

## BPG400 ATM to Ultra-High Vacuum Gauge

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The INFICON Bayard-Alpert Pirani Combination Gauge, BPG400, functions as two gauges in a single compact unit measuring from  $5 \times 10^{-10}$  mbar to atmosphere ( $3.8 \times 10^{-10}$  Torr to atmosphere). Combining technologies reduces the complexity of installation, setup, and integration. Choose the BPG400 for affordable and repeatable process to base pressure measurements in one economic package.



### **BENEFITS**

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- Extremely wide measurement range from  $5 \times 10^{-10}$  mbar to atmosphere ( $3.8 \times 10^{-10}$  Torr to atmosphere)
- Excellent repeatability in the process pressure range from  $10^{-8}$  ...  $10^{-2}$  mbar of 5%
- The Pirani interlock protects the Bayard-Alpert system from premature filament burnout and excess contamination from high pressure operation
- Long-life yttrium oxide coated iridium filament
- Optional graphic display and Fieldbus interfaces available
- Automatic high vacuum Pirani adjustment reduces operator interventions
- RoHS compliance
- General vacuum measurement and control in the low to ultra high vacuum range

### **ORDERING INFORMATION**

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Type	BPG400
BPG400 DN 25 ISO-KF	353-500
BPG400 DN 40 CF-R	353-502
BPG400 LCD, DN 25 ISO-KF	353-501
BPG400 LCD, DN 40 CF-R	353-503
BPG400-SD DNet, DN 25 ISO-KF	353-507
BPG400-SD DNet, DN 40 CF-R	353-508
BPG400-SP PBus, DN 25 ISO-KF	353-505
BPG400-SP PBus, DN 40 CF-R	353-506

## SPECIFICATIONS

Type	BPG400
Measurement range (air, O <sub>2</sub> , CO, N <sub>2</sub> )	mbar 5×10 <sup>-10</sup> ... 1000
Measurement range (air, O <sub>2</sub> , CO, N <sub>2</sub> )	Torr 3.8×10 <sup>-10</sup> ... 750
Accuracy	
10 <sup>-8</sup> ... 10 <sup>-2</sup> mbar	% of reading ±15
Repeatability	
10 <sup>-8</sup> ... 10 <sup>-2</sup> mbar	% of reading 5
Degas (1)	
p < 7.2 × 10 <sup>-6</sup>	mbar electron bombardment, max. 3 min
Pressure, max.	bar (absolute) 2
Temperature	
Operation (ambient)	°C 0 ... +50
Storage	°C -20 ... +70
Bakeout at flange with extension	°C 150
Bakeout at flange without extension	°C 80
Bakeout electronics removed	°C 150
Supply voltage	V (dc) +20 ... +28
Supply voltage	A (dc) 0.8
Output signal analog	
Output signal	V 0 ... +10
Measurement range	V +0.774 ... +10

## SPECIFICATIONS

Type		BPG400
Error signal	V	0.3 / 0.5
Output signal analog		
Voltage vs. pressure	volts per decade	0.75
Output signal analog		
Load impedance, min.	kΩ	10
Interface (digital) (2)		RS232C
Electrical connection		D-Sub, 15-pin, male
Cable length, max. (3)	m (ft.)	100 (330)
Materials exposed to vacuum		Yt <sub>2</sub> O <sub>3</sub> , Ir, Pt, Mo, Cu, W, NiFe, NiCr, stainless steel, glass
Internal volume KF / CF	cm <sup>3</sup> (in. <sup>3</sup> )	24 (1.46) / 34 (2.1)
Weight KF / CF	g	285 / 550
Degree of protection		IP30
Profibus DP		
Baud rates	kBaud	9.6 / 19.2 / 93.75 / 187.5 / 500
Profibus DP		
Baud rates	Mbaud	1.5 / 12
Profibus DP		
Address		2 switches (address 00 - 127) or network programmable
Digital functions		read pressure, select units: Torr, mbar, Pa; degas function, Pirani full scale adjust, monitor gauge status, safe state allows definition of behavior in case of error, detailed alarm and warning infor
Analog functions		0 ... 10 V analog output pressure indication, two setpoint relays A + B
Setpoint relays: Number of setpoints		2
Setpoint relays: Relay contact		n.o., potential free
Connector for Profibus DP		D-Sub, 9-pin, female
Connector for BPG (analog output, supply voltage, setpoints)		D-Sub, 15-pin, male
Profibus DP		
Setpoint relays: Range	mbar	1×10 <sup>-9</sup> ... 100
Profibus DP		
Setpoint relays: Hysteresis	% of reading	10

## SPECIFICATIONS

Type	BPG400	
Profibus DP		
Setpoint relays: Contact rating	V (dc)	60
Profibus DP		
Setpoint relays: Contact rating	A (dc)	0.5
DeviceNet™		
Protocol		DeviceNet™, group 2 slave only
MAC ID		2 switches (address 00 - 63) or network programmable
Digital functions		read pressure, select units: Torr, mbar, Pa , degas function, Pirani full scale adjust , monitor gauge status , safe state allows definition of behavior in case of error , detailed alarm and warning i
Analog functions		0 ... 10 V analog output pressure indication , two setpoint relays A + B
Specification		DeviceNet™ "Vacuum Gauge Device Profile"
Device type		"CG" for combination gauge
I / O slave messaging		polling only
Setpoint relays: Number of setpoints		2
Setpoint relays: Relay contact		n.o., potential free
Connector for DeviceNet™		Microstyle, 5-pin
Connector for BPG (analog output, supply voltage, setpoints)		D-Sub, 15-pin, male
DeviceNet™		
Data rate switch	kBaud	125, 250, 500 or network programmable
DeviceNet™		
Cable length 125 kbps	m (ft.)	500 (1650)
Cable length 250 kbps	m (ft.)	250 (825)
Cable length 500 kbps	m (ft.)	100 (330)
DeviceNet™		
Setpoint relays: Range	mbar	$1 \times 10^{-9}$ ... 100
DeviceNet™		
Setpoint relays: Hysteresis	% of reading	10
DeviceNet™		
Setpoint relays: Contact rating	V (dc)	60

## SPECIFICATIONS

Type		BPG400
Supply voltage for DeviceNet™	V (dc)	+11 ... +25
Supply voltage for gauge	V (dc)	+20 ... +28
DeviceNet™		
Setpoint relays: Contact rating	A (dc)	0.5
Supply voltage for DeviceNet™	A (dc)	0.5
Supply voltage for gauge	A (dc)	0.8

1) Reduced accuracy during degas

2) Simultaneous use of RS232C or VGC40x controller series and Fieldbus is not allowed

3) For RS232C operation <30m

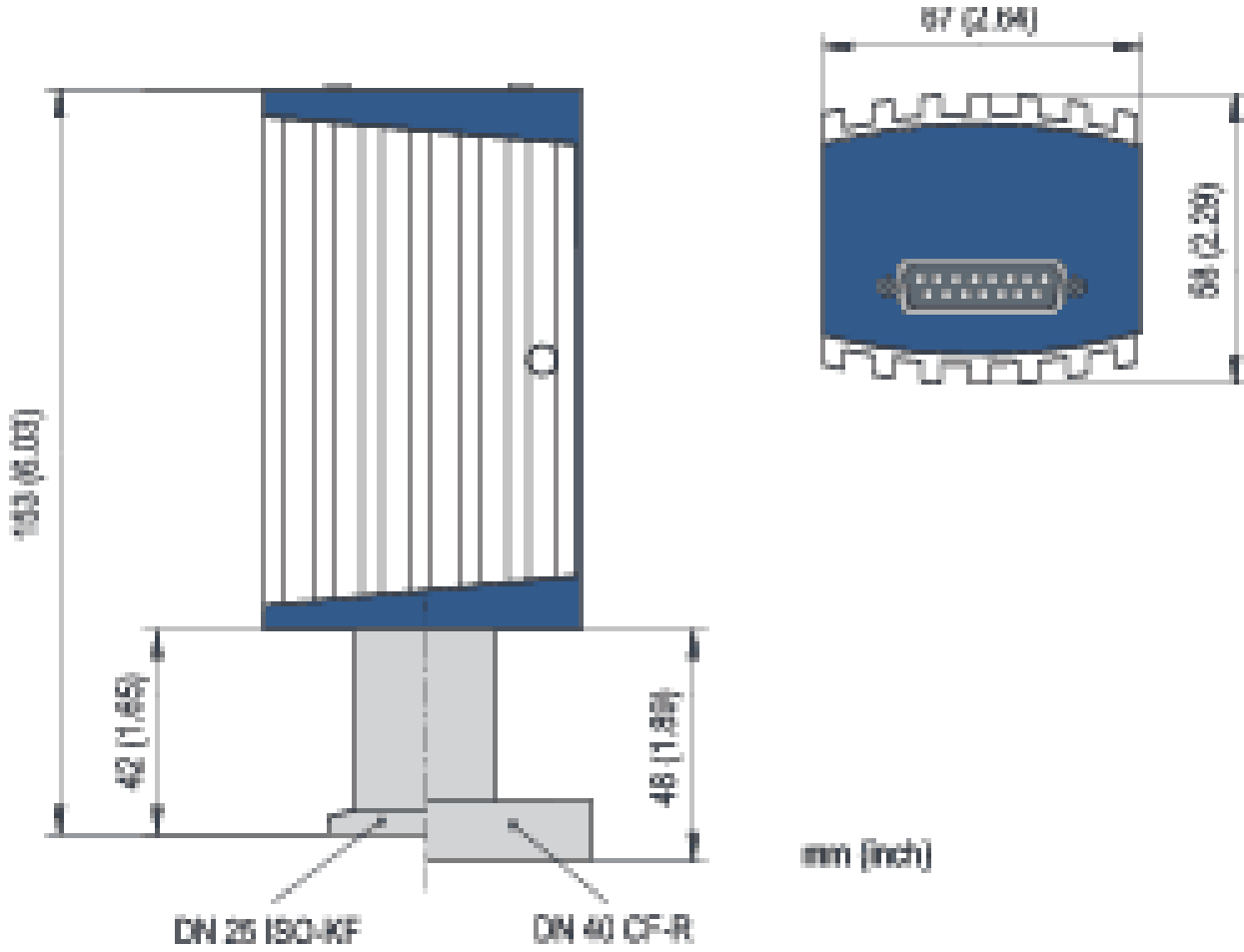
## SPAREPARTS

	BPG400
Spare sensor head BPG400, DN 25 ISO-KF	354-490
Spare sensor head BPG400, DN 40 CF-R	354-491

## ACCESSORIES

	BPG400
100 mm sensor extension tube	353-510
Baffle for BPG400	353-512
Centering ring with baffle DN 25 KF	211-113
Power supply BPG400 24VDC	353-511

## DIMENSIONS



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