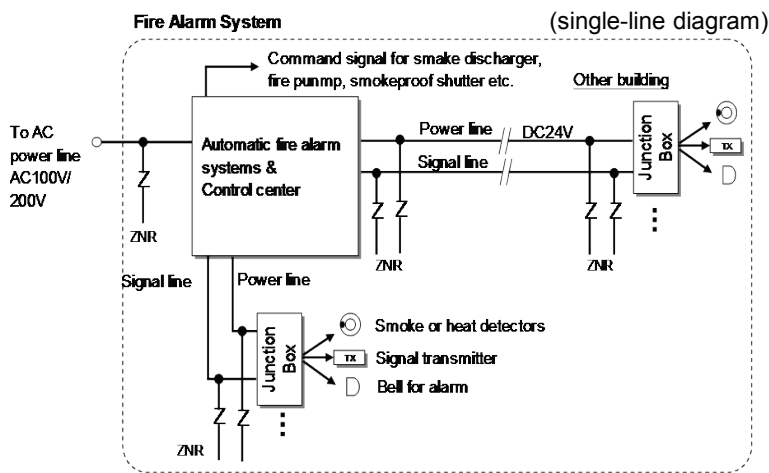


ZNR Application Note Fire Alarm System

1. Industry Segments:

Field of Industry: Security and Telemetry
Product: Smoke and heat detector, Centralized alarm controller

2. Transient Surge Voltage and its Protection by Using ZNR:



Aim of ZNR Application:

Protection of a fire alarm control system and detectors against lightning surges

Problems with Surge Voltage:

Kind of surge voltage: Induced lightning surge voltage
Path of surge voltage: AC/DC power line and signal line
Failed parts or circuits: Damage of a fire alarm control system and detectors

How to Apply ZNR to Circuit: (Blue Part Numbers Indicate NEW “E-Series”)

Connection: AC power line(line-line, line-ground), DC power line and signal line(line-line, line-ground)

ZNR part number selection (representative):

For AC100/200V systems : [ERZE07A471](#), [ERZE08A471](#), [ERZE10A471](#) or [ERZE11A471](#) for line-line, ERZV14D182 for line-ground.
For DC24V line: ERZV10D390 or 470 for line-line and ERZV10D182 for line-ground.
For signal lines: ERZV10D220 for line-line.

Precaution in surge protection designing (Parameters to be considered for ZNR selection):

Varistor voltage should be selected by maximum AC/DC power line voltage and signal voltage.
Equal potential bonding among the control system should be taken into account
For heat or smoke detector operated by Li-battery without wire, surge protection is not required.

3. More Information:

Home page for up-to-date information: <http://na.industrial.panasonic.com/products/circuit-thermal-protection/circuit-protection/znr-transientsurge-absorbers>