

# G-TRAN Series Pirani Gauge Sensor Unit [SP1]

The sensor unit SP1 is an integrated pirani gauge consisting of the WP series gauge head and circuits, for the range of 3000 to 0.4Pa (22 to  $3 \times 10^{-3}$  Torr/ 3 to  $4 \times 10^{-3}$  mbar).

This vacuum gauge provides cost reduction and space-saving by minimizing functions. This is accomplished by removing the display.



## Features

- ▶ **Transducer Spec**  
If you don't need a pressure display device:  
You can lower the costs associated with a vacuum gauge.  
You can save space by minimizing the control panel.  
You can minimize wiring circuits.
- ▶ **Maintainability**  
Replacing sensor heads is greatly simplified.
- ▶ **Filament Material: platinum (Pt)**  
Corrosion-resistant platinum is used for the filament material.
- ▶ **Able to Use WP Series Gauge Heads**  
You can use current gauge heads (WP-01, 02, 03, 16) without modification.
- ▶ **Control Output Signal**  
Use of two set points is possible.

- ▶ **Output Signal**  
Pressure reading is a 0 to 5V output (non-linear).
- ▶ **Supply Voltage**  
Unit operates with a DC24V input.

## Applications

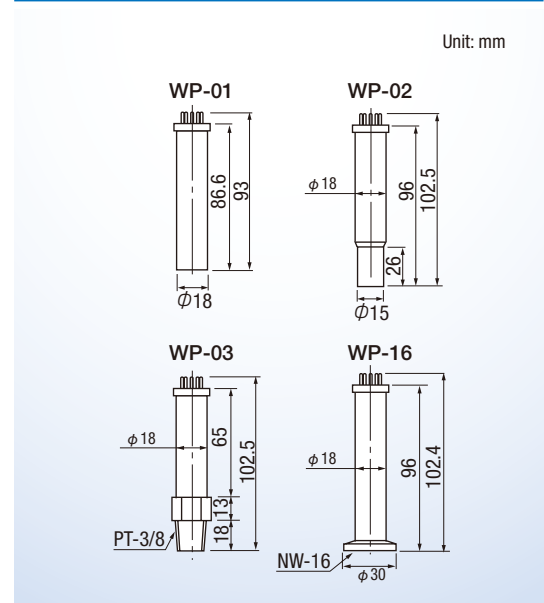
- ▶ Process control in the low vacuum range of vacuum equipment such as for semiconductor, optics and electronic parts manufacturing.
- ▶ Process control in the low vacuum range for industrial equipment such as vacuum furnaces, etc.
- ▶ Process control in the low pressure range for vacuum systems with multiple process chambers such as in-line sputtering and single wafer processing equipment.

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## Specifications

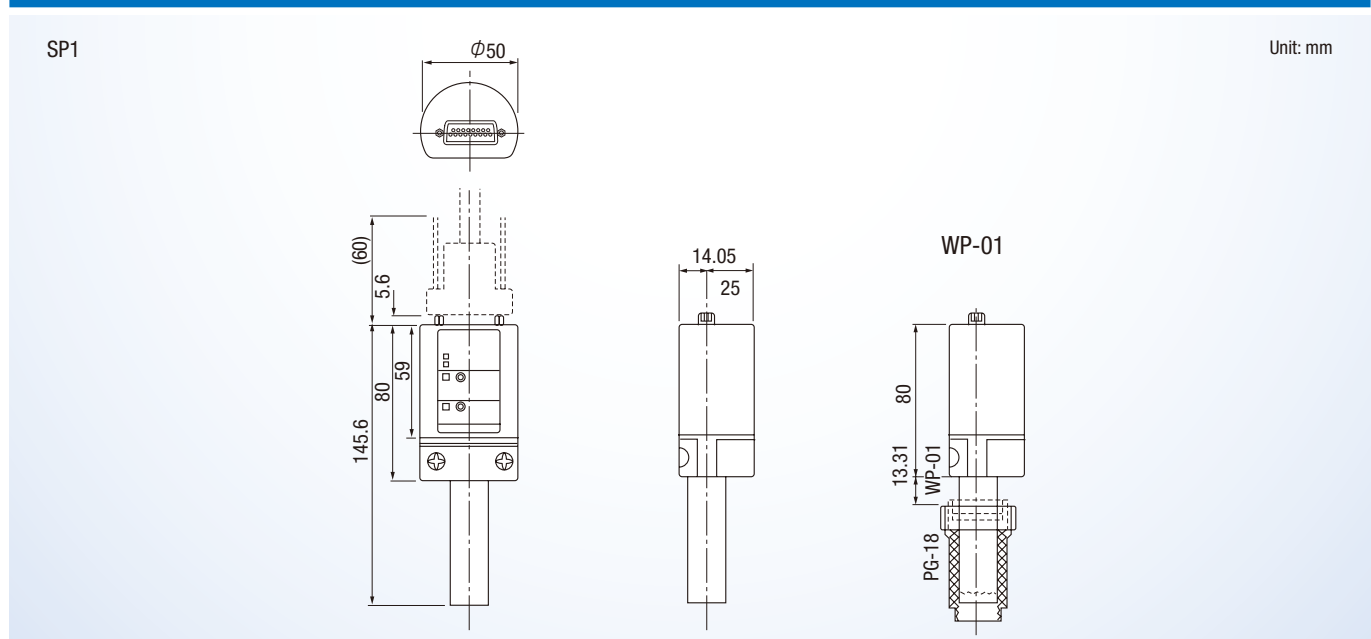
Type	Sensor unit
Model	SP1
Compatible sensor head	WP-01, WP-02, WP-03, WP-16
Measurement pressure range	4.0×10 <sup>-1</sup> to 3.0×10 <sup>-3</sup> Pa 3×10 <sup>-3</sup> to 22 Torr 4×10 <sup>-3</sup> to 3 mbar
Accuracy	±15 % (51 to 760 Pa, 3.8×10 <sup>-1</sup> to 5.7 Torr, 5.1×10 <sup>-1</sup> to 7.6 mbar) ±30 % (10 to 1000 Pa, 7.5×10 <sup>-2</sup> to 7.5 Torr, 0.1 to 10 mbar) ±50 % (0.4 to 3000 Pa, 3×10 <sup>-3</sup> to 22 Torr, 4×10 <sup>-3</sup> to 3 mbar)
Sampling time	Moving average of five times for 50ms
Measurement value output	Nonlinear output: 0 to 5VDC (Max. 10V)
Update time	50 ms
Resolution	10 mV
Setpoint 1/2 Pressure setting adjustment monitor	Nonlinear output: 0 to 5VDC (Max. 10V)
Control output signal	Open collector output, Negative logic ERROR signal Setpoint 1/2
LED display	Power, error, set point 1, set point 2
Operating temperature range	10 to 40°C (50 to 104°F)
Operating humidity range	15 to 80% (not condensing)
Power supply voltage	DC24V±2V, 90mA (Max.)
Input/Output connector	D-sub-15pin (M2.6 screw)
Weight	190g /0.41lb (Excluding sensor head)
Standard accessories	Input/Output connector 1pc Instruction manual 1pc

## Sensor Head Dimensions



IO and analog GND are not isolated from the power GND.

## Dimensions



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