

WG214 Zero Power Consumption Sensor

◆ Features

- No need the power supply when it works.
- Bipolar excitation working mode, the sensor outputs a pair of positive and negative electrical pulse signal when the magnetic field polarity changes for a circle.
- Only when the external magnetic field polarity changes, magnetic strength reaches the excitation threshold, the sensor will outputs a pulse signal, so the vibration won't happen. The operation is stable and reliable.
- The signal amplitude has nothing to do with the magnetic field changing speed, and it can work at the speed near to zero.
- The signal processing is simple, and it can be directly connected with transistors, comparators, A/D converter, etc.
- The output signal can be remote transmitted by the signal lines, it's suitable for LAN management.
- No mechanic contact, no spark, is a kind of intrinsic safety devices.
- Wide operating temperature range, strong environmental adaptability.

◆ Performance Index

| Name | | Symbol | Value | Unit |
|--|------|--------|--|------|
| Excitation strength | Min. | B | 3 | mT |
| | Typ. | | 5~6 | |
| | Max. | | 12 | |
| Pulse signal amplitude | | | ≥1.5 | V |
| Pulse width (in the location of 1V) | | | 10~30 | μS |
| DC internal resistance | | | 650~850 | Ω |
| Operating frequency | Min. | f | Unlimited | kHz |
| | Max. | | 10 | |
| Operating Temp. | | | -40~+125 | °C |
| Outline Dimension and Typical installation | | | see the figure | - |
| Sensitive silk location (distance to the bottom) | | | 2.5 | mm |
| Package | | | Plastic shell, Epoxy potting | - |
| External lead | | | Resistance to high temperature soft wire | - |

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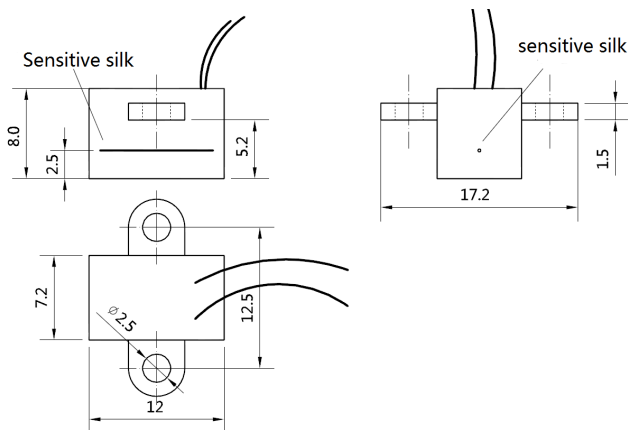
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◆ Application

- **Rotation count:** Smart water meter, heat meter, gas meter, fuel gauge, flow meter, odometer etc.
- **Position detection:** oil depot level detection, tipping bucket rain gauge, unattended hydrometeorology monitoring.
- **Electronic switch:** Explosion-proof switch, ignition switch etc.

◆ Sensor dimension and sensitive silk location



- In the water meter application, the magnetic ring of $\phi 9.5 \times \phi 6.0 \times 3.5$ mm can be used, it is magnetized in axial direction, a pair of poles. The surface magnetic strength is more than 90 mT, the installation distance from the surface of ring to the bottom of the sensor is about 2.5mm.
- Note: the sensor has certain requirements to the magnetic strength, too strong or too weak magnetic field may affect its operation.
- If using other material and shape of the magnet, it needs to measure its magnetic field, and adjust the installation distance.

