

# VDS6500 Installation Guide



Fig 1. Picture of VDS6500-RU and VDS6500-LU

## Introduction

VDS6500 is a single coaxial cable surveillance Video transmission system. The system is designed with two units. VDS 6500-RU, the remote unit, called Sender, receives two (analog HD) surveillance cameras signals. VDS 6500-LU, the local unit, called Viewer, outputs two analog video signals to surveillance system. A coaxial cable connects Viewer and Sender; the cable transmits these video signals from the remote to the local, while sending DC power from the local to the remote.

VDS6500 can transmit High-definition video signals including: AHD, TVI, CVI formats, and CVBS signals, and every analog surveillance camera signals in today's market.

In remote side, VDS6500-RU, Sender, accepts two video signals while transmitting them. Sender provides two transmission channels independently with various formats. In local side, VDS6500-LU, Viewer, outputs the video signals which are identical to surveillance camera signals.

VDS6500 does not compress, sampling, and quantize video signals. Therefore, it does not modify video signals. VDS6500 transmits real-time video signals, and is a true analog transmission system.

## Features

- Two Full HD surveillance Video transmission
  - provide Up-the-Coax transmission
  - One cable transmits all signals and DC power
  - Plug and play, easy to install
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## Power

In local side, VDS6500-LU, Viewer, sends out DC power through coaxial cable to remote unit VDS6500-RU, Sender, and provides the power to camera. Remote Unit, Sender's, minimal electrical output for the camera is 12 volts/1.0amps. In short distance, coaxial cables' resistance (DCR) becomes low so the output is greater. The maximum output power is 12volts/3.5amps.

**Table 1. Relation of DC power output and coaxial cable Length**

DC Power Output (Total)		Coaxial Cable Length RG-6/U (DCR = 40 ohms/Km)
Voltage	Current	
12V	3.5 Amp	150 meters
12V	2.5 Amp	250 meters
12V	1.0 Amp	500 meters

## About UTC

VDS6500 can transmit signals with UTC (Up The Coax) tool. It can transmit through coaxial cable with any UTC camera connecting DVR system. UTC allows user to send controlling signals into surveillance system. It is used remotely in the camera's controlling system with on screen display (OSD). This technology save time on camera installation and operation. VDS6500 has two video transmission channels with two UTC that controls their own video channel.

## Protect Mechanism

When using this link coaxial cable, it can have following safety features :

- Powers camera only after local unit and remote unit are connected correctly.
- Auto shutdown for short circuit, open circuit, and overloads.
- Auto test and reconnection until the problem is solved.
- Built-in TVS and GDT against lightning-induced current and transient voltage.

## Specifications

### VDS6500-RU Sender

Video Input Signal : 1.0Vpp, 75 ohms. (Socket : BNC female)

Bandwidth of Video Signal : 45MHz.

Power Output : DC12V, 3.5 A max. (2 Socket : Round 2.1mm/5.5mm)

Unit Dimensions (L x W x H) : 100mm x 75mm x 25mm

Weight : 190 grams without Bracket

Operating Temperature : -10 to 45°C (14 to 113°F)

Relative Humidity : 20 to 90 percent, non-condensing

## Specifications *(Continued)*

### VDS6500-LU Viewer *(PTB= Pluggable Terminal Block)*

Video Output Signal : 1.0Vpp, 75 ohms. (Socket : BNC female)

Bandwidth of Video Signal : 45MHz. (Chroma portion : +/- 3dB)

DC Output at Link-In : DC47V, 1.2 Amp max.

Power Input : DC 48V +/- 10%. (Socket : 2 Pin PTB, 5.0mm Pitch)

Unit Dimensions (L x W x H) : 100mm x 75mm x 25mm

Weight : 190 grams without Bracket

Operating Temperature : -10 to 40°C (14 to 104°F)

Relative Humidity : 20 to 90 percent, non-condensing

## Use Correct Coaxial Cable

Coaxial cable is the transmission medium we use for our VDS and VDL devices. Varieties of 75 ohms impedance coax could be found, such as RG-59/U, RG-6/U, 5C-2V... or any other similar models, but users should always avoid using coax whose inner conductor is made of copper clad steel. Steel has greater DC resistance (DCR), which lowers power transmission capability.

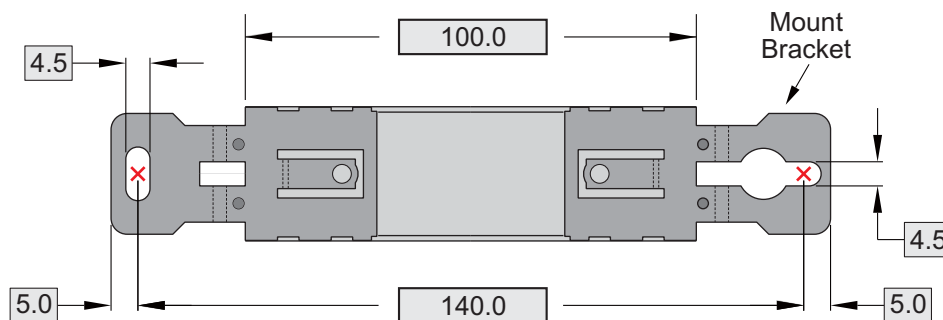
Table 2 shows the general specifications of our commonly recommended RG-6/U coaxial cable with a DCR of less than 40 ohms/km. Remember that the total value of DCR is the sum of the DC resistance of the inner and outer conductors.

**Table 2. General Specifications of the RG-6/U Coax**

Inner Conductor Material	Outer Conductor Material	Nominal Attenuation		
		1MHz	10MHz	50MHz
18 AWG Solid 0.040" Bare Copper DCR Less than 24 Ohms per Km	Braids 98% Shield Coverage DCR Less than 16.7 Ohms per Km	0.7dB/ 100m	2.3dB/ 100m	5.6dB/ 100m

## Mount Hole Patterns

unit : mm



## Making Connection

The following is an overview of the VDS6500 connection.

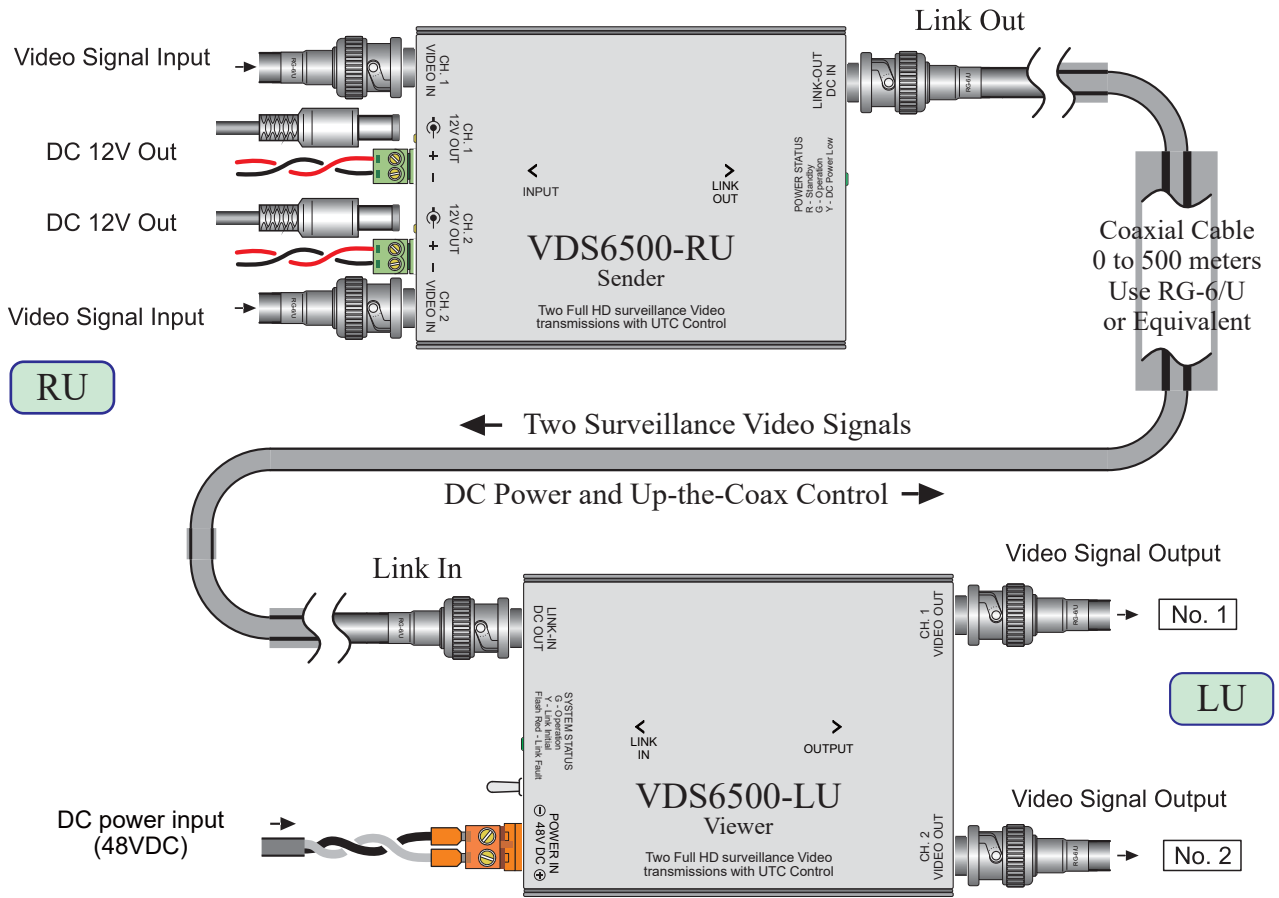
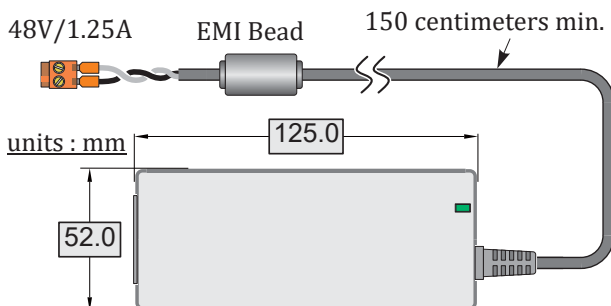


Fig 2. VDS6500 Connection Diagrams

### AC/DC Power Supply

Supplier Part Number :  
GS60A48

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



### Package Checklist

- VDS6500-RU Sender (Remote Unit)
- VDS6500-LU Viewer (Local Unit)
- A 60-watt power supply unit (AC to DC power adaptor) and power cord
- Four mounting brackets for the unit
- Two 1 foot DC power cable with round plug (2.1mm ID, 5.5mm OD)
- Installation Guide