



MFM500A Calorimetric Flow Switch

Features

- Optional power supply 24VDC or 220VAC
- OLED screen, switchable display between the progress bar and digital display
- All stainless steel housing, IP67 protection
- Temperature compensation
- 2-way PNP, 2-way NPN, 1 relay output are all optional, Also 2-way PNP+4~20mA DC
- No moving parts, maintenance-free
- Switch output, control point setting via buttons
- Compact size, display rotates 180 Degree
- Mounting can be achieved with different connections for a variety of pipe diameters



Introduction

MFM500A Flow Switch is an intelligent thermal diffusion principle-based flow monitoring sensor. It has an ARM processing core and high quality sensors with proprietary measuring circuits. With temperature-compensation and on-board calibration tables, measurement accuracy is guaranteed should the water temperature change. It is suitable for real-time monitoring of water flows. It can also be used for cooling or lubrication system flow monitoring to pre-warn and protect critical equipment when there is flow fault condition. It is a fully enclosed IP67 design with stainless steel construction to adapt to a variety of application environments. It has over-voltage, over-current and reverse polarity protection. With self-illuminated OLED screen which is switchable between the progress bar and digital display numerals. MFM500A supports quick set point programming and it also has a display inversion function that enables installation in any flow direction.

It can be used for operational protection of various equipment in markets such as; power generation, metallurgy, steel, and paper mills, boilers rooms etc.

Specification

Measure Range: 1cm/s -150cm/s (water);	Output Signal Options: 1 relay, 2 NPN, 2 PNP, 2PNP+4~20mADC
Optimal Range: 3cm/s -100cm/s (water)	Output Function: NO, NC(optional)
Power Supply: (24± 4.8)V DC / 220VAC	Relay Characteristics:
Working Current: ≤ 60mA	Switch voltage: ≤ 250V AC / 30V DC
Switch Accuracy: ±10cm/s	Switch current: ≤ 3A
Hysteresis: ±2cm/s to ±8cm/s	Transistors Characteristics:
Initial On-Time: 2s -15s, 8s(typically)	Switch Voltage Drop: < 1.5V



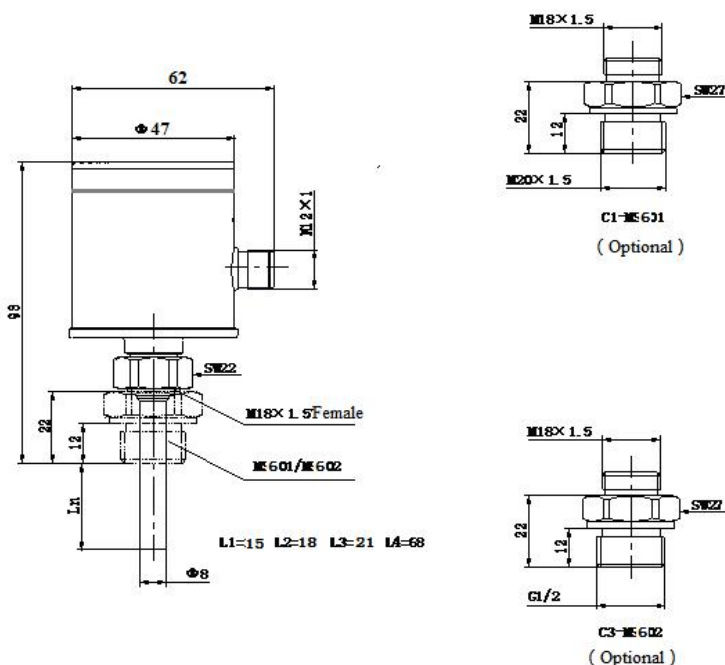
Switch-off Time: 1s -15s, 2s(typically) Switch-on Time: 1s -13s, 2s(typically)	Switch Current: $\leq 400\text{mA}$ Display: OLED, resolution 128×32 Electrical Protection: Reverse polarity, short-circuit, Over-voltage
Housing: Stainless Steel Button: PP Probe: Stainless Steel Installation: threaded mounting + adaptor options Endurance Pressure: 10MPa Set via: Button Electrical Connection: M12×1 5-pin plug Gross weight : 265g	Water Temp. : $-20^{\circ}\text{C} \sim 80^{\circ}\text{C}$ Storage Temp. : $-30^{\circ}\text{C} \sim 85^{\circ}\text{C}$ Working Temp. : $-20^{\circ}\text{C} \sim 70^{\circ}\text{C}$ Protection: IP67 Temperature Compensation: $5^{\circ}\text{C} \sim 50^{\circ}\text{C}$ (water) Electromagnetic Compatibility: GB/T17626.2/3-2006, GB/T 17626.4-2008 Shock: $\leq 3\text{g}$ (GB/T JJG 882-2004) Impact: $\leq 50\text{g}/1\text{ms}$ (GB/T 2423.5-1995)

Note: The above specification test medium is water: 5cm/s to 100cm/s @ 20°C (Factory defaults)

Outline Construction and Electric Connection

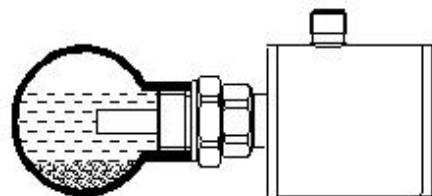
Unit: mm

Outline Construction:

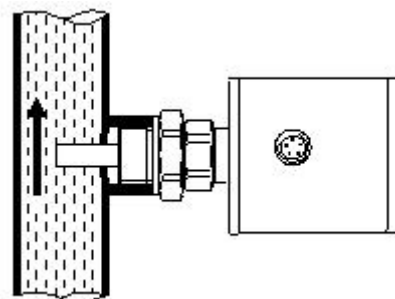


Suggested installation method:

Horizontal Pipe:



Vertical Pipe:

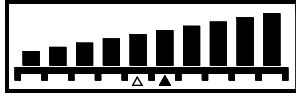




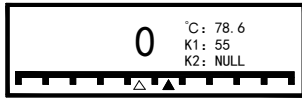
Two Displays:

Curvilinear relation between digital indication and velocity:

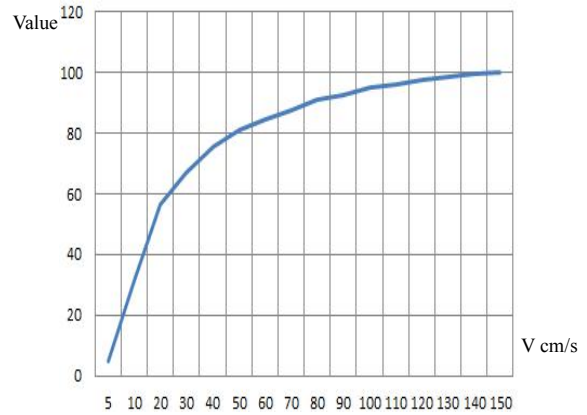
Progress Bar:



Digital Display:



▲ --Switch Point K1 Δ --Switch Point K2

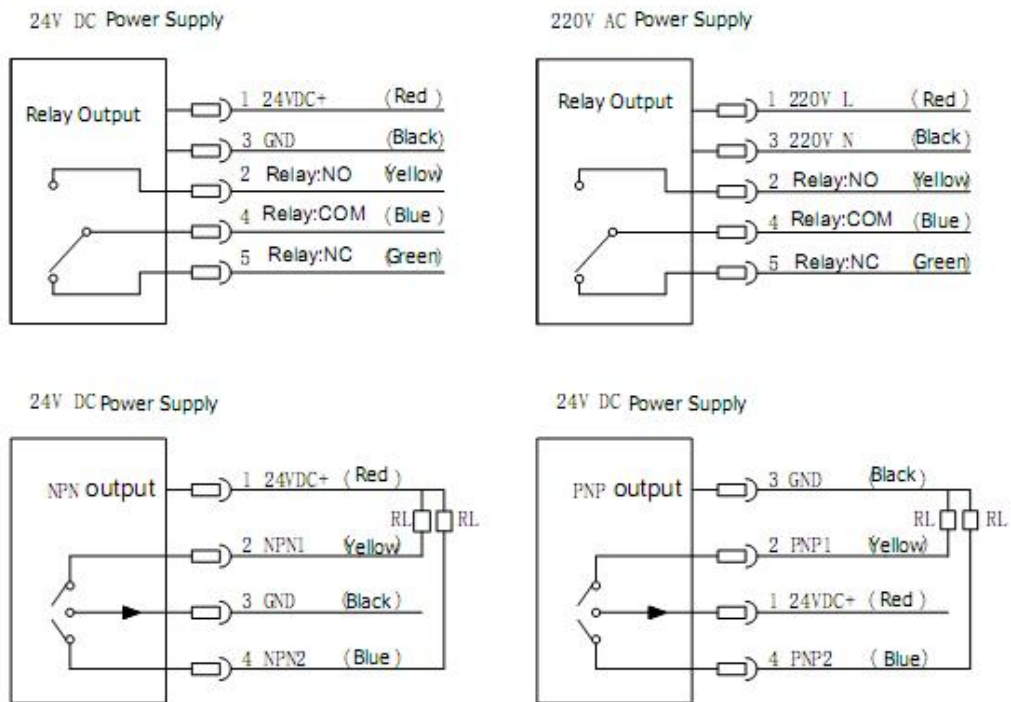


When the Switch Point Sign is flashing, it indicates that the velocity has exceeded the switch point velocity

Electrical Connection

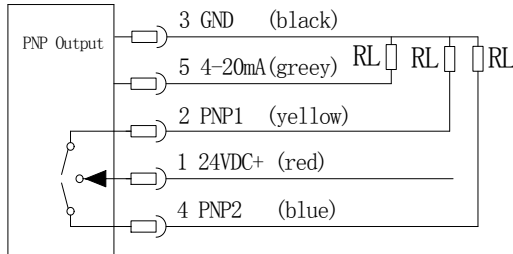
<p>M12×1</p>	Color	Pin	220VAC	24V DC
	Red	1	Power L	IN+
	Black	3	Power N	IN-
	Yellow	2	Relay: NO	Relay NO, NPN1, PNP1
	Green	5	Relay: NC	Relay NC, 4mA~20mADC
	Blue	4	Relay: COM	Relay COM, NPN2, PNP2

Electric Connection:





24V DC Power Supply



Order Guide

MFM500A	Flow Switch				
	Code	Power Supply			
	DC	24VDC			
	AC	220VAC			
	Code	Process Connection			
	C1	M20×1.5 male adaptor (MS601)			
	C3	G1/2 male adaptor (MS602)			
	Code	Output			
	J	1×Relay Output			
	N	2×NPN Transistor Output			
	P	2×PNP Transistor Output			
	PE	2×PNP + 4mA~20mADC			
	Code	Probe Length			
	L1	15mm			
	L2	18mm			
	L3	21mm			
	L4	68mm			
MFM500A	DC	C3	J	L1	Complete Spec.

Optional accessories: MS901 2m 5-pin M12×1 Female Elbow RVVP Cable(Standard)

MS601 M20×1.5 male adaptor

MS602 G1/2 male adaptor

Notes

1. Pressure port can be customized for users. Please ask at time of order
2. If users have special requirements or specifications or function requirements, please contact us

