



Magnetic/Handheld Setting
/Computer Mode Setting

principle characteristics

FS210 series heat flow switch adopts heat diffusion principle. There are two temperature sensors in the probe: one is used as a reference sensor to measure the temperature of the medium, and the other is used as a measurement sensor after being heated. The temperature difference between the two sensors is used as the basis for measuring the flow velocity. When the flow velocity of the medium increases, the temperature difference decreases, and vice versa. The temperature difference value is converted into standard electrical signal and displayed after processing.

The FS210 series are all designed with all-metal shell, with 8-bit LED showing flow trend and switching status. One product is suitable for various pipe diameters. It can be set by keyboard or computer. No moving parts, maintenance-free, can be used in a variety of media.

- wide range
- through the button switch point or defined range
- More parameters can also be set by handheld Settings or computer
- 8 LEDS show flow trend and on/off status
- PNP/NPN/ relay electrical output optional
- Easy to operate inductive button setting
- Protection level IP67
- Small structure diameter 36mm
- The outgoing direction can be rotated by 330°

product application

- Hydraulic/lubrication
- Pump
- Cooling system
- Ventilation system
- water treatment
- Leak detection

Technical parameters

◇ Measuring range

Water: 1... 150cm/s (the default display value is demarcated in water and specified in other media)

Oil: 3... 300cm/s

Air: 20... 2000cm/s

◇ Measuring medium: water, oil, gas and other compatible stainless steel medium

◇repetitive: 1%@ < 0.6m/s; 3%@ < 1.5m/s; 10%@ > 1.5m/s

◇pressure: 100bar (300bar optional)

◇Initialization time: 1...8s

◇Response time: Typical value 2s

◇power supply voltage: 12-30Vdc

◇No load current consumption: ≤40mA, At 24Vdc power supply

◇Switch output (normally open + normally closed)

Output type: PNP/NPN/ relay optional/normally on/normally off can be set

Load capacity: 500mA at 24Vdc power supply (NPN and PNP type)

60W (relay type)

◇Wiring protection: Reverse phase, overload, short circuit protection

◇Display:

Design: 3 red leds (flow rate < switching point)

1 yellow LED (flow rate = switching point)

4 green leds (flow velocity > switching point)

◇Temperature:

Working/storage temperature: -40... 85 °C

Medium temperature: -20... 85 °C

◇material

Case: 304 stainless steel

Probe: stainless steel 316L

◇Protection level: IP67

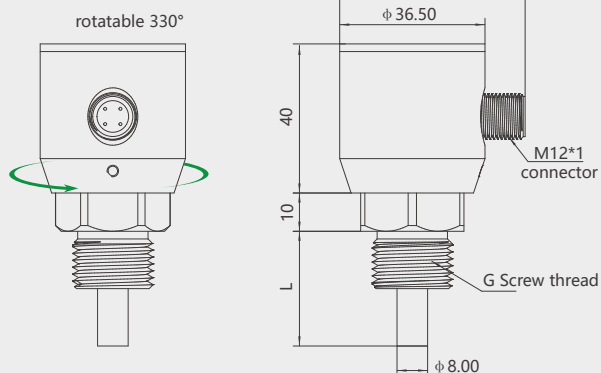
◇Appearance: M12*1 connector

LED function and setting

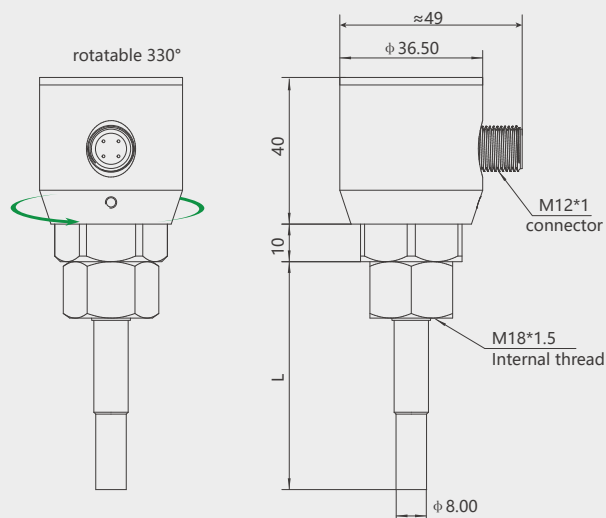
	The red light indicates that the current flow rate is lower than the set flow rate at the switch point, and the switch does not operate
	The yellow light indicates that the current flow rate is equal to the set flow rate at the switching point and the switching action
	The green light indicates that the current flow rate is higher than the set value of the switch point, and the switch maintains the output action. The more the green light, the higher the flow rate
annotation	Support field to set any switch value

Dimensions (mm)

External thread connection



M18*1.5 internal thread connection

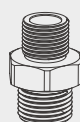


Installing accessories is mandatory

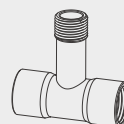
Welded base



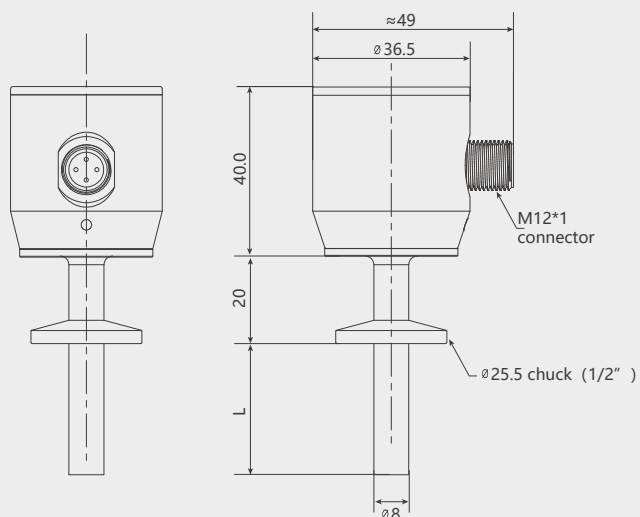
adapter



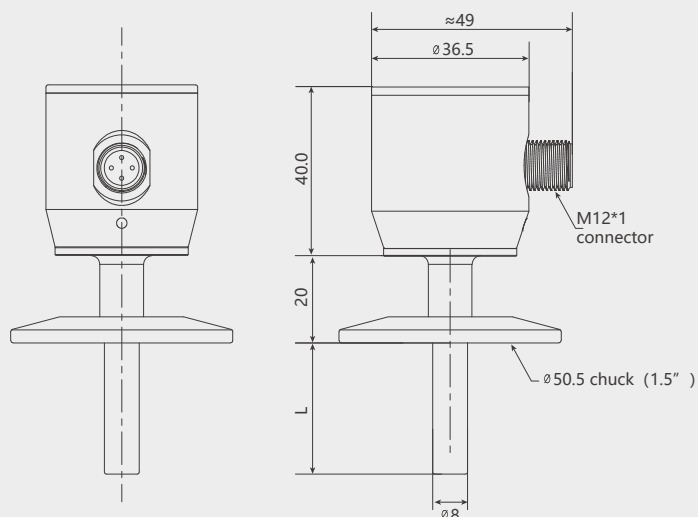
Tee



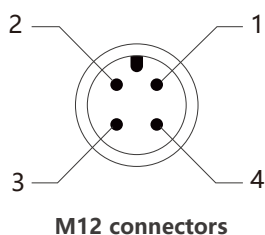
Chuck connection: 1/2 inch



Chuck connection: 1.5 inch

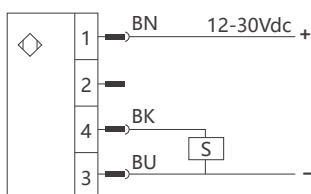


wiring diagram

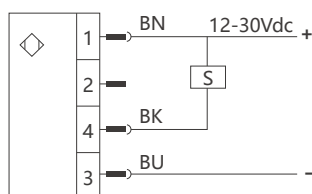


signal	stitch	Line color
Power supply (+)	1	BN
Power supply (-)	3	BU
Switching output	4	BK
Switching output	2	WH

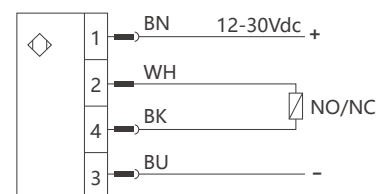
PNP



NPN



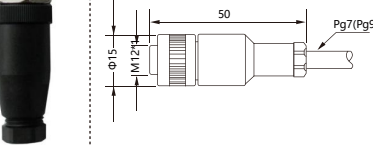
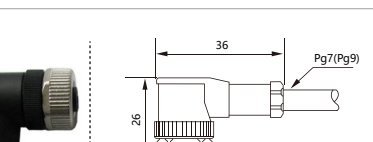
Relay output



Selection table

FS210-	P	G12M	L30	expatiate	
FS210-				Hot flow switch	
	P			PNP output(3-core cable)	
	N			NPN output(3-core cable)	
	C			Relay output(4-core cable)	
		G12M		Process connection: G1/2 external thread	
		G14M		Process connection: G1/4 external thread	
		R12M		Process connection: R1/2 external thread	
		R14M		Process connection: R1/4 external thread	
		M18K		Interface thread M18×1.5 internal thread (used with mounting accessories, easy to rotate and adjust in the field installation direction)	
		H25		Outer diameter 25.5mm, chuck connection (GB: ISO2852-1993)	
		H50		Outer diameter 50.5mm, chuck connection (GB: ISO2852-1993)	
			L25	Rod length L=25mm (≤DN10)	Only external thread is optional
			L30	Rod length L=30mm (≥DN15)	
			L50	Rod length L=50mm (≥DN40)	
			L60	Rod length L=60mm (M18 internal thread applicable diameter: ≥DN15; Diameter for external thread: ≥DN50)	
			L80	Rod length L=80mm (M18 internal thread applicable diameter: ≥DN40; Diameter for external thread: ≥DN80)	

name	Outline drawing/dimension drawing (mm)	material	model
M12*1-4Pin (2m cable)		PUR	ZL04-PU02G
M12*1-4Pin (5m cable)			ZL04-PU05G
M12*1-4Pin (10m cable)			ZL04-PU010G
M12*1-4Pin (2m cable)		PVC	ZL04-PC02G
M12*1-4Pin (5m cable)			ZL04-PC05G
M12*1-4Pin (10m cable)			ZL04-PC010G
M12*1-4Pin (2m cable)		PUR	ZL04-PU02W
M12*1-4Pin (5m cable)			ZL04-PU05W
M12*1-4Pin (10m cable)			ZL04-PU010W
M12*1-4Pin (2m cable)		PVC	ZL04-PC02W
M12*1-4Pin (5m cable)			ZL04-PC05W
M12*1-4Pin (10m cable)			ZL04-PC010W

M12* 1-5Pin self-connector/size drawing (mm)	model
	GL04 (4Pin joint)
	WL04 (4Pin joint)

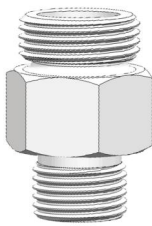
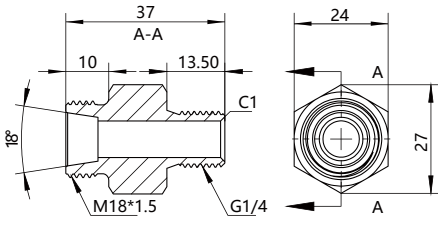
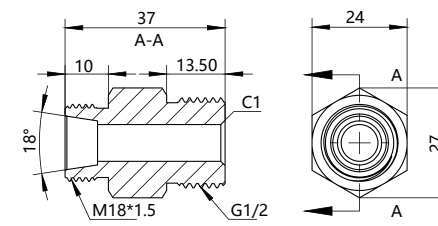
name	Outline drawing/dimension drawing (mm)	material	model
M12*1-4Pin (2m cable)		PUR	ZL03-PU02G
M12*1-4Pin (5m cable)			ZL03-PU05G
M12*1-4Pin (10m cable)			ZL03-PU010G
M12*1-4Pin (10m cable)		PVC	ZL03-PC02G
M12*1-4Pin (2m cable)			ZL03-PC05G
M12*1-4Pin (5m cable)			ZL03-PC010G
M12*1-4Pin (2m cable)		PUR	ZL03-PU02W
M12*1-4Pin (5m cable)			ZL03-PU05W
M12*1-4Pin (10m cable)			ZL03-PU010W
M12*1-4Pin (10m cable)		PVC	ZL03-PC02W
M12*1-4Pin (2m cable)			ZL03-PC05W
M12*1-4Pin (5m cable)			ZL03-PC010W

name	External drawing	Size drawing (unit :mm)	model
M18*1.5 Welded base			FA002-M18 (Material: 304 stainless steel)

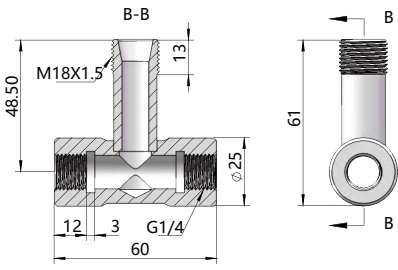
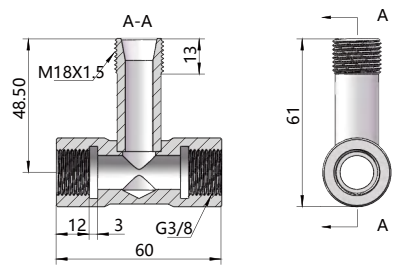
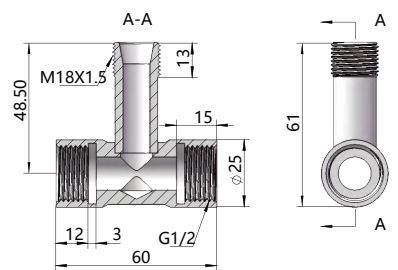
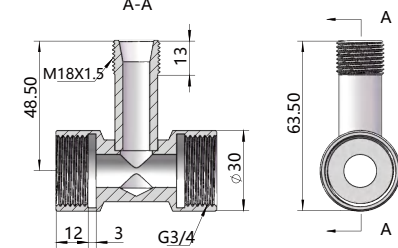
Welded base (optional external thread only)

name	External drawing	Size drawing (unit :mm)	model
G1/4 Welded base			FA002-G14 (Material: 304 stainless steel)
G1/2 High pressure welded base			FA002-G12H (Material: 304 stainless steel)
G1/2 Welded base			FA002-G12 (Material: 304 stainless steel)
Rc1/4 Welded base			FA002-R14 (Material: 304 stainless steel)
Rc1/2 Welded base			FA002-R12 (Material: 304 stainless steel)
M12*1 Welded base			FA002-M12 (Material: 304 stainless steel)

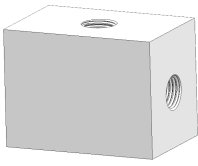
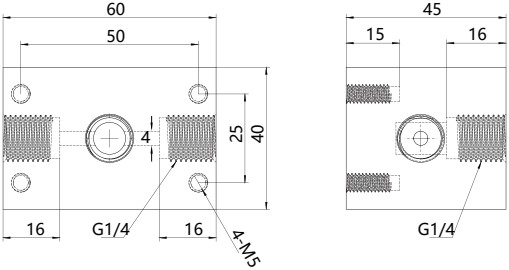
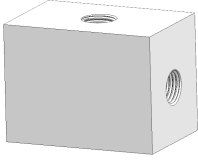
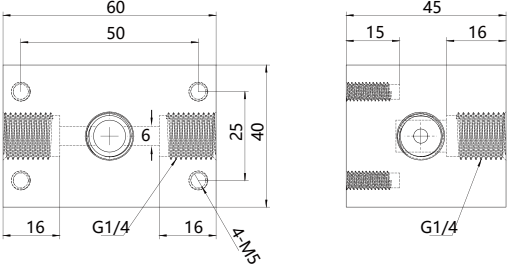
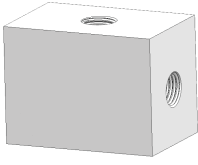
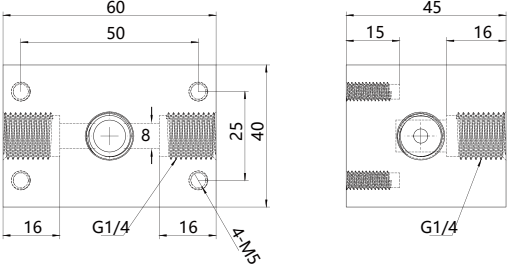
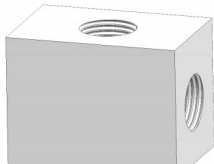
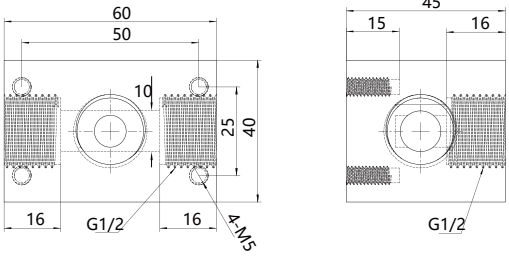
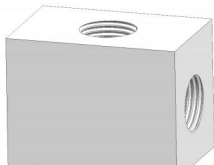
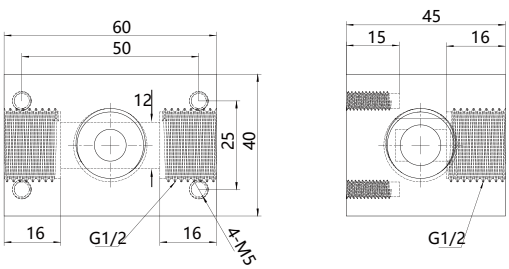
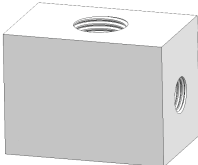
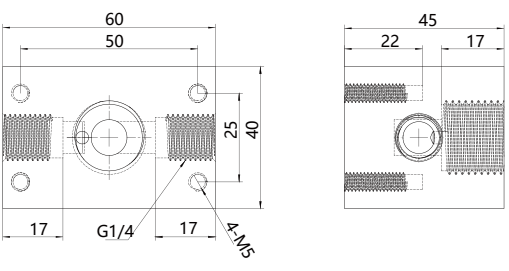
Adapter (M18 internal thread only optional)

name	External drawing	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)

Tee (stainless steel) (M18 internal thread only optional)

name	External drawing	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)

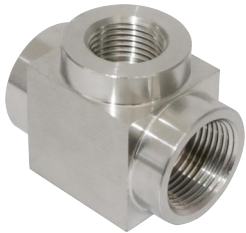
Tee (PP) (external thread only optional)

name	External drawing	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)

Tee (conventional stainless steel :40bar) (external thread only optional)

External drawing	Size table					
	Conventional tee					
	Diameter of thread	Inch code	Pipe thread (R)	Model number		
	DN15	4 points	1/2	FA013-R12K		
	Reducing tee					
	Diameter of thread	Inch code	Pipe thread left (R)	Pipe thread center (R)	Pipe thread right (R)	Model number
	DN20	6 points×4 points	3/4 "	1/2"	3/4 "	FA013-R12KR34K
	DN25	1 inch x 4 points	1"	1/2"	1"	FA013-R12KR1K
	DN32	1.2 inches x 4 points	1.2 "	1/2"	1.2 "	FA013-R12KR1.2K

Tee (high pressure stainless steel :200bar) (external thread only optional)

External drawing	Size table					
	Conventional tee					
	Diameter of thread	Inch code	Pipe thread (G)	Model number		
	DN15	Four points	1/2	FA014-G12K		
	Reducing tee					
	Diameter of thread	Inch code	Pipe thread left	Pipe thread center	Pipe thread right	Model number
	DN20	6 points x 4 points	G 3/4 "	G 1/2"	G 3/4 "	FA014-G12KG34K
	DN25	1 inch x 4 points	G 1"	G 1/2"	G 1"	FA014-G12KG1K