

# HFM500 Thermal Flow Switch



Nanjing Hangjia Electronic Technology Co., Ltd.

## Overview

HFM500 thermal flow switch adopts the principle of thermal diffusion. The temperature difference between the two sensors can be used as the basis for measuring the flow rate. When the flow rate of the medium increases, the temperature difference decreases and vice versa. After processing, the temperature difference value is converted into standard electrical signal output and displayed.

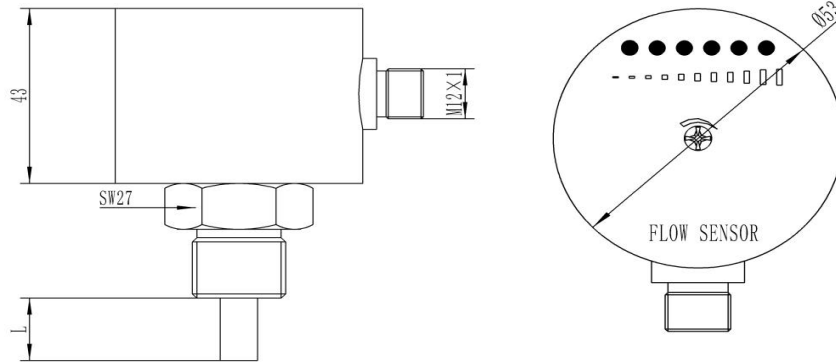
## Features

- ◆ All-metal shell design, no moving parts, maintenance-free and easy to install.
- ◆ One model is suitable for various pipe diameter requirements. The switching value is continuously adjustable.
- ◆ Pressure loss low
- ◆ Compact structure. 6-LED displays flow trend and switching status.

## Technical Parameters

Measuring Range	Water: 1...150cm/s (Most sensitive range 1...60cm/s)
	Oil: 3...300cm/s (Most sensitive range 3...100cm/s)
	Air: 20...2000cm/s (Most sensitive range 20...700cm/s)
Measuring Medium	Water, Oil, Air
Withstand Pressure	100bar
Initialization Time	8s
Response Time	1...15s, related to thermal conductivity of medium, typical value 2s
Supply Voltage	24VDC
Wiring Protection	Reverse connect protection、Overload protection、Short circuit protection
Output type	PNP/NPN/ Relay Optional
Load Capacity	400mA max(NPN and PNP Type); 1A max (Relay Type)
Display	1*Red LED (Flow Rate< Switch Point)
	1*Yellow LED (Flow Rate= Switch Point)
	4*Green LED (Flow Rate> Switch Point)
Operating Temperature	-20~80℃
Medium Temperature	-20~80℃
Storage Temperature	-20~100℃
Housing Material	SUS304
Probe Material	SUS304
Protection Grade	IP67
Wiring Method	M12 Connector

## Structure Drawings (Unit: mm)



## LED Functions and Settings

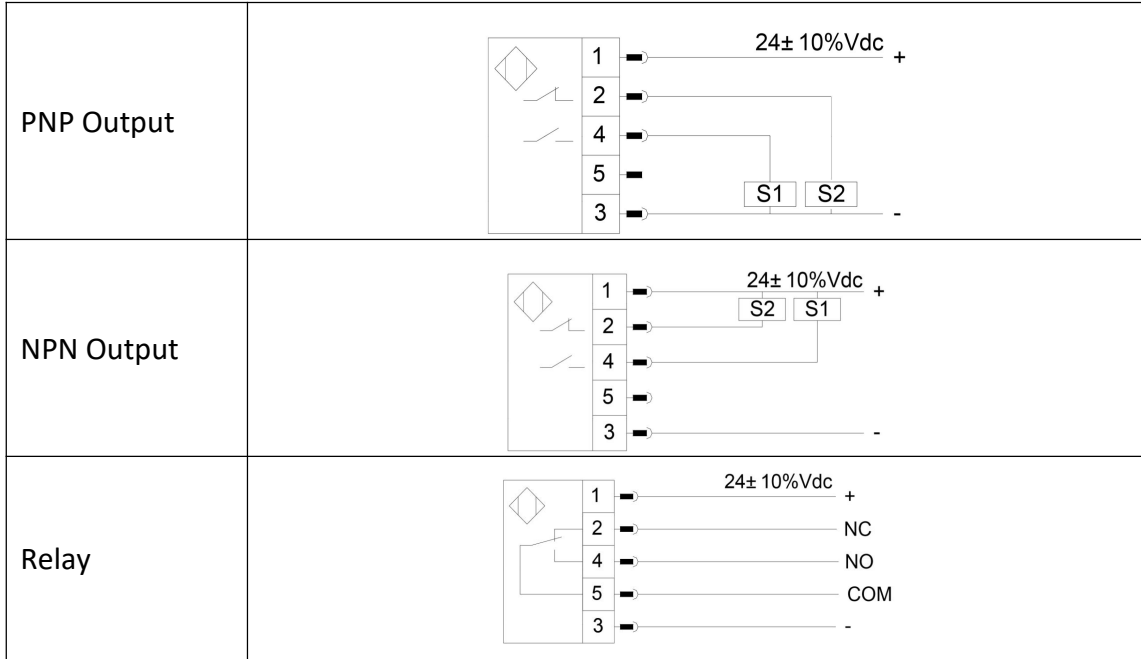
	The red light indicates that the current flow rate is below the switch point, No action of switch
	The yellow light indicates that the current flow rate is equal to switch point, Switch motion
	The green light indicates that the current flow rate is higher than switch point, the switch maintains output action. The greener lights there are, the faster the flow.

How to adjust?

1. Install the flow switch, remove the protection screw, make the medium flow at the flow rate that needs to be monitored.
2. adjust the potentiometer and make the first green LED bright exactly. The switch then releases when the flow rate falls below the current value. To make the switch point smaller than the current flow rate, adjust the potentiometer to make more green LED brighter.

## Electrical Connection

	<b>Signal</b>	<b>M12×1</b>	<b>Cable Outlet</b>
	Power+	1	Brown
	Power-	3	Blue
	Switch 1	4	Black
	Switch 2	2	White
com	5	Grey	



## Ordering Guide

Item NO.	Type				
HFM500	Thermal flow switch				
	<b>Code</b>	<b>Thread Spec</b>			
	G14	G1/4			
	G38	G3/8			
	G12	G1/2			
	G34	G3/4			
	G1	G1			
		<b>Code</b>	<b>Output Signal</b>		
		R	Relay Output		
		N	NPN output		
		P	PNP output		
		<b>Code</b>	<b>Supply Power</b>		
		V1	24VDC		
			<b>Code</b>	<b>Probe length</b>	
			L	Fill out X directly	
			<b>Code</b>	<b>Electrical Connection</b>	
			M	M12 Connector	
			Yn	Cable outlet, n=1 By default	
eg: HFM500	G12	R	V1	L=18	M