ZNR Application Note

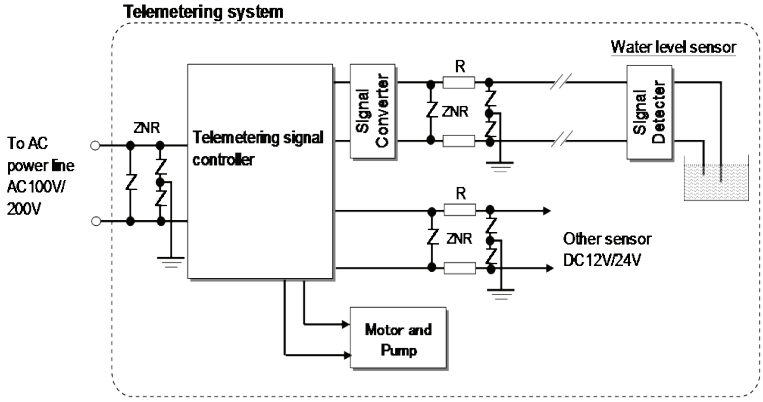
Water Treatment Plant

1. Industry Segments:

Field of Industry: Security and Telemetering

Product: Telemetering signal system, Water level sensor and other signal sensors

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



Aim of ZNR Application:

Protection of the telemetering signal system and their various sensors against lightning surges

Problems with Surge Voltage:

Kind of surge voltage: Induced lightning surge voltage

Path of surge voltage: AC power lines, signal lines and grounding

Failed parts or circuits: Damage of signal controller, signal detectors and signal converters

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

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

ZNR part number selection (representative):

For AC100/200V systems : ERZE14A431, or 471 for line-line and ERZV20D182 for line-ground.
For signal line DC12V/24V : ERZV20D390 or 470 for line-line and ERZV20D182 for line -ground.
For heavy duty requirements, E type or Lightning protection box are recommended.

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

ZNR should be connected at load side of the fuse(over current protector) with a suitable current rating.
Varistor voltage should be selected by maximum AC/DC line voltage and signal voltage
Voltage of the insulation test and withstanding test must be taken into account.
Equal potential bonding should be taken in account.

3. Relevant Technical Information and References:

Surge voltage tests must be conducted for individual equipment along with their safety standards.

4. More Information:

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