

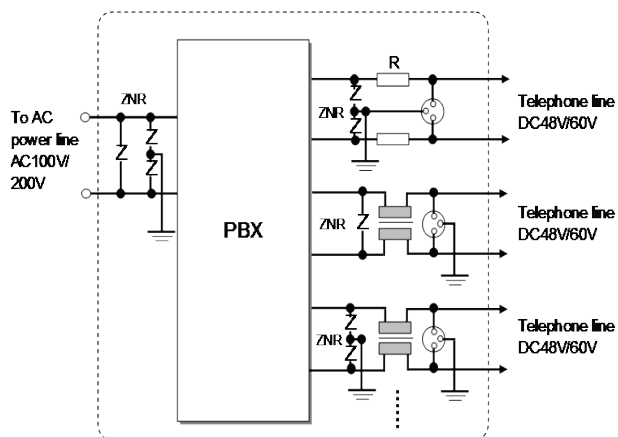
ZNR Application Note

Telecommunication System

1. Industry Segments:

Field of Industry: PBX (Private Branch Exchange)
Product: Exchange controller, Multifunctional telephone

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



Aim of ZNR Application:

Protection of the control system for PBX and telephone apparatus against lightning surge voltages

Problems with Surge Voltage:

Kind of surge voltage: Induced lightning surge voltage and induced transients
Path of surge voltage: AC power line and telephone lines in the building
Failed parts or circuits: Damage of PBX and multifunctional telephones

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

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

ZNR part number selection (representative):

For AC200/100V systems : ERZE10A431 or 471 , ERZE11A431 or 471

For DC60V telephone lines : ERZV14D121 or 151 3-electrode GDT for line-ground

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

Ringer signal voltage and signal frequency in telephone line should be taken into account.

Combination circuits with GDT(gas discharge tube) is preferable for signal lines. If ZNR is applied to line-ground, its varistor voltage should be higher than 330V to clear DC250V for insulation resistance test.

For AC line-ground with withstand voltage test, varistor voltage should be high enough to testing voltage.

3. Relevant Technical Information and References:

Telephone line voltage : DC48V for Japan and USA, DC60V for Europe

4. More Information:

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