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TECHNOLOGY GROUP

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Find the *Inficon BPG402-SP* at our website: *Click HERE*

BPG402-Sx ATM to Ultra-High Vacuum 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 two 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.

BENEFITS

- 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
- Two long-life yttrium oxide coated iridium filaments
- 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
- RoHS compliance

ORDERING INFORMATION

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Type	BPG402-S
BPG402-S DN 25 ISO-KF	353-570
BPG402-S DN 40 CF-R	353-571
BPG402-S LCD, DN 25 ISO-KF	353-572
BPG402-S LCD, DN 40 CF-R	353-573
BPG402-SD DNet, DN 25 ISO-KF	353-576
BPG402-SD DNet, DN 40 CF-R	353-577
BPG402-SE ECAT, DN 25 ISO-KF	353-590
BPG402-SE ECAT, DN 40 CF-R	353-591
BPG402-SL long tube DN 40 CF-R	353-578
BPG402-SP PBus, DN 25 ISO-KF	353-574
BPG402-SP PBus, DN 40 CF-R	353-575

SPECIFICATIONS

Type		BPG402-S
Measurement range (air, O_2, CO, N_2)	mbar	5×10^{-10} … 1000
Measurement range (air, O_2, CO, N_2)	Torr	3.8×10^{-10} … 750
Accuracy		
10^{-8} … 10^{-2} mbar	% of reading	±15
Repeatability		
10^{-8} … 10^{-2} mbar	% of reading	5
Degas (1)		
$p < 7.2 \times 10^{-6}$	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 BPG402-S	°C	80
Bakeout at flange without electronics BPG402-SL	°C	150
Supply voltage	V (dc)	+20 … +28
Supply voltage	A (dc)	≤0.8
Output signal analog		

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SPECIFICATIONS

Type		BPG402-S
Output signal	V	0 … +10
Measurement range	V	+0.774 … +10
Error signal	V	0.1 / 0.3 / 0.5
Output signal analog		
Voltage vs. pressure	volts per decade	0.75
Output signal analog		
Load impedance, min.	kΩ	10
Setpoint relay		
Number of setpoints		1
Relay contact		n.o., potential free
Setpoint relay		
Range	mbar	1×10^{-9} … 100
Setpoint relay		
Hysteresis	% of reading	10
Setpoint relay		
Contact rating	V (dc)	≤30
Setpoint relay		
Contact rating	A (dc)	≤0.5
Digital functions		degas
Interface (digital) (2)		RS232C
Emission control		automatic / manual via interface
Filament		two Yt_2O_3 coated Ir
Filament status / relay		LED / relay
Electrical connection		D-Sub, 15-pin, male
Cable length, max. (3)	m (ft.)	100 (330)
Materials exposed to vacuum		Yt_2O_3, Ir, Pt, Mo, Cu, W, NiFe, NiCr, stainless steel, glass
Internal volume KF / CF	cm^3 ($in.^3$)	24 (1.46) / 34 (2.1)
Weight KF / CF	g	450 / 710
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		

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SPECIFICATIONS

Type		BPG402-S
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 warn
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 CDG (analog output, supply voltage, setpoints)		D-Sub, 15-pin, male
Profibus DP		
Setpoint relays: Range	mbar	1×10^{-9} … 100
Profibus DP		
Setpoint relays: Hysteresis	% of reading	10
Profibus DP		
Setpoint relays: Contact rating	V (dc)	≤30
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 ; emission control, degas function , monitor gauge status, filament status , safe state allows definition of behavior in case of error , detailed alarm and
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 relay: Number of setpoints		2

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SPECIFICATIONS

Type		BPG402-S
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	1×10^{-9} … 100
DeviceNet™		
Setpoint relays: Hysteresis	% of reading	10
DeviceNet™		
Setpoint relays: Contact rating	V (dc)	≤30
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
EtherCAT		
Protocol EtherCAT		protocol specialized for EtherCAT
Communication standards		ETG.5003 Part 1 "Semiconductor Device Profile" ETG.5003 Part 2080 "Specific Device Profile: Vacuum Pressure Gauge"
Node address		Explicit Device Identification
Physical layer		100BASE-Tx (IEEE 802.3)
Digital functions EtherCAT		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

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SPECIFICATIONS

Type		BPG402-S
Process data		Fixed PDO mapping and configurable PDO mapping
Mailbox (CoE)		SDO requests, responses and information
EtherCAT connector		RJ45, 8-pin (socket), IN and OUT
Cable		shielded Ethernet CAT5e or higher
EtherCAT		
Cable length	m (ft.)	≤100 (330)

1) Reduced accuracy during degas

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

3) For RS232C operation <30m

SPAREPARTS

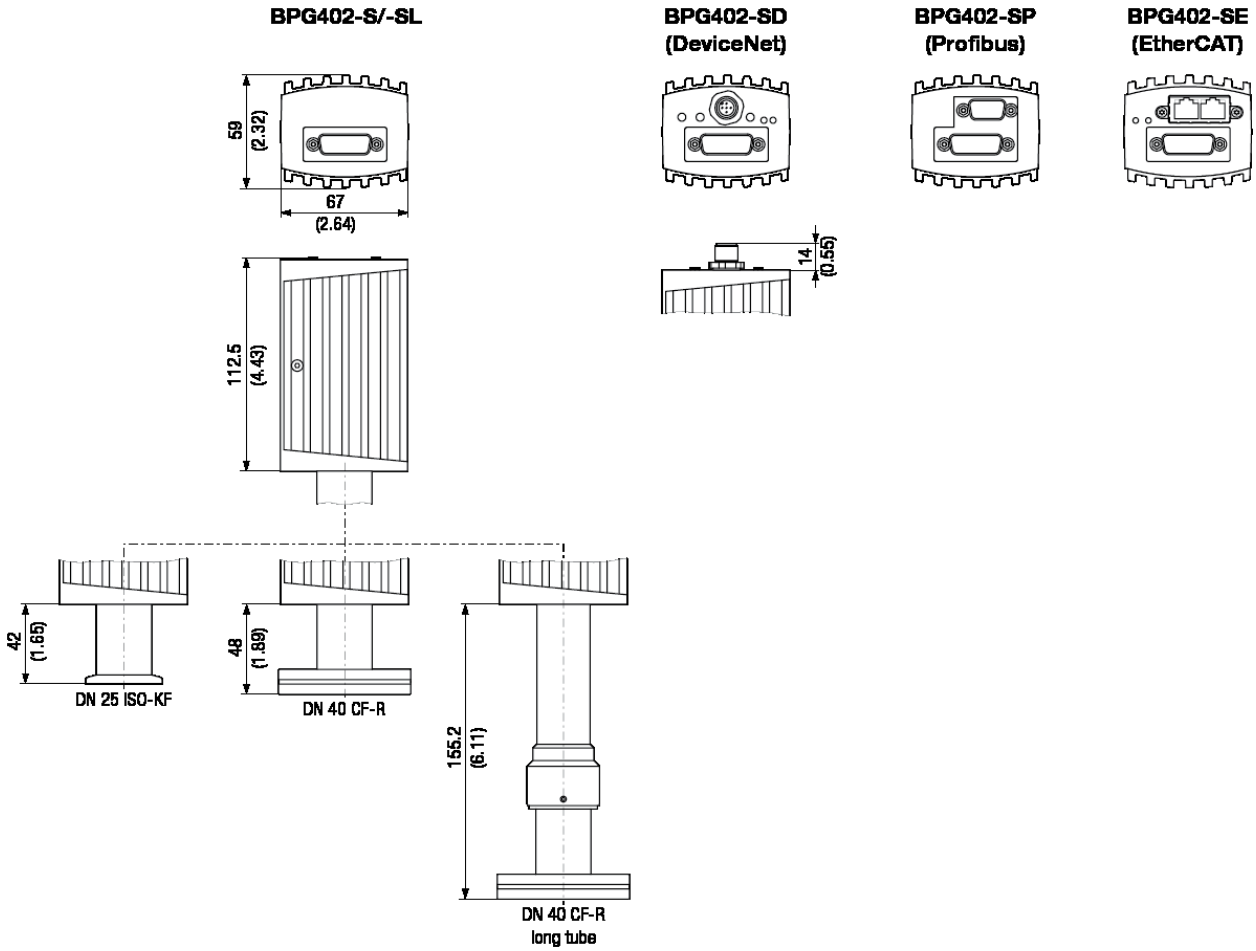
	BPG402-S
Spare sensor head BPG402 DN 25 ISO-KF	354-494
Spare sensor head BPG402 DN 40 CF-R	354-495

ACCESSORIES

	BPG402-S
Baffle for BPG400	353-512
Centering ring with baffle DN 25 KF	211-113
Power supply BPG400 24VDC	353-511

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DIMENSIONS



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