

BPG402-S

Bayard-Alpert Pirani Gauge

The INFICON Bayard-Alpert Pirani Combination Gauge, BPG402-S, functions as two gauges in a single compact unit measuring from 5×10^{-10} mbar to atmosphere (3.8×10^{-10} Torr to atmosphere). Combining technologies reduces the complexity of installation, setup, and integration. Choose the BPG402-S with dual yttrium oxide coated iridium filaments for affordable and repeatable process to base pressure measurements in one economical package. Sensing elements with on-board calibration data guarantees high reproducibility when exchanging sensors.

ADVANTAGES

- Extremely wide measurement range from 5×10^{-10} mbar to atmosphere (3.8×10^{-10} Torr to atmosphere)
- Excellent repeatability in the process pressure range from 10^{-8} ... 10^{-2} mbar of 5%
- Pirani interlock protects the filament from premature burnout
- Dual long-life yttrium oxide coated iridium filament
- Optional graphic display and Fieldbus interfaces available
- Automatic high vacuum Pirani adjustment reduces operator interventions
- Easy to exchange sensing element with on-board calibration data guarantees high reproducibility

APPLICATIONS

- Pressure measurement in semiconductor process and transfer chambers
- Industrial coating
- General vacuum measurement and control in the low to ultra high vacuum range



ORDERING INFORMATION

Type	BPG402-S without display	BPG402-S with display	BPG402-SP with Profibus DP	BPG402-SD with DeviceNet™
DN 25 ISO-KF	353-570	353-572	353-574	353-576
DN 40 CF-R	353-571	353-573	353-575	353-577
Replacement sensor 25 ISO-KF			354-494	
Replacement sensor 40 CF-R			354-495	

ACCESSORIES

Power supply 24 V DC / RS232C line	353-511
Baffle	353-512

SPECIFICATIONS

		BPG402-S Standard	BPG402-S Display
Measurement range	(air, O ₂ , CO, N ₂)	mbar (Torr)	5 x 10 ⁻¹⁰ ... 1000 (3.8 x 10 ⁻¹⁰ ... 750)
Accuracy	10 ⁻⁸ ... 10 ⁻² mbar	% of reading	±15
Repeatability	10 ⁻⁸ ... 10 ⁻² mbar	% of reading	5
Degas ¹⁾	p < 7.2 x 10 ⁻⁶	mbar	electron bombardment, max. 3 min
Pressure, max.		bar (absolute)	2
Temperature			
Operation (ambient)		°C	0 ... +50
Storage		°C	-20 ... +70
Bakeout at flange without electronics		°C	80
Supply voltage		V / A DC	20 ... 28 / 0.8
Output signal analog		V	0 ... +10
Measurement range		V	0.774 ... 10
Voltage vs. pressure		V / Decade	0.75
Error signal		V	0.3 / 0.5
Load impedance, min.		kΩ	10
Set point relay			1
Range		mbar	1 x 10 ⁻⁹ ... 100
Relay contact			n.o., potential free
Hysteresis		% of reading	10
Contact rating		V / A DC	60 / 0.5
Digital functions			degas
Interface (digital) ²⁾			RS232C
Emission control			automatic / manual via interface
Filament			dual Yt ₂ O ₂ coated Ir
Filament status			LED / digital output
Electrical connection			D-sub, 15 pin, male
Cable length, max. ³⁾		m (ft)	100 (330)
Materials exposed to vacuum			Yt ₂ O ₃ , Ir, Pt, Mo, Cu, W, NiFe, NiCr, stainless steel, glass
Internal volume KF / CF		cm ³ (inch) ³	24 (1.46) / 34 (2.1)
Weight KF / CF		g	285 / 550
Protection type			IP30

¹⁾ Reduced accuracy during degas

²⁾ Simultaneous use of RS232C or VGC400 series controllers and Fieldbus is not allowed

³⁾ For RS232C operation <30 m

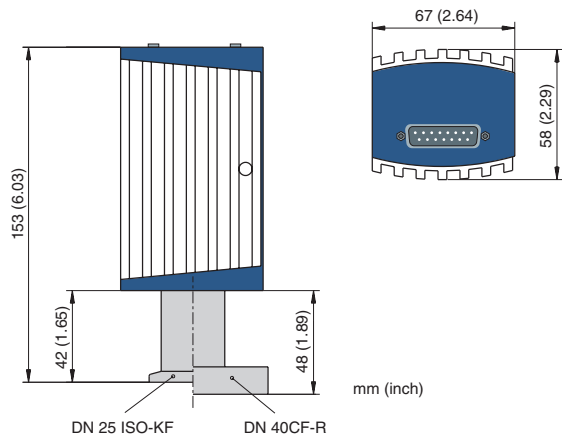
SPECIFICATIONS

			BPG402-SP Profibus DP
Baud rates	kBaud MBaud		9.6 / 19.2 / 93.75 / 187.5 / 500 1.5 / 12
Address			2 switches (address 00 - 127) or network programmable
Digital functions			read pressure, select units: Torr, mbar, Pa emission control, degas function monitor gauge status, filament status safe state allows definition of behavior in case of error detailed alarm and warning information
Analog functions			0 ... 10 V analog output pressure indication two setpoint relays A + B
Setpoint relays			2
Range	mbar		1×10^{-9} ... 100
Relay contact			n.o., potential free
Hysteresis	% of reading		10
Contact rating	V / A DC		60 / 0.5
Connector for Profibus DP			D-sub, 9 pin, female
Connector for BPG (analog output, supply voltage, setpoints)			D-sub, 15 pin, male

SPECIFICATIONS

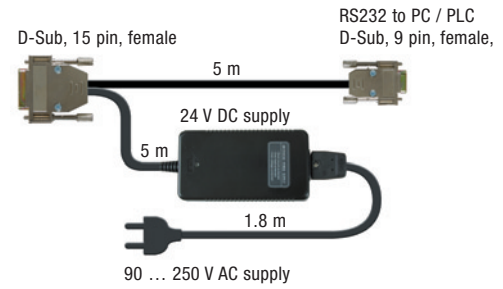
			BPG402-SD DeviceNet™
Protocol			DeviceNet™, group 2 slave only
Data rate switch	kBaud		125, 250, 500 or network programmable
Cable length			
125 kbps	m (ft)		500 (1650)
250 kbps	m (ft)		250 (825)
500 kbps	m (ft)		100 (330)
MAC ID			2 switches (address 00 - 63) or network programmable
Digital functions			read pressure, select units: Torr, mbar, Pa emission control, degas function monitor gauge status, filament status safe state allows definition of behavior in case of error detailed alarm and warning information
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			2
Range	mbar		1×10^{-9} ... 100
Relay contact			n.o., potential free
Hysteresis	% of reading		10
Contact rating	V / A DC		60 / 0.5
Supply voltage for DeviceNet™	V / A DC		11 ... 25 / 0.5
Supply voltage for gauge	V / A DC		20 ... 28 / 0.8
Connector for DeviceNet™			microstyle, 5 pin
Connector for BPG (analog output, supply voltage, setpoints)			D-sub, 15 pin, male

DIMENSIONS



ACCESSORIES

Power supply 24 V DC / RS232C line



Baffle:

Prevents contamination of the sensor.
Easy installation into the vacuum connection - no tools required.



INFICON Instruments for Intelligent Control™

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Due to our continuing program of product improvements, specifications are subject to change without notice.
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