



Choosing a Surge Protective Device

Application : At The Service Entrance

The service entrance SPD is the first line of defense against lightning and surges coming in on the power lines from the outside world. The service entrance is the location where the power company supplies electric power to the customer and where the neutral (if used) is earth-grounded.

The following information is useful for determining the proper protection :

- A) Is the service voltage single phase or three phase?
- B) What are the rated voltage values each line to line? What are the voltage values each line to neutral (or to center tap)?
- C) If a neutral does *not* exist, is a *corner* of a delta system grounded?
- D) What is the KVA (or ampere rating) of the incoming power?
- E) If the frequency is not 60 Hz (U.S.), please specify.
- F) Are lightning occurrences very severe in the area?
- G) Are man-made surges severe in the area? (These surges are caused by electrical operation of anyone's equipment on the power company's lines, including switching operations by the power company)
- H) Is the SPD to be installed indoors or outdoors? Will the atmosphere be corrosive or explosive?
- I) The SPD is provided with indicator lamps to show that it is functional. Are remote alarm relays desired for remotely monitoring the SPD?
- J) Are there any helpful comments to clarify the description of the power system, concerns about protection of special or unusual equipment, or any questions whatsoever on lightning and surge protection of electrical and electronic equipment?

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Application : Within The Facility

Beyond the service entrance certain electrical and electronic equipment within the facility may require additional protection against internally generated surges and by lightning entering through grounds and conductors (other than the incoming power lines). **The service entrance arrester may be too far away** to protect this equipment and therefore “secondary” local protection becomes necessary. This protection consists of smaller SPD's (suppressors and protectors are other names) mounted right at the equipment, at distribution panels, or at the wall receptacle.

The following information is useful for determining the proper protection :

- A) Briefly describe the equipment requiring protection.
- B) What is the voltage of operation? Is it AC, DC, RF, signal, data, other.
- C) How many wires feed the equipment?
- D) What are the actual voltage values wire to wire and each wire to neutral (if used)?
- E) Any comments which may be useful.

Lightning Protection Corporation manufactures products for protection of electrical and electronic equipment against malfunction and damage that may be caused by lightning and surges. These surge protective devices (SPD) are for equipments operating on:

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|---|---|
| 1) AC power up to 1000 VRMS, 50/60 Hz, single and three phase. | 5) Railroads-yard, line, track, AC, DC, RF. |
| 2) DC power up to 1500 VDC. | 6) Gas tube spark gap circuits. |
| 3) RF power to 10 KW, frequency to 4 GHz, coaxial applications. | 7) Critical circuits. |
| 4) Signal, wire, communications systems. | 8) Custom Systems. |

Protection is provided for lightning and surge currents up to 240,000 amperes and beyond for special requirements. Response is in a fraction of a nanosecond (instantaneous). Lifetime operation up to 40 years.

Industry Focus

For any industrial/commercial/government/military entity worldwide utilizing electrical and electronic equipment being susceptible to lightning and surge damage. Applications include:

AC Power	Electronics	Railroad	Transmitters
Aerospace	EMP	Signal	(4-20 ma)
Airports	Gas Tube Applications	Communications	Water Treatment
Aviation	Government	Radar	Wind Turbine
Broadcasting	Grounding Gas Tubes	Solar	
Communications	Microwave	Spark Gaps	
DC Power	Military	Telephone	
DC Rail	Petroleum	Central Office	

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Please Note : There is only one "Lightning Protection Corporation", abbreviated "Corp." Other companies may use "Lightning Protection" as part of their name. Our part numbers are preceded with the letters LPC. All LPC products are made in the USA.

Lightning Protection Corporation designs, develops, and manufacturers all of it's products and are strictly lightning and surge protective devices. Many of the 1500 models available are standard, specialty items, or standard models modified to suit customer needs.

Our services provide expert engineering information at no cost to the customer. We assist, recommend, and advise on the choice and use of the proper model for the application, at no charge. We can modify existing standard models or make up new models to suit the application at no engineering or tooling costs to the customer.

We can take your order direct via phone, fax, email, U.S. mail. We can ship by any method desired. We accept VISA, MC, open account, COD. You may order through any favorite distributor.