

## HyperLink Brand Weatherproof PTZ Camera Lightning and Surge Protector Model: AL-VDP Series

### Applications

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- Pan-Tilt-Zoom (PTZ) analog video cameras

### Features

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- Individual protection circuits for analog video line, RS485 control lines and power lines
- 3-Stage protection provided for RS-485 and power lines
- Video circuit available in isolated or grounded versions
- Available in AC or DC versions
- NEMA rated enclosure with gasketed cover and concealed mounting holes



### Description

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The HyperLink AL-VDP series are designed to provide superior lightning and surge protection for analog PTZ video cameras. These protectors incorporate individual protection circuits for the analog video line, RS-485 control line and AC/DC power lines. All housed in one NEMA rated weatherproof enclosure.

#### Analog Video Line

The video protection circuit is designed to protect 75 Ohm coaxial video lines connected to the AL-VDP via its BNC connectors. This circuit utilizes an avalanche diode in concert with a low capacitance diode array. This design minimizes capacitive loading of the line and provides improved frequency response over competitor's models. The AL-VDP0xxx series connects the coaxial cable shield to the unit's ground terminal. The AL-VDP1xxx series offers isolated BNC connectors and cable shields for equipment or installations prone to ground loops. The AL-VDP1xxx series features a Gas Discharge Tube connected between the coaxial shield and the unit's ground terminal. Right angle BNC connectors provide easy hookup of the video lines.

#### RS-485 Control Line

A high power 3-stage design is used to provide protection for the PTZ camera's RS-485 control line. The 3-stage design can handle higher-level transients than a protector that uses only diodes. The first stage is comprised of a differential gas discharge tube. Stage two is a pair of current limiting series resistors and the final stage is a low capacitance diode array. The use of three terminal differential gas discharge tubes provides superior common and differential mode protection against conducted transients versus the use of lower cost two terminal tubes. The second stage series resistance limits the power dissipation of the fast diode clamp array in the third stage. This allows time for the slower but higher power gas tubes to flash over. The diode array clamps the leading edge of fast transients to safe levels until the high power gas tubes turn on. This eliminates the damaging leading edge

spike that single stage gas tube protectors let leak through. The diode array's low capacitance assures that the protector will not degrade the high-speed signals. The RS-485 control line is connected to the protector via its screw terminal blocks. The terminal blocks are removable to ease wiring.

### AC and DC Power Lines

The PTZ camera's power lines are also protected using a 3-stage design. This provides superior protection from transients and surges. The first stage is comprised of a differential gas discharge tube. Stage two is a pair of suppression coils and the final stage is a 5000 Watt uni-polar Transient Voltage Suppression (TVS) Diode used on the AL-VDP DC models. For AL-VDP AC models, a Metal Oxide Varistor (MOV) is used. Power lines are connected to the protector via high current rated screw terminals.

### Weatherproof Design

These units feature a weatherproof ABS enclosure with gasketed cover and concealed mounting holes. Water tight cable glands provide entry and exit points for cables. A ground clamp on the enclosure's exterior provides a tie point for earth ground.



**Model Shown: AL-VDP112DW**

## Standard Models

Models	Application	BNC Connectors
AL-VDP012DW	12V DC PTZ Cameras	Grounded
AL-VDP112DW	12V DC PTZ Cameras	Isolated
AL-VDP024DW	24V DC PTZ Cameras	Grounded
AL-VDP124DW	22V DC PTZ Cameras	Isolated
AL-VDP01228AW	12-28V AC PTZ Cameras	Grounded
AL-VDP11228AW	12-28V AC PTZ Cameras	Isolated

## Specifications

### Electrical Specifications – Video

Connectors	(2) BNC Female Jacks
Impedance	75 ohms Unbalanced
Insertion Loss DC-10 MHz	0.1 dB
Insertion Loss @ 75 MHz	3 dB
Protection Voltage	+/- 7.5 Volts Max.
Gas Discharge Tube	+/- 90 Volts Max.

### Electrical Specifications – RS-485

Connectors	(2) Screw Terminal Blocks
Stage 1 Clamping Voltage	± 90 Volts
Stage 2 Resistance	3.3 Ohms
Stage 3 Clamping Voltage	± 7.5 Volts

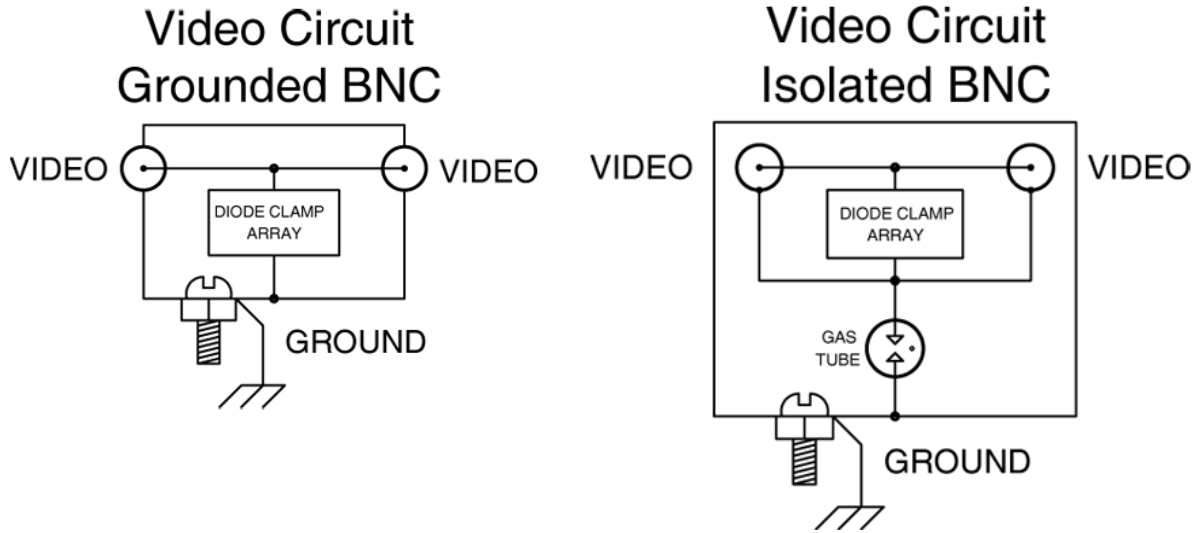
### Electrical Specifications – DC Power

Models:	AL-VDP012DW / AL-VDP112DW	AL-VDP024DW / AL-VDP124DW
Connectors	(2) Screw Terminal Blocks	
Stage 1 Clamping Voltage	± 90 Volts	
Stage 2 Current Rating	4 Amps	
Stage 3	15 Volt TVS Diode	30 Volt TVS Diode

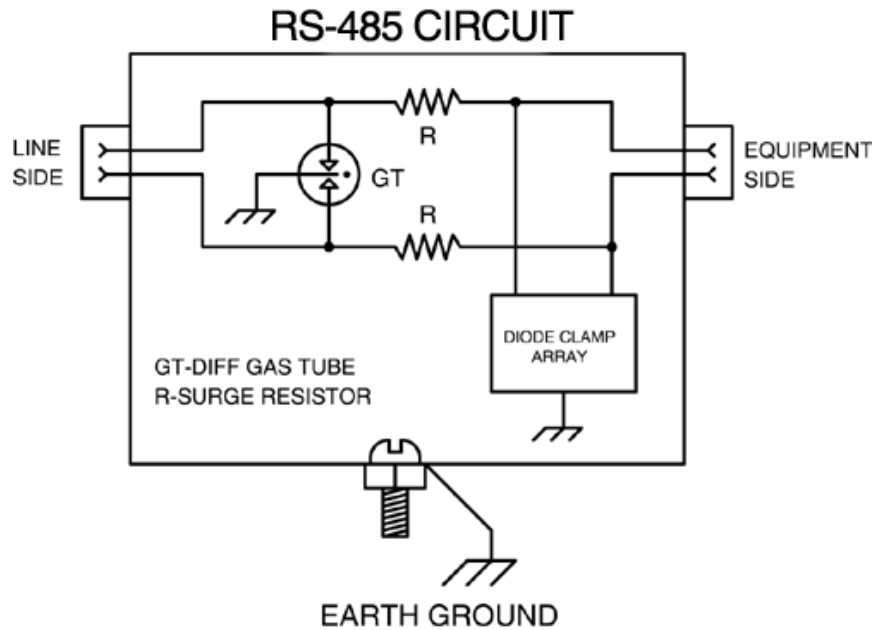
### Electrical Specifications – AC Power

Models:	AL-VDP01228AW / AL-VDP11228AW
Connectors	(2) Screw Terminal Blocks
Stage 1 Clamping Voltage	± 90 Volts
Stage 2 Current Rating	4 Amps
Stage 3	47 Volt Varistor

**Simplified Circuit Schematic – Video**



**Simplified Circuit Schematic – RS-485**



**Simplified Circuit Schematic – Power**

