

# Vacuum sensor (digital display)

# MPS-23



## ● Wide pressure range, -0.1 ~ 1.0MPa

"Vacuum pressure type: -101kPa, Positive pressure: -0.1 ~ 1MPa  
Compound pressure: -101 ~ 500kPa"

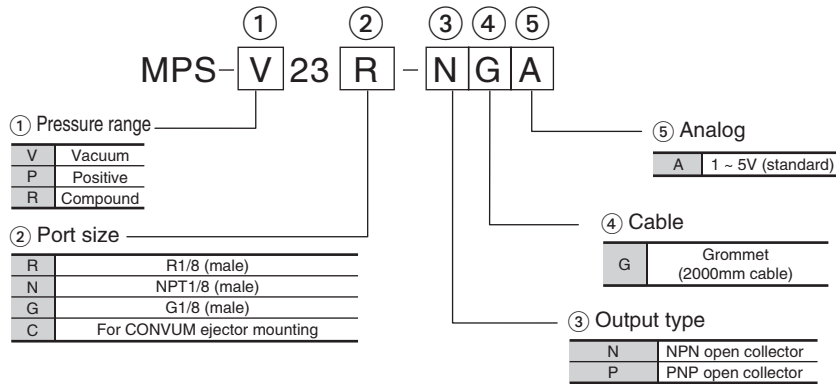
## ● Easy settings

Use UP and DOWN keys to set the value.  
Automatic settings mode available.

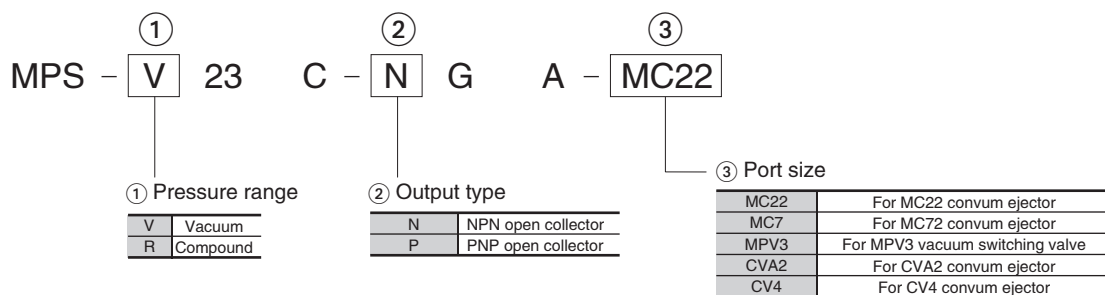
## ● Standard switch output and analog output

Switch output (open collector) Analog output (1 ~ 5V)

## How to order



## CONVUM mounting reference



## Specifications

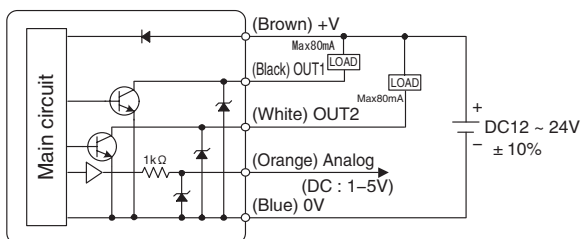
Description		Unit	MPS-V23	MPS-P23	MPS-R23
Fluid			Air (non corrosive, nonflammable gas)		
Diaphragm			Silicon diaphragm *1)		
Pressure range		kPa	-101.0 ~ 0kPa	-0.1 ~ 1MPa	-101 ~ 500kPa
Proof pressure		MPa	0.3	1.5	0.8
Operating ambient temperature		°C	0 ~ 50		
Operating humidity		%	35 ~ 85 RH(without condensation)		
Port size			R1/8(male), NPT1/8(male), G1/8(male)		
Power supply		V	DC12 ~ 24 ± 10%, Ripple (Vp-p) less than10%		
Power consumption		mA	Less than 55		
Switch output	type		NPN or PNP open collector 2 outputs		
	Current load	mA	max.80mA		
Analog output (Option)	Voltage output	V	DC1 ~ 5 (± 0.1%), linearity less than ± 0.5% of F.S., output impedance 1kΩ *2)		
Repeatability		%	± 0.2 F.S., 1digit or less		
Temperature characteristic			Less than ± 2% of F.S. (At standard temperature 25°C, range 0 ~ 50°C)		
Response time		ms	Less than 2.5(Variable 24, 192, 768 options)		
Hysteresis			Variable		
Digital display			3 1/2 digits 7 segments, 1 color (Red) LCD		
Resolution			0.1kPa	0.01MPa	1kPa
Protection structure			IP40		
Vibration resistance			10 ~ 55Hz, total amplitude 1.5mm (2 hours in direction of XYZ)		
Shock resistance		m/s <sup>2</sup>	980 (3 times in direction of XYZ)		
Electrical connection			Grommet		
Cable	Grommet		φ4 0.15mm <sup>2</sup> 5 lead wires 2000mm		
Mass		g	135 (with lead wire)		

Note 1) Non grease specifications.

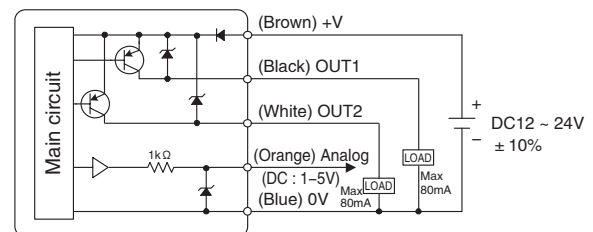
Note 2) Analog output of positive pressure type (P) in range of pressure 0 to 1 Mpa can output DC1-5V. In range of pressure -0.1 to 0 MPa it does not output.

## Internal circuit

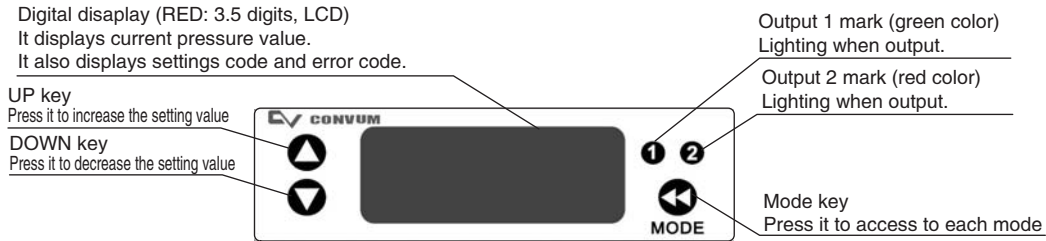
NPN output (Analog voltage output)



PNP output (Analog voltage output)



## Display description

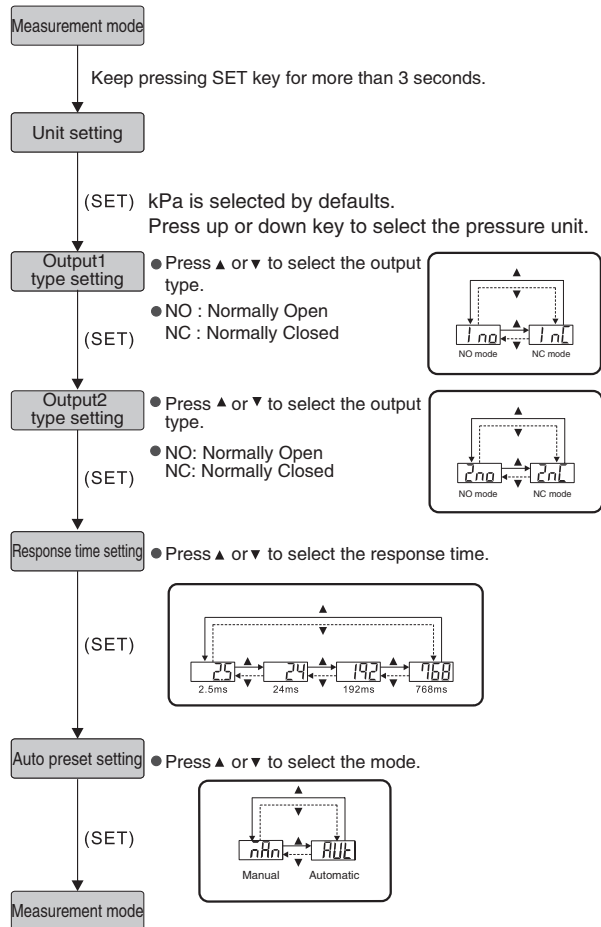


MPS-23

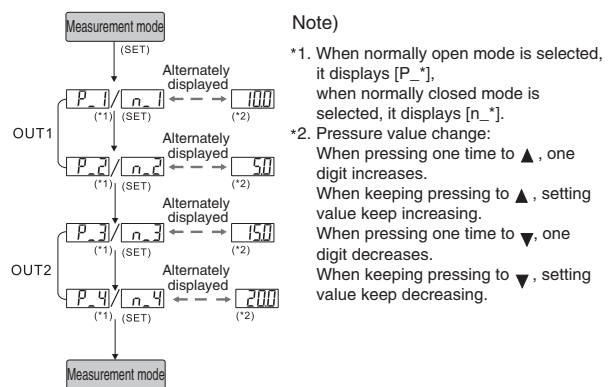
## Setting method

Please refer to the instruction manuals for details

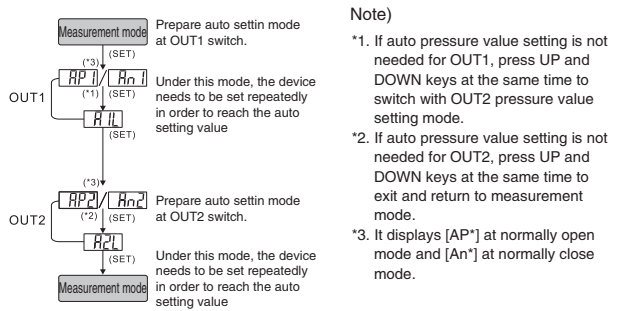
### Initial settings mode



### Manual settings



### Auto setting mode



[Calculation of setting value]

A=The max. pressure value under auto setting mode  
B=The min. pressure value under auto setting mode

$$P1(n1) = A - \frac{A-B}{4}$$

$$P3(n3) = A - \frac{A-B}{4}$$

$$P2(n2) = B + \frac{A-B}{4}$$

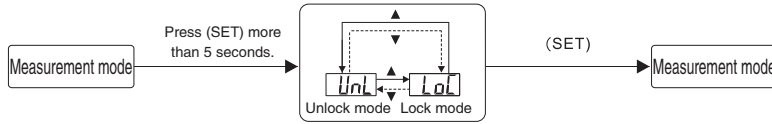
$$P4(n4) = B + \frac{A-B}{4}$$

## Other settings

① Zero reset setting:

Press UP and DOWN key at the same time until the "00" is displayed.  
Release the keys to end the settings.

② Security lock setting



- Use ▲ and ▼ to change status of locking mode.

## Dimensions

Unit : mm <inch>

