

HyperLink Wireless brand Weatherproof Lightning and Surge Protector for RS-422 & RS-485 Lines - Model: AL-D4-05W

Applications

- RS-422/RS-485 communications
- RTD applications
- Industrial and building automation
- AISG control lines
- T1/E1/J1 lines (see note below)

Features

- Protection for up to four pairs of lines
- Three-Stage protection
- Superior to diode or TVS only based designs
- Weatherproof ABS enclosure
- Removable screw terminal blocks



(Shown with cover removed)

Description

The AL-D4-05W is a high performance 3-stage weatherproof protector that provides superior protection of differential or balanced digital or analog lines from transients and surges. This unit will protect up to four pairs of lines or eight single ended data, analog or control lines.

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 suppressor will not degrade the high-speed signals. The 3-stage design can handle higher-level transients than a protector that uses only diodes.

Failsafe Feature

The AL-D4-05W series is designed to convert into a failsafe mode in the rare case of a catastrophic surge or lightning event. For this mode, the resistors in the second stage will fuse and portions of the diode array will short. This effectively disconnects the line from sensitive equipment thus limiting damage. The units are factory repairable.



These protectors feature a weatherproof ABS enclosure with gasketed cover and concealed mounting holes. Removable screw terminal strips are provided on the input and output for convenience. To ease installation, the terminal strips can be removed. A ground clamp provides a tie point for earth ground.

Application Note: Not for use with T1 lines with Ring or DC Power.

Specifications

Mechanical Specifications

Enclosure Material	Dark Gray ABS
Ground Lug	10 AWG Max.
Operating Temperature	-40 C (-40 F) to +80 C (+176 F)
Weight	.38 lbs. (.17 kg)
Dimensions	6.3 x 3.15 x 2.17 (in) 160 x 80 x 55 (mm)
RoHS Compliant	Yes

Electrical Specifications

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

