

1. Industry segments

• **Field of industry**

Energy Distribution Equipment

• **Product**

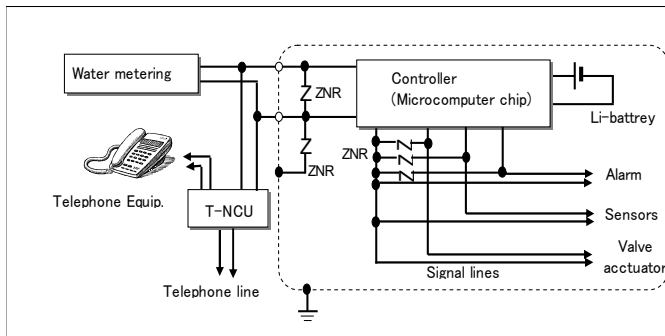
Electronic Gas meter

Membrane type

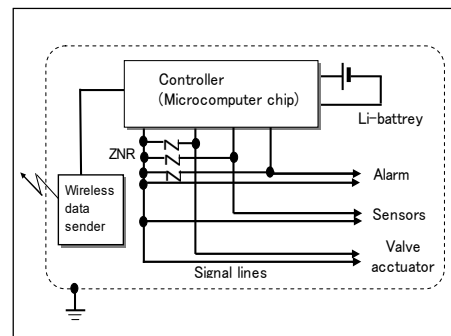
Ultrasonic type



2. Transient surge voltage and its protection by using ZNR



T-NCU system



Wireless system

1) Aim of ZNR application

Protection of the measuring, data logger, communicating circuits in the electronic gas meter against lightning surge voltage.

2) Problems with surge voltage

- **Kind of surge voltage** Induced lightning surge voltage
- **Path for surge voltage** Control, sensor and communication lines
- **Failed parts or circuits** Damage of gas metering controller

3) How to apply ZNR to the circuits

• **Connection**

Telephone lines (line-line and line-ground), signal/sensor lines (line-line)

• **ZNR part number selection**

Telephone lines: ERZE08A471 or 681, ERZV10D471 or 681

for line-to-line ERZV10D102 for line-to-ground

Signal/sensor lines (line-line): ERZV05D220

• **Precaution in surge protection designing**

Surge voltage test should be conducted, if there is any safety standards for gas meters.

Company in-house specification for surge voltage test should be taken into account.

3. Relevant technical information or references

JISB8571 『Gas meters』

OIML R137-1 『Gas meters-Part1: Requirements』