ZJ-S201C Flow Sensor

Product Features:

1. This product features a compact and lightweight design, a small footprint, and easy installation.
2. The impeller is lined with stainless steel beads, ensuring permanent wear resistance.
3. The sealing ring employs an upper and lower load-bearing design, ensuring no leakage.
4. The Hall effect sensor is imported from Germany and encapsulated with potting compound to prevent moisture ingress and aging.
5. All raw materials comply with the ROHS standards.



I. Product Overview:

The water flow sensor primarily consists of a plastic valve body, a water flow rotor assembly, and a Hall sensor. It is installed at the inlet of the water heater to measure the incoming water flow. As water passes through the water flow rotor assembly, the magnetic rotor rotates, and its rotational speed varies in accordance with the flow rate. The Hall sensor then outputs corresponding pulse signals, which are fed back to the controller. The controller uses this information to determine the magnitude of the water flow and perform appropriate regulation.

II. Precautions for Use

- ❖ Severe impact and chemical corrosion are strictly prohibited.
- ❖ Throwing or colliding is strictly prohibited.
- ❖ Install vertically, with a tilt angle not exceeding 5 degrees.
- ❖ The medium temperature should not exceed 120 ℃.

Installation orientation diagram

OUT

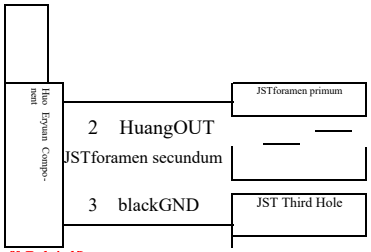
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3.Output waveform diagram:

Duty Cy=40%～60%

IV. Lead-in Methods:

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V. Technical Parameters

Scope of application:		Suitable for fully automatic gas water heaters
Essential parameter	1、Minimum rated operating voltage	DC 3.5V-24V
	2、maximum operating current	15 mA （DC 5V）
	3、Operating voltage range	DC 3.5～24 V
	4、load capacity	≤10 mA （DC 5V）
	5、Operating temperature range	≤80℃
	6、Operating humidity range	35%–90% RH (no frosting)
	7、Withstand voltage	Water pressure below 1.75 MPa
	8、Storage temperature	-25～+80℃
	9、Maintain humidity	25%～95%RH
Technical requirement	1、Output high-level pulse	>DC 4.5 V (input voltage DC 5 V)
	2、Output pulse at low level	<DC 0.5 V (input voltage DC 5 V)
	3、refined Ratio (flow--pulse output)	1–25 L/min ±5%
	4、Output pulse duty cycle	50 ±10%
	5、Output rise time	0.04μS
	6、Output fall time	0.18μS
	7、Flow-pulse characteristics	Horizontal test pulse frequency (Hz) = [5 × Q] ± 3% (horizontal test); where Q is the flow rate in L/min.
	8、impact resistance	The product packaging shall withstand free fall from a height of 50 cm in the X, Y, and Z directions onto a concrete surface without abnormal behavior, with precision variation within ±5%.
	9、insulation resistance	The insulation resistance between the Hall sensor and the copper valve body shall be ≥ 100 MΩ(DC 500 V).
	10、heat resistance	After exposure to an environment of 80±3 °C for 48 h, the components were returned to room temperature for 1–2 h; no abnormalities were observed, and no cracks, loosening, expansion, or deformation occurred in the parts, with precision variation remaining within 10%.
	11、freeze resistance	After being placed in an environment at-20 ± 3 °C for 48 h and then returned to room temperature for 1–2 h, no abnormalities were observed; the components exhibited no cracks, loosening, expansion, or deformation, and their dimensional accuracy variation remained within 10%.
	12、moisture-proof	After being placed in an environment at 40±2 °C with a relative humidity of 90%–95% RH for 72 h and then removed, the insulation resistance was ≥1 MΩ.
	13、pull strength	A tensile force of 10 N was applied to the lead wire for 1 minute; no loosening or breakage occurred, and no change in performance was observed.
	14、durability	At room temperature, a water pressure of 0.1 MPa was applied to the inlet; each cycle consisted of a 1s connection period followed by a 0.5s disconnection period. The system withstood 300,000 such cycles without any abnormalities.