



### Series 301 Convection Vacuum Gauge Controller

- ◆ Wide measuring range lets you monitor your vacuum system from  $1 \times 10^{-4}$  to 1,000 Torr with a single gauge
- ◆ Includes two setpoint relays, user-selectable analog output, and RS232 / RS485 serial communications
- ◆ Analog output is configurable as a non-linear S-curve, log-linear, or user-scalable linear voltage signal
- ◆ Space-saving 1/8-DIN panel mount housing easily adapts to instrument or rack-mount panel installations



#### Description

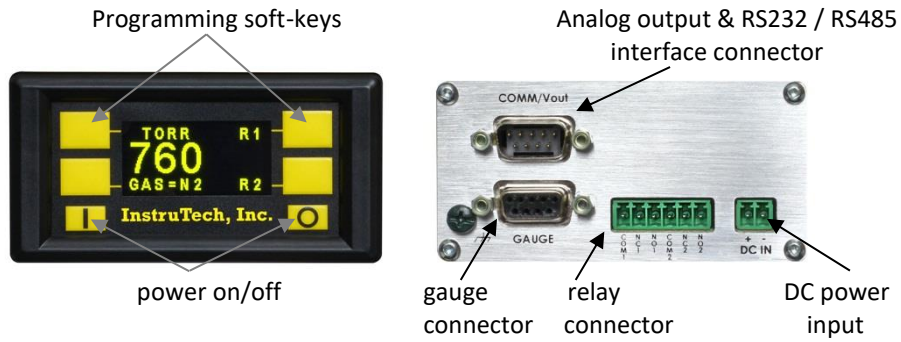
The VGC301 vacuum gauge controller is a convenient and inexpensive power supply and readout instrument for a CVG101 *Worker Bee*™ convection vacuum gauge sensor. The 1/8-DIN housing can be used as a bench top or a panel mount instrument. The VGC301 is powered by user supplied 12 to 28 Vdc, 2 W, or by InstruTech series PS301 optional power supplies.

*Compatibility:* Signals and relay functions are the same as found on similar convection gauge controllers from other manufacturers. The VGC301 controller, CVG101 vacuum gauge sensor and cable can be directly interchanged with Granville-Phillips® 375 and 475 controllers, 275 Convectron® gauge and gauge cable (Remote interface, relay, and power connectors are different).

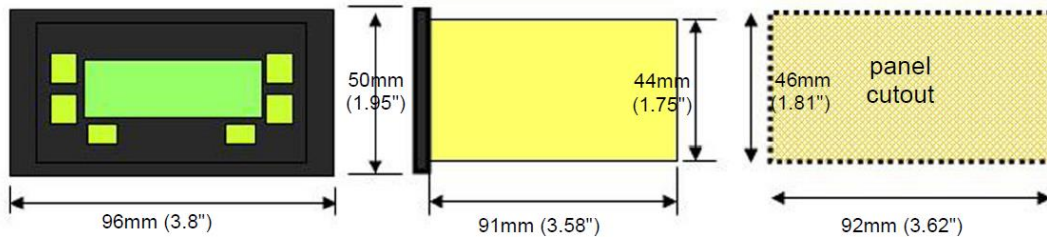
#### Specifications

measurement range	$1 \times 10^{-4}$ to 1,000 Torr / $1.3 \times 10^{-4}$ to 1,333 mbar / $1.3 \times 10^{-2}$ Pa to 133 kPa
display	Bright OLED, 4 digits, user-selectable Torr, mbar, or Pa (4 digits from 1100 Torr to 1000 Torr), (3 digits from 999 Torr to 10.0 mTorr), (2 digits from 9.9 mTorr to 1.0 mTorr ), (1 digit from 0.9 mTorr to 0.1 mTorr)
display update rate	0.5 sec
weight	9 oz. (250 g)
operating temperature	0 to +40 °C
storage temperature	-40 to +70 °C
humidity	0 to 95% relative humidity, non-condensing
analog output (user-selectable)	a) log-linear 0 to 7 Vdc or 1 to 8 Vdc, 1 V/decade, or b) linear 0 to 10 Vdc, or c) non-linear S-curve 0.375 to 5.659 Vdc, or d) non-linear S-curve 0 to 9 Vdc
serial communications	RS232 and 2 wire/4 wire RS485 - ASCII protocol
housing	1/8-DIN panel-mount enclosure (aluminum extrusion)
input power	12-28 Vdc, 2 W protected against power reversal and transient over-voltages
setpoint relays	two single-pole double-throw relays (SPDT), 1 A at 30 Vdc resistive, or ac non-inductive
connectors	gauge: 9-pin D-sub female (mating connector provided as part of the gauge cable) analog output and serial communications interface: 9-pin D-sub male relay outputs: 6-pin pluggable terminal block (mating connector included) power: 2-pin pluggable terminal block (mating connector included)
CE compliance	EMC Directive 2014/30/EU, EN55011, EN61000-6-2, EN61000-6-4, EN61326-1, EN61010-1
environmental	RoHS compliant

**Controls & Connections**



**Outline Drawing**



**Ordering Information**

**Part Numbers**

**VGC301 Controller** (Power On/Off buttons enabled. Must Push On/Off buttons to turn controller on/off). VGC301A  
**VGC301 Controller** (Power On/Off buttons disabled. Controller turns on automatically when power is applied). VGC301B

**Optional Power Supply for VGC301**

Input: 100 - 240 Vac, 50-60 Hz  
 Output: + 24 Vdc  
 Cable Length: 6 ft. (2 m)  
 (see PS301 data sheet for more details)



with North American AC Plug: PS301-A  
 with universal European AC Plug: PS301-EU  
 with UK AC Plug: PS301-UK  
 with China AC Plug: PS301-C  
 with Australian AC Plug: PS301-SP



This variation of the PS301 power supply may be used when an AC plug that is not listed above is required. The conventional IEC60320 AC power entry receptacle allows use with any user supplied AC mains power cord set available worldwide. PS301-UX

**Vacuum Gauge Cable**

For connecting the CVG101 Worker Bee™ vacuum gauge sensor to the VGC301 controller



10 ft. (3 m): CB421-1-10F  
 25 ft. (8 m): CB421-1-25F  
 50 ft. (15 m): CB421-1-50F  
 100 ft. (30 m): CB421-1-100F  
 150 ft. (46 m): CB421-1-150F  
 200 ft. (30 m): CB421-1-200F

**InstruTech CVG101 Worker Bee™**  
 Convection Vacuum Gauge Sensor



See CVG101 Worker Bee™ convection gauge data sheet

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