

PSG550, PSG552, PSG554

Pirani Standard Gauge

The INFICON Pirani Standard Gauge (PSG55x) employs like his brothers PCG55x and PSG50x the most advanced digital Pirani technology available. The rugged sensor design combined with the compact size and the variety of features qualifies as the right product for measurement from low to the high vacuum range.

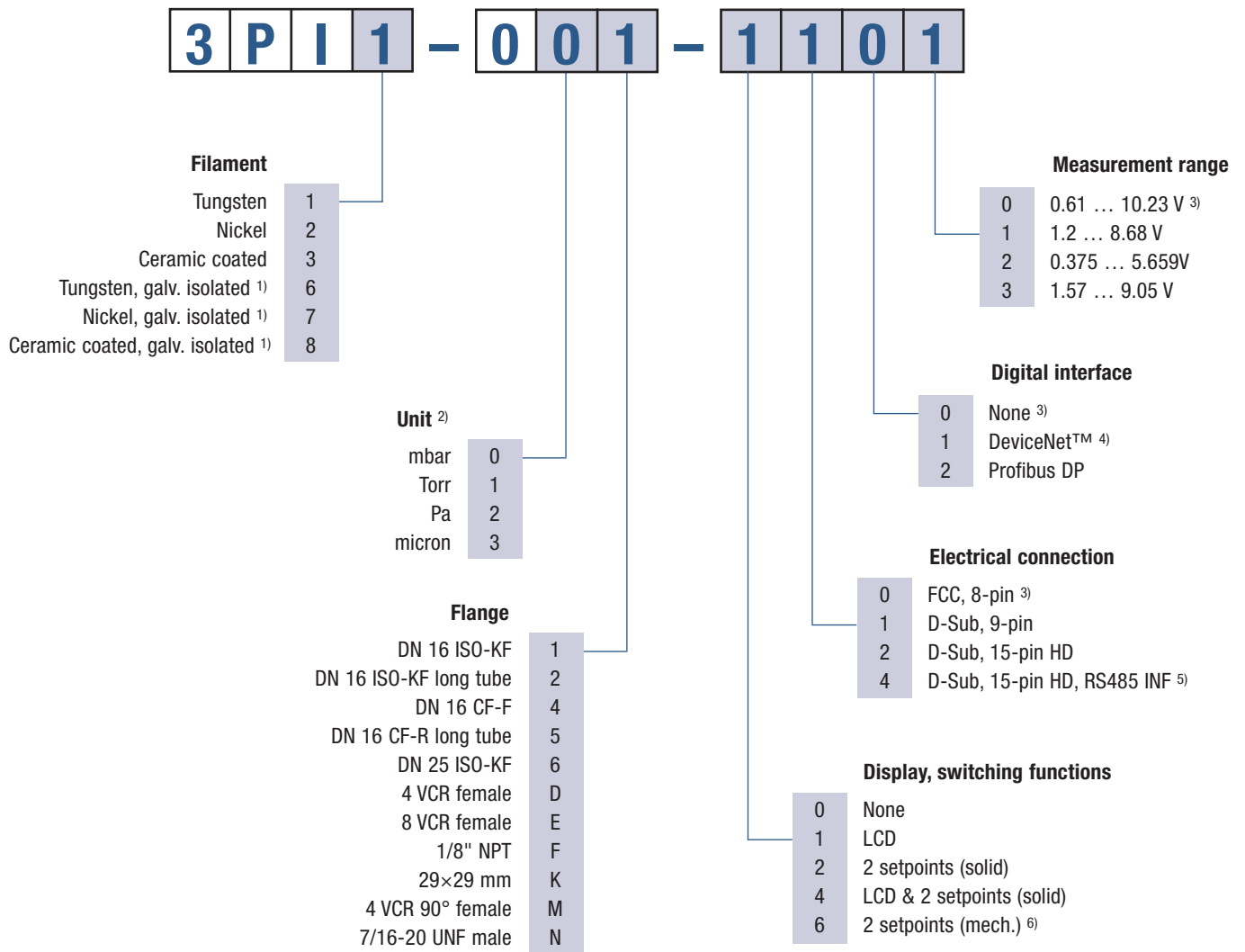


ADVANTAGES

- Available with Tungsten (PSG550) or Nickel (PSG552) filament or with a fully ceramic coated (PSG554) sensor unit for highly corrosive applications
- Optional display, setpoints and digital interfaces
- Easy to exchange plug & play sensor element with on-board calibration data - guarantees high reproducibility and low cost of ownership
- Eligible output signal and various plug versions for easy integration
- Mounts in any orientation - provides engineering freedom in tool design
- Diagnostic port on all versions

APPLICATIONS

- Fore vacuum pressure measurement
- Safety circuits in vacuum systems
- General vacuum measurement and control from low to the high vacuum range



¹⁾ Only with D-Sub 9-pin connector available

²⁾ When selecting LCD choose desired pressure unit

³⁾ Communication with the INFICON Vacuum Gauge Controller series VGC40x or the Pirani Gauge Display PGD400

⁴⁾ Only with D-Sub 9-pin connector and galvanically isolated available

⁵⁾ Only without additional digital interface available

⁶⁾ Only with D-Sup 9-pin connector without LCD available

SPECIFICATIONS

Type			PSG550	PSG552	PSG554
Filament			Tungsten	Nickel	ceramic coated
Measurement range		mbar (Torr)	5×10 ⁻⁵ ... 1000 (3.8×10 ⁻⁵ ... 750)		
Accuracy (N ₂)	5×10 ⁻⁴ ... 1×10 ⁻³ mbar	% of reading	±50		
	1×10 ⁻³ ... 100 mbar	% of reading	±15		
	100 ... 1000 mbar	% of reading	±50		
Resolution	at 1000 mbar	% of reading	±0.15		
Repeatability (N ₂)	1×10 ⁻³ ... 100 mbar	% of reading	±2		
Admissible pressure		bar (absolute)	≤5		
Burst pressure		bar (absolute)	10		
Admissible temperature					
Operation (ambient)		°C	+10 ... +50		
Storage		°C	-20 ... +65		
Bakeout at flange		°C	≤80		
Long tube		°C	≤250		
Supply voltage		V / A DC	+15 ... +30		
Power consumption					
Without fieldbus		W	≤2.5		
DeviceNet™		W	≤3		
Profibus		W	≤3		
Output signal analog					
3PIx-0xx-xxx0		V	0 ... +10		
-xxx1		V	0 ... +8.5		
-xxx2		V	0 ... +5.529		
-xxx3		V	0 ... +8.875		
Measurement range					
3PIx-0xx-xxx0		V	+0.61 ... +10		
-xxx1		V	+1.2 ... +8.5		
-xxx2		V	+0.375 ... +5.529		
-xxx3		V	+1.57 ... +8.875		
Voltage vs. pressure					
3PIx-0xx-xxx0		V / Decade	1.286		
3PIx-0xx-xxx1 / -xxx2 / -xxx3		V / Decade	1		
Load impedance		kΩ	>10		
Setpoint relay			2		
Range (N ₂)		mbar	5×10 ⁻⁵ ... 1000		
Relay contact			n.o., potential free		
Hysteresis		% of threshold	10		
Contact rating					
Solid state relays		V / A DC	≤30 / ≤0.3		
Mechanical relays		V / A DC	≤30 / ≤1		
Switching time		ms	≤30		
Interface (digital)			RS232C		
Electrical connection					
3PIx-0xx-x0xx			FCC, 8-pin		
-x1xx			D-Sub, 9-pin, male		
-x2xx			D-Sub, 15-pin HD, male		
-x4xx			D-Sub, 15-pin HD, RS485 INFICON, male		
Cable length		m (ft)	≤100 (≤330)		
RS232C operation		m (ft)	≤30 (≤100)		
Materials exposed to vacuum			W, Ni, NiFe, glass, SnAg, stainless steel	Ni, NiFe, glass, SnAg, stainless steel	ceramic, stainless steel

(continued)

SPECIFICATIONS (concluded)

Type Filament		PSG550 Tungsten	PSG552 Nickel	PSG554 ceramic coated
Internal volume				
DN 16 ISO-KF	cm ³		4.7	
DN 16 ISO-KF long tube	cm ³		14.5	
DN 16 CF-F	cm ³		8	
DN 16 CF-R long tube	cm ³		14	
DN 25 ISO-KF, 4 VCR	cm ³		5.5	
8 VCR	cm ³		7	
1/8" NPT, 7/16-20 UNF	cm ³		5.2	
29×29 mm	cm ³		4.9	
4 VCR 90°	cm ³		7.9	
Weight				
Without fieldbus interface	g		115 ... 130	
With fieldbus interface	g		230 ... 250	
Degree of protection			IP 40	

SPECIFICATIONS 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, micron, counts monitor gauge status, detailed alarm and warning information, safe state allows definition of behavior in case of error	
Specification		DeviceNet™ "Vacuum Gauge Device Profile"	
Device type		"CG" for combination gauge	
I / O slave messaging		polling only	
Supply voltage for DeviceNet™			
3PI1- / 3PI2- / 3PI3-0xx-xxxx	V / A DC	+15 ... +30	
Power consumption			
3PI1- / 3PI2- / 3PI3-0xx-xxxx	W	≤3	
Connector for DeviceNet		Micro-Style, 5-pin, male	

SPECIFICATIONS 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, micron, counts monitor gauge status, detailed alarm and warning information, safe state allows definition of behavior in case of error	
Connector for Profibus DP		D-Sub, 9-pin, female	

SPECIFICATIONS RS485C

Baud rates	kBaud	9.6 / 19.2 / 38.4 /57.6
Address		2 switches (address 00 - 255)
Digital functions		read pressure, select units: Torr, mbar, Pa, micron, counts monitor gauge status, detailed alarm and warning information, safe state allows definition of behavior in case of error
Connector for RS485		D-Sub, 15-pin HD, male

SPARE PARTS

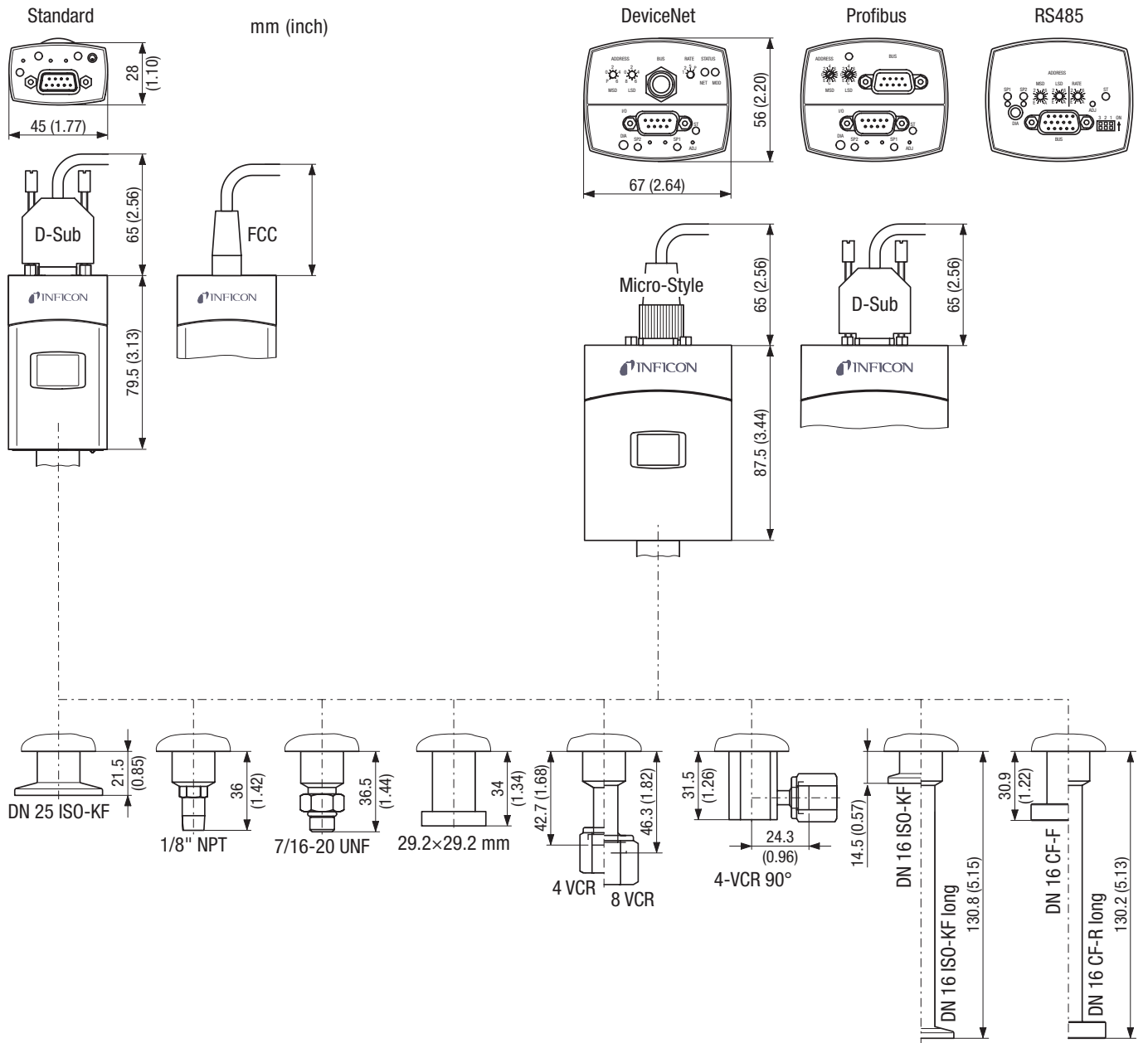
Type		PSG550 Tungsten	PSG552 Nickel	PSG554 ceramic coated
Replacement sensor	DN 16 ISO-KF	355-925	355-936	355-947
	DN 16 ISO-KF long tube	355-926	355-937	355-948
	DN 16 CF-F	355-927	355-938	355-949
	DN 16 CF-R long tube	355-928	355-939	355-950
	DN 25 ISO-KF	355-929	355-940	355-951
	4 VCR female	355-932	355-943	355-954
	8 VCR female	355-931	355-942	355-953
	1/8" NPT	355-930	355-941	355-952
	29×29 mm	355-934	355-945	355-956
	4 VCR 90° female	355-935	355-946	355-957
	7/16-20 UNF male	355-933	355-944	355-955

ACCESSORIES

Centering ring with filter (DN 16 ISO-KF)	211-097
Diagnostic ¹⁾ : Communication adapter (2 m) for PC RS232C serial port	303-333

¹⁾ Software to run the diagnostic functions on Windows NT, XP can be downloaded from our website.

DIMENSIONS



www.inficon.com reachus@inficon.com

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

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