

InstruTech - CVM-201 SuperBee™ Convection Vacuum Gauge Module

Features

- Low cost, direct drop-in plug-compatible replacement for GP Mini-Convectron® modules.
- Built-in digital display, two setpoints, log-linear, linear, and nonlinear analog outputs, and RS232/485 interface are all included in the InstruTech CVM module product line.
- Wide measurement range 10⁻⁴ to 1000 Torr.
- Gauge tube and electronics in one convenient package

The InstruTech CVM-201 module provides the basic signal conditioning required to turn the gauge into a complete measuring instrument, the CVM-201 "Super Bee" module provides non-linear and linear or log-linear analog outputs, RS232/485 interface, and two setpoint relays. A built-in display provides a convenient user interface for setup and operation of the vacuum gauge.

Direct drop-in plug-compatible replacement for the GP Mini-Convectron®

The InstruTech CVM-201 module will directly replace most Granville-Phillips Mini-Convectron modules. Linear and non-linear analog signals, digital interfaces, and setpoint relays are all included on the standard InstruTech module. All are identical to their corresponding Mini-Convectron functions. Software commands are the same.

GP Mini-Convectron modules use either 9-pin D-sub or 15-pin high-density D-sub connector, with 6 different pinout configurations, depending on model and options. If you have more than one vacuum system, you probably have several different Mini-Convectron models to support. The CVM-201 uses both a 9-pin D-sub and a 15-pin high density d-sub connector to bring out all these functions in the same pinout configurations.

Lower cost without sacrificing quality or functionality

InstruTech has made numerous changes to reduce cost and improve performance. Temperature compensation has been moved out of the vacuum environment, significantly reducing costs and improving performance. The gauge is bakeable to 1508°C (electronics removed) and shielded against RF interference. A fine mesh screen in the gauge port helps prevent particulate contamination from entering the gauge. The sensor is far more reproducible and easier to make. These, and other improvements add up to significant cost savings to you. Similar improvements have been incorporated into the module electronics. The biggest cost savings comes from manufacturing a single model, with all possible options, instead of making dozens of different pc boards and models. And you don't have to give up one feature to get another. You can have an analog output with an RS485 interface or a linear output with setpoints, or an RS485 interface with a display. The standard InstruTech module includes all these features at a cost comparable to the most basic model Mini-Convectron®.

See Page F12 for Power Supplies



Specifications	
Measurement range	1x10 ⁻⁴ to 1000 torr 1x10 ⁻⁴ to 1333 mbar 1x10 ⁻² Pa to 133 kPa
Display	LCD, 4 digits, user-selectable Torr, mbar or Pa (4digits from 1100 Torr to 1000 Torr, 3 digits from 999 Torr to 10.0 mTorr, 2 digits from 9.9 to 1.0 Torr.)
Housing	Aluminum extrusion 105 x 66 x 35mm (4.12 x 2.58 x 1.35 inches)
Fittings/flanges	1/8"NPT-1/2" tubulation, 4VCR, 8VCR, Mini-Conflat (NW16CF), 2-3/4" Conflat (NW35CF), KF16, KF25, KF40
Temperature - operating	0°C to +40°C
Temperature - bakeout	150°C (gauge only - electronics removed)
Humidity - operating	0 to 95% RH non-condensing
Mounting Orientation	Horizontal recommended
Analog Output	1) log-linear 1 to 8 Vdc., 1V/decade, or 2a) non-linear analog S-curve 0.375 to 5.659 Vdc, or 2b) linear 0 to 10 Vdc, user scalable (default is 0-1- VDC = 0-1 Torr)
Digital Interface	RS485/RS232
Input Power	11 to 30 Vdc, protected against power reversal, transients, and over-voltages.
Trippoint relay	two, single-pole double-throw relay (SPTD)
Contact Rating	1A at 30 Vdc resistive, or ac non-inductive
Connector	9-pin D male and 15/pin high-density D male
Materials exposed to gases	Gold plated tungsten, 304 & 316 stainless steel, glass, nickel, PTFE
Internal Volume	26 cm ³ (1.589in ³)
Internal Surface Area	59.7 cm ² (9.25 in ²)
Weight	340 gm (9.25 oz.)
RF/EMI protection	CE compliant

InstruTech Part No.	Description	Price
Standard Gauges		
CVM201GAA	1/8" NPT - 1/2" tube	
CVM201GBA	NW16KF	
CVM201GCA	NW25KF	
CVM201GDA	NW40KF	
CVM201GEA	1-1/3" Mini-CF/NW16CF Mini-Conflat	
CVM201GFA	2-3/4" CF/NW35CF Conflat	
CVM201GGA	1/4"Cajon 4VCR female	
CVM201GHA	1/2" Cajon 8VCR female	
CK431-02	Mating kit for CVM-201 Super Bee 9-pin D and 15 pin high density D	