

SPK81 Flow Switch

Features

- Optional power supply 24VDC or 220VAC
- OLED LCD 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 optional
- No moving parts, maintenance-free
- Switch output, control point setting continuously on panel
- Compact size, support inverted display
- Mounting joint can be equipped with different interfaces for a variety of pipe diameters requirement



Introduction

SPK81 flow switch is an intelligent thermal diffusion principle-based flow monitoring sensor. It adopts ARM processing core and combines with high quality sensors and dedicated circuit. With temperature-compensation and calibration, it can ensure measurement accuracy in the case of water temperature change. It is available for real-time monitoring of pipe water flow. It can be used for cooling or lubrication system flow monitoring to realize pre-warning and protection for critical equipment when there is flow fault. It uses fully enclosed design, stainless steel construction to adapt to a variety of application environment. It is with over-voltage, over-current and reverse polarity protection function. With self-luminous OLED screen, it allows switchable display between the progress bar and digital display numbers. SPK81 supports quick action point set, also it has display inversion function that enables installation in any direction, and no need for frequent adjustment and maintenance. It can be applied for operation protection of large equipment in fields such as power generation, metallurgy, steel, paper, boilers etc.

Specification

Item	Specification
Measure Range	1cm/s ~ 150cm/s (water)
Optimal Range	3cm/s ~ 100cm/s (water)
Power Supply	(24±4.8)V DC / 220VAC
Working Current	≤ 60mA
Switch Accuracy	±10cm/s
Hysteresis	±2cm/s ~ ±8cm/s
Initial Time	2s ~ 15s, 8s(typ.)
Switch-off Time	1s ~ 15s, 2s(typ.)

Switch-on Time	1s ~ 13s, 2s(typ.)
Output Signal	1 relay\2 NPN\2 PNP\2PNP+4~20mADC
Output Function	NO, NC(optional)
Relay Characters	Switch voltage: $\leq 250V$ AC / 30V DC
	Switch current: $\leq 3A$
Transistors Characters	Switch voltage drop: $\leq 1.5V$
	Switch current: $\leq 400mA$
Display	OLED indicator, resolution 128×32
Electrical Protection	Reverse, short-circuit, over-voltage
Housing	Stainless steel
Button	PP
Probe	Stainless steel
Installation	Joint mounting + adaptor
Endurance Pressure	100bar
Set	Button
Electrical Connection	M12×1 5-pin plug
Gross weight	265g
Water Temp.	-20℃ ~ 80℃
Storage Temp.	-30℃ ~ 85℃
Working Temp.	-20℃ ~ 70℃
Protection	IP67
Temperature Compensation	5℃ ~ 50℃ (water)
Electromagnetic Compatibility	GB/T17626.2/3-2006, GB/T 17626.4-2008
Shock	$\leq 3g$ (GB/T JJG 882-2004)
Impact	$\leq 50g/11ms$ (GB/T 2423.5-1995)

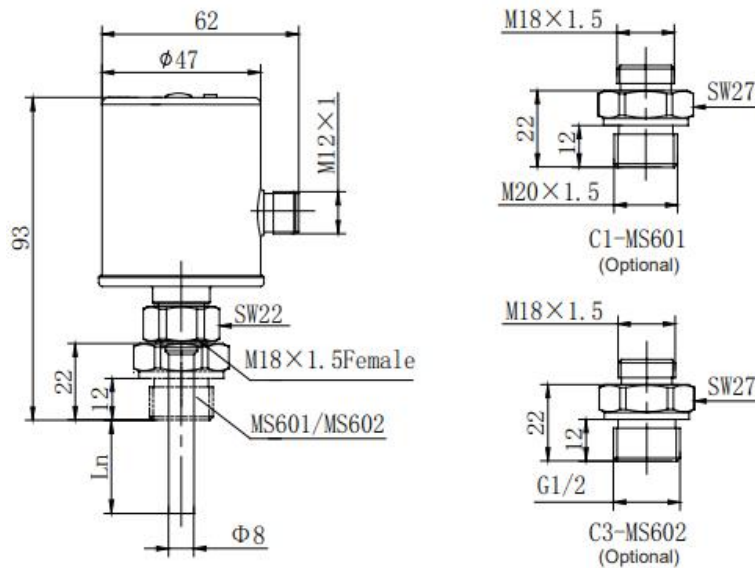
Note:

The above specification test medium is water;

5cm/s ~ 100cm/s; 20℃ (Factory defaults).

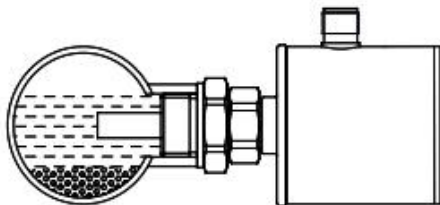
Outline Construction (Unit: mm)

Outline Construction and Installation shown as below:

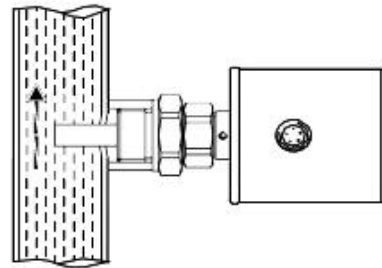


Suggested installation method:

Horizontal Pipe:



Vertical Pipe:

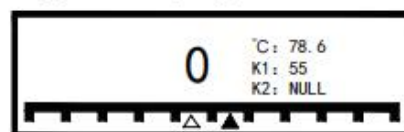


Two Display:

Progress Bar



Digital Display

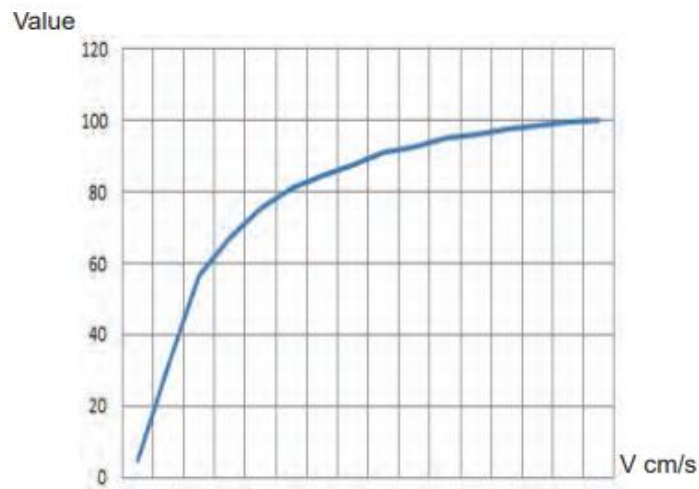


▲ Switch Point K1

△ Switch Point K2


When Switch Point Sign light is flashing, it indicates that the velocity exceeds the switch action velocity

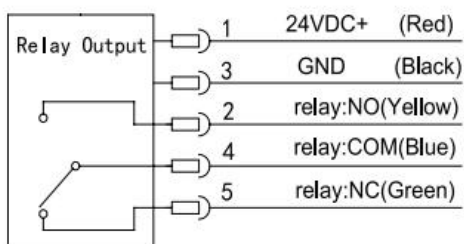
Curvilinear relation between digital indication and velocity:



Electric Connection

Terminal Definition:

 M12 x 1	Color	Pin	220VAC Definition	24V DC Definition
	Red	1	Power L	IN+
	Black	3	Power N	IN-
	Yellow	2	Relay: NO	Replay NO, NPN1, PNP1
	Green	5	Relay: NC	Relay NC
	Blue	4	Relay: COM	Relay COM, NPN2, PNP2



Order Guide

SPK81	Flow Switch				
	Code	Others			
	DC	24VDC			
	AC	0~5VDC			
		Code	Process Connection		
		C1	M20×1.5 male adaptor(SP601)		
		C3	G1/2 male adaptor(SP602)		
			Code	Output	
			J	1×Relay Output	
			P	2×PNP Transistor Output (24VDC only)	
			N	2×NPN Transistor Output (24VDC only)	
				Code	Probe Length
				L1	18mm
				L2	28mm
				L3	40mm
				L4	68mm
SPK81	DC	C3	J	L1	the whole spec

Optional accessories: SP901 2m 5-pin M12×1 Female Elbow RVVP Cable(Standard)

SP601 M20×1.5 male adaptor

SP602 G1/2 male adaptor

Notes

1. Pressure port can be customized for users. Please note in the purchase order.
2. If users have special requirement, please contact us freely.