Model: AL45POE

High Power Weather-Proof PoE 10/100-T CAT5 Lightening Surge Protector

Features：

- Three-Stage protection
- Failsafe architecture
- Anti-Dust IP50 Aluminum enclosure
- Gasketed cover and concealed mounting holes
- Removable terminal strips and modular RJ45 jacks
- Ground clamp provided on outside of enclosure
- Power-Over-Ethernet (PoE) compatible
- Supports normal and reverse polarity PoE
- Power and Signal line protection
- Common mode protection – Line to Ground
- High-energy , High-speed capabilities
- Low shunt capacitance
- All 8-pins protected

Applications:

- Computer Control Rooms
- Educational Institutions
- Sever Farms
- Commercial Offices
- Manufacturing Facilities
- Transmitter and Receiver Stations

Companion Products:

- IP network Camera
- VoIP Telephone
- Wireless Access Points
- Wireless Access Control
- Wireless Outdoor Mesh Router

AL45POE three-stage Lightening Protector provides superior lightening and surge protection for both indoor and outdoor 10/100 Base-T networks. In addition, the unit is compatible with Power-over-Ethernet (PoE) devices. Integral to the design is protection for the two Ethernet data pairs and the PoE DC power feed.

In the data path, the first stage of protection is a differential gas discharge tube. Stage two is a pair of current limiting series resistors and the final stage is high speed, low capacitance diode clamp array. In the power path, the first stage is comprised of a differential gas discharge tube . Stage two is a dual low pass filter and the final stage is a triple array of bi-directional clamping diodes. The unit supports normal and reverse polarity PoE .

The advantage of AL45POE three stage surge protector design is the added level of protection due to its large power rating and safety due to its failsafe architecture. In the event of a catastrophic surge event, the series resistors will fuse and the shunt diodes will short . This will safely disconnect the line from the datacom equipment

AL45POE ‘s CAT5 Lightening Protector is compatible with Wireless Access Points , Access Servers and Outdoor Mesh Router , Outdoor AP with or without Power-Over-Ethernet functionality. A ground clamp provides a tie point for earth ground. For maximum protection from lightning on long cable runs, two units can be used, one at each end of the cable .

Electrical Specification

Connectors	2 x Modular RJ-45 Female Jacks and 2 x Removable Terminal Strips
Protection Mode : All mode	Line-Ground Line-Line
Data Lines	Pair 1 : Pin 1/2 , RJ45,T1/T2, Terminal Strip Pair 2 : Pin 3/6, RJ45-T3/T4, Terminal Strip
CAT-5 Power Pin-out	Supports normal and reverse polarity +/- VDC: Pins 4/5,RJ45-T5/T6, Terminal Strip +/- VDC: Pin 7/8, RJ45-T7/T8, Terminal Strip
Data Clamping Voltage (Pins 1,2,3,6)	18 Volts (7.5V DC)
PoE Clamping Voltage (Pin 4,5,7,8)	48 Volts (60V DC)
Maximum Characteristics Data	TURN-ON @ 10mA + 9Vdc +- 10%

	UL 497B Strike Voltage Breakdown +8.4 To +9.6Vdc Resistance : 1 Ω+- 20% Data Rate : Up to 100Mbps Max Holding Current : 400mA @ + 20° 620mA@ - 40° 290mA@+50°
Maximum Characteristics DC	Turn-On (@10mA) : +- 48Vdc +- 10% UL 497B Strike Voltage Breakdown (100Vdc/SEC RISE) : +-52.8 To+-43.2.0 Vdc Resistance : .05Ω+-20%

Surge

DC spark-over voltage	230V ±20%
At100V/μs-for 99% of measured value-typical values of distribution	<400V <350V
At 1kV/μs-for 99% of measured values –typical values of distribution	<500V <450V
Nominal impulse discharge current(wave8/20μs)	20kA
Single impulse discharge current (wave8/20μs)	25kA
Nominal alternating discharge current (50Hz,1s)	10A
Alternating discharge current (50Hz,9cycles)	50A
Insulation resistance at 100Vdc	>GΩ
Capacitance at 1 MHz	<1.5pF
Transverse delay time	0.2μs
Arc voltage at 1A	-35V
Glow to arc transition current	-1A
Glow voltage	-200V

Grounding

Grounding	10-32 Stud with wire clamp

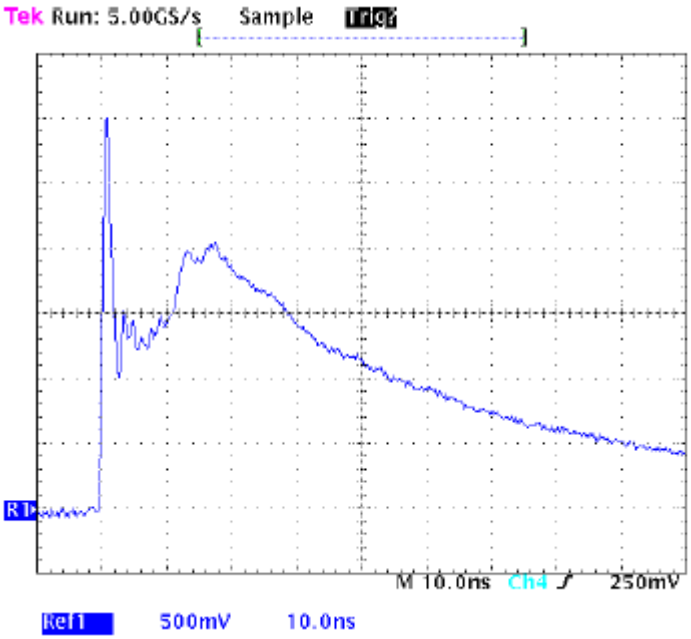
Mechanical Specification

Enclosure	Anti-Dust Aluminum, IP50
Operating Temperature	-20 ◦ C - +70 ◦ C
Storage Temperature	-20 ◦ C - +65 ◦ C
Weight	120g
Dimensions	8.4(L) x8.1(W) * 2.2(H) cm

TheTVS diode array will meet the surge requirements of IEC 61000-4-2 (Formerly IEC 801-2), Level 4, “Human Body Model” for air and contact discharge.

Transient protection for data line	IEC61000-4-2(ESD) +- 15kV(air),+-8kV (contact) IEC61000-4-4(EFT) 40A (5/50ns) IEC61000-4-5(Lightning) 12A(8/20us)
Small SO-14 Surface mount package	Yes
Protects	Eight I/O Lines
Working Voltages	5V,12V,15V and 24V
Low leakage current	Yes
Low operating and clamping voltages	Yes
Solid-state silicon avalanche technology	Yes

ESD Pulse Waveform (IEC 61000-4-2)



IEC 61000-4-2 Discharge Parameters

Level	First Peak Current (A)	Peak Current at 30 ns (A)	Peak Current at 60 ns (A)	Test Voltage (Contact Discharge) (kV)	Test Voltage (Air Discharge) (kV)
1	7.5	4	8	2	2
2	15	8	4	4	4
3	22.5	12	6	6	8
4	30	16	8	8	15