

ROTA F300 Electronic Flow Switch

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Theory

Based on the thermal principle, there are two resistors inside a closed probe, one heated as the detection resistor and the other as the reference resistor. When the medium flows, heat is taken away from the heating resistor, changing its resistance. The difference between the two resistors is used to determine the flow rate.

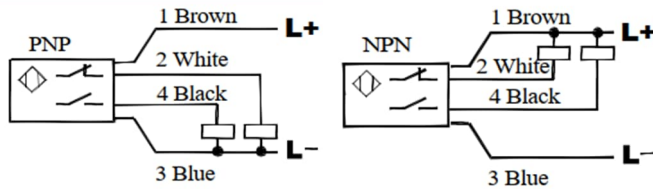
Feature

No moving parts, maintenance-free, easy to install. Suitable for multiple pipe diameters. Adjustable detection range, low pressure loss, compact structure, LED flow trend and switch status display.

Application

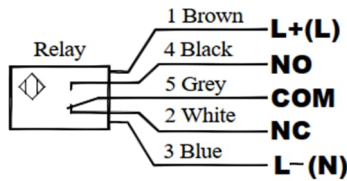
Suitable for gas-liquid applications including pneumatic and hydraulic systems. Used for flow monitoring of circulating water, cutting fluid, lubricating oil, and pump idle protection.

Wiring Diagram



PNP Output

NPN Output

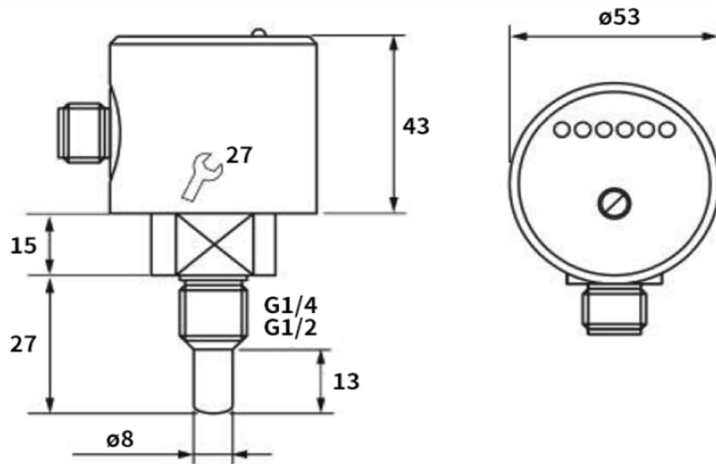


Relay Output

Specification

Set range	1–150cm/s (water), 3–300cm/s (oil), 20–200cm/s (air)
Output signal	PNP/NPN, Relay, Normal Open + Normal Close (SPDT)
Power supply	DC24V or AC230V
Switch current	400mA (PNP/NPN), 1A (Relay)
No-load current	Max 80mA
Flow indication	LED lights (6 pieces)
Setting method	Adjusting potentiometer
Pressure resistance	100 bar
Temperature gradient	4°C/s
Response time	1–13 seconds (typical 2 seconds)
Initialization time	8 seconds
Electrical protection	Reverse phase, short circuit, overload protection
Protection grade	IP67
Medium temperature	-20°C to 80°C
Ambient temperature	-20°C to 80°C
Storage temperature	-20°C to 100°C
Wiring method	M12 connector / direct wired 2m optional
Material	Probe: Stainless steel Shell body: Stainless steel

Dimension

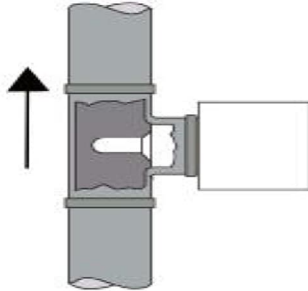


ROTA F300 Electronic Flow Switch (Sensor)

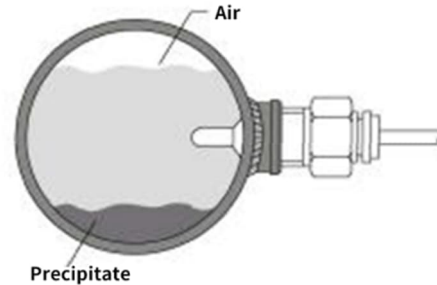
Introduction to panel LED functions LED function and settings (switch type)

- Red LED on: Cutoff or the flow rate is below the set value, the switch is released.
- Yellow LED on: The flow rate equals the set value, the switch is actuated.
- Yellow & green LED on: The flow rate is higher than the set value, more green light lights up, means higher flow rate.

Installation



When installed vertically, it should be installed on a pipe section that flows from bottom to top.



When installed horizontally, the probe should avoid air and sediment.

Selection

ROTA F300	-	G12	H	D	C	R	Q	Details Description
ROTA F300	-							ROTA F300 Electronic flow switch
		G12						Interface thread G1/2
		G14						Interface thread G1/4
			H					Interface thread: External thread
				D				DC 24V power supply
				W				AC 220V power supply
					P			PNP output
					N			NPN output
					C			Relay output
						R		Normally open + Normally close output (SPDT)
							Q	Connector style
							C	Directly attached wire type

Note: Relay output need use 5-core wired cable

Optional accessories for connector type Q

PJ04	PU	02	M	Z	Detailed description
PJ041					M12 4-core wired connector
PJ042					Self-wiring M12 attached wire connector
	PU				PUR material
		02			2 meters long
		05			5 meters long
		10			10 meters long
			M		Female type
				Z	Straight type
				W	Curved type

