

4-Port 10/100Base-TX + 1-Port BNC / RJ-11 Industrial Ethernet Extender



Ideal integration of Industrial Ethernet Extender

To fulfill the market demand, PLANET has released one amazing product named IVC-2002. The IVC-2002 is positioned as an Industrial Ethernet Extender. It has a switching architecture with 4 RJ-45 10/100Mbps Ethernet ports and one asymmetric or symmetric Ethernet over VDSL port – the VDSL port can be RJ-11 or BNC connector. Customers can use either BNC or RJ-11 for their network deployment and it offers the absolutely fastest data transmission speed over existing coaxial cable and telephone wire without the need of rewiring. Furthermore, the IVC-2002 is also compatible with PLANET VC-201A and VC-202A. Without spending extra cost, users can easily re-deploy a new local Internet in the apartment, hotel, campus and hospitality environment by applying the IVC-2002 on the original network structure.

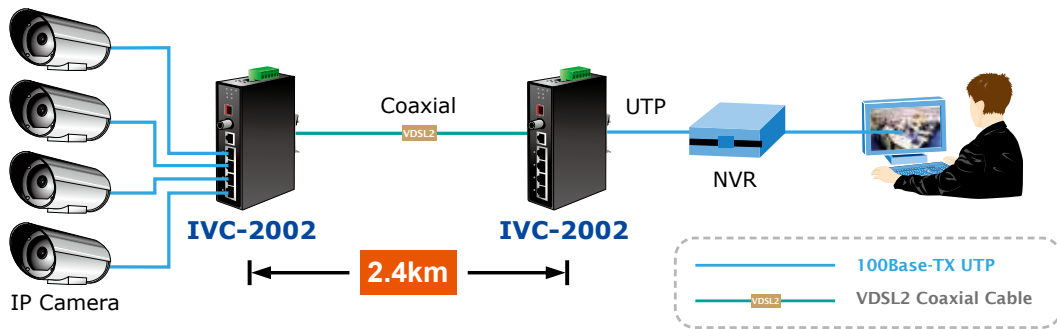
Environmentally Hardened Design for Industrial Networks

The IVC-2002 provides a high level of immunity to electromagnetic interference and heavy electrical surges typical of environments like plant floors or in curb side traffic control cabinets. The Industrial Ethernet Extender can operate in wide temperature range of -40 to 75 degrees C, so it can be placed in almost any location. The IVC-2002 is packaged in a compact, IP30 metal case that allows either DIN or panel mounting for efficient use of cabinet space. The Extender provides an integrated power supply with a wide range of voltages (12 ~ 48V DC) for worldwide operability or for dual-redundant, reversible polarity, 12 ~ 48V DC power supply inputs for high availability applications requiring dual or backup power inputs.

- Cost-effective VDSL2 Master / Slave bridge solution
- -40 to 75 degrees C operating temperature
- Redundant Power Design: 12~48V DC redundant power with polarity reverse protect function
- IP30 metal case protection
- One box design, Master / Slave selectable via DIP Switch
- Selectable BNC and RJ-11 mode for the data transmission
- Defines Asymmetric (Band Plan 998) and Symmetric band plans for transmission of Upstream and Downstream signals
- Complies with IEEE 802.3, IEEE 802.3u and IEEE 802.3x standards
- DMT (Discrete Multi-Tone) line coding
- Half duplex back pressure and IEEE 802.3x full duplex pause frame flow control
- Supports up to 1536 bytes packet size, 802.1Q VLAN tag transparent
- Integrated address look-up engine, supports 2K absolute MAC addresses
- VDSL2 Standalone transceiver for simple bridge modem application
- Selectable Target Band Plan and Target SNR Margin
- Supports extensive LED indicators for network diagnostics
- DIN rail and wall mount design

Efficient Usage, Cost Effectiveness and Great Performance

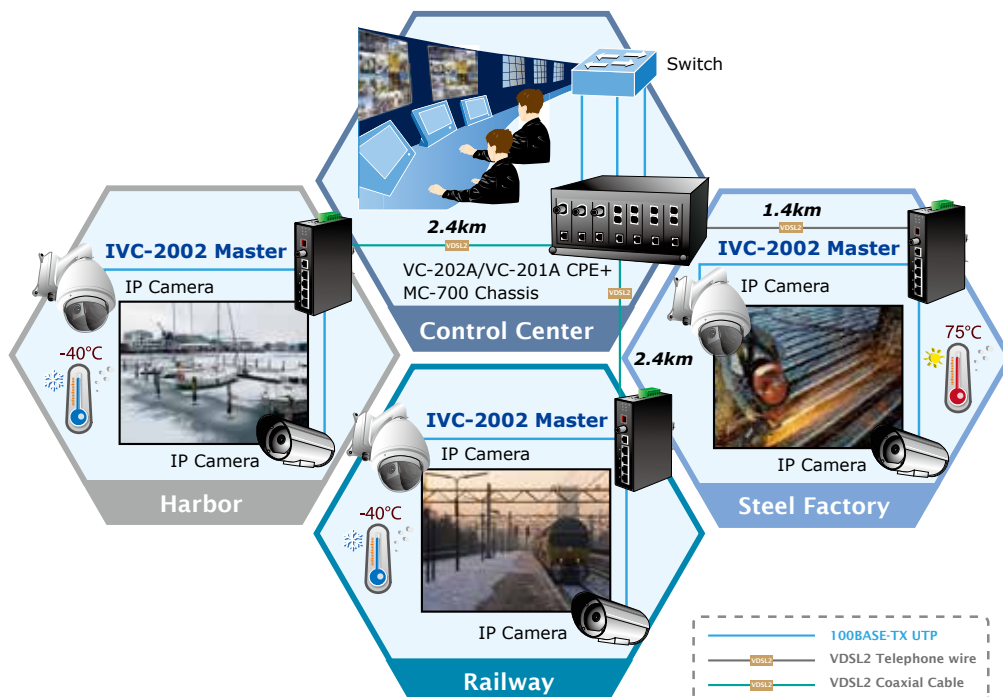
The Ethernet over VDSL2 combines the Ethernet and VDSL technology to transmit the Ethernet format data by using VDSL signaling over the existing coaxial cable and telephone wire. Therefore, it is ideal for deploying network by using the existing coaxial cable and telephone wire to transmit data to the Internet at a minimum cost. The IVC-2002 can be adjusted to Master or Slave mode via a DIP switch. When the IVC-2002 (RJ-11) is connected with the other IVC-2002 device, the performance will be up to 99/63Mbps for asymmetric data rate within 200m and up to 28/2Mbps for asymmetric data rate at 1.4km. The IVC-2002 (BNC) performance is up to 99/65Mbps for asymmetric data rate within 200m and up to 31/4Mbps for asymmetric data rate at 2.4km. This capability is ideal for use as an Ethernet extender for your existing Ethernet network.



Applications

Flexible Industrial Extender Integrates BNC and RJ-11 Connection

The IVC-2002 is compatible with PLANET VC-201A and VC-202A without spending extra cost to deploy a new local Internet in apartment, hotel, campus and hospitality environment. It can use the original network structure to re-deploy with our latest product PLANET IVC-2002. For example, MC-700, MC-1500 and MC-1500R chassis can be had for the VC-201A and VC-202A, and set it as CPE (Customer Premises Equipment) which needs to be placed in the wiring center (MDF room) and connect it to the telephone line system or coaxial cable system. On the other hand, it needs to connect an IVC-2002 converter in Master mode and connect it to PLANET chassis through the telephone lines or coaxial cables. The IVC-2002 with the slim type IP30 metal shape is ideal for the most heavy industrial demanding environments.



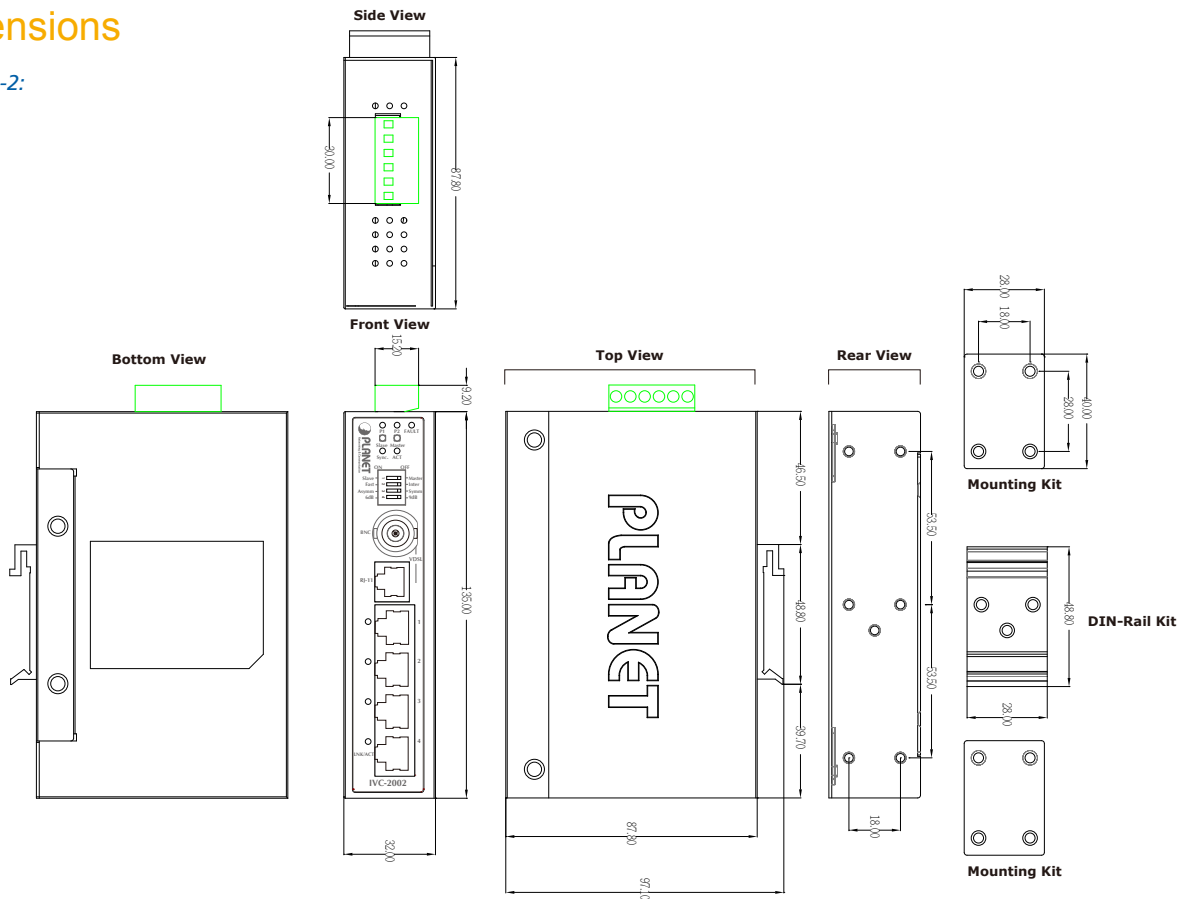
Specifications

Model	IVC-2002	
Camera		
Ports	<ul style="list-style-type: none"> ▪ 10/100Base-TX: 4 RJ-45, auto negotiation and auto-MDI / MDI-X ▪ Coaxial: 1 BNC, female connector ▪ Phone-Line: 1 RJ-11, female connector 	
DIP Switch	4 position DIP switch	
Functionality	<ul style="list-style-type: none"> ▪ Master / Slave mode select ▪ Selectable fast and interleaved mode ▪ Selectable target Band Plan ▪ Selectable target SNR mode 	
Encoding	<ul style="list-style-type: none"> ▪ DMT (Discrete Multi-Tone) line coding <ul style="list-style-type: none"> - ITU-T G.997.1 - ITU-T G.993.1 - ITU-T G.993.2 (Profile 17a Support) 	
LED Indicators	<ul style="list-style-type: none"> ▪ System Power 1 (Green) ▪ System Power 2 (Green) ▪ System Fault (Green) 	<ul style="list-style-type: none"> ▪ VDSL2 Master (Green) ▪ VDSL2 Slave (Green) ▪ VDSL2 ACT (Green) ▪ VDSL2 Sync. (Green)
Cabling	<ul style="list-style-type: none"> ▪ Ethernet : 10Base-T: 2-pair UTP Cat.3, 4 and 5 up to 100m (328ft) ▪ Ethernet : 100Base-TX: 2-pair UTP Cat.5, 5e and 6 up to 100m (328ft) ▪ Coaxial Cable: 50ohm, RG58A / U, RG58C / U, RG58 / U or equivalent; 75ohm, RG-6 (Distance up to 2.4km) ▪ Twisted-pair telephone wires (AWG24 or better) up to 1.4km 	
Performance	<p>RJ-11 (Phone-Line)</p> <p>Asymmetric:</p> <p>200m -> 99/63Mbps 400m -> 91/48Mbps 600m -> 71/32Mbps 800m -> 53/18Mbps 1000m -> 38/8Mbps 1200m -> 33/5Mbps 1400m -> 28/2Mbps</p> <p>Symmetric:</p> <p>200m -> 91/99Mbps 400m -> 74/79Mbps 600m -> 54/51Mbps 800m -> 38/34Mbps 1000m -> 27/21Mbps 1200m -> 24/15Mbps 1400m -> 21/10Mbps</p>	<p>BNC (Coaxial Cable)</p> <p>Asymmetric:</p> <p>200m -> 100/65Mbps 200m -> 99/65Mbps 400m -> 99/64Mbps 600m -> 97/59Mbps 800m -> 94/51Mbps 1000m -> 84/45Mbps</p>
	<p>1200m -> 73/37Mbps 1400m -> 61/28Mbps 1600m -> 54/20Mbps 1800m -> 48/13Mbps 2000m -> 38/9Mbps 2200m -> 35/6Mbps 2400m -> 31/4Mbps</p> <p>Symmetric:</p> <p>200m -> 95/99Mbps 400m -> 92/97Mbps 600m -> 81/82Mbps 800m -> 71/70Mbps 1000m -> 60/57Mbps 1200m -> 50/44Mbps 1400m -> 42/33Mbps 1600m -> 37/27Mbps 1800m -> 29/22Mbps 2000m -> 23/21Mbps 2200m -> 19/17Mbps 2400m -> 19/13Mbps</p>	
Dimensions (H x W x D)	135 x 87.8 x 32 mm	
Weight	495g	

Power Requirements	12V DC ~ 48V DC
Power Consumption	5.64 watts / 19BTU
Operating Temperature	-40 ~ 75 degrees C
Operating Humidity	5~90%, relative humidity, non-condensing
Storage Temperature	-40 ~ 85 degrees C
Storage Humidity	5~90%, relative humidity, non-condensing
Standard Conformance	
Regulation Compliance	FCC Part 15 Class A, CE
Stability Testing	IEC60068-2-32 (Free Fall)
	IEC60068-2-27 (Shock)
	IEC60068-2-6 (Vibration)
Standards Compliance	IEEE 802.3 10Base-T
	IEEE 802.3u 100Base-TX
	IEEE 802.3x full duplex pause frame flow-control
	ITU-T
	- G.993.1 - G.997.1 - G.993.2 (Profile 17a Support)

Dimensions

IVC-2002-2:



Dimensions (unit = mm)

Ordering Information

IVC-2002	4-Port 10/100Base-TX + 1-Port BNC / RJ-11 Industrial Ethernet Extender (-40 ~ 75 degrees C)
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Related Products

VC-201A	Ethernet over VDSL2 Converter
VC-202A	1-Port 10/100Base-TX + 1-Port BNC Ethernet over Coaxial Extender

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