

Product introduction

Description



Monosilicon differential pressure sensor

SPH19D uses reliable high stable monosilicon sensor die. Built-in temperature sensing element to maximize the temperature performance. It's a comprehensive digital & intelligent sensor which can be used in various harsh environments. The working temperature is -40-85°C. It also has the features of high precision, high stability and long-term stability.

Features

High stability monosilicon sensor die
Voltage excitation
Isolated structure, suitable various fluid
All in 316L stainless steel
Hastelloy C, Tantalum diaphragm material optional
φ19mm diameter

Application

Industrial process control; gas and liquid pressure and level measuring; pressure measuring instruments; pressure calibration instruments; hydraulic system and switch; refrigeration equipment and air condition system

Specification

Measuring range and limit

Nominal value	Lower range limit (LRL)	Upper range limit (URL)	One side overload pressure	Static pressure
40kPa	-40kPa	40kPa	1MPa	10MPa
250kPa	-100kPa	250kPa	4MPa	10MPa
1MPa	-100kPa	1MPa	6MPa	10MPa

Electrical performance

Power supply: 5-12VDC
Electrical connection : ϕ 0.5mm kovar pin or 100mm silicone rubber soft wire
Common mode voltage output : 50% of input(typical)
Bridge resistance: 6k Ω
Respond time(10%-90%): < 1ms
Insulation resistance: 500M Ω /500VDC

Technical specification

Working temperature	-40-+85°C
Storage temperature	-50-+125°C
Output voltage	60-140mV
Temperature effect on zero	\pm 0.1%F.S./°C
Temperature hysteresis	< \pm 0.1%F.S.
Pressure hysteresis	< \pm 0.1%F.S.
Long term drift	< \pm 0.1%F.S./ year
Non-linearity effect	< \pm 0.5%F.S.
Static pressure effect	< \pm 0.2%F.S./4MPa
Diaphragm material	316L/ Hastelloy C

Electrical connection

Figure 1

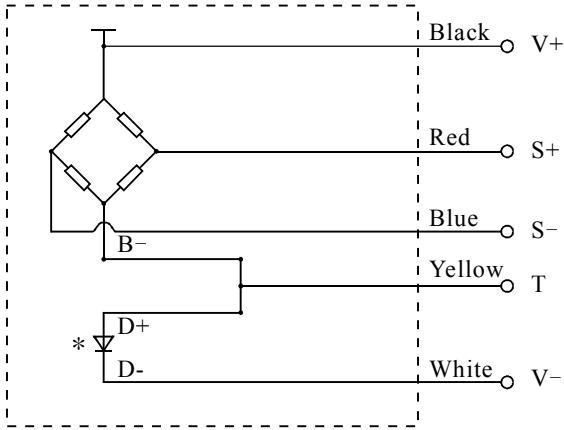
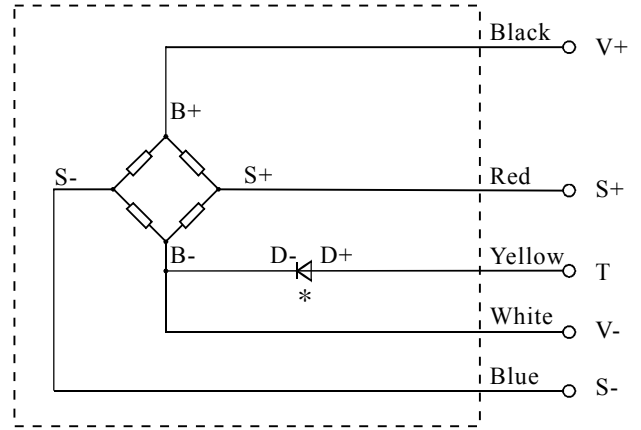


Figure 2



Wiring definition

Color	Defination
Black	V+
Yellow	T+
Red	S+
Blue	S-
White	V-

Selection Table

Item	Parameters	Code	Instruction	(*) Fast delivery available
	Model	SPH19D	Monosilicon differential pressure sensor	
Sensor	Separator	-	Detailes specifications as following	
	Range code	403	Nominal value(URL): 40kPa	*
		254	Nominal value(URL): 250kPa	*
		105	Nominal value(URL): 1MPa	*
	Pressure type	D	Differential (40kPa-1MPa)	*
	Diaphragm material	S	316L	*
		H	Hastelloy C(Min range 100kPa)	
	Isolated filling fluid	S	Silicone oil filling	*
	Compensation type	2	Internal sealed diode, constant voltage excitation	*
	Seal type	S	O-ring, FKM	*
Electrical connection	CV	Gold-plated kovar pins		
	N8	100mm silicone rubber soft wire	*	