



PRV101N Pirani vacuum transmitter

## Manual (Quick Version)

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### 1 Safety Issues

PRV101N is a precision instrument for vacuum measurement, and its internal sensors are susceptible to damage under the following conditions

1) Withstand shock vibrations, such as accidental falls, if the drop height exceeds 0.8 meters, then the probability of sensor damage is greater than 80% when the;

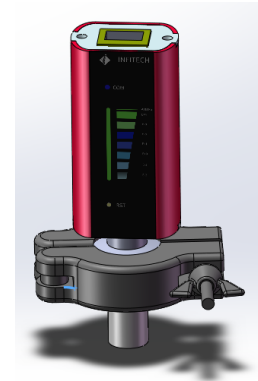
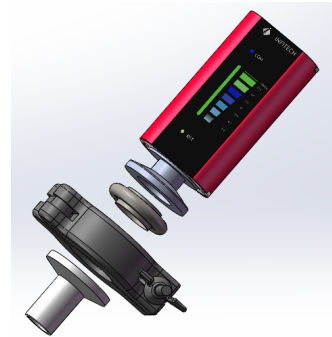
2) The tested medium gas contains strong oxidizing or corrosive components, making the sensor vulnerable to damage ;

3) While the protect plate in front of the flange inlet is missing, and withstand strong airflow impact, making the sensor vulnerable to damage ;

Therefore, it is necessary to check and avoid the occurrence of the above three situations before installing and using the vacuum gauge. The product damage caused by the above situations is not covered by the warranty.

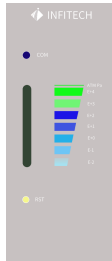
### 2 Installation method

1) Standard KF16 flange installation



2) Please consult the manufacturer for other connection methods

### 3 Panel Layout Description



#### COM light

— Communication indicator light, flashing during RS485 communication

#### Vertical colored indicator light strip

—Various status and fault indications

#### RST button

—Hidden calibration button

### 4 Wiring diagram



- ①-24V In+
- ②-GND
- ③-AnalogOutput+
- ④-Setpoint+
- ⑤-Output GND
- ⑥-NC
- ⑦-RS485 Data-
- ⑧-RS485 Data+

### 5 Quick check of indicator light status

Light Source	Color	Display status	Information	Required operation
COM	blue	Flashing	RS485 data communicating	None
COM	blue	Flashing 3 times, afterwards turned off	Power on self test	None
			Power on self test	None
CIS	red,green and blue	Merry-go-round	Atmosphere calibrating	None
			High-vacuum calibrating	None
CIS	red	Flashing 3 times	Calibration failed	caliberate again
CIS	green	Flashing 3 times	Calibration success	
CIS	yellow	Flashing	Abnormal at atmosphere	caliberate at atmosphere
CIS	red	Flashing	Probe fault	contact the manufacturer
CIS	green	Breathing light	Atmosphere indication	None
CIS	green	On	Current vacuum range: 1.0×10 <sup>3</sup> Pa - 1.0×10 <sup>5</sup> Pa	None
CIS	blue	On	Current vacuum range: 1.0×10 <sup>0</sup> Pa - 1.0×10 <sup>3</sup> Pa	None
CIS	cyan	Breathing light	Current vacuum range: 1.0×10 <sup>-2</sup> Pa - 1.0×10 <sup>0</sup> Pa	None

### 6 Formula for Analog Output

$$P = 10^{(V-3.572)/1.286}$$

here :

P—Vacuum, unit Pa

V—Analog voltage, unit V

### 7 Calibration Method

Calibration for atmosphere:

- 1) Ensure that the vacuum gauge sensor is at atmospheric pressure (if the vacuum gauge is already installed on the flange, it is necessary to ensure that the connected pipeline or chamber is depressurized to atmospheric pressure),
- 2) using stick with diameter less and 1.5mm, Press the hidden button on the left and hold it for 3-8 seconds (less than 3 seconds will not trigger calibration action, and more than 8 seconds will trigger factory reset action) , then release

the button.

3) The colored indicator light strip begins to display a red, green, and yellow circular indicator light in the merry-go-round way, until all indicator lights turn green and quickly flash 3 times, indicating successful calibration.

Calibration for high-vacuum:

1) Ensure that the vacuum gauge sensor is in a vacuum environment below 0.01Pa,

2) using stick with diameter less and 1.5mm, Press the hidden button on the left and hold it for 3-8 seconds (less than 3 seconds will not trigger calibration action, and more than 8 seconds will trigger factory reset action) , then release the button.

3) The colored indicator light strip begins to display a red, green, and yellow circular indicator light in the merry-go-round way, until all indicator lights turn green and quickly flash 3 times, indicating successful calibration.

Notes :

(1) The vacuum gauge needs to be powered on for 5-10 minutes to ensure that the vacuum gauge sensor is in a stable state;

(2) Before calibration, it is necessary to confirm the vacuum status to ensure that the vacuum is either below 0.01Pa or in the atmosphere. When the button is pressed, the vacuum gauge will automatically recognize and perform corresponding high-vacuum or atmospheric calibration. If the vacuum state is incorrect, it will cause the calibration of the vacuum gauge to be incorrect.

## 8 GaugeReader Software

Install GaugeReader software (free) on the computer, and then connect to the vacuum gauge with InfiGaugeCon data acquisition module (paid, optional) . You can read the vacuum degree value through data communication, set control points, modify the 485 communication address, etc., The GaugeReader software can be downloaded through the official website [www.infitech.cn.com](http://www.infitech.cn.com).

## 9 To get more support

Log in to the official website or scan the WeChat public account at below

(recommended), reply "PRV101N," you can get the detailed version of the PRV101N manual and other related information about the product. All the latest updated information will be published on the WeChat public account and the company's official website as well.



## 10 Warranty

The product is guaranteed for 12 months from the date of receipt, and the components directly in contact with the vacuum are not covered by the warranty. In addition, tearing off the warranty seal is invalid and may result in automatic loss of warranty eligibility.

## 11 Contact information

Tel : 021-54130910  
website : [www.infitech-cn.com](http://www.infitech-cn.com)