Ethernet Extender over Coaxial Cable for Long Distance Transmission Pair VDL5130

1 Introductions

- Transmission distance is 600M by using RG-6/U coaxial cable

- No need to change the installation system, plug and play. Friendly use!

- Using only one coaxial cable, you can connect one viewer at local side with 4 senders at remote side.

- Connect the 100M Cat5/ Cat6 cable on each local & remote side, and the total transmission distance can be extend to 800M

- IEEE802.3at. Power over Ethernet Plus (PoE+) provides up to 30Watts to remote side, and use POE isolated power output. Each sender DC output is 4W~30W compliance with the 802.3af~802.3at standard.

- Power supplied under the Safe-DC mode: Module Auto detection, short circuit production, open circuit protection and overload protection

- Transmit the high definition image IP signal and can be used in computer network or any digital network application

- Network interface: Ethernet 10Base-T/100Base-TX and Auto MDI/MDI-X

- Symmetrical transmission compliance with the Ethernet standard, and duplex throughput : 200Mbps

- TVS/GDT*(surge absorber/arrester) is installed in the BNC socket at both ends of the coaxial cable.

TVS is Transient Voltage Suppressors
GDT is Gas Discharge Arrester Tube

Fig. 1 Picture of VDL5130 Sets

2 Performance

Coaxial Cable Length & Throughput		Coaxial Cable Length & PoE Power Output	
100m	100Mbps	100m	45W
100~600m	100Mbps	100~600m	45~30W
600m	100Mbps	600m	30W
**800m	80Mbps	**800m	22W

* Throughput was tested by LU Side
** 800m is for reference

* Power output is total amount for 4 senders
** 800m is for reference

1. RG-6/U 18AWG is widely used across the market but using better coaxial cable RG-11/U will have better performance.

2. IEEE802.3at. Power over Ethernet Plus (PoE+) provides up to 30Watts. There are two types and 5 classes. Power rating: 4Watt ~ 30Watt.

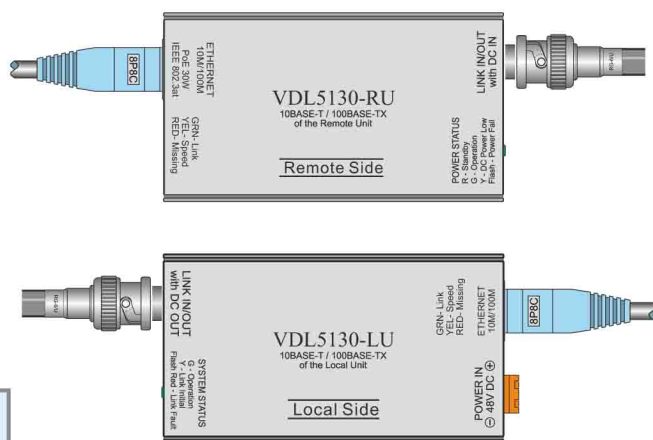3. Data Throughout is duplex. Upload: 100Mbps/ Download: 100Mbps.

Fig. 2 Remote- Sender (RU)
Local- Viewer (LU)

3 Connection diagram

Remote side
遠端收發機

VDL5130-RU
10BASE-T / 100BASE-TX
of the Remote Unit
Remote Side

VDL5130-R
10BASE-T / 100BASE-TX
of the Remote Unit
Remote Side

VDL5130-R
10BASE-T / 100BASE-TX
of the Remote Unit
Remote Side

VDL5130-R
10BASE-T / 100BASE-TX
of the Remote Unit
Remote Side

- Connect any type of IP Cameras by using 100M Cat.5 Cable to sender side. It can be applied to various internet environments: Computer network and digital device.

- Sender side provides the PoE power output to Max 30Watts. The actual consumption depends on the camera or the device needed (4W~30W, compliance with the 802.3af~802.3at)

- VDL5130 adopt Safe-DC mode. In order to activate the function, we have one VDL5130-RU at remote side.

- There are 4 senders:
  VDL5130-RUx1
  VDL5130-Rx 3

- Transmission distance: 600M by using RG-6/U coaxial cable.

- POE power output: 30Watts

- Throughout is duplex. Upload: 100Mbps/Download: 100Mbps.

- Transmission distance is 600M by using RG-6/U coaxial cable

- Local side LU provided the max 54Watts to coaxial cable.

- Data Throughout is duplex. Upload: 100Mbps/ Download: 100Mbps

Transmitting power by using coaxial cable in Safe-DC mode
Features:
  ▶ Module Auto Detection
  ▶ Short Circuit Production
  ▶ Open Circuit Protection
  ▶ Overload Protectio

Local side
近端收發機

VDL5130-LU
10BASE-T / 100BASE-TX
of the Local Unit
Local Side

POWER IN 48V DC

Connect any network system by using 100M Cat.5 Cable to viewer side
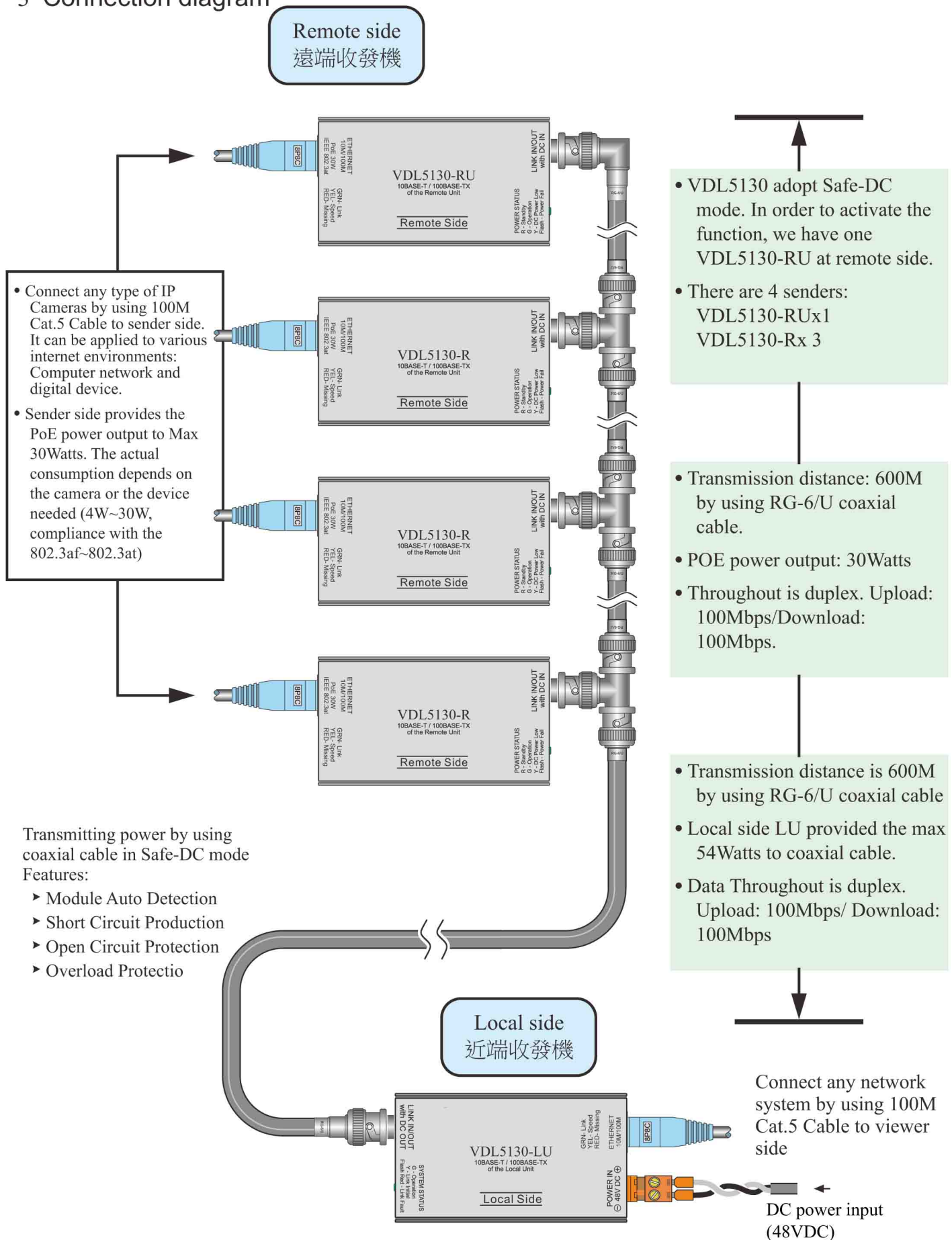
DC power input (48VDC)

Fig. 3 Connection of VDL5130 Sets

4 Specification

Remote- Unit (RU) / VDL5130-RU
Remote- Unit (RU) / VDL5130-R

Electrical Specifications (VDL5130-RU, -R)	
Ethernet	Ethernet RJ45
Network Interface	10Base-T/100Base-TX Auto MDI/MDI-X
BNC port Link OUT/IN with DC IN	Link Signal : 2 to 28MHz
	DC IN : +45V to +76V
Throughput	100Mbps
PoE Power Output	DC 55V/30W. meet IEEE802.3at, support Type 1(15.4W) and Type 2(30W)

Connector Specifications (VDL5130-RU, -R)	
Ethernet	RJ45 connector, 8P8C
Link OUT/IN with DC IN	BNC 75 ohms female socket

Physical Specifications (VDL5130-RU, -R)	
Unit Dimensions	(L x W x H): 90mm x 50mm x 25mm
Weight	145 grams

Environmental Specifications (VDL5130-RU, -R)	
Operating Temperature	-10 to 50°C (14 to 122°F), Ventilated
Relative Humidity	20% to 90%, non-condensing

Local- Unit (LU) / VDL5130-LU

Electrical Specifications (VDL5130-LU)	
Ethernet	Ethernet RJ45
Network Interface	10Base-T/100Base-TX Auto MDI/MDI-X
BNC port Link OUT/IN with DC OUT	Link Signal : 2 to 28MHz
	DC OUT: +76V
Throughput	100Mbps
Power Supply	DC 48V ± 5%, 1.25Amps Max.

Connector Specifications (VDL5130-LU)	
Ethernet	RJ45 connector, 8P8C
Link OUT/IN with DC OUT	BNC 75 ohms female socket
Power In	2 Pin, Pluggable Terminal Block 5.0mm Pitch

Physical Specifications (VDL5130-LU)	
Unit Dimensions	(L x W x H): 90mm x 50mm x 25mm
Weight	155 grams

Environmental Specifications (VDL5130-LU)	
Operating Temperature	-10 to 50°C (14 to 122°F), Ventilated
Relative Humidity	20% to 90%, non-condensing

5 DC Power Supply
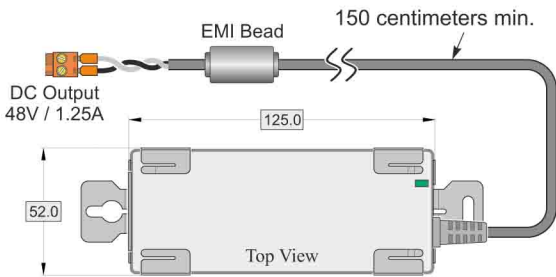
Unless otherwise noted, units are in mm.

Fig. 4 DC Power Adapter

Supplier Part Number: GS60A48
Electric Specifications:
AC Input: 100 ~ 240V AC
Output: 48V DC, 1.25 Amps
Power Rating: 60 watts

Physical Specifications:
Weight: 270 grams
Weight with two holding brackets: 306 grams

Environmental Specifications:
Operating Temperature: 0 to 45°C (32 to 113°F)
Relative Humidity: 20 to 90 percent, non-condensing
Storage Temperature: -45 to 85°C (-49 to 185°F)