

# VACUUM SWITCHES

## VP20

### Features and Strengths

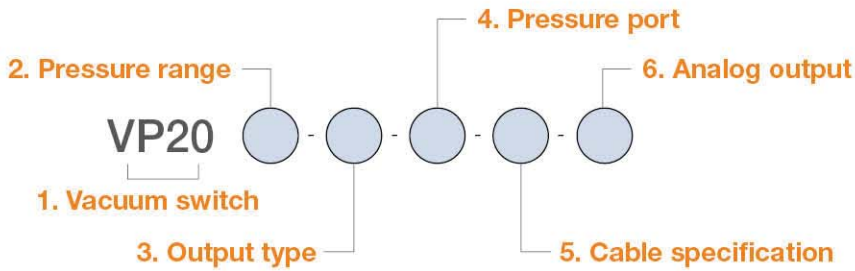
7 programmable vacuum units, for example kPa, inHg, mmHg, etc.  
 Dual display allows actual and set value to be displayed at the same time  
 Selectable "Key-Lock mode" with display indicator to avoid unauthorized changes  
 Selectable "Power-Save mode" with display indicator  
 Mounting brackets included



### Specifications

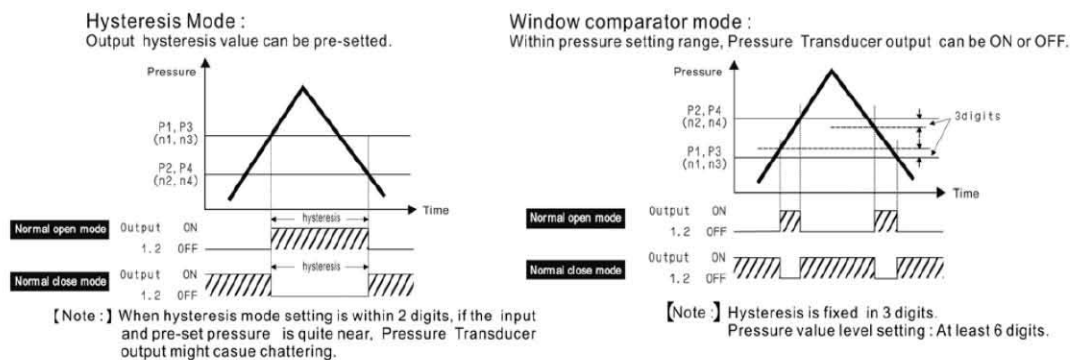
Model	VP20C	VP20V	VP20P
Applicable fluid	Non corrosive gases		
Pressure range	-100.0 ~ 100.0 kPa	0.0 ~ -101.3 kPa	0.000 ~ 1.000 MPa
Pressure proof force	3 time of rate pressure range		
Indicator resolution	0.1 kPa	0.1 kPa	0.01 MPa
Weight	135 g (with 2m lead wire)		
Material of pressure port	Zn die casting		
Power supply voltage	12 ~ 24 VDC $\pm 10\%$ , Ripple (P-P) 10% or less		
Power consumption	55 mA or less		
Output	NPN or PNP open collector 2 outputs, Max. 80 mA		
Analog output (*Only for analog type)	Output voltage : 1 ~ 5V $\leq \pm 5\%$ (Within rated pressure range) Linearity : $\leq \pm 1\%$ F.S	Output voltage : 1 ~ 5V $\leq \pm 2.5\%$ (Within rated pressure range) Linearity : $\leq \pm 1\%$ F.S	
Repeatability	$\leq \pm 2\%$ F.S $\pm 1$ digit		
Response time	$\leq 2.5$ ms (chattering-proof function : 24ms, 192ms and 768ms selections)		
Protection structure	IP 65		
Operating ambient temperature (°C)	Operation : 0°C ~ 50°C, Storage : -20°C ~ 60°C (No condensation freezing)		
Operating humidity	35 ~ 85% RH		
Temperature characteristic	$\leq \pm 2\%$ F.S of detected pressure (25°C) at temp. Range of 0°C ~ 50°C		
Vibration resistance	Total amplitude 1.5mm, 10Hz ~ 55Hz, -10Hz scan for 1 minute, two hours each direction of X, Y and Z		
Shock resistance	980m/s <sup>2</sup> (100G), 3times each in direction of X, Y and Z		
Hysteresis	Hysteresis mode Window comparator	Adjustable Fixed (3digits)	
Indicator accuracy	$\leq \pm 2\%$ F.S $\pm 1$ digit (ambient temperature : 25 $\pm 3$ °C)		
Cable	Oil-resistance cable (0.15mm <sup>2</sup> )		

## Build an Ordering No.



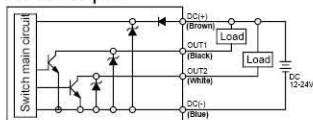
Ordering No.	Description	Ordering No.
1. Vacuum switch	Vacuum Switch, LED-Display	VP20
2. Pressure range	Compound pressure (-100.0 ~ 100.0 kPa)	C
	Negative pressure (-101.3 ~ 0 kPa)	V
	Positive pressure (0.00 ~ 1.00 MPa)	P
3. Output type	2 NPN output	01
	2 PNP output	03
4. Pressure port	1/8 PT	F1
5. Cable specification	2m Lead wire type	Blank
	M8-4 pin male connector	C
6. Analog output	No analog output	Blank
	Analog output : Only for wire type	A

## Operating mode



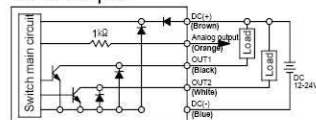
## Circuit diagram and examples of connection

VP20□-01-□-□  
NPN output



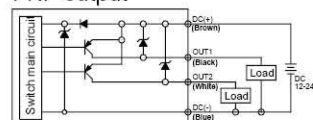
[NPN output]

VP20□-01-□-□-A  
NPN output



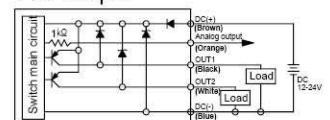
[NPN output with analog supply]

VP20□-03-□-□  
PNP output



[PNP output]

VP20□-03-□-□-A  
PNP output

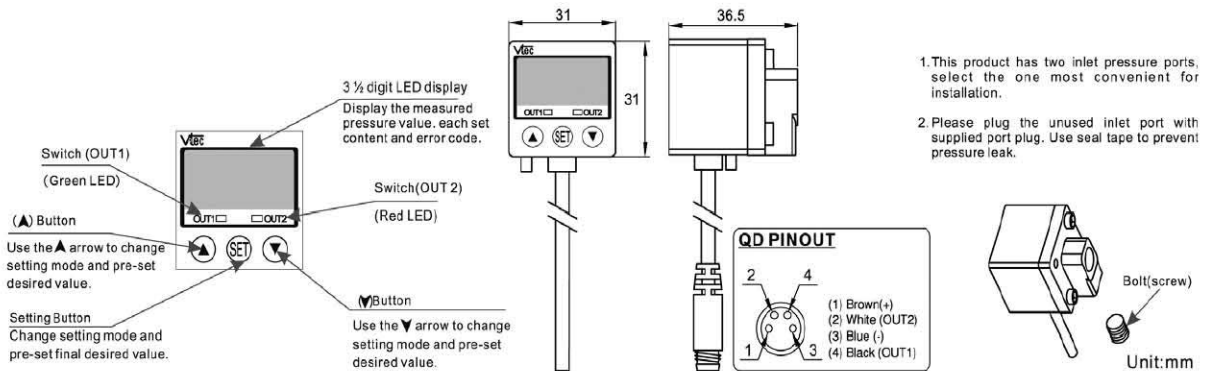


[PNP output with analog supply]

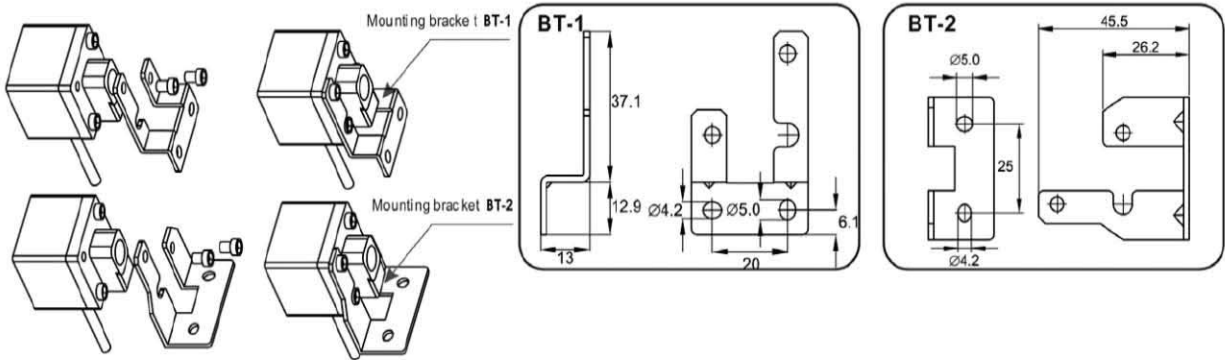
# VACUUM SWITCHES

## I Dimension

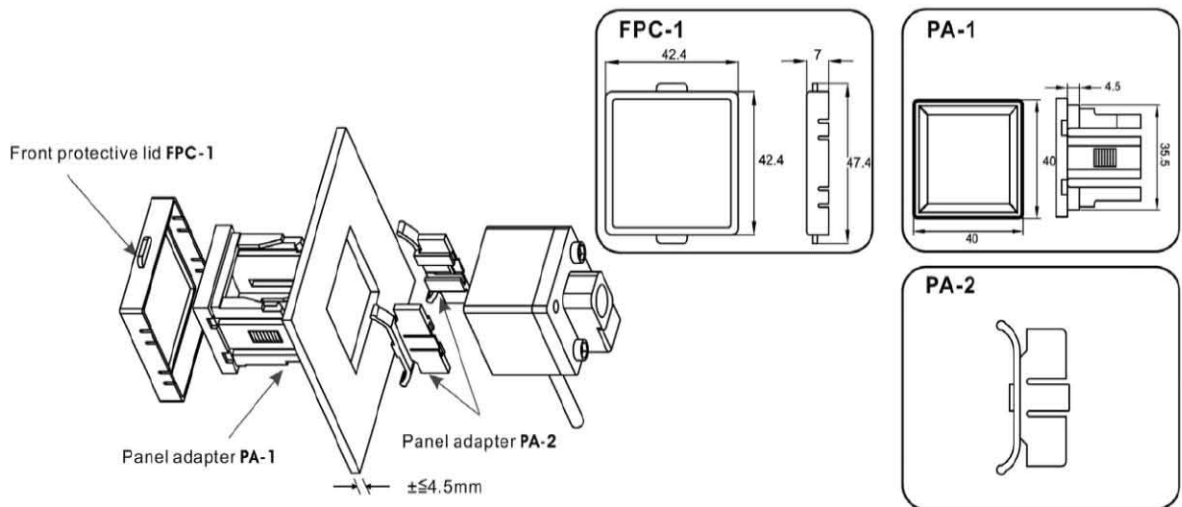
[ Unit : mm ]



[Body]



[Mounting bracket]



[Panel type]