

ZNR Application Note

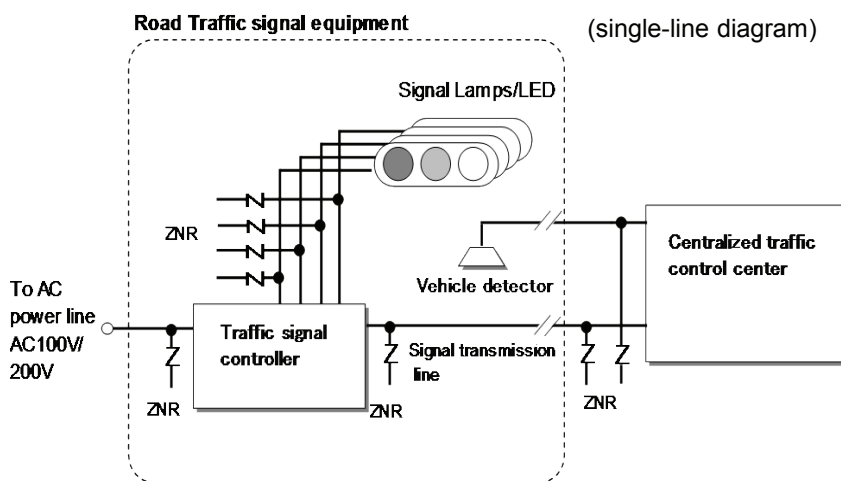
Road Traffic Signal Equipment

1. Industry Segments:

Field of Industry: Traffic signal equipment

Product: Road traffic signal equipment - Traffic Signal Controller, Vehicle Detector, Signal communication line, LED lamp

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



Aim of ZNR Application:

Protection of the traffic signal controller against lightning surge voltage

Problems with Surge Voltage:

Kind of surge voltage: Induced lightning surge voltage

Path of surge voltage: AC power line, Signal line and structural metal member

Failed parts or circuits: Damage of Traffic signal controller, LED lamp, Vehicle detector etc.

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

Connection: AC power lines(line-line, line-ground), Signal lines(line-line)

ZNR part number selection (representative):

For 100V system : [ERZE14A471](#), ERZC32EK471(line-line) [ERZE14A102](#), ERZC32EK102(line-ground)

For Signal lines: DC12V ERZV20D220

If signal voltage is other than DC12V, ZNR should be selected according to the max. signal line voltage.

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

ZNR should be connected at load side after over current protector.

Surge voltage test should be conducted, if there is any safety standards for traffic signal equipment.

Equal potential bonding is required for systematic surge protection.

3. More Information:

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