



## **CVM-211 "Stinger" Convection Vacuum Gauge Module Measurement Unit & Display – bar/mbar**

- **Wide measurement range**  
1x10<sup>-4</sup> to 1333 mbar
- **Built-in digital display with analog output and setpoint relay.**
- **Wider measuring range and better accuracy than TC gauges.**
- **Also a low cost, plug-compatible direct drop-in replacement for the most basic Granville-Phillips Mini-Convectron® models.**

*Monitor your vacuum system from atmosphere to 10<sup>-4</sup> mbar with a single gauge.*

*Easy setup and operation.*

*Upgrade your vacuum system and process performance.*

*Significant cost savings  
Simplest and lowest cost vacuum gauge solution for many vacuum systems.*



### **The InstruTech CVM-211 Sensor**

The sensor inside the CVM-211 "Stinger" module incorporates numerous design enhancements compared to other traditional Convection vacuum gauges.

Temperature compensation has been moved out of the vacuum environment and placed around the outside of the vacuum gauge tube. This has eliminated a dozen or so unnecessary parts and welds, significantly increasing the reliability, providing optimal vacuum measurement while reducing cost. The improved mechanical strength results in a highly robust vacuum gauge less susceptible to mechanical shock and vibration. Other design features include reduced internal volume and significant reduction of internal surface area resulting in faster pump-down and less outgassing. A fine mesh screen in the gauge inlet port helps prevent particulate contamination from entering the gauge. The gauge is shielded against RF interference. Guided by our vast experience and vacuum measurement know how, our sensors are specifically designed for reliability and manufacturability.

These, and other, design features add up to a highly reliable vacuum gauge with significant cost savings that are passed on to you.

### **The InstruTech CVM-211 Built-in Controller**

InstruTech's CVM-211 "Stinger" module provides the necessary signal conditioning to turn the Convection gauge into a complete vacuum measuring instrument.

The CVM-211 module provides one log-linear or non-linear analog output and one setpoint relay. In addition, a built-in display provides the measured pressure values and provides for a convenient user interface for setup and operation of the vacuum gauge.

### **Low-cost upgrade for thermocouple TC vacuum gauges**

The *Stinger* provides a wider measuring range than traditional thermocouple vacuum gauges - from 10<sup>-4</sup> mbar to atmosphere - so you can monitor your entire pump-down and vent cycle.

The CVM-211 Convection Enhanced Pirani gauge is more accurate than a thermocouple gauge, especially at lower pressures. And depending on your gauge/readout configuration, the cost of a *Stinger* is about the same, or very little more, than the cost of a TC gauge system.

### **Also a direct drop-in replacement for GP Mini-Convectron® modules**

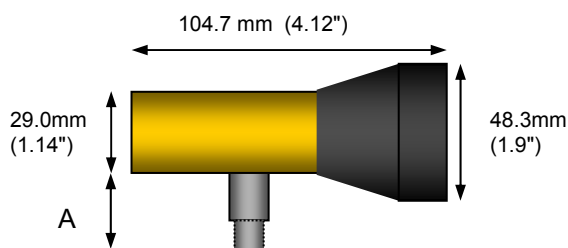
The *Stinger* can also directly replace the most basic Granville-Phillips Mini-Convectron® modules, at significantly lower cost. The InstruTech *Stinger* provides equivalent or better performance throughout the range of 10<sup>-4</sup> to 1333 mbar.

The 9-pin D connector has the same pinouts and signals as the corresponding Mini-Convectrons®. The non-linear analog signal and setpoint relay are identical to their corresponding Mini-Convectron® functions. With *Stinger's* performance, more robust design, longevity, smaller size, and lower cost, your process could only improve.

***Whether you're looking to reduce costs or improve your process, the CVM-211 Stinger offers a cost-effective solution for your vacuum gauge needs.***

## Specifications

measurement range (signal) display	1x10 <sup>-4</sup> to 1333 mbar / 1x10 <sup>-4</sup> to 1000 Torr / 1x10 <sup>-2</sup> Pa to 133 kPa 3 digit LED from 1.33 bar to 10.0 X10 <sup>-3</sup> mbar 2 digit LED from (9.9 to 1.0) X (10 <sup>-3</sup> mbar), 1 digit LED from (0.9 to 0.1) X (10 <sup>-3</sup> mbar)
materials exposed to gases	gold-plated tungsten, 304 & 316 stainless steel, glass, nickel, Teflon
internal volume	26 cm <sup>3</sup> (1.589 in <sup>3</sup> )
internal surface area	59.7 cm <sup>2</sup> (9.25 in <sup>2</sup> )
weight	136 g (4.8 oz)
housing	molded plastic
fittings/flanges	1/8"NPT-1/2" tubulation, 4VCR, 8VCR, Mini-Conflat <sup>®</sup> (NW16CF), 2-3/4" Conflat <sup>®</sup> (NW35CF), KF16, KF25, KF40
operating temperature	0 to +40 °C
storage temperature	-40 to +70 °C
bakeout temperature	+70 °C
humidity	0 to 95% RH non-condensing
mounting position	horizontal recommended
analog output	1) log-linear 1 to 8 Vdc , 1V/decade, or 2) non-linear analog S-curve 0.375 to 5.659 Vdc
input power	11 to 30 Vdc, protected against power reversal, transients, and over-voltages
trippoint relay	one, single-pole double-throw relay (SPDT)
contact rating	1A at 30 Vdc resistive, or ac non-inductive
connector	9-pin D male
RF/EMI protection	CE compliant



fitting	dimension A
1/8"NPT - 1/2" tube	25.4mm (1.00")
NW16KF	33.0mm (1.30")
NW25KF	33.0mm (1.30")
NW40KF	33.0mm (1.30")
1-1/3" Mini-Conflat <sup>®</sup>	37.3mm (1.47")
2-3/4" Conflat <sup>®</sup>	37.3mm (1.47")
1/4" Cajon <sup>®</sup> 4VCR	47.2mm (1.86")
1/2" Cajon <sup>®</sup> 8VCR	44.5mm (1.75")

## Ordering Information

### InstruTech CVM-211 Module Fitting type:

	With Log-Linear Analog Output	With Non-Linear Analog Output
1/8"NPT - 1/2" tube	CVM211GAA-B-L	CVM 211 G AA-B-NL
NW16KF	CVM211GBA-B-L	CVM 211 G BA-B-NL
NW25KF	CVM211GCA-B-L	CVM 211 G CA-B-NL
NW40KF	CVM211GDA-B-L	CVM 211 G DA-B-NL
1-1/3" Mini-CF / NW16CF Mini-Conflat <sup>®</sup>	CVM211GEA-B-L	CVM 211 G EA-B-NL
2-3/4" CF / NW35CF Conflat <sup>®</sup>	CVM211GFA-B-L	CVM 211 G FA-B-NL
1/4" Cajon <sup>®</sup> 4VCR female	CVM211GGA-B-L	CVM 211 G GA-B-NL
1/2" Cajon <sup>®</sup> 8VCR female	CVM211GHA-B-L	CVM 211 G HA-B-NL

Convectron<sup>®</sup> and Mini-Convectron<sup>®</sup> are registered trade marks of Brooks Automation - Granville-Phillips.  
Cajon<sup>®</sup> is a registered trade mark of the Swagelok Company.  
Conflat<sup>®</sup> is a registered trade mark of Varian Vacuum Technologies

