YF-S401 Flow Sensor

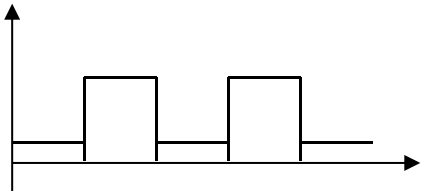
1. Product Introduction:

The water flow sensor is mainly composed of a plastic valve body, a water flow rotor assembly and a Hall sensor.It is installed at the water inlet end of the water heater to detect the water flow. When water passes through the water flow rotor assembly, the magnetic rotor rotates and the speed changes with the flow rate. The Hall sensor outputs the corresponding pulse signal and feeds it back to the controller, which determines the size of the water flow and regulates it.

2. Precautions for use

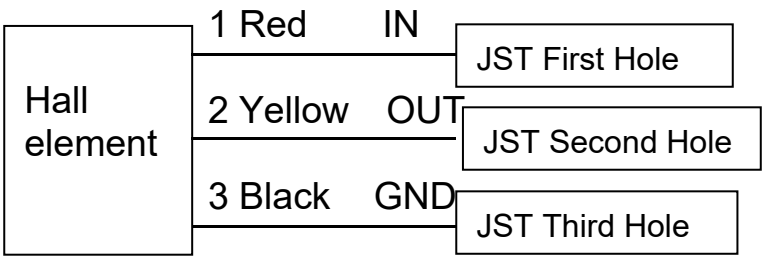
- Severe impact and chemical corrosion are strictly prohibited.
- Throwing or collision is strictly prohibited.
- Vertical installation, the inclination should not exceed 5 degrees.
- The medium temperature should not exceed 1200 C.

3.Output waveform:



Duty Cy=40%～60%

4. Lead-out method:



5. Technical parameters

Scope of application:		Applicable to fully automatic gas water heaters
Basic parameters	1.Minimum rated operating voltage	DC3.5V-24V
	2.Maximum operating current	15 mA （DC 5V）
	3. Working voltage range	DC 5～18 V
	4. Load capacity	≤10 mA （DC 5V）
	5. Operating temperature range	≤80℃
	6. Operating humidity range	35%～90%RH (No frost)
	7. Allowable pressure resistance	Water pressure below 1.75Mpa
	8. Storage temperature	-25～+80℃
	9. Maintain humidity	25%～95%RH
Requirements	1. Output pulse high level	>DC 4.5 V (Input voltage DC 5 V)
	2. Output pulse low level	<DC 0.5 V (Input voltage DC 5 V)
	3. Accuracy (flow--pulse output)	0.3～6L/min±3%
	4. Output pulse duty cycle	50±10%
	5. Output rise time	0.04μS
	6. Output fall time	0.18μS
	7. Flow-Pulse Characteristics	Level test pulse frequency (Hz) = [43*Q] ± 3% (level test) (Q is flow rate L/min)
	8. Impact resistance	The product is well packaged and falls freely from a height of 50cm in the X, Y, and Z directions to the concrete surface without any abnormality, and the accuracy changes within 5%.
	9. Insulation resistance	The insulation resistance between the Hall sensor and the copper valve body is above 100MΩ. (DC 500V)
	10. Heat resistance	Place in 80±3℃ environment for 48h, return to room temperature for 1-2h without abnormality, and parts without cracks, looseness, expansion, deformation, etc., and the accuracy change is within 10%.
	11. Cold resistance	Place in -20±3℃ environment for 48h, return to room temperature for 1-2h without abnormality, and parts without cracks, looseness, expansion, deformation, etc., and the accuracy change is within 10%.
	12. Moisture resistance	After being placed in an environment of 40±2℃ and 90% ～ 95%RH for 72h, the insulation resistance is above 1MΩ.
	13. Pull-out strength	A pulling force of 10N was applied to the lead wire for 1 minute, and there was no loosening or breaking, and the performance did not change.
	14. Durability	At room temperature, 0.1MPa water pressure was introduced from the water inlet, with 1S on and 0.5S off as one cycle. There was no abnormality after 300,000 tests.