KANAGAWA INSTRUMENTS

Intelligent Differential Pressure Switch

Model: KDPS20



Features

-High precision

-Adjustable response time

- NPN, PNP compatible, free switching

- Button operation, shortcut button for one-click zero calibration, fast unit switching

-OLED shows the current pressure

-LED for node action, easy to observe

Applications and industries

- Hydropower

-Chemical industry

- City water supply

- Scientific research

-Accurate measurement and control of pressure of fluids

Overview

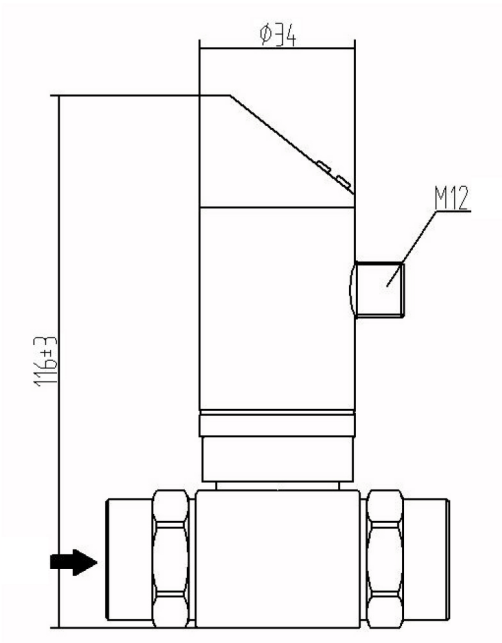
KDPS20 Series Intelligent Differential Pressure Switch is an intelligent pressure measurement & control product which integrates pressure measurement, display, output and control. This product is in full-electronic structure. The piezoresistive silicon pressure sensor is adopted in the front end. The output signal is processed by the amplifier with high precision and low temperature drift, and then sent into high precision A/D converter. Through arithmetic processing by microprocessor, the output signal is displayed on site with 2-way switch quantity and 4 20mA analog quantity, accomplishing the measurement and control for the control system pressure. This intelligent digital pressure controller has advantages of flexible use, simple operation, easy commissioning and high safety and reliability. It is widely used in hydropower, tap water, petroleum, chemical, mechanical, hydraulic and other industries for the measurement, display and control of pressure of fluid media.

Performance Parameters

Pressure range	0～10kPa…2.5MPa
Overload capability	0～10kPa 300%FS　10kPa～2.5MPa 200%FS
Accuracy	0.5%
Power supply	12～28V, 24V recommended
Display mode	OLED display of 4 digits
Output mode	2-way switch quantity, NPN and PNP compatible + 4～20mA
Load capacity	≤24V 1.2A
Power consumption	≤15mA
Operating temp.	-25℃～80℃
Storage temp.	-40℃～100℃
Response time	≤10ms
Insulation	100MΩ/250VDC
Protection grade	IP65
Structural performance parameters	
Housing material	304
Medium compatibility	Liquid contacting diaphragm 316L, pressure port 304

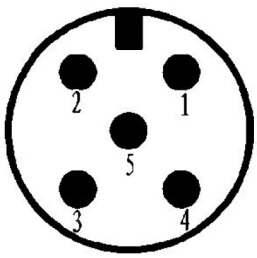
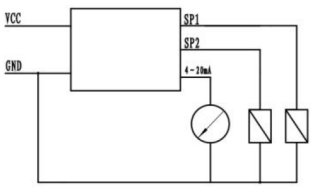
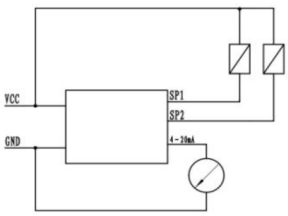
Outline dimension

In mm

Dimension	

Electrical Specification

Wring method

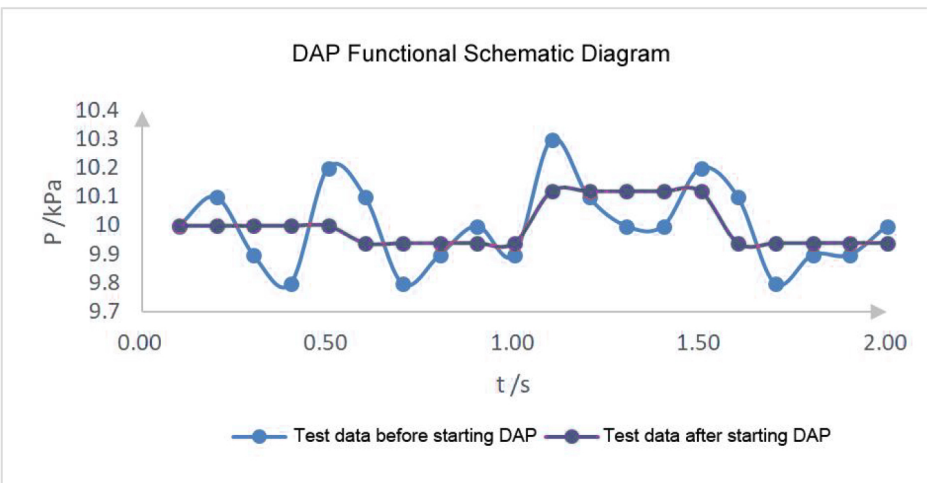
M12×1	Wiring definition	Wiring diagram
	1: VCC (Supply +) 2: SP2 (Switch 2) 3: GND (Supply -) 4: SP1 (Switch 1) 5: 4～20mA	 PNP output wiring diagram  NPN output wiring diagram

Signal interference suppression

DAP damping mechanism:

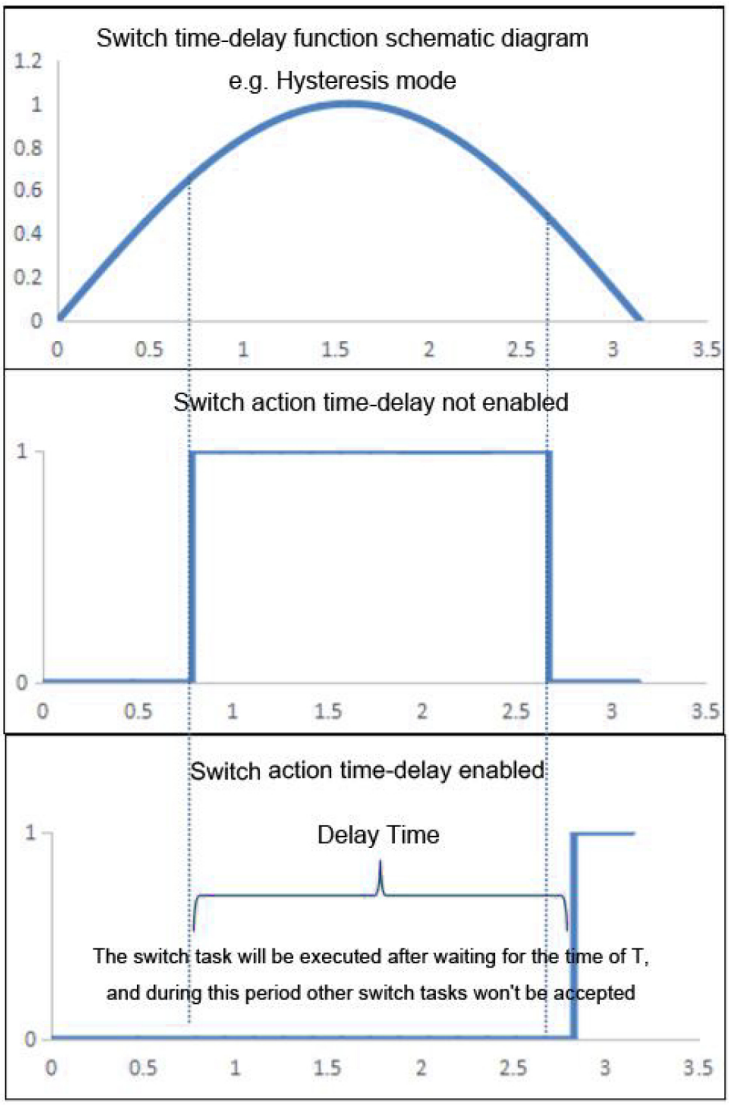
As the switch action determination basis, the current pressure measurement value sampling frequency is programmable. When DAP starts, the pressure sampling data will be the average pressure value over a period of time.

The low sampling frequency can effectively restrain the high frequency pressure signal noise.



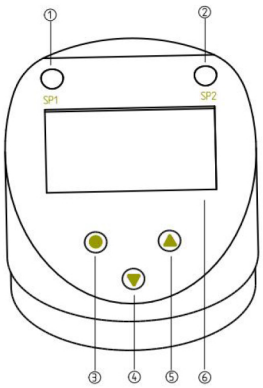
Switch action time-delay mechanism:

When the pressure switch captures a switch action task, the user can select to adopt the instantaneous switch action or the subsequent action after the delayed t/s. During the delayed time, the pressure switch doesn't respond to any switch operation, so as to avoid repeated switch actions.



Fast operating mode

When the system is under the normally displayed pressure, the functions of fast zero point correction and fast unit switchover can be realized by pressing [▲]/[▼].



Operating instructions for the keys

· When the pressure is displayed normally

③ [●] Short-press to call out the menu interface

④ [▼] Long-press the fast zero point correction

⑤ [▲] Short-press the fast unit switchover

· When entering the menu interface

[●] OK/Exit

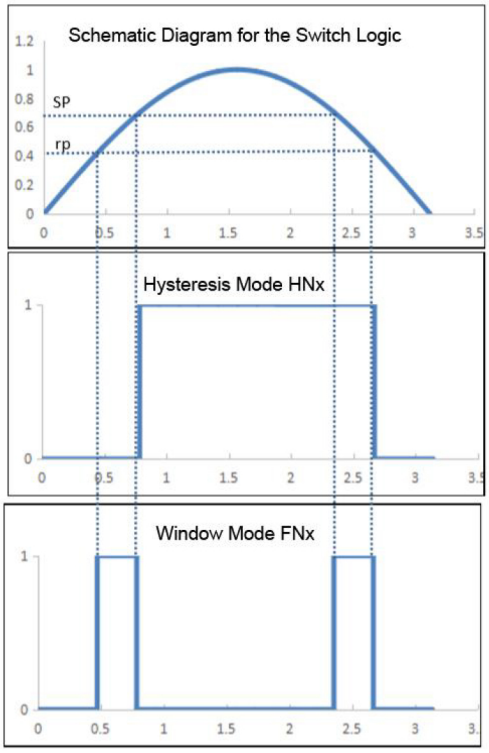
Long-press[▲][▼] to edit the data

Switch Action Characteristics

Supporting two kinds of switching modes:

1. Hysteresis mode
2. Window mode

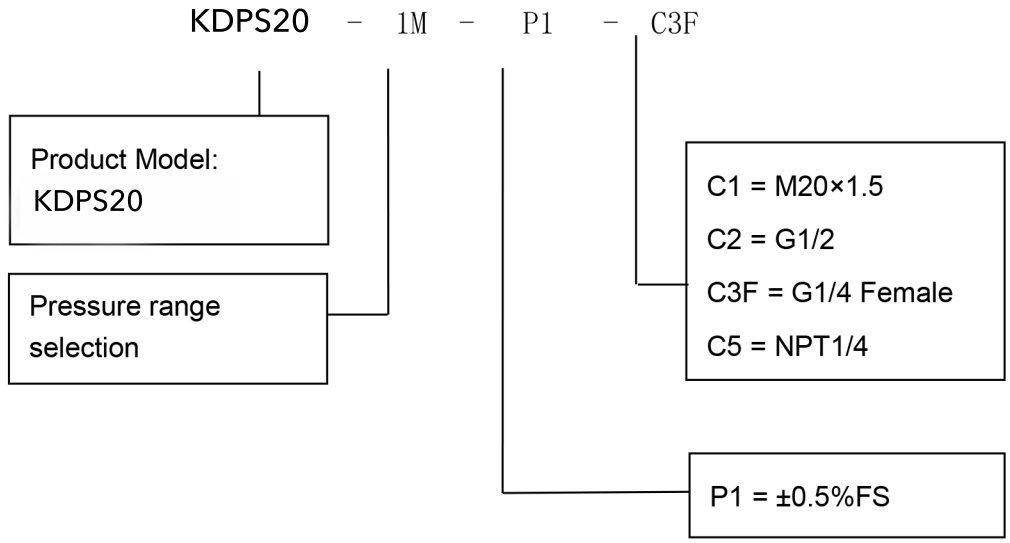
Normally open/Normally closed options



Pressure range code	Pressure range	Overpressure %FS	Burst pressure %FS
10k	-10～0～10kPa	300	600
100k	-100～0～100kPa	200	500
160k	-160～0～160kPa	200	500
250k	-250～0～250kPa	200	500
600k	-600～0～600kPa	200	500
1.0M	-1～0～1.0MPa	200	500
1.6M	-1.6～0～1.6MPa	200	500
2.5M	-2.5～0～2.5MPa	200	500

Ordering Code

How to order



Example: KDPS20

KDPS20 Intelligent differential pressure switch, with pressure range 1MPa，accuracy±0.5%FS, and pressure connection G1/4 Female

Accessory

Name	Specifications
M12×1 female with wire	M12×1 female 5-pin with wire 2m
M12×1 female with wire	M12×1 female 5-pin with wire 3m

Ordering tips

1. Please ensure the compatibility between the measured medium and the contacting part of the product when placing an order.
2. If there are special requirements for the product appearance or performance parameter, our company can provide customization.

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