FST310 Electronic Flow Switch

APPLICATION

Gas-liquid dual type is used for pneumatic and hydraulic systems, can be used for circulating water, cutting fluid and lubricating oil flow detection and pump idling protection.

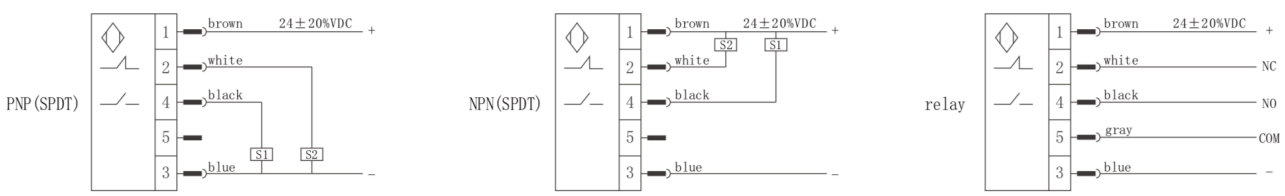
WORKING PRINCIPLE

SenTec FST310 electronic flow switch based on the thermal principle, the sealed probe contains two resistors, one of which is not heated as the detection resistance and the other is not heated as the reference resistance. When the mecum flows, the heat on the heating resistance is taken away, the resistance value is changed, and the difference between the two resistors is used as the basis for judging the velocity. No moving parts, maintenance-free, easy to install, one type is suitable for a variety of pipe diameter requirements, switch volume continuously adjustable, very low pressure loss, compact structure, LED display flow trend and switch status.

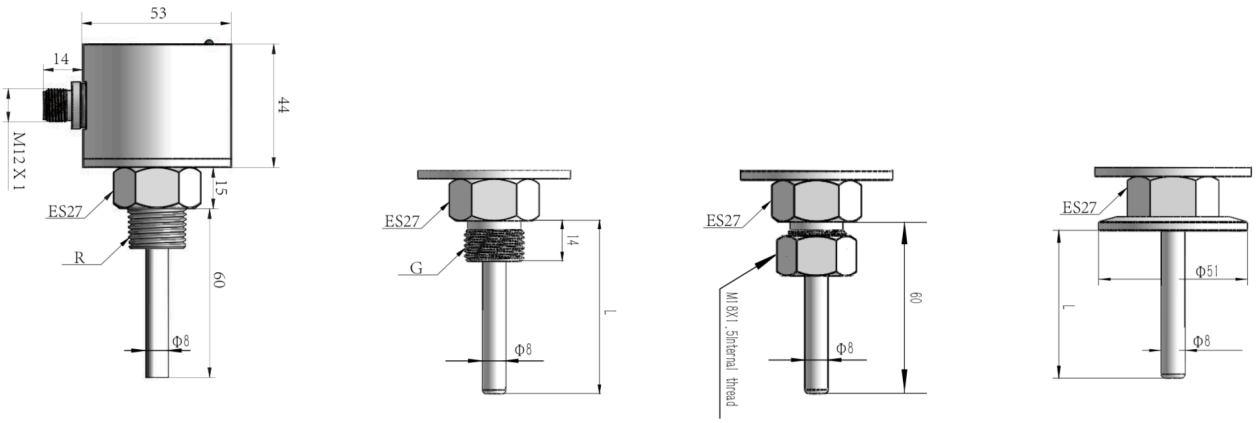
SPECIFICATION

ITEMS	PARAMETER	ITEMS	PARAMETER
Set the range	1...150cm/s(water), 3...300cm/s(oil), 20...2000cm/s(air)	Response time	1-13s, typical values 2s
Signal output	PNP, NPN, relay, Normally open+normally closed (SPDT)	Initialization time	8s
Power supply	24±20%VDC or 230V±15%VAC	Electric protection	Invert, short circuit, overload protection
Turn on the current	Max. 400mA(PNP or NPN), Max. 4A(Relay)	Protection grade	IP67
No-load current	Max. 80mA	Medium temperature	-20 ° C ~ 80 ° C
Flow indicator	LED row (6)	Environment temperature	-20 ° C ~ 80 ° C
Set way	Potentiometer setting	Storage temperature	-20 ° C ~ 100 ° C
Pressure range	100bar	Connection mode	M12 plug-in/direction attachment line
Temperature gradient	≤4 ° C/S	Material	Stainless steel
Weight	0.4KG		

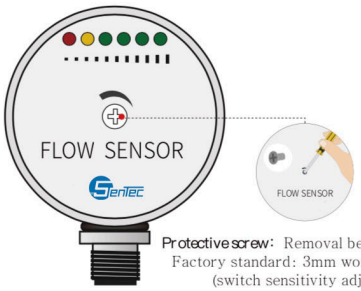
WIRING DIAGRAM



DIMENSIONS (mm)



LED FUNCTIONS AND SETTING

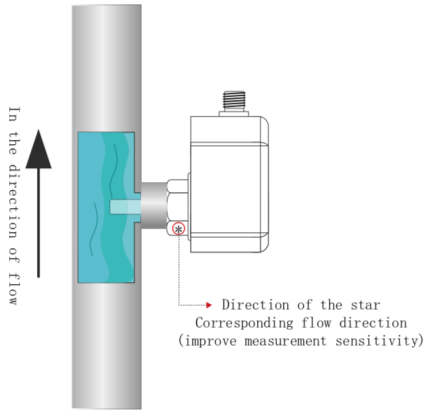


Protective screw: Removal before adjustment
Factory standard: 3mm word screwdriver
(switch sensitivity adjustment)

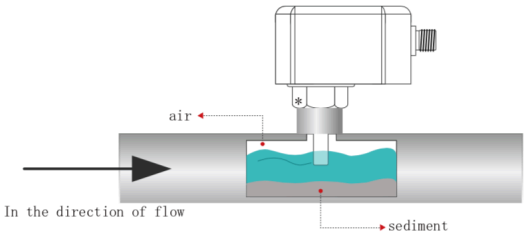
LED functions and Settings

●○○○○○	The red LED light represents the off - flow or flow rate below the set value switch release
○●○○○○	The yellow LED light indicates that the flow rate is equal to the set value
○●●●○○	Yellow and green leds indicate that the velocity is greater than the set value, and the more the green light is, the greater the velocity is

INSTALLATION



When mounted vertically, it shall be mounted on a pipe segment flowing from bottom to top.
When mounted horizontally, the probe should avoid air and sediment.



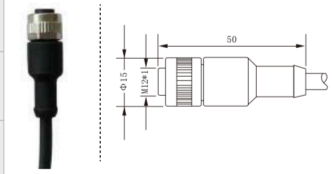
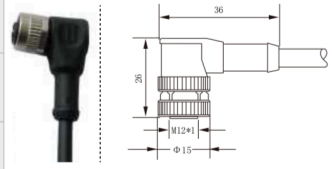
ORDER GUIDE

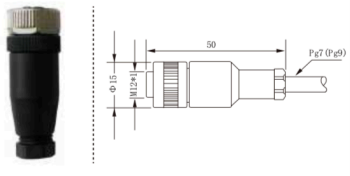
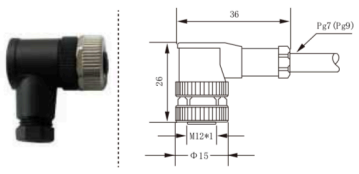
FST310	Electronic flow switch					
	CODE	Thread size				
	G12	Joint thread G1/2 external thread				
	G14	Joint thread G1/4 external thread				
	R12	Joint thread RC1/2 external thread				
	R14	Joint thread RC1/4 external thread				
	M18	Joint thread M18*1.5 internal thread. It is convenient to use with the installation accessories to rotate the installation direction on site.				
		CODE	Power supply			
		DC	24±20%VDC electricity			
		AC	230V±15%VAC electricity			
			CODE	Output		
			P	PNP output		
			N	NPN output		
			C	Relay output		
				CODE	Electric connection	
				M	M12*1 connector (standard zl05-pu02fg, see the attachment for details)	
				Z	Direction outgoing (standard with 2 meters of wire)	
					CODE	Length of probe rod
					-	Standard type G thread, with thread 30mm suitable for ≤DN32 Standard type R thread, 35mm thread is suitable for ≤DN32
					50	mm (including 50 thread), suitable for ≥DN40

* factory standard with electrical accessories M12 connector type zl05-pu02fg
* select M18*1.5 internal screw mounting method please note that installation accessories are selected,M18 screw does not support rod length variation
* for electrical accessories and installation accessories, please refer to the attachment page on page -

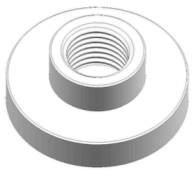
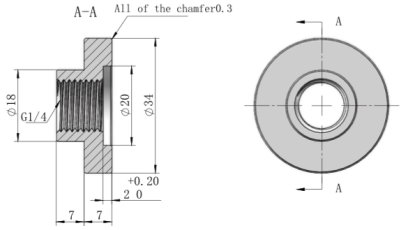
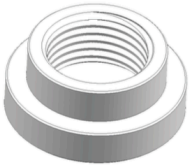
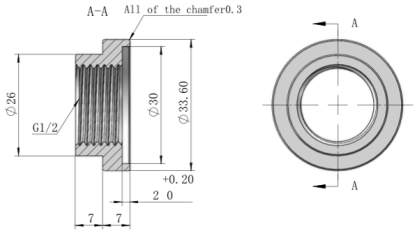
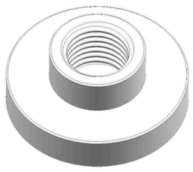
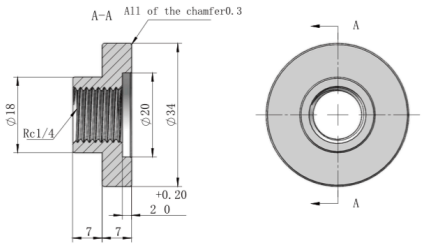
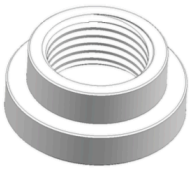
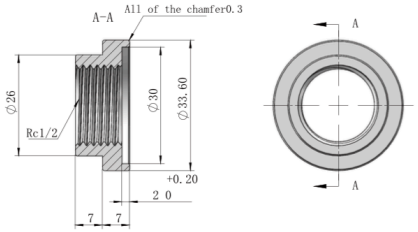
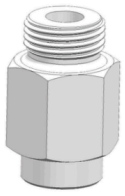
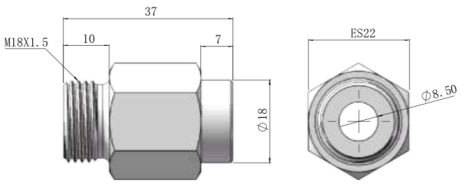
OPTIONAL ACCESSORIES

- **Electrical accessories**

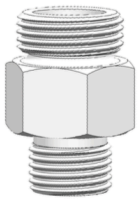
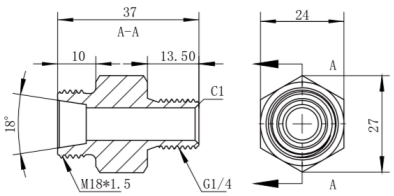
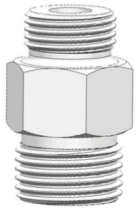
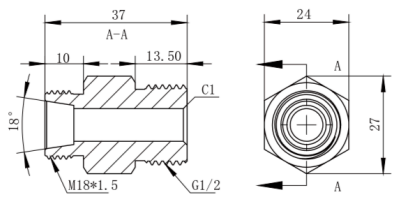
name	Outline drawing/dimension drawing (mm)	material	model
M12*1-5Pin (2m cable)		PUR	ZL05-PU02G
M12*1-5Pin (5m cable)			ZL05-PU05G
M12*1-5Pin (10m cable)			ZL05-PU010G
		PVC	ZL05-PC02G
			ZL05-PC05G
			ZL05-PC010G
M12*1-5Pin (2m cable)		PUR	ZL05-PU02W
M12*1-5Pin (5m cable)			ZL05-PU05W
M12*1-5Pin (10m cable)			ZL05-PU010W
		PVC	ZL05-PC02W
			ZL05-PC05W
			ZL05-PC010W

M12* 1–4pin /5Pin self–connector /size drawing (mm)	model
	GL04 (4Pin joint)
	GL05 (5Pin joint)
	WL04 (4Pin joint)
	WL05 (5Pin joint)

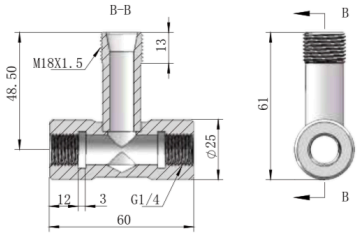
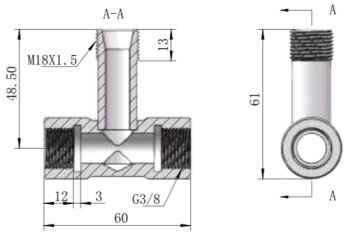
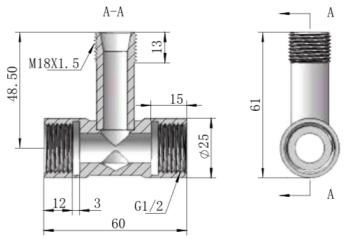
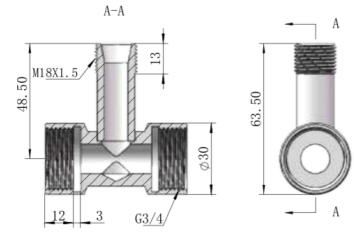
• Installation accessories

name	contour map	Size chart (mm)	model
G1/4Welding the base			FA002-G14 (Material: 304 stainless steel)
G1/2Welding the base			FA002-G12 (Material: 304 stainless steel)
Rc1/4Welding the base			FA002-R14 (Material: 304 stainless steel)
Rc1/2Welding the base			FA002-R12 (Material: 304 stainless steel)
M18*1.5Welding the base			FA002-M18 (Material: 304 stainless steel)

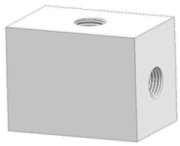
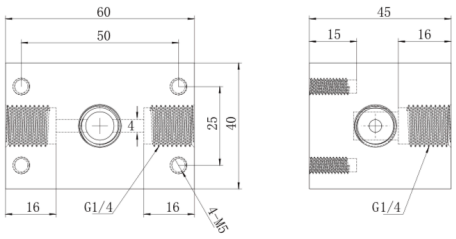
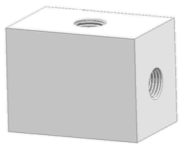
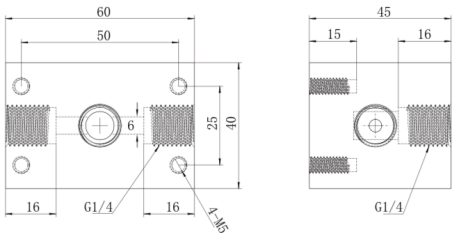
• Optional accessory -adapter

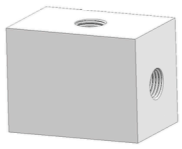
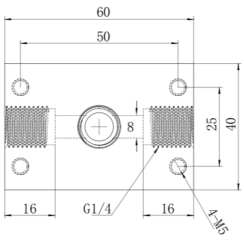
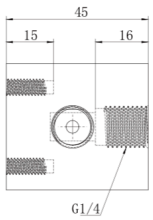
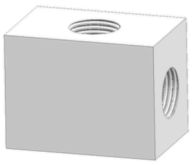
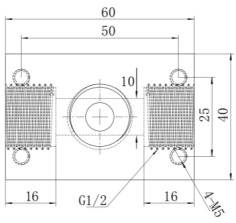
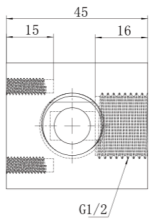
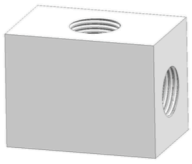
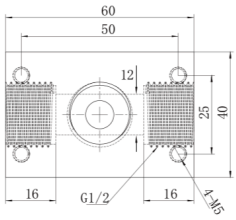
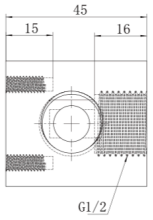
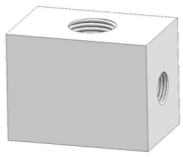
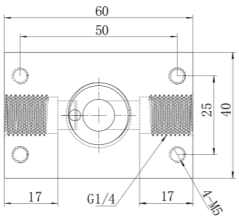
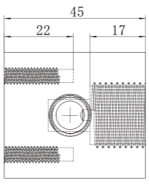
name	contour map	Size chart (mm)	model
M18 * 1.5 internal thread To g1/4 male thread, Probe insertion depth 15mm			FA004-M18G14S (Material: 304 stainless steel) FA004-M18G14T (Material: brass)
M18 * 1.5 internal thread To g1/2 male thread			FA004-M18G12S (Material: 304 stainless steel) FA004-M18G12T (Material: brass)

• Optional accessory -tee

name	contour map	Size chart (mm)	model
M18 * 1.5 internal thread Equipped with G1/4 tee			FA003-M18G14 (Material: 304 stainless steel)
M18 * 1.5 internal thread With G3/8 tee			FA003-M18G38 (Material: 304 stainless steel)
M18 * 1.5 internal thread Equipped with G1/2 tee			FA003-M18G12 (Material: 304 stainless steel)
M18 * 1.5 internal thread With G3/4 tee			FA003-M18G34 (Material: 304 stainless steel)

• Optional accessory -tee

name	contour map	Size chart (mm)	model
Type G1/4 small flow tee			FA010-04G14 (material: PP)
Type G1/4 straight hole tee			FA010-06G14 (material: PP)

Type G1/4 small flow tee				FA010-08G14 (material: PP)
Type G1/2 straight hole tee				FA010-10G12 (material: PP)
Type G1/2 straight hole tee				FA010-12G12 (material: PP)
G1/4 gas only Tee adapter				FA012-01 (material: PP)