

DAYTECH DT-FS960 Series Manual

Thermal Dispersion Flow Switch

DAYTECH

Features & Benefits

- Highly reliable and precise thermal dispersion flow switch;
- Full stainless steel metal housing;
- No moving parts, no need for maintenance;
- Easy installation and setup;
- Suitable for various different pipe diameters;
- Switch output has an adjustable control point setting on the face of the sensor, which can be adjusted in process;
- 6 LEDs displays flow rate (velocity) and switch status in real time.
- ½”BSP (G1/2) or ¼”BSP (G1/4) process connections, or custom as specified.
- Different insertion lengths available include 15mm, 18mm, 21mm or 68mm;
- Electrical connection via M12, 5 pin connector.



Applications



- Liquid flow detection and control for oil or water;
- Machine lubrication oil or coolant flow detection;
- Hydraulic flow detection;
- Pipe empty detection;
- High flow, low flow or no flow interlocking / alarming / cut off;
- Pump or valve flow detection;
- Pump or valve protection;
- Water Treatment, Irrigation, Food & Beverage, HVAC, Petrochemical, Power, Manufacturing, OEM Machine Builders, Mining.

Description

DAYTECH's DT-CD940 thermal dispersion flow switch is a highly reliable device, mainly used for water and oil flow detection and control applications. The **DT-FS960** is switched on or off in response to flow or no-flow of liquid in a pipe. The principle of operation is based on heat transfer, using a thermal dispersion transducer, which is a precise method of measuring liquid velocity.

With low pressure loss, compact size, and easy installation, the thermal dispersion flow switch is offered with a variety of output types and full stainless steel materials of construction. No moving parts make the DT-FS960 a long lasting and robust flow switch, without maintenance requirements. The switching point can be adjusted as required, whilst in operation.

Applications include monitoring velocity of flow, high flow, low flow, no flow for pump protection or process control.

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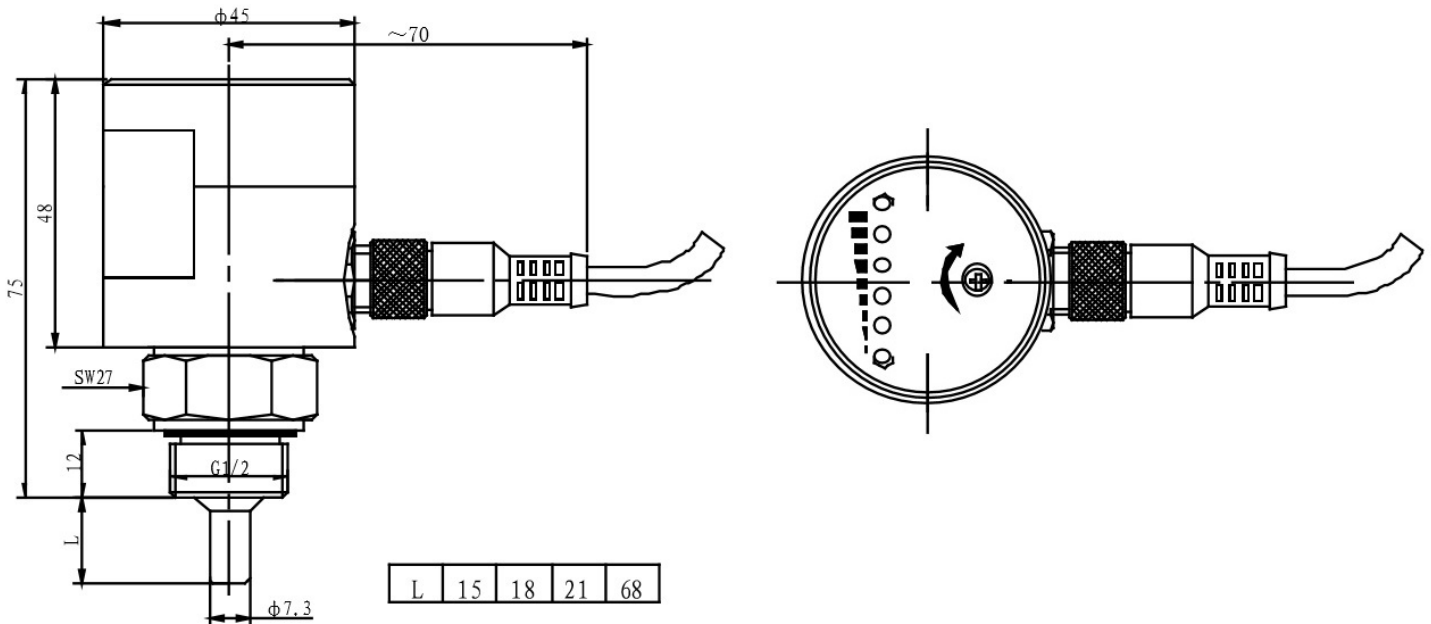
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Dimensions



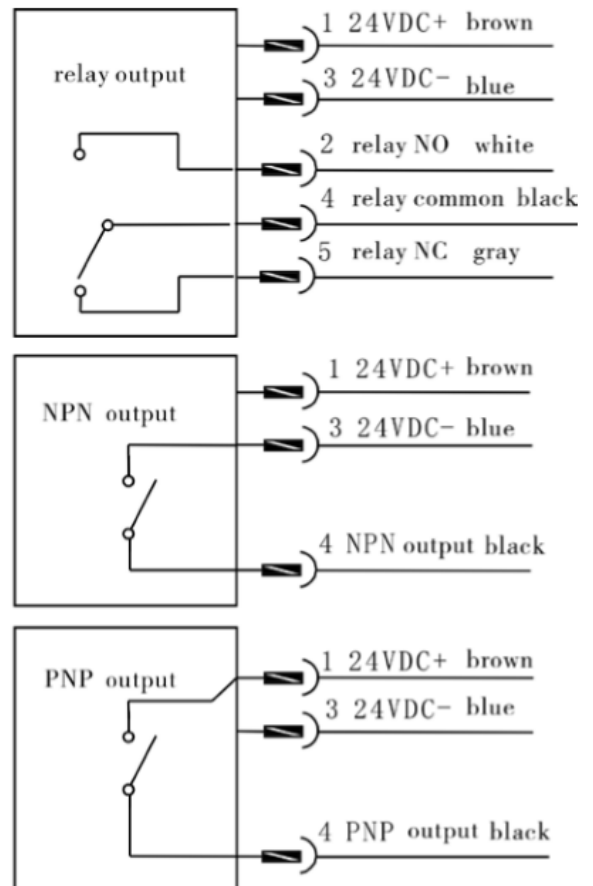
Pinout and Electrical Connections

M12*1 aviation pin output



Pin	Color
1	brown
2	white
3	blue
4	black
5	gray

Definition	Cable color	Plug pin
V+	Brown	1
V-	Blue	3
Relay common	Black	4
Relay NO	White	2
Relay NC	Gray	5
Transistor NPN	Black	4
Transistor PNP	Black	4



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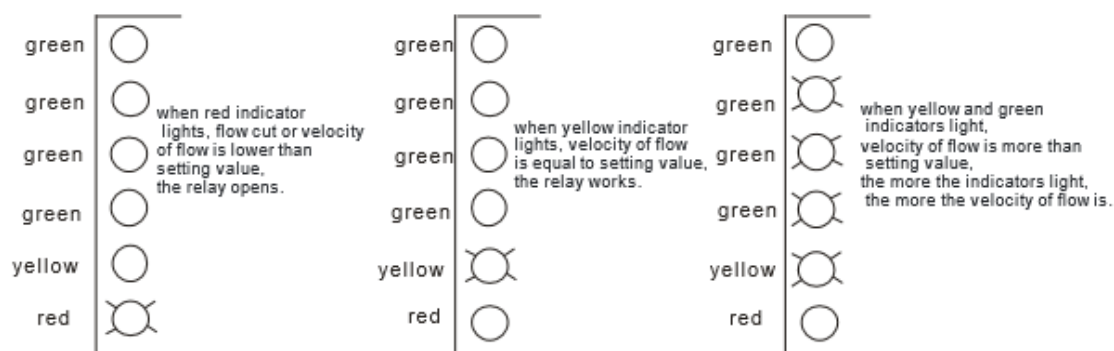
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Set-up Instructions

Setting Introduction



Install the switch and allow the media to flow at the expected velocity. Adjust the screw with a screwdriver until the first green light turns on. Then, when velocity of flow is smaller than the present value, the switch operates. If it is preferred to make the switch controlling point value lower than current velocity of flow, please adjust the screw and make more green LEDs turn on.

Technical Specifications

Parameter	Value			Notes
Control Range	1~150cm/s (water), 3~300cm/s (oil)			
Working Voltage	24VDC ± 20%			
Power Consumption	<90mA			
Output Signal	Relay SPDT, PNP, NPN (three versions optional)			Specify on order
Operating Pressure	≤10MPa			
Probe Insertion Lengths	15mm, 18mm, 21mm, 68mm			Specify on order
Construction Material	Probe material: stainless steel 1Cr18Ni9Ti Housing material: stainless steel 1Cr18Ni9Ti			
Output Option	Relay SPDT	PNP	NPN	
Switch Voltage	≤250VAC/30VDC	24VDC ± 20%	24VDC ± 20%	
Switch Current	≤3A	≤400mA	≤400mA	
Initial Time	Typically 8 seconds (2-15 secs)			
Response Time	Typically 2 seconds (1-15 secs)			
Electrical Connection	M12, 5 Pin connector			
Environmental Temp	-10°C~70°C			
Media / Process Temp	-20°C~80°C			
Storage Temp	-20°C~85°C			
IP Rating	IP67			

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Selection Guide

Specify the following options on your order:

1. Output signal – Relay / PNP / NPN
2. Probe insertion length – 15mm / 18mm / 21mm / 68mm

Please contact our sales and engineering team if you require application assistance.