Electronic flow switch FS110

KATU卡图

principle characteristics

Based on the thermal principle, the enclosed probe contains two resistors, one of which is heated as the detection resistance and the other is not heated as the reference resistance. When the medium flows, the heat on the heating resistance is taken away, the resistance value is changed, and the difference between the two resistances is used as the basis for judging the flow rate.

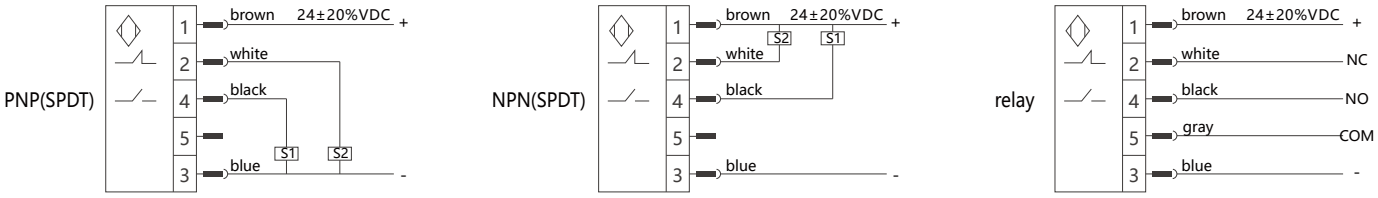
product application

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.

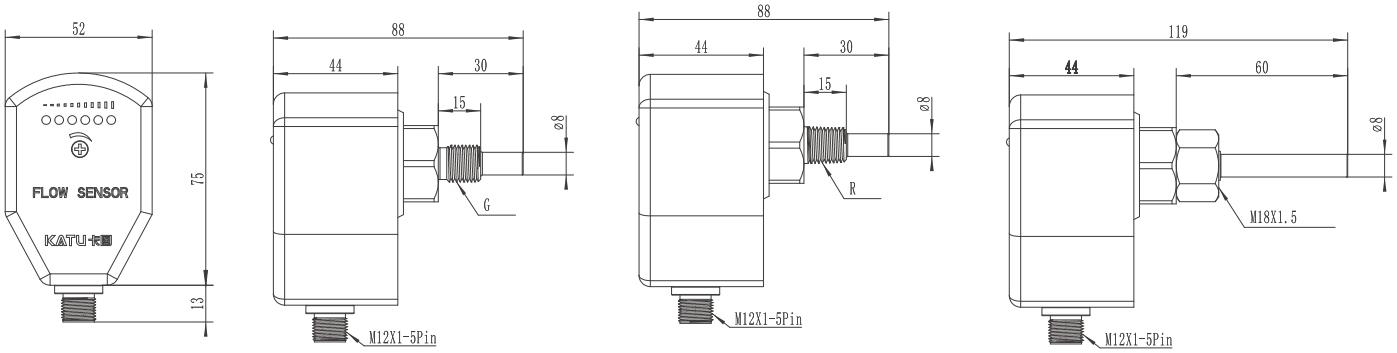
Technical parameters

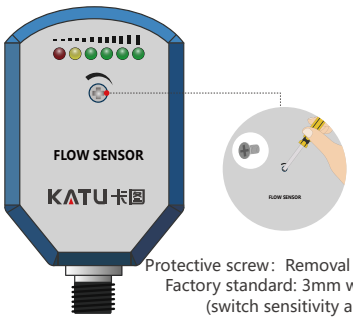
- ◇Set the range: 1...150cm/s(water) , 3...300cm/s(oil) , 20...2000cm/s(air)
- ◇Signal output: PNP,NPN, relay, Normally open + normally closed (SPDT)
- ◇The power supply: 24V±20%VDC or 230V±15%VAC
- ◇Current is switched on: Maximum 400mA(PNP or NPN), maximum 4A (relay)
- ◇No-load current: Maximum 80mA
- ◇Flow indicator: LED row (6)
- ◇Set way: Potentiometer setting
- ◇Pressure range: 100bar
- ◇The temperature gradient: ≤4℃/s
- ◇The response time: 1-13s,Typical values 2s
- ◇Initialization time: 8s
- ◇Electric protection: Invert, short circuit, overload protection
- ◇Protection grade: IP67
- ◇Medium temperature: -20...80℃
- ◇The environment temperature: -20...80℃
- ◇Storage temperature: -20...100℃
- ◇Connection mode: M12 plug-in/direct attachment line
- ◇material:
  - probe: Stainless steel
  - shell: PBT
- ◇weight: 0.4kg

The wiring diagram



Size chart (mm)



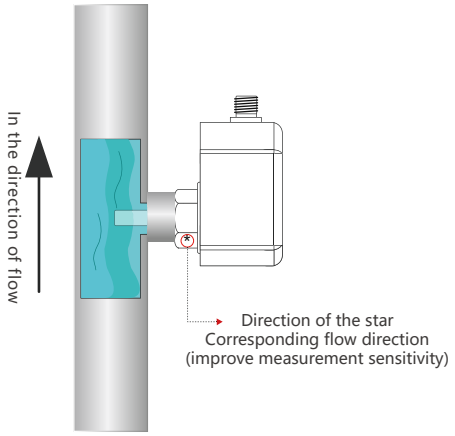


Protective screw: Removal before adjustment
Factory standard: 3mm word screwdriver
(switch sensitivity adjustment)

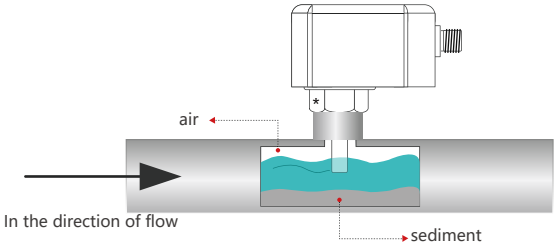
LED functions and Settings

●○○○○○	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 drawing



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.

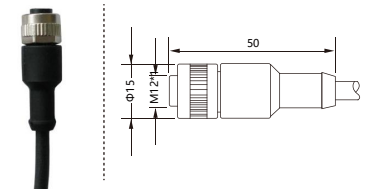
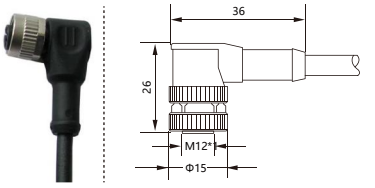


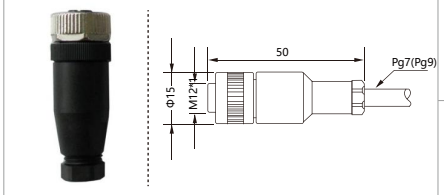
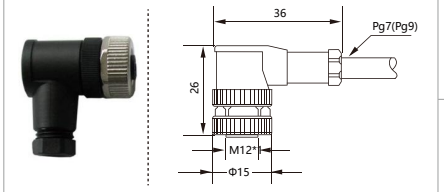
Selection table

FS110-	G12M	DC	C	M	-	detailed
FS110-						FS110 series electronic flow switch
	G12M					Joint thread G1/2 external thread
	G14M					Joint thread G1/4 external thread
	R12M					Joint thread RC1/2 external thread
	R14M					Joint thread RC1/4 external thread
	M18K					Joint thread M18×1.5 internal thread It is convenient to use with the installation accessories to rotate the installation direction on site
		DC				DC24V±20% electricity
		AC				AC230V±15% electricity
			P			PNP output
			N			NPN output
			C			Relay output
				M		M12*1 connector (standard zl05-pu02fg, see the attachment for details)
				Z		Direct outgoing (standard with 2 meters of wire)
					-	Length of probe rod: standard type G thread, with thread 30mm suitable for ≤DN32 Standard type R thread, 30mm thread is suitable for ≤DN32
					50	Length of probe rod: mm (including 50 thread), suitable for ≥DN40

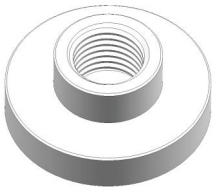
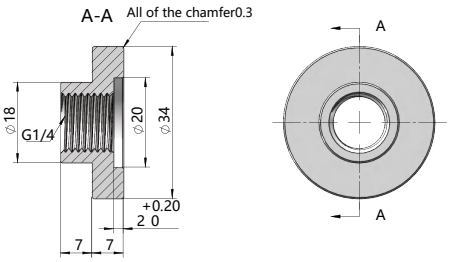
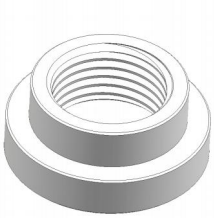
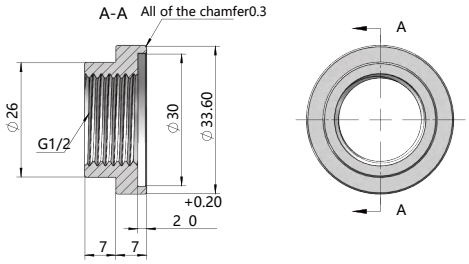
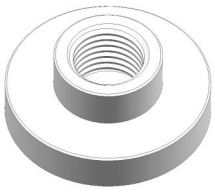
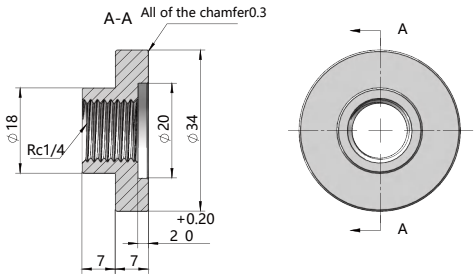
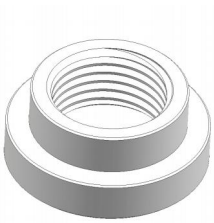
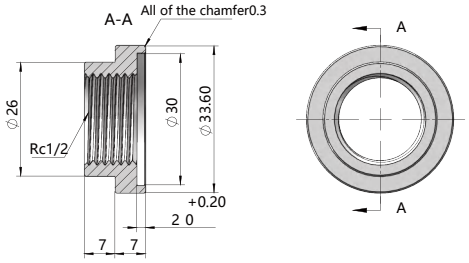
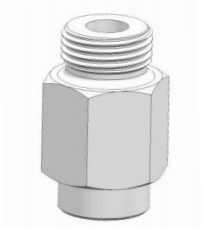
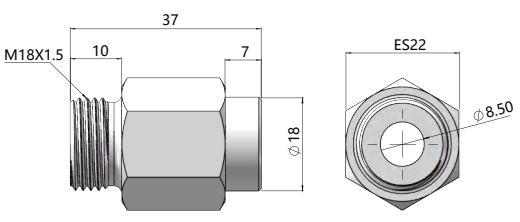
* factory standard with electrical accessories M12 connector type zl05-pu02fg
* select M18*1.5 internal screw mounting method please note that installation accessories are selected,M18 screw does not support rod length variation
* for electrical accessories and installation accessories, please refer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

Optional accessories - electrical accessories

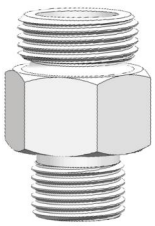
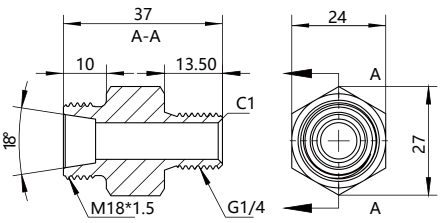
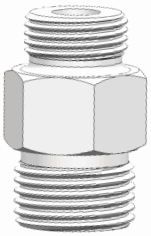
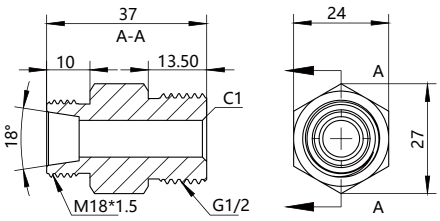
name	Outline drawing/dimension drawing (mm)	material	model
M12*1-5Pin (2m cable)		PUR	ZL05-PU02G
M12*1-5Pin (5m cable)			ZL05-PU05G
M12*1-5Pin (10m cable)			ZL05-PU010G
M12*1-5Pin (2m cable)		PVC	ZL05-PC02G
M12*1-5Pin (5m cable)			ZL05-PC05G
M12*1-5Pin (10m cable)			ZL05-PC010G
M12*1-5Pin (2m cable)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

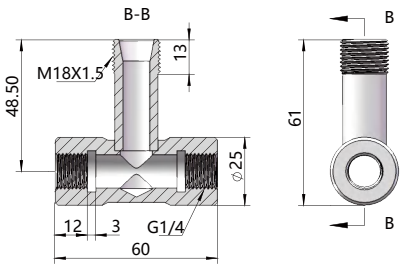
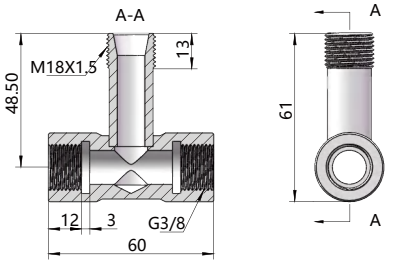
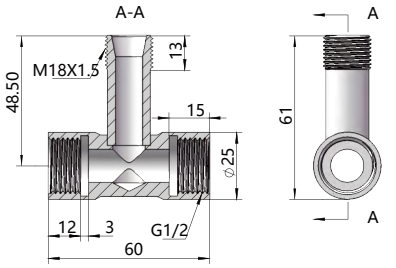
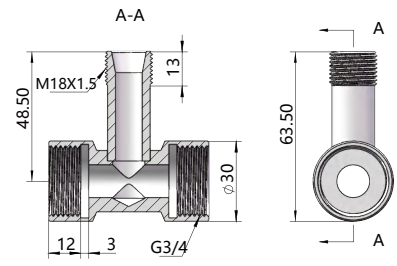
Optional accessories - installation accessories

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)

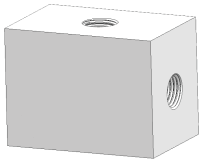
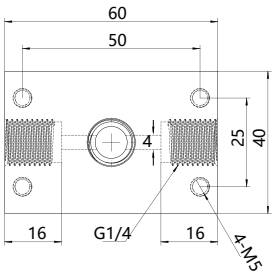
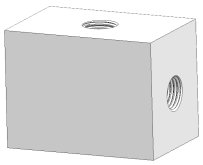
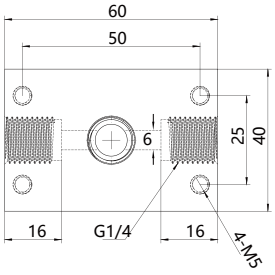
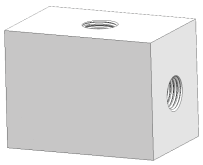
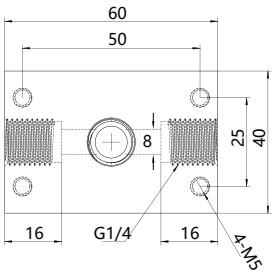
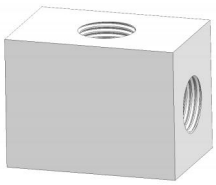
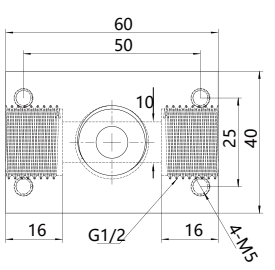
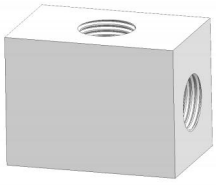
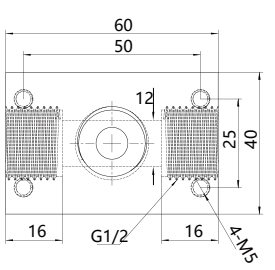
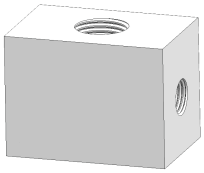
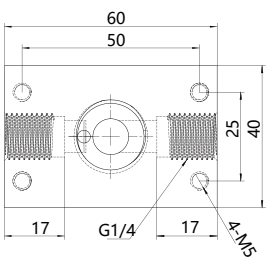
Optional accessory - adapter

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)