



VGC083A, VGC083B

Vacuum Gauge Controller



The INFICON Vacuum Gauge Controller VGC083 is designed for use with passive gauge heads BAG05x and PGE050 in a fixed combination of two PGE050 gauges and one BAG05x gauge. The VGC083 controls and monitors vacuum pressure from ATM down to 2.7×10^{-11} mbar using the BAG and PGE gauges. Six (6) single-pole relays assignable to any of the gauge heads along with RS232 and RS485 interfaces aid in system integration. The rugged industrial design of the VGC083 in combination with the passive gauge heads provide a reliable and economical system for vacuum applications requiring a wide vacuum measurement range.

ADVANTAGES

- Simple operation with special OLED display for parameter, sensor or general settings with softkeys
- Very bright and clear LED display for long distance vacuum pressure read-out
- Three analog outputs, user assignable to any of the gauges
- Degas electron bombardment or I²R resistive heating for gauge conditioning depending on gauge head type
- Remote digital I/O sensor & emission on/of
- Sensor 1 can be automatically turned on/off from sensor 2 or 3
- Three definable setpoints per channel with adjustable hysteresis
- RS232 / RS485 serial communication
- 6 assignable single pole double through setpoint relays
- Ion gauge overpressure protection
- Alternative active gauge use
- User selectable filament
- Direct drop in replaces Granville-Phillips® 307 Bayard-Alpert Gauge Controller

ORDERING INFORMATION

Type	VGC083A	VGC083B
Vacuum Gauge Controller	399-700	399-701
Power supply VGC083A/B	399-710	399-710
Rack mount adapter one VGC083A/B	399-714	399-714
Rack mount adapter two VGC083A/B	399-715	399-715

SPECIFICATIONS

Type		VGC083A	VGC083B
Measurement channels		3	3
Display		LED – 3 independent pressure display channels	
Pressure indication		OLED	
Programming & set-up screen			
Connectable gauges with display range			
PGE050	mbar / Torr	1.3×10 ⁻⁴ ... 1333 / 1×10 ⁻⁴ ... 1000	1.3×10 ⁻⁴ ... 1333 / 1×10 ⁻⁴ ... 1000
BAG050	mbar / Torr	2×10 ⁻¹¹ ... 1.3×10 ⁻³ / 2×10 ⁻¹¹ ... 1×10 ⁻³	–
BAG051	mbar / Torr	–	4×10 ⁻¹⁰ ... 1333 / 4×10 ⁻¹⁰ ... 1000
BAG052, BAG053	mbar / Torr	–	4×10 ⁻¹⁰ ... 1333 / 4×10 ⁻¹⁰ ... 1000
Sensor 1 over pressure protection		turns hot ion gauge off at the following factory default settings 1×10 ⁻³ Torr at 100 µA emission current 5×10 ⁻⁴ Torr at 4 µA emission current 1×10 ⁻⁴ Torr at 10 µA emission current	
Connectors	BAG supply BAG col PGE050 Remote digital I/O RS232 RS485 Analog out Analog in Relay DC power		CPC ¹⁾ BNC ¹⁾ D-sub, 9 p-pin female D-sub, 9 p-pin male D-sub, 9 p-pin female D-sub, 9 p-pin male 2 pole pluggable 3 pole pluggable each 3 pole pluggable 3 pole pluggable terminal block, mating connectors included
Measurement unit (selectable)		mbar (default), Torr, Pa	
Setpoint relays		6 single-pole double-throw relays (SPDT), user assignable to any of the gauges	
Contact rating		5 A at 30 V (dc), 5 A at 250 V (ac), resistive load	
Analog output			
BAG analog output	V (dc)	0 ... 10 (log-linear, 1 V/decade)	
	V (dc)	1.7 ... 9.3 (nominal 1.8 ... 8.7 (log-linear, 0.8 V/decade)	
	V (dc)	0 ... 10 (linear, usable over 3 decades)	
Combination BAG & PEG analog	V (dc)	0.5 ... 7 (log-linear, 0.5 V/decade)	
PEG analog output	V (dc)	1 ... 8 (log-linear, 1 V/decade)	
	V (dc)	0 ... 7 (log-linear, 1 V/decade)	
	V (dc)	0 ... 10 (linear, usable over 3 decades)	
	V (dc)	0.375 ... 5.659 (non-linear, S-curve usable over 3 decades)	
Interface (digital)		RS232, RS485 ²⁾	
Supply voltage (external)	V (dc)	+20 ... +28 ³⁾	
Operation temperature (ambiance)	°C	+0 ... +40	
Storage temperature	°C	-40 ... +70	
Humidity		0 ... 95% relative humidity, non-condensing	
Housing		aluminum housing	
Weight	kg / lb.	0.7 / 1.7	

¹⁾ Gauge cable assemblies provided by INFICON

²⁾ Command protocol compatibility with GP307

³⁾ 200 W protected against power reversal and transient over-voltages

CONNECTABLE GAUGES

BAG050 Hot Ion Gauge	VGC083A	VGC083B
BA nude EB-degas, DN 40 CF, dual iridium filament (Ir)	399-720	–
BA nude EB-degas, DN 40 CF, dual tungsten filament (W)	399-720	–
BAG051 Hot Ion Gauge		
BA nude I ² R, DN 40 CF, single iridium filament (Ir)	–	399-725
BA nude I ² R, DN 40 CF, dual iridium filament (Ir)	–	399-726
BA nude I ² R, DN 40 CF, dual tungsten filament (W)	–	399-727
BAG052 Hot Ion Gauge		
BA glass I ² R, ¾" Kovar metal inlet port , single iridium filament (Ir)	–	399-740
BA glass I ² R, 1" Kovar metal inlet port , single iridium filament (Ir)	–	399-741
BA glass I ² R, ¾" glass inlet port , single iridium filament (Ir)	–	399-742
BA glass I ² R, 1" glass inlet port , single iridium filament (Ir)	–	399-743
BA glass I ² R, DN25KF , single iridium filament (Ir)	–	399-744
BA glass I ² R, DN40KF , single iridium filament (Ir)	–	399-745
BA glass I ² R, DN16CF , single iridium filament (Ir)	–	399-746
BA glass I ² R, DN40CF , single iridium filament (Ir)	–	399-747
BAG053 Hot Ion Gauge		
BA glass I ² R, ¾" Kovar metal inlet port , dual tungsten filament (W)	–	399-750
BA glass I ² R, 1" Kovar metal inlet port , dual tungsten filament (W)	–	399-751
BA glass I ² R, ¾" glass inlet port , dual tungsten filament (W)	–	399-752
BA glass I ² R, 1" glass inlet port , dual tungsten filament (W)	–	399-753
BA glass I ² R, DN25KF , dual tungsten filament (W)	–	399-754
BA glass I ² R, DN40KF , dual tungsten filament (W)	–	399-755
BA glass I ² R, DN16CF , dual tungsten filament (W)	–	399-756
BA glass I ² R, DN40CF , dual tungsten filament (W)	–	399-757
PGE050 Pirani Gauge Enhanced		
Pirani gauge, DN 16 ISO-KF , tungsten filament (W)	352-500	352-500
Pirani gauge, DN 25 ISO-KF , tungsten filament (W)	352-501	352-501
Pirani gauge, DN 40 ISO-KF , tungsten filament (W)	352-502	352-502
Pirani gauge, DN 16 CF-R , tungsten filament (W)	352-503	352-503
Pirani gauge, DN 40 CF-R , tungsten filament (W)	352-504	352-504
Pirani gauge, 4 VCR female , tungsten filament (W)	352-505	352-505
Pirani gauge, 8 VCR female , tungsten filament (W)	352-506	352-506
Pirani gauge, 1/8" NPT , tungsten filament (W)	352-507	352-507

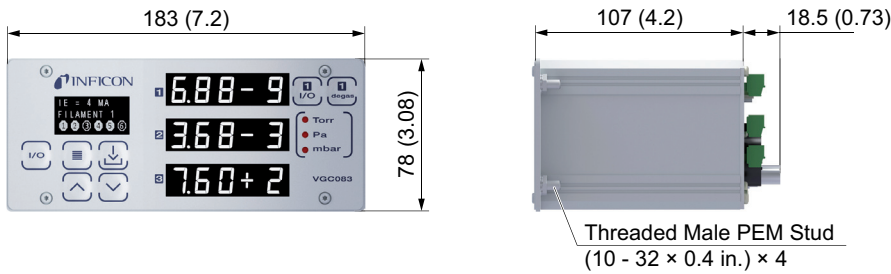
ACCESSORIES

Cable to VGC083A/B for	BAG050/051 200 °C	BAG050/051 50 °C	BAG052/053 50 °C	PGE050 50 °C
3 m (9.0 ft)	399-770	399-780	399-790	399-580
8 m (25.0 ft)	399-771	399-781	399-791	399-581
15 m (50.0 ft)	399-772	399-782	399-792	399-582

Other lengths on request

DIMENSIONS

VGC083A, VGC083B mm (inch)



Optional rack mount adapter for one VGC083A, VGC083B

Optional rack mount adapter panel (aluminum - powder paint finish) for installation of one VGC083A/B as a left-mount or a right-mount in a 2U, 19 inch wide rack.



Optional rack mount adapter for two VGC083A, VGC083B

Optional rack mount adapter panel (aluminum - powder paint finish) for installation of two VGC083A/B side-by-side in a 2U, 19 inch wide rack.

