnosis

- Co-work with PLANET media converter chassis (MC-700/MC-1500/ MC-1500R/MC-1500R48)

- Compact in size and easy to install

If you have coaxial cable in your existing environment, you can install a pair of the VC-232G very simply without the need to build additional network wires, thus saving costs for network construction.

Easy and Flexible Installation

The VC-232G offers two operation modes, the client-side CPE and central-side CO, making any network applications easy and flexible. The CPE or CO mode can be adjusted by using the built-in DIP switch. For point-to-point connection, one VC-232G in CPE mode and the other one in CO mode must be set up as a pair of converters to perform the connection. This enables the administrator to efficiently manage the network over coaxial cable, making long-distance transmission better.

Applications

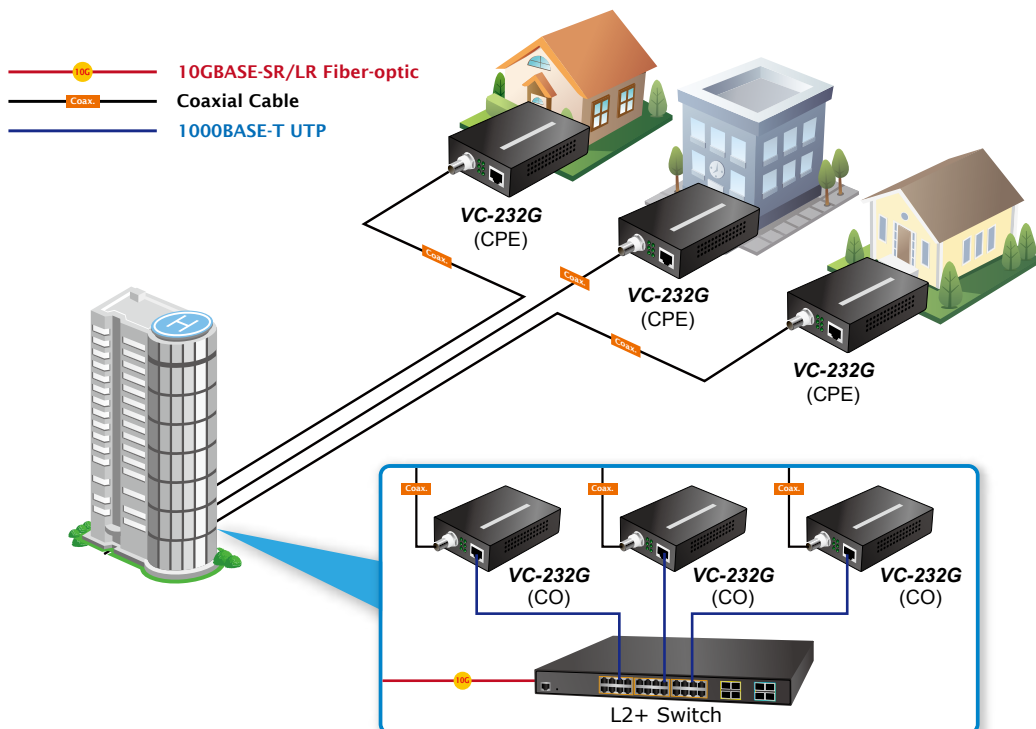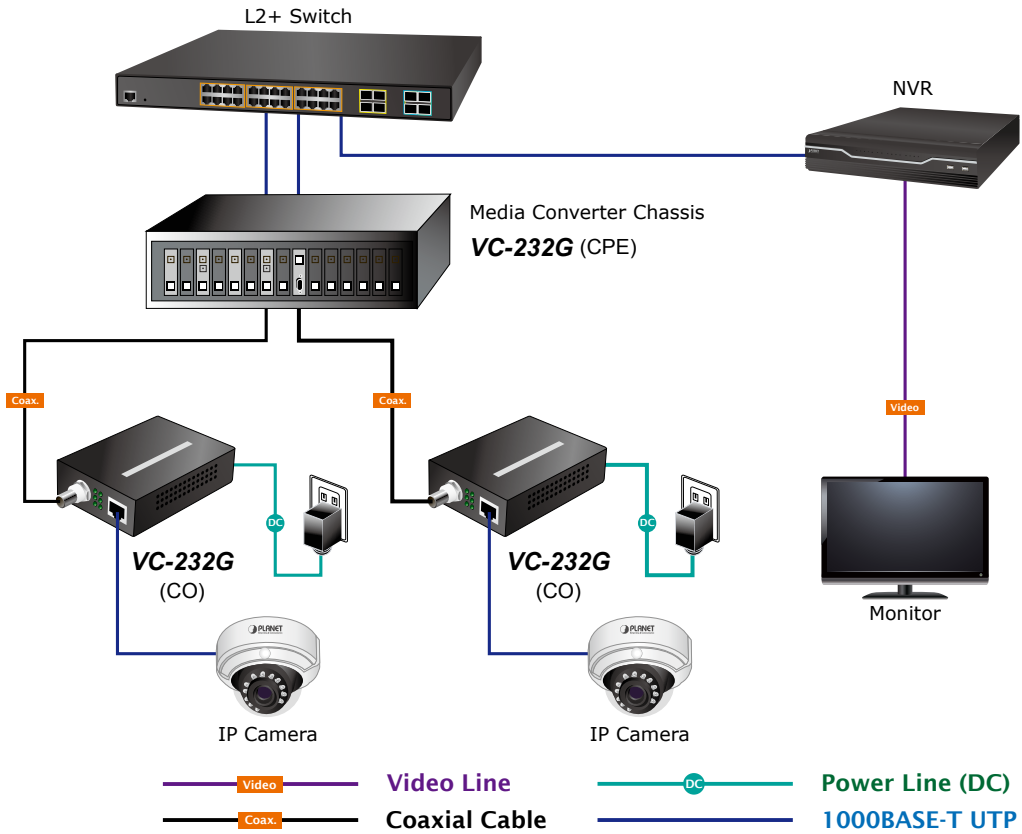*Point-to-Point Application -- LAN to LAN Connection*

One set of the VC-232G could be used to link two local Area networks that are located in different places. Through the coaxial cable, it could set up a 200/100Mbps asymmetric backbone, but one VC-232G must be **Master** (**CO** mode) and the other one is **Slave** (**CPE** mode).

Point to Point Application
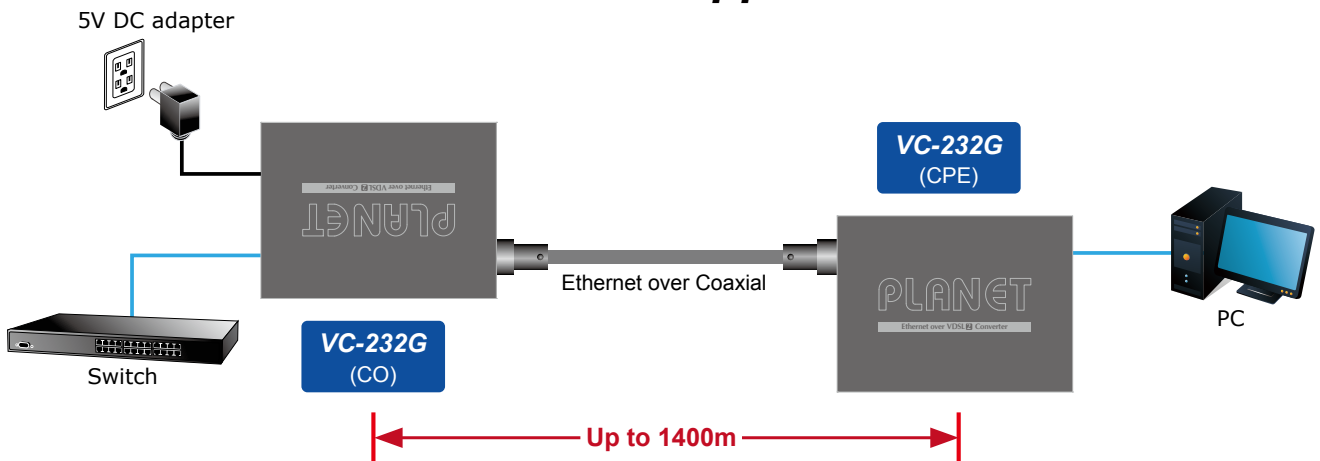
Community/Campus Surveillance and Security over IP

To take advantage of digital surveillance system and keep the benefits of coaxial cable, the VC-232G helps the community, campus and enterprises to upgrade analog camera system to IP camera surveillance without using additional new wires. The VC-232G is a switching architecture with one RJ45 port and one BNC Ethernet over Coaxial port. Just plug in the UTP cable of IP camera to Ethernet port and the existing coaxial cable to the BNC connector to easily deploy and extend the distance with signal conversion by transmitting the Ethernet data from the standard coaxial cable.

Specifications

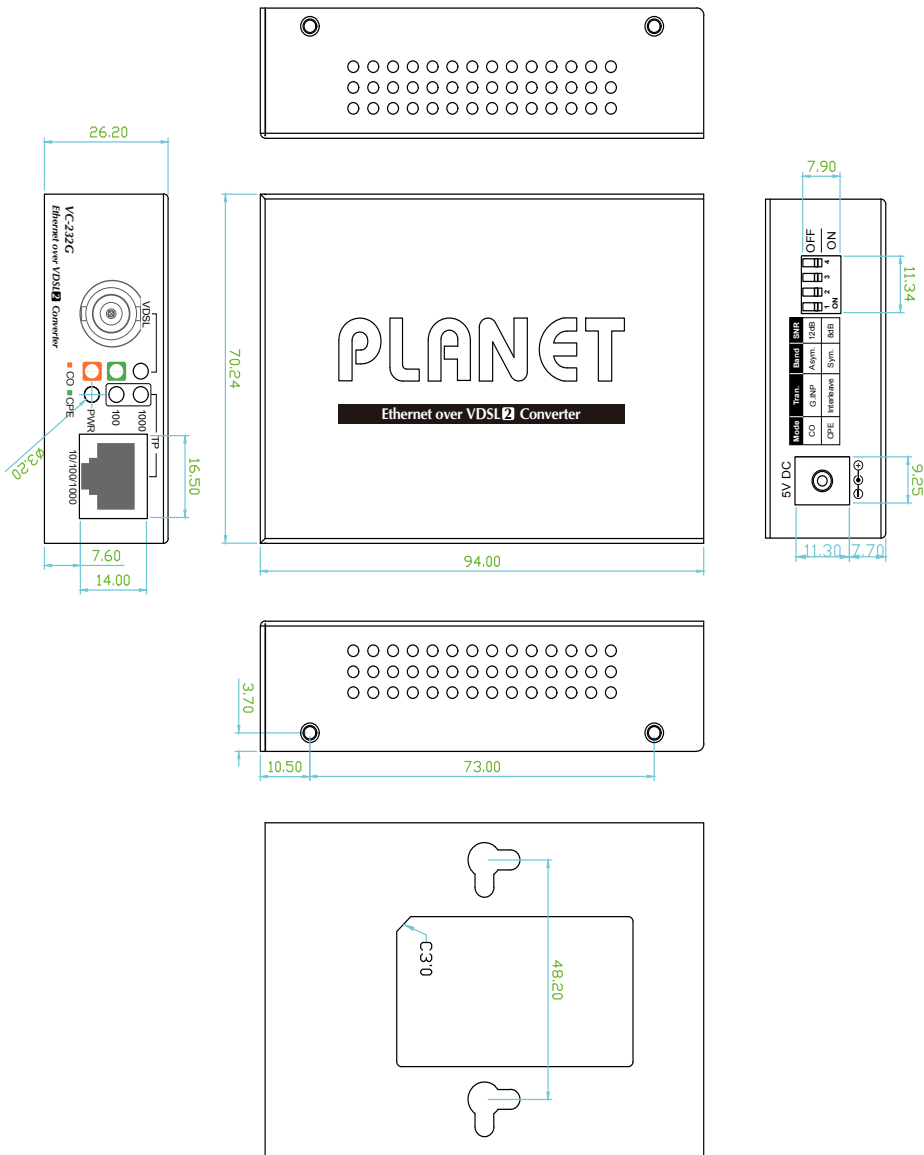| Product	VC-232G	
Hardware Specifications		
TP interface	1 10/100/1000BASE-T RJ45 auto-MDI/MDI-X ports	
VDSL Interface	1 BNC female Ethernet over Coaxial	
	Cabling	Coaxial cable: 75 ohm RG-6/U cable, less than12Ω/1000 ft RG-59/U cable, less than 30Ω/1000 ft.
	Maximum Distance	Max. 1400m with data transmission (4,593ft.)
Functionality	DIP-1	Select CO or CPE mode
	DIP-2	Select G.INP or Interleaved mode
	DIP-3	Select Band Profile (Asymmetric or Symmetric)
	DIP-4	Select SNR of 12dB or 8dB
Dimensions (W x D x H)	70 x97 x 26 mm	
Weight	185g	
Power Requirement	DC 5V, 2A external power	
LED Indicators	Power: **Green** 1000BASE-T LNK/ACT: **Green** 100BASE-T LNK/ACK: **Green** VDSL: **Green** CO: **Green** CPE: **Green**	
Housing	Metal	
Switch Specifications		
Switch Processing Scheme	Store-and-Forward	
Address Table	2K entries	
Flow Control	Back pressure for half duplex IEEE 802.3x pause frame for full duplex	
System Specifications		
VDSL Compliance	**VDSL**-DMT ■ ITU-T G.993.1 VDSL ■ ITU-T G.997.1 ■ ITU-T G.993.2 VDSL2 (Profile 17a/30a Support) ■ ITU-T G.993.5 **G. Vectoring** ■ ITU-T G.998 ■ G.INP	
Standards Conformance		
Standards Compliance	IEEE 802.3 Ethernet IEEE 802.3u Fast Ethernet IEEE 802.3ab Gigabit Ethernet IEEE 802.3x Full-duplex flow control IEEE 802.1p Class of Service ITU-T G.993.1 VDSL ITU-T G.997.1 ITU-T G.993.2 VDSL2 (Profile 17a/30a Support) ITU-T G.993.5 G.Vectoring and G.INP ITU-T G.998	
Regulatory Compliance	FCC Part 15 Class A, CE	
Environment		
Temperature	Operating: 0~50 degrees C Storage: -10~70 degrees C	
Humidity	Operating: 5~95% (non-condensing) Storage: 5~95% (non-condensing)	

Performance

Distance (meter)	Interleave (Upstream/Downstream: Mbps)			
	Asymmetric		Symmetric	
	8dB	12dB	8dB	12dB
200m	88/168	78/145	129/131	117/123
400m	75/160	69/137	117/122	102/102
600m	59/129	48/118	101/92	88/82
800m	32/110	26/94	62/73	47/56

Distance (meter)	G.INP (Upstream/Downstream: Mbps)			
	Asymmetric		Symmetric	
	8dB	12dB	8dB	12dB
200m	95/200	89/181	147/147	138/143
400m	82/175	71/156	132/135	116/120
600m	59/151	46/136	108/104	91/89
800m	37/122	30/102	76/78	58/60

Coaxial Performance

*As there are various resistance values in the category of RG-59/U or RG-6/U cable, the actual data rate will vary on the quality of the copper wire and environmental factors.

Diagram

Dimensions (unit = mm)

Ordering Information

VC-232G	1-Port 10/100/1000T Ethernet over Coaxial Converter

Related Products

VC-231G	1-Port 10/100/1000T Ethernet to VDSL2 Converter
VC-231GP	1-Port 10/100/1000T 802.3at PoE + 1-Port RJ11 VDSL2 Converter
VC-234G	4-Port 10/100/1000T Ethernet to VDSL2 Bridge
MC-1500	15-Slot Media Converter Chassis
MC-1500R	15-Slot Media Converter Chassis (AC Power)
MC-1500R48	15-Slot Media Converter Chassis (DC Power)
MC-700	7-Slot Media Converter Chassis

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VC-232G