

PGE500

Pirani Gauge Enhanced

The INFICON Pirani Gauge Enhanced (PGE) is equipped with the latest digital convection enhanced Pirani technology available on the market. Due to the physical properties of convection this type of Pirani offers higher accuracy in the measurement range between 100 to 1000 mbar. The rugged gauge and sensor design in combination with many factory built in features, such as the bright, sharp and clear OLED display with integrated keypad, RS485/RS232 digital interface and 4 selectable analog output signals makes the PGE500 a high value/low cost of ownership choice. All these features qualify this gauge for many applications where an economical vacuum measurement from low to high vacuum range is required.



ADVANTAGES

- Convection Enhanced Pirani Technology for wide measurement range and higher accuracy near atmosphere
- All-in-One active gauge with built-in display, 2 set points, 4 analog output signals, and 2 digital interfaces
- Bright digital OLED display with keypad for simple setup, calibration and operation
- 4 optional analog output signals (3 user selectable, 1 default)
- Factory pre-set analog output signal or selectable via keypad
- Factory pre-set display units or selectable via keypad
- User programmable set point relays (factory pre-set on request for volume orders)
- Gold plated tungsten filament
- Mechanical strength, highly robust and less susceptible to mechanical shock and vibration
- Choice of flange options
- Compliance & standards: CE, RoHS
- Direct drop in replaces most Granville-Phillips® Mini-Convectron® modules (GP275)

APPLICATIONS

- Fore vacuum pressure measurement
- General vacuum measurement and control from low to the high vacuum range

3 P E 5 - **0 0 1** - **B 7 F 0**

Unit

mbar	0
Torr	1
Pa	2

Flange

DN 16 ISO-KF	1
DN 16 CF-R	3
DN 25 ISO-KF	6
DN 40 ISO-KF	7
DN 40 CF-R	8
4 VCR female	D
8 VCR female	E
1/8" NPT	F

Output Signal Analog

0	1.15 ... 10.215 V ¹⁾
2	0.375 ... 5.659 V ²⁾
5	1 ... 8 V ³⁾
-	0 ... 10 V ⁴⁾

1) log-linear, $p = 10^{0.778(U-c)}$

2) non-linear S-curve, compatible to most Granville-Phillips® Mini-Convectron® modules (GP275)

3) log-linear, $p = 10^{(V-5)}$

4) linear, available on all devices by default on pin 9

SPECIFICATIONS

Type		PGE500
Filament		Tungsten gold-plated
Measurement range	mbar Torr Pa	$1.3 \times 10^{-4} \dots 1333$ $1 \times 10^{-4} \dots 1000$ $1.3 \times 10^{-2} \text{ Pa} \dots 133 \text{ kPa}$
Accuracy (N ₂) ¹⁾	$1.3 \times 10^{-4} \dots 1.3 \times 10^{-3} \text{ mbar}$	$0.1 \times 10^{-3} \text{ mbar}$ resolution
	$1.3 \times 10^{-3} \dots 530 \text{ mbar}$ % of reading	±10
	$530 \dots 1333 \text{ mbar}$ % of reading	±2.5
	$1 \times 10^{-4} \dots 1 \times 10^{-3} \text{ Torr}$	0.1 mTorr resolution
	$1 \times 10^{-3} \dots 400 \text{ Torr}$ % of reading	±10
	$400 \dots 1000 \text{ Torr}$ % of reading	±2.5
	Repeatability (N ₂) ¹⁾	% of reading
Admissible temperature		
Operation	°C	0 ... +40
Storage	°C	-40 ... +70
Bakeout (electronics removed)	°C	≤150
Supply voltage	V (dc)	+12 ... +28 ²⁾
Output signal analog		
3PE5-0xx-B7F0	V (dc)	1.15 ... 10.215 (log-linear)
-B7F2	V (dc)	0.375 ... 5.659 (non-linear S-curve)
-B7F5	V (dc)	1 ... 8 (log-linear)
-B7F- ³⁾	V (dc)	0 ... 10 (linear)
Voltage vs. pressure		
3PE5-0xx-B7F0	V / Decade	1.286
3PE5-0xx-B7F5	V / Decade	1
Setpoint relay		2 (single-pole double-throw relays (SPDT) 1 A at 30 V (dc) resistive, or V (ac) non-inductive
Interface (digital)		RS232 / RS485 (ASCII protocol)
Electrical connection		D-Sub, 9-pin, male and D-Sub, 15-pin HD, male (with RS485)
Materials exposed to vacuum		gold-plated tungsten, 304 & 316 stainless steel, glass, nickel, Teflon [®]
Mounting orientation		horizontal recommended ⁴⁾
Internal volume	cm ³ (in ³)	26 (1.589)
Internal surface area	cm ² (in ²)	59.7 (9.25)
Weight	g (oz)	340 (12)

¹⁾ typically

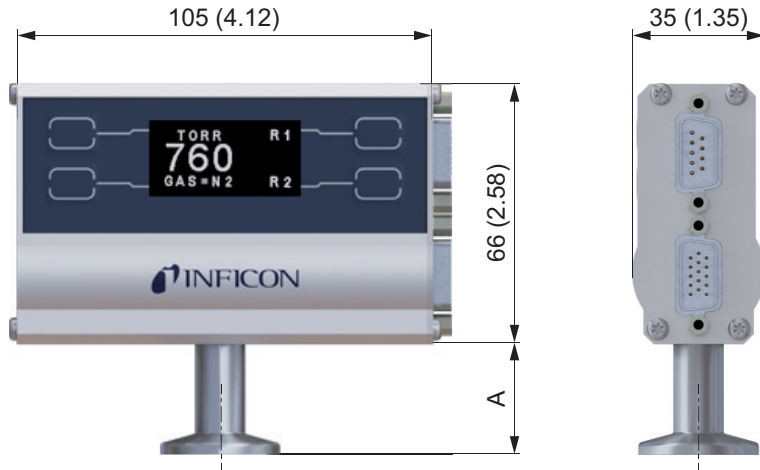
²⁾ 2 W protected against power reversal and transient over-voltages

³⁾ available on all devices by default on pin 9

⁴⁾ orientation has no effect on measurements below 1.3 mbar (1 Torr)

DIMENSIONS

mm (inch)



Dimension A	mm (in)
DN 16 ISO-KF	29.5 (1.16)
DN 25 ISO-KF	29.5 (1.16)
DN 40 ISO-KF	29.5 (1.16)
DN 16 CF-R	34 (1.34)
DN 40 CF-R	34 (1.34)
4 VCR female	43.7 (1.72)
8 VCR female	40.9 (1.61)
1/8" NPT	21.8 (0.86)

ACCESSORIES

Power supply for PGE500 & PGE300 ¹⁾

352-525



Input power:
Output power:
Cable length:

V (ac)	100 ... 240
V (dc)	+24 @ 2.5 A (60 W)
m (ft)	2 (6)

¹⁾ The IEC 60320 AC power entry receptacle allows use with any user supplied AC mains cord set available worldwide