

### VACUUM Switch

#### Order no.

**VPS - V 2 M5 - P G - KPS**

①    ②    ③            ④    ⑤



#### ① Pressure range

- V – negative pressure (-101 ~ 0 KPa)

#### ② Body type

- 2 – rectangular

#### ③ Specs of pressure port

- A1 – Duplex pump (VPS-V2A1-④⑤-KPS)
- A2 – Midi Keyboard pump, Mega Keyboard pump
- M5 – M5 female, rectangular, silicone diaphragm : VPS-V2...

#### ④ Output type

- no mark – NPN Open Collector
- P – PNP Open Collector

#### ⑤ Specs of cable

- G – Grommet 4 – Core 2m read wire
- C – M8, 4p connector 2m lead wire
- GA – Analog output 1-5v, with analog:5-core 2m

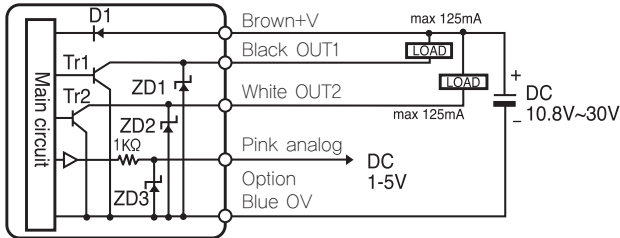
※ Remark : When combination of M8 connector and analog output is selected, out2 is not attached.

#### Operating specifications

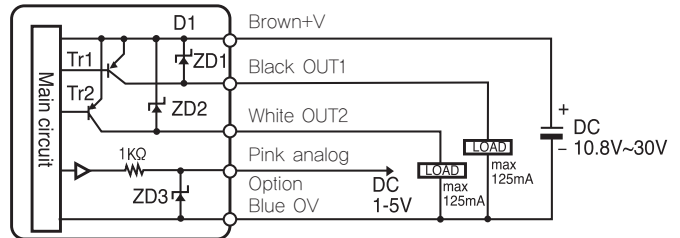
Specifications	Model	VPS-V2 Series
Diaphragm		Silicone
Applicable fluid		Non-corrosive gas
Pressure range (kPa)		-101~0
Pressure proof force (MPa)		0.5
Indicator resolution (kPa)		0.1
Line voltage		10.8~30 VDC, ripple (Vp-p) 10% or less
Power consumption		45mA or less
Output		NPN (N) or PNP (P) open collector, max.125mA output2 points
Analog output (Only type VPS-V2③-④GA)		Output impedance 1kΩ or 4~20mA (±0.2mA) load resistance Linearity 0.5%F.S., response time 1msec or less, resolution
Repeatability		±0.2% of F.S., ±1 digit or less
Response time		2msec with averaging function
Protection circuit		Reverse connection protection circuit, surge absorption, output excess current protection circuit.
Protection structure		IP65
Ambient pressure inlet port		For M3, IP65 specs, connect tube with attached barb coupling and O-Ring and feed ambient air
Operating ambient temperature (°C)		0~50°C
Operating humidity		35~85%RH
Temperature characteristic(°C)		25°C±2% of F.S. or less at range of 0+50°C
Vibration resistance		Endurance 10~150Hz, double amplitude 1.5mm, 2 hours/each direction of X,Y,Z
Shock resistance		Endurance 100m/S <sup>2</sup> (about 10G),3 times/ each direction of X,Y,Z
Cable		∅4 4-coreX0.15mm <sup>2</sup> 2m, ∅4 5-coreX0.14mm <sup>2</sup> 2m for with analog
Material of pressure port		Nylon
Weight		35g (Not including cable)

### Internal circuit diagram and examples of connection

NPN output (with analog output)

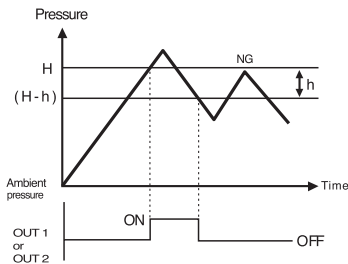


PNP output (with analog output)



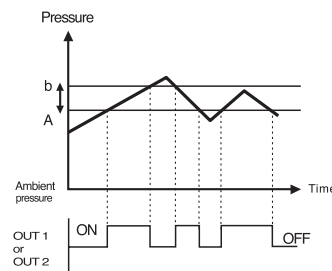
### Operating mode

Hysteresis mode



Value to switch on is set at H.  
Difference (width) is set by h.  
Value to switch off is H-h.

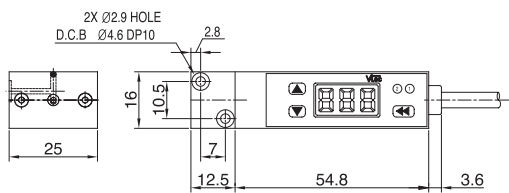
Wind comparator operation



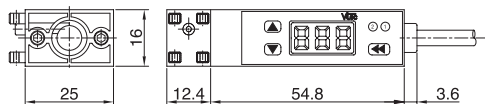
Lower limit of range to switch on is set at A.  
Upper limit of range to switch on is set at B.  
Note : Setting of OFF mode, N.C. and N.O. is available.

### Outline drawing

- Rectangular Body  
VPS-V2A1-(P)G-KPS (For Duplex pump)



- VPS-V2A2-(P)G-KPS (For Midi keyboard pump, Mega keyboard pump)



- VPS-V2M5-(P)G-KPS

