

PPG570 ATM to Medium Vacuum Gauge + ATM Switch

The new INFICON Pirani Piezo combination gauge (PPG570) is based on the most advanced MEMS (Microelectromechanical Systems) sensor technology available, which is also used in our PPG550 “ATM to Medium Vacuum” Gauge.

What differentiates PPG570 from PPG550 is the additional installed ATM sensor that allows the use of PPG570 in classical Load-lock applications. For example in Semi-Conductor industries or any other vacuum applications where accurate pressure measurement relative to atmospheric ambient pressure is important.

The Pirani/ Piezo combination technology miniaturized in the MEMS process enables the construction of a very small and thus space-saving sensor, which makes it possible to keep the overall height of the measuring device very small.

In addition to the advantage of the low height, a Pirani based on MEMS technology also offers the advantage of measuring deeper and more accurately in the HV range than a classic Pirani. In combination with a MEMS piezo sensor, mounted in the same flange, the Pirani gauge becomes a real vacuum wide range gauge, extending the measuring range far beyond the usual 1000 mbar, also towards the atmosphere. At the same time the MEMS piezo sensor provides gas type independent pressure measurement in the range of 2 ... 1333 mbar. Another advantage of the technologies mentioned is the increased resistance to acceleration forces and vibrations.

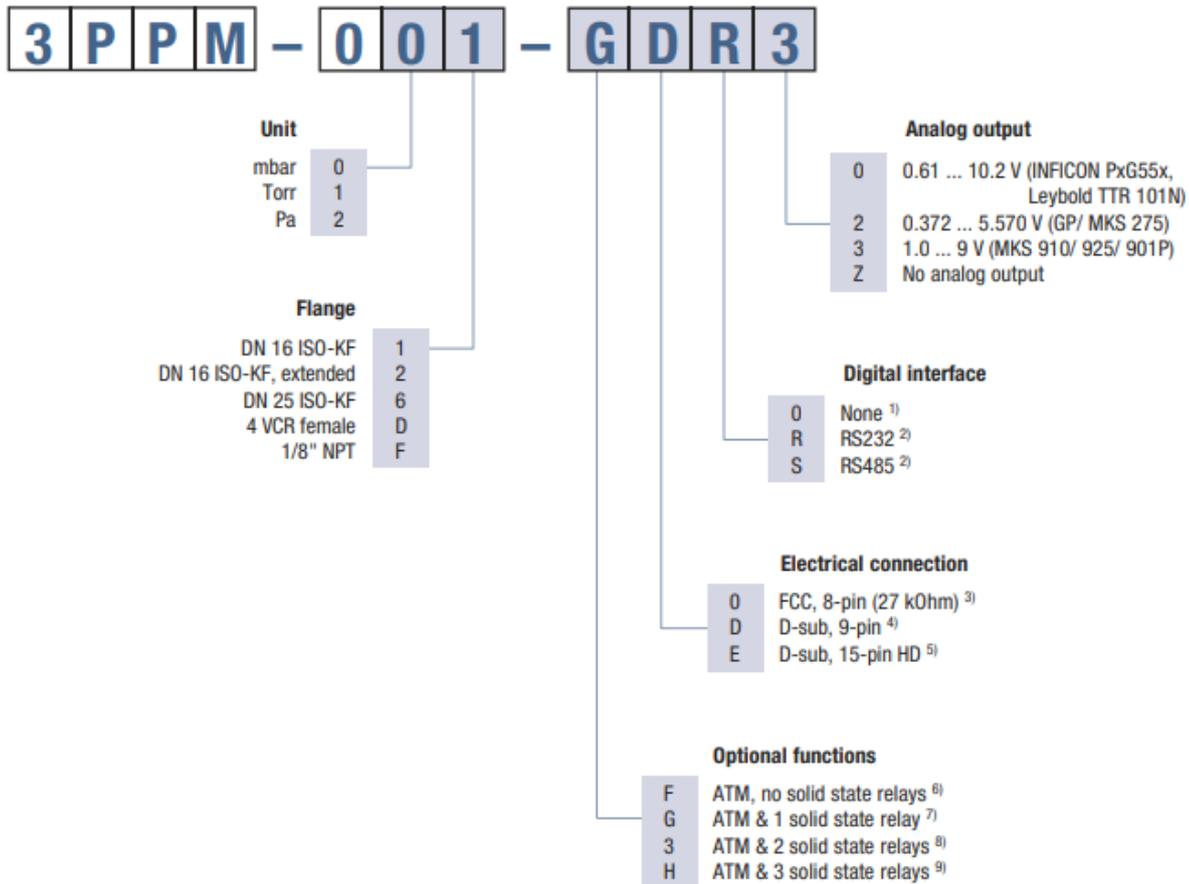
Last but not least the new INFICON PPG570 can be used to directly drop in replace the so called MKS Instruments MKS901P “MicroPirani™ and Piezo Loadlock Vacuum Pressure Transducer”. PPG570 offers same connectors/ pin assignment, analog output and RS232/485 digital communication protocol compatibility.



ADVANTAGES

- Gas type independent above 2 mbar – allows safe venting with any gas mixture
- High accuracy and reproducibility at atmosphere – for reliable, fast atmospheric pressure detection
- Atmospheric ambient pressure measurement
- Up to 3 solid state relays
- Versatile of mounting orientation – provides engineering freedom in tool design
- Selectable analog output signal for easy system integration
- Digital interfaces RS232/ RS485
- Able to direct drop in replace MKS901P “MicroPirani™ - and Piezo Loadlock Vacuum Pressure Transducer”.
- Compliance & standards: CE, EN, UL, CSA, RoHS

ORDER INFORMATION



¹⁾ No RS interface on FCC 8-pin connector

²⁾ Only for D-sub 9-pin or D-sub 15-pin HD connectors

³⁾ FCC 8-pin with 0 or 2 solid state relays; no RS interface on FCC 8-pin connector; solid state relays on FCC connector gauges have to be preset during production; they can't be set in the field due to missing RS interface

⁴⁾ D-sub 9-pin with 0 or 1 solid state relay; customer choice of either RS232 or RS485 interface

⁵⁾ D-sub 15-pin HD with 0 or 3 solid state relays; customer choice of either RS232 or RS485 interface

⁶⁾ ATM function without solid state relays is available on FCC 8-pin, D-sub 9-pin and D-sub 15-pin HD connector

⁷⁾ ATM function & 1 solid state relay is only available on D-sub 9-pin connector; solid state relays can be set by customer via RS interface

⁸⁾ ATM function & 2 solid state relays are only available on FCC 8-pin connector; solid state relays on FCC connector gauges have to be preset during production; they can't be set in the field due to missing RS interface

⁹⁾ ATM function & 3 solid state relays are only available on D-sub 15-pin HD connector; solid state relays can be set by customer in the field via the RS interface

SPECIFICATIONS

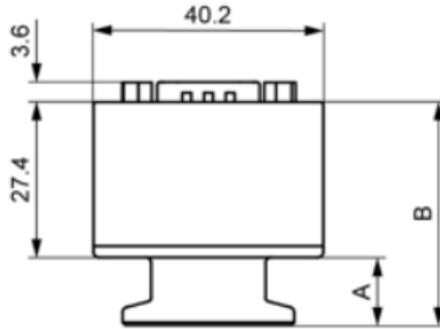
Type		PPG570 MEMS	
Measuring principle			
Pressure range	mbar	2 ... 1333	MEMS Piezo resistive diaphragm 1.5 ... 2 &nbs
Measuring range			
Range (N2)	mbar	1x10 ⁻⁶ ... 1333	
Accuracy			
1100 ... 1333 mbar	% of reading	0.5	
800 ... 1099 mbar	% of reading	0.25	
100 ... 800 mbar	% of reading	0.5	
2 ... 99.9 mbar	% of reading	1	
1 x 10 ⁻⁴ ... 1.99 mbar	% of reading	5	
1 x 10 ⁻⁵ ... 9.99 x 10 ⁻⁵ mbar	% of reading	25	
Hysteresis			
1 x 10 ⁻³ ... 10 mbar	% of reading	1	
10 ... 1333	% of reading	0.1	
Barometric measurement range	mbar	300 ... 1200	
Barometric accuracy	mbar	±0.5	
Atmospheric referenced pressure output range	mbar	-1333 ... +1333	
Vacuum temperature sensor range	°C	-20 ... +85	
Vacuum temperature sensor accuracy	°C	±1.5	
Transducer temperature sensor range	°C	-20 ... +85	
Transducer temperature sensor accuracy	°C	±1.5	
Analog output resolution	bit	16 (150 microvolt)	
Analog output update rate	Hz	124	
Response time (ISO 19685:2017)	ms	<20	
Temperature compensation	°C	+10 ... +50	

SPECIFICATIONS

Type		PPG570 MEMS
Temperature measurement range	°C	-40 ... +80
Temperature measurement absolute accuracy	°C	±1.5 (0 ... +80)
Gas type dependence		Please look operating manual page 13
Solid state relay		
Set point range (absolute)	mbar	5 x 10 ⁻⁶ ... 1333 mbar
Set point range (atm. relative)	mbar	-1100 ... +500
Solid state relay		
Contact rating	V	50
Solid state relay		
Contact rating	mA	100
Solid state relay		
Contact on resistance	Ω	<35
Solid state relay		
Contact endurance		Unlimited (no mechanical wear)
Analog output		
3PPM-xxx-xxx0	V	0.61 ... 10.2
3PPM-xxx-xxx2	V	0.375 ... 5.570
3PPM-xxx-xxx3	V	1.0 ... 9
3PPM-xxx-xxxZ	V	no analog signal
Error signal	V	please check operating manual page 13
Power supply		
Supply voltage at the gauge	V (dc)	+12 ... +30 ripple max. 1 V??
Power supply		
Power consumption	W	≤3.5
Power supply		
Internal fuse	mA	100 (thermal recoverable)
Power supply		
Reverse polarity and overvoltage protection		yes

DIMENSIONS

Dimensions [mm]



	A [mm]	B [mm]
DN 16 ISO-KF	12	39.4
DN 16 ISO-KF, long tube	29	56.4
DN 25 ISO-KF	12	39.4
4 VCR female	37.5	64.9
1/2" NPT	37.0	64.4

Weight

DN 16 ISO-KF	≈136 g
DN 16 ISO-KF, long tube	≈154 g
DN 25 ISO-KF	≈155 g
4 VCR female	≈158 g
1/2" NPT	≈139 g



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