

Zero Power Consumption Magnetic Sensor WG113A

◆ Features

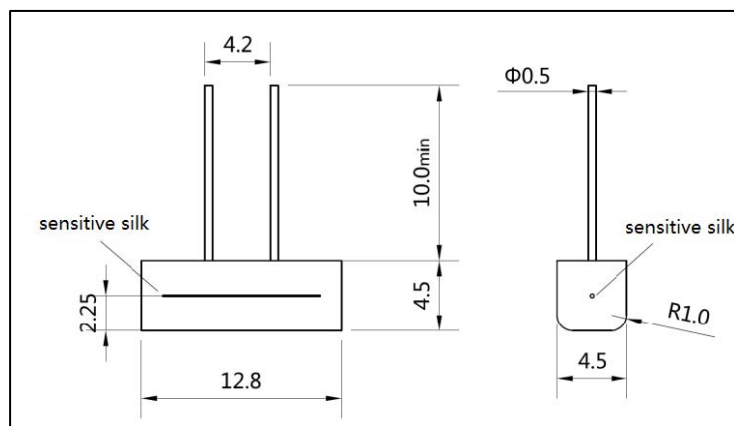
- No need the power supply when it works.
- Bipolar excitation working mode, the sensor outputs a pair of positive and negative electrical pulse signal when the magnetic field polarity changes for a circle.
- Only when the external magnetic field polarity changes, and magnetic strength reaches the excitation 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 can be directly connected to the transistor, comparator, analog-to-digital converter, etc.
- The output signal can be remote transmitted by the signal lines, so 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.

◆ Main Characteristics

Parameter	Symbol	Value	Unit
Excitation magnetic induction strength	B	Min.	2.5
		Typ.	7~8
		Max.	12
Pulse signal amplitude	V_o	≥ 1.5	V
Pulse width (@1V)	τ	10~30	μS
DC resistor	R_o	800~1200	Ω
Operating frequency	f	Min.	unlimited
		Max.	10
Operating temperature	T	-20~+85	$^{\circ}C$
Dimensions and installation	-	See Fig	-
Position of sensitive silk (from the bottom of sensor)	D	central axis	mm
Package	-	Plastic shell, epoxy potting	-
Outer lead	-	tinning copper hard wire	-

◆ Application

- Rotational counting: intelligent water meters, heat meters, gas meters, oil meters, flow meters, odometers, etc.
- Location detection: oil depot level detection, tipper type rain gauge, unattended hydrological and meteorological monitoring, etc.
- Electronic switches: explosion-proof switches, automotive ignition switches, etc.

◆ Dimension**◆ Notes**

- In water meter applications, a $\phi 9.5 \times \phi 6.0 \times 3.5$ mm ferrite magnetic ring is used, which is axially magnetized and has a pair of poles. The surface magnetic induction intensity is greater than 90mT, and the installation distance from the surface of the magnetic ring to the bottom of the sensor is about 2.5mm.
- Sensors have certain requirements for magnetic field strength, and either too high or too low a field can affect their operation.
- Using other materials and shape magnets, the magnetic field shall be measured and the installation distance shall be adjusted.

