

Vacuum

Series 900 Selection Guide

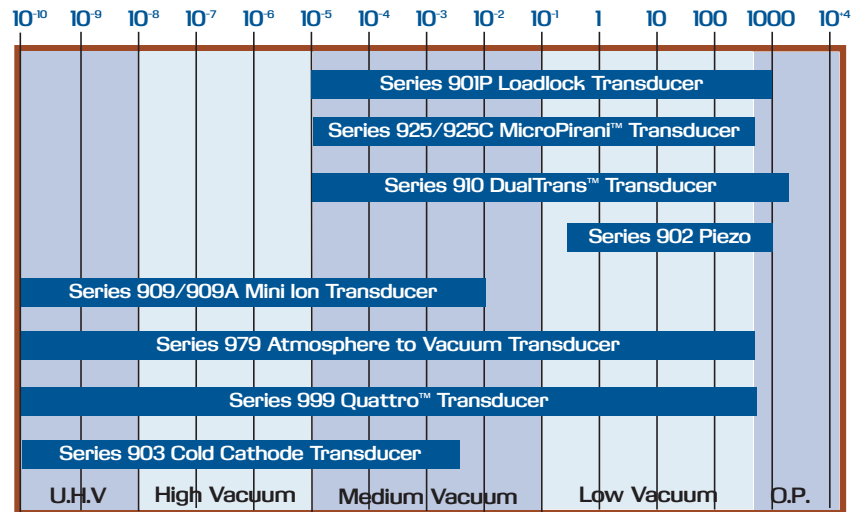
Technology
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HPS® VACUUM TRANSDUCERS



Introduction

HPS® Series 900 vacuum transducers are a complete suite of microprocessor-based, standalone gauges, offering a wide pressure measurement range from above atmosphere to ultra high vacuum. Designed for system integration, the transducers offer both analog and digital communication (RS485 & RS232). Digital transducers allow for all adjustments and monitoring to be delivered real-time, via a host computer. The transducers incorporate MEMS (Micro Electro-Mechanical Systems) based technologies, including MicroPirani™ and Piezo sensors, combined with Mini Ion BA technology resulting in a broad product offering for a wide variety of customer applications.



Operating Pressure Ranges (Torr)



Series 901P
10⁵ to 1000 Torr
plus atm switch

Series 901 Plus MicroPirani™/ Piezo Loadlock Transducer

A unique patented transducer designed specifically for the loadlock environment, the 901 Plus (901P) replaces up to three sensors in one compact package. The 901P provides both pressure measurement and atmospheric switching capabilities, by integrating the MicroPirani™ and piezo sensor technologies. The combined sensor output measures from 1x10⁻⁵ to 1,000 Torr for monitoring pump-down cycles. The differential sensor ensures accurate atmospheric pressure sensing under varying barometric pressure conditions, for optimum loadlock performance.

Series 925 and 925C MicroPirani™ Transducer

The MEMS-based Series 925 and 925 Compact (925C) MicroPirani transducer are thermal conductivity gauges and incorporate MKS' patented MicroPirani™ sensor technology in a compact package. The 925/925C feature an increased pressure measurement range from 10⁻⁵ Torr to atmosphere — two decades below a standard Pirani sensor. The 925 has three set point relays, while the 925C has one set point relay. With the extended range, the 925/925C may replace multiple transducers, in certain applications.



Series 925C
10⁵ Torr to atmosphere

Series 910 DualTrans™ MicroPirani™/Absolute Piezo Transducer

The HPS® Series 910 is a dual sensor transducer, combining MEMS-based MicroPirani and Piezo pressure measurement technologies with integrated electronics. The 910 transducer offers a pressure measurement range of 10⁻⁵ to 1,500 Torr.

The Series 910 provides a single, smoothed output from the MicroPirani and Piezo sensors. The piezo is a direct absolute pressure sensor, ensuring accurate measurement, independent of gas type above 15 Torr. The MicroPirani provides base pressure measurements from 10⁻⁵ to 15 Torr.



Series 910
10⁵ to 1500 Torr

Series 902 Absolute Piezo Transducer

The HPS® Series 902 piezo transducer combines the pressure measurement technology of a MEMS-based piezo sensor with integrated electronics. The 902 provides an economical, absolute measurement that is independent of gas type.

The sensor includes a unique temperature compensation, allowing for high accuracy over a wide measurement range. The piezo is available with a 1000 Torr full scale range, and is typically used in applications where greater accuracy or corrosion resistance is required.



Series 902
< 1 to 1000 Torr



Series 900 Transducers



Series 909/909A
10⁻¹⁰ to 10⁻² Torr

Series 909 and 909A Mini Ion Transducers

The Series 909 and 909A are hot cathode sensors with integrated electronics. The wide measurement range of 10⁻¹⁰ to 10⁻² Torr is used for high vacuum process monitoring. HPS® MIG sensors are Bayard-Alpert style, utilizing two yttria-coated iridium filaments.

Both transducers include a patent-pending electron bombardment degas function which will automatically stop and restart at preset pressures, preventing the filament from shutting off. This allows for shorter degas cycles with no need for operator intervention to restart the gauge.

The 909 includes RS485 communication as a standard feature, allowing all adjustments and monitoring to be delivered real-time, via a host computer. The 909A offers analog output only, with 0 to 10 volts semilogarithmic output. The filament, degas and emission current are controlled by connections on the 9 pin D-sub.

Series 979B Atmosphere to Vacuum Transducer

The Series 979B Atmosphere to Vacuum (ATV) transducer provides a wide measurement range from 10⁻¹⁰ Torr to atmosphere. It combines the MEMS-based MicroPirani with the Mini Ion BA gauge, covering 13 decades of measurement. The 979 provides a single, smoothed output for a seamless transition between the two sensors.

The Series 979B is ideal for applications requiring a single, compact transducer solution where a broad pressure range is required, such as PVD and Ion Implantation systems.



Series 979B
10⁻¹⁰ Torr to atmosphere



Series 999
10⁻¹⁰ Torr to atmosphere
plus atm switch

Series 999 Quattro™ Transducer

The Series 999 Quattro™ is the ultimate transducer solution, providing pressure measurement from 10⁻¹⁰ Torr to atmosphere, combined with atmospheric switching capabilities.

The 999 combines three of HPS' key technologies into an integrated gauge solution, and has the functionality of four sensors in one compact package. The Quattro™ combines the miniaturized hot cathode ionization sensor, the MEMS-based MicroPirani™ sensor and a unique piezo sensor (offering both differential and absolute sensor functions).

The Series 999 Quattro™ has the ability to replace multiple sensors, including: ionization and Pirani gauges, and sub-atmospheric and atmospheric pressure switches. This enables the end-user to save time, money and valuable tool space.

Series 903 I-Mag™ Cold Cathode Transducer

Using the inverted magnetron design principle, the HPS Series 903 can operate over a wider measurement range than offered by a traditional Penning cold cathode sensor. This increased pressure measurement range makes the 903 ideal for ultra high vacuum use, as well as medium vacuum applications.

The Series 903 is suitable for many industrial processes and analytical applications. Areas of application may include high energy physics, laser production, ion implantation, mass spectrometry, or PVD.



Series 903
10⁻¹⁰ to 10⁻² Torr



Specifications

Medium Vacuum Transducers

	Series 901P	Series 925/925C	Series 910	Series 902
Sensor Type	MicroPirani/Piezo	MicroPirani	MicroPirani/Absolute Piezo	Absolute Piezo
Measuring Range	1.0 X 10 ⁻⁶ to 1,000 Torr	1.0 X 10 ⁻⁶ Torr to Atmosphere	1.0 X 10 ⁻⁶ to 1,500 Torr	1,000 Torr full scale
Set Point Range	5.0 X 10 ⁻⁴ to 1,000 Torr	5.0 X 10 ⁻⁴ Torr to Atmosphere	5.0 X 10 ⁻⁴ to 1,500 Torr	1 to 1,000 Torr
Measuring Range - Differential	-760 to +760 Torr	----	----	----
Set Point Range - Differential	-760 to +760 Torr	----	----	----
Calibration Gas	Air, argon, helium, nitrogen, H ₂ , H ₂ O vapor. Gas independent above 65 Torr	Air, argon, helium, nitrogen, H ₂ , H ₂ O vapor	Air, argon, helium, nitrogen, H ₂ , H ₂ O. Gas independent above 10 Torr	Gas independent
Operating Temperature Range	0° to 40°C (32° to 104°F)	0° to 40°C (32° to 104°F)	0° to 40°C (32° to 104°F)	0° to 50°C (32° to 122°F)
Maximum Bakeout Temperature	85°C (185°F), non-operating	85°C (185°F), non-operating	85°C (185°F), non-operating	85°C (185°F), non-operating
Communication	RS232 / RS485	RS232 / RS485	RS232 / RS485	RS232 / RS485 / Analog
Controls	Zero adjust, span adjust, pressure units, baud rate, address, factory default, gas type; setpoint functions: value, hysteresis, direction, enable	Zero adjust, atmosphere adjust, pressure units, baud rate, address, factory default, gas type; setpoint functions: value, hysteresis, direction, enable	Zero adjust, span adjust, pressure units, baud rate, address, factory default, setpoint functions: value, hysteresis, direction, enable	Zero adjust, span adjust, pressure units, baud rate, address, factory default, gas type; setpoint functions: value, hysteresis, direction, enable
Status	Pressure reading and units, setpoint, operating time, transducer temperature, user tag, model, device type, serial number, firmware and hardware versions	Pressure reading and units, setpoint, operating time, transducer temperature, user tag, model, device type, serial number, firmware and hardware versions	Pressure reading and units, setpoint, operating time, transducer temperature, user tag, model, device type, serial number, firmware and hardware versions	Pressure reading and units, setpoint, operating time, transducer temperature, user tag, model, device type, serial number, firmware and hardware versions
Analog Output	1 to 9 VDC, 1 K maximum output impedance, 1 volt/decade	1 to 9 VDC, 1 K maximum output impedance, 1 volt/decade	1 to 9.2 VDC, 1 K maximum output impedance, 1 volt/decade	0 to 5 or 0 to 10 VDC, 1 K maximum output impedance, linear or logarithmic
Relays Relay Contact Rating	3 relays SPDT 1 A @ 30VAC/DC, resistive	3 relays SPDT (925) 1 relay SPDT (925C) 1 A @ 30VAC/DC, resistive	3 relays SPDT 1 A @ 30VAC/DC, resistive	1 relay SPDT 1 A @ 30VAC/DC, resistive
Power Requirements	10 to 30 VDC, < 1.5 watts max	10 to 30 VDC, < 1.5 watts max	10 to 30 VDC, 150 ma, < 1.5 W max	12 to 30 VDC, 30 mA, <.5 W max
Accuracy (typical)	5 X 10 ⁻⁴ to 10 ⁻³ Torr ±10% of reading 10 ⁻³ to 50 Torr ±5% of reading 50 to 1,000 Torr ±1% of reading ± 100 Torr Diff <1% of reading	5 X 10 ⁻⁴ to 10 ⁻³ Torr ±10% of reading 10 ⁻³ to 100 Torr ±5% of reading 100 to atm ±25% of reading	5 X 10 ⁻⁴ to 10 ⁻³ Torr ±10% of reading 10 ⁻³ to 50 Torr ±5% of reading 50 to 1,000 Torr ±1% of reading	Accuracy: <1% of reading Temp. Coeff. Span: ± 0.02% of FS/°C Temp. Coeff. Zero: ± 0.02% of FS/°C Resolution: 1 X 10 ⁻⁴ of FS
Repeatability (typical)	5 X 10 ⁻⁴ to 10 ⁻³ Torr ±8% of reading 10 ⁻³ to 50 ± 2% of reading 50 to 1,000 ± 0.5% of reading ± 100 Torr Diff <0.5% of reading	5 X 10 ⁻⁴ to 10 ⁻³ Torr ±8% of reading 10 ⁻³ to 100 Torr ± 2% of reading 100 to atm ±10% of reading	5 X 10 ⁻⁴ to 10 ⁻³ Torr ±8% of reading 10 ⁻³ to 50 Torr ± 2% of reading 50 to 1,000 Torr ± 0.5% of reading	± 0.03% of full scale
Overpressure Limit	1500 Torr	1500 Torr	1500 Torr	2000 Torr
Installation Orientation	Any	Any	Any	Any
Internal Volume	0.04 in. ³ (0.65 cm ³) maximum	0.04 in. ³ (.65 cm ³) maximum	0.04 in. ³ (0.65 cm ³) maximum	0.21 in. ³ (3.4 cm ³)
Materials Exposed to Vacuum	Silicon, SiO ₂ , SiN _x , gold, epoxy resin, 304 stainless steel, Viton®, aluminum	Silicon, SiO ₂ , SiN _x , gold, epoxy resin, 304 stainless steel, Viton®, Kovar®	Silicon, SiO ₂ , SiN _x , gold, epoxy resin, stainless steel, Viton®, aluminum	304, 316 stainless steel
Electronic Casing	304 stainless steel	304 stainless steel	304 stainless steel	304 stainless steel, aluminum
Weight (KF flange)	.46 lbs (209 g)	925: .46 lbs (209 g) 925C: .36 lbs (165 g)	.46 lbs (209 g)	.21 lbs (97 g)
CE Certification	EMC Directive 89/336/EEC	EMC Directive 89/336/EEC	EMC Directive 89/336/EEC	EMC Directive 89/336/EEC

Note: Accuracy and repeatability are typical values measured with nitrogen gas at 20°C.
Changes to gas type and temperature may effect gauge accuracy.

Specifications

Ultra High Vacuum Transducers

	Series 909/909A	Series 979B	Series 999	Series 903
Sensor Type	Hot Cathode Sensor	Bayard-Alpert/MicroPirani	Bayard-Alpert/MicroPirani/Piezo	Inverted Magnetron Cold Cathode
Measuring Range	3.0 X 10 ⁻¹⁰ to 5.0 X 10 ⁻² Torr	5 x 10 ⁻¹⁰ Torr to Atmosphere	5 x 10 ⁻¹⁰ Torr to Atmosphere	3.0 x 10 ⁻¹⁰ to 5.0 x 10 ⁻³ Torr
Set Point Range	5.0 X 10 ⁻¹⁰ to 9.5 X 10 ⁻³ Torr	5.0 x 10 ⁻¹⁰ to 100 Torr	5.0 x 10 ⁻¹⁰ Torr to Atmosphere	1.0 x 10 ⁻⁹ to 1.0 x 10 ⁻³ Torr
Measuring Range - Differential	----	----	-760 to +760 Torr	----
Set Point Range - Differential	----	----	-760 to +760 Torr	----
Calibration Gas	Air/nitrogen	Nitrogen	Nitrogen	Air/nitrogen
Operating Temperature Range	0° to 40°C (32° to 104°F)	0° to 40°C (32° to 104°F)	0° to 40°C (32° to 104°F)	0° to 50°C (32° to 122°F)
Maximum Bakeout Temperature	300°C max, electronics removed 150°C max, with KF/Viton seal, electronics removed	85°C (185°F), non-operating	85°C (185°F), non-operating	400°C (752°F) without electronics
Communication	RS485 (909) / Analog (909A)	RS232 / RS485	RS232 / RS485	Analog
Controls	909: Pressure units, baud rate, address, factory default, user tag, degas, RS485 test, gas correction, emission current, setpoint functions: value, hysteresis, enable; filament functions: power, protect, selection.909A: Filament on/off, degas on/off, emission current range, active filament	Pressure units, baud rate, address, factory default, user tag, degas, RS485 test, gas correction, emission current, setpoint functions: value, hysteresis, direction, enable; filament functions: power, protect, selection, control setpoint, gas type	Pressure units, baud rate, address, factory default, user tag, degas, RS485 test, gas correction, emission current, setpoint functions: value, hysteresis, direction, enable; filament functions: power, protect, selection, control setpoint, gas type	Set point adjust, analog output, high voltage on/off
Status	909: Pressure reading and units, setpoint, filament, active filament, filament operating time, transducer temperature, user tag, model, device type, serial number, firmware and hardware versions, analog output. 909A: Filament on/off, degas on/off, analog output	Pressure reading and units, setpoint, filament, active filament, filament operating time, transducer temperature, user tag, model, device type, serial number, firmware and hardware versions	Pressure reading and units, setpoint, filament, active filament, filament operating time, transducer temperature, user tag, model, device type, serial number, firmware and hardware versions	High voltage on, setpoint on, power on
Analog Output	0 to 10 VDC, semilogarithmic 1 volt/decade	0.5 VDC / decade	0.5 to 7 VDC, 0.5 VDC / decade	1.5 to 8.7 VDC, semilogarithmic
Relays Relay Contact Rating	1 relay SPDT (909 only) 1A @ 30VAC/DC, resistive	3 relays SPST 1A @ 30VAC/DC, resistive load	3 relays SPST 1A @ 30VAC/DC, resistive load	1 relay SPDT 1 A @ 30 VDC, resistive
Power Requirements	24 VDC, 15 Watts	24 VDC, 15 Watts	24 VDC, 15 Watts	14 to 30 VDC, 3 Watts max
Accuracy (typical)	± 20% of reading	10 ⁻⁹ to 10 ⁻³ Torr ±20% of reading 10 ⁻³ to 100 Torr ±5% of reading 100 to atm ±25% of reading	10 ⁻⁹ to 10 ⁻³ Torr ±20% of reading 10 ⁻³ to 50 Torr ± 5% of reading 50 to 1,000 Torr ± 1% of reading ± 100 Torr Diff <1% of reading	± 25%
Repeatability (typical)	Approx. 5% of reading	1x10 ⁻⁹ to 10 ⁻³ Torr ±5% of reading 10 ⁻³ to 100 Torr ± 2% of reading 100 to atm ±10% of reading	1x10 ⁻⁹ to 10 ⁻³ Torr ±5% of reading 10 ⁻³ to 50 Torr ± 2% of reading 50 to 1,000 Torr ± 0.5% of reading ± 100 Torr Diff <0.5% of reading	Approx. 5% of reading
Overpressure Limit	1500 Torr	1500 Torr	1500 Torr	1500 Torr
Installation Orientation	Any	Any	Any	Any
Internal Volume	1.4 in. ³ (23 cm ³)	1.40 in. ³ (23 cm ³) maximum	1.53 in. ³ (25 cm ³) maximum	0.9 in. ³ (15.0 cm ³) maximum
Materials Exposed to Vacuum	304 stainless steel, glass, tungsten, platinum clad molybdenum, yttria-coated iridium (filament)	304 stainless steel, silicon, SiO ₂ , SiN ₄ , gold, Viton®, glass, tungsten, platinum clad molybdenum, yttria-coated iridium, epoxy resin	304 stainless steel, silicon, SiO ₂ , SiN ₄ , gold, Viton®, glass, tungsten, platinum clad molybdenum, yttria-coated iridium, Invar, Sn/Ni plating, Sn/Ag solder, epoxy	304 and 302 stainless steel, aluminum, Inconel® X-750, glass, alumina ceramic
Electronic Casing	Aluminum	Aluminum	Aluminum	ABS plastic, UL94-5V flame rating (with conductive coating)
Weight (KF flange)	.82 lbs (370 g)	0.93 lbs (422 g)	1.01 lbs (460 g)	2.12 lbs (960 g)
CE Certification	EMC Directive 89/336/EEC Low-Voltage Directive 73/23/EEC	EMC Directive 89/336/EEC Low-Voltage Directive 73/23/EEC	EMC Directive 89/336/EEC Low-Voltage Directive 73/23/EEC	EMC Directive 89/336/EEC

Transducer Ordering Information

Series 901P

901P-11	Series 901P Transducer, NW 16 KF, RS232, 1 to 9 VDC
901P-12	Series 901P Transducer, NW 16 KF, RS485, 1 to 9 VDC
901P-21	Series 901P Transducer, NW 25 KF, RS232, 1 to 9 VDC
901P-22	Series 901P Transducer, NW 25 KF, RS485, 1 to 9 VDC
901P-41	Series 901P Transducer, 4 VCR [®] -F ¹ , RS232, 1 to 9 VDC
901P-42	Series 901P Transducer, 4 VCR [®] -F ¹ , RS485, 1 to 9 VDC
901P-51	Series 901P Transducer, 8 VCR [®] -F ¹ , RS232, 1 to 9 VDC
901P-52	Series 901P Transducer, 8 VCR [®] -F ¹ , RS485, 1 to 9 VDC
901P-81	Series 901P Transducer, Long NW 16 KF, RS232, 1 to 9 VDC
901P-82	Series 901P Transducer, Long NW 16 KF, RS485, 1 to 9 VDC

Series 902

902-1112	Series 902 Transducer, NW 16 KF, RS485
902-1212	Series 902 Transducer, 4 VCR [®] -F ¹ , RS485
902-1312	Series 902 Transducer, 8 VCR [®] -F ¹ , RS485
902-1113	Series 902 Transducer, NW 16 KF, RS232
902-1213	Series 902 Transducer, 4 VCR [®] -F ¹ , RS232
902-1313	Series 902 Transducer, 8 VCR [®] -F ¹ , RS232
902-1104	Series 902 Transducer, NW 16 KF, 0-5V
902-1204	Series 902 Transducer, 4 VCR [®] -F ¹ , 0-5V
902-1304	Series 902 Transducer, 8 VCR [®] -F ¹ , 0-5V
902-1105	Series 902 Transducer, NW 16 KF, 0-10V
902-1205	Series 902 Transducer, 4 VCR [®] -F ¹ , 0-10V
902-1305	Series 902 Transducer, 8 VCR [®] -F ¹ , 0-10V
902001	Series 902 Red LED Display
902002	Series 902 LCD Display

Series 903

109030001	Series 903 Transducer, NW 40 KF, 1.5 to 8.7 VDC
109030002	Series 903 Transducer, 2 ³ / ₄ " CF, 1.5 to 8.7 VDC
109030003	Series 903 Transducer, 1" Tube, 1.5 to 8.7 VDC
109030004	Series 903 Transducer, NW 25 KF, 1.5 to 8.7 VDC

Series 909 & 909A

909-11	Series 909 Transducer, 1 ¹ / ₈ " CF, RS485
909-21	Series 909 Transducer, 2 ³ / ₄ " CF, RS485
909-31	Series 909 Transducer, NW 16 KF, RS485
909-41	Series 909 Transducer, NW 25 KF, RS485
909-51	Series 909 Transducer, NW 40 KF, RS485
909-61	Series 909 Transducer, 1" Tube, RS485
909A-11	Series 909A Transducer, 1 ¹ / ₈ " CF, 0-10V
909A-21	Series 909A Transducer, 2 ³ / ₄ " CF, 0-10V
909A-31	Series 909A Transducer, NW 16 KF, 0-10V
909A-41	Series 909A Transducer, NW 25 KF, 0-10V
909A-51	Series 909A Transducer, NW 40 KF, 0-10V
909A-61	Series 909A Transducer, 1" Tube, 0-10V

Series 910

910-11	Series 910 Transducer, NW 16 KF, RS232, 1 to 9.2 VDC
910-12	Series 910 Transducer, NW 16 KF, RS485, 1 to 9.2 VDC
910-21	Series 910 Transducer, NW 25 KF, RS232, 1 to 9.2 VDC
910-22	Series 910 Transducer, NW 25 KF, RS485, 1 to 9.2 VDC
910-31	Series 910 Transducer, 1/8" NPT-F, RS232, 1 to 9.2 VDC
910-32	Series 910 Transducer, 1/8" NPT-F, RS485, 1 to 9.2 VDC
910-41	Series 910 Transducer, 4 VCR [®] -F ¹ , RS232, 1 to 9.2 VDC
910-42	Series 910 Transducer, 4 VCR [®] -F ¹ , RS485, 1 to 9.2 VDC
910-51	Series 910 Transducer, 8 VCR [®] -F ¹ , RS232, 1 to 9.2 VDC
910-52	Series 910 Transducer, 8 VCR [®] -F ¹ , RS485, 1 to 9.2 VDC
910-81	Series 910 Transducer, Long NW 16 KF, RS232, 1 to 9.2 VDC
910-82	Series 910 Transducer, Long NW 16 KF, RS485, 1 to 9.2 VDC

¹ VCR[®]-compatible parts may be used.

Series 925 & 925C

925-11	Series 925 Transducer, NW 16 KF, RS232, 1 to 9 VDC, 3 set point relays
925-12	Series 925 Transducer, NW 16 KF, RS485, 1 to 9 VDC, 3 set point relays
925-21	Series 925 Transducer, NW 25 KF, RS232, 1 to 9 VDC, 3 set point relays
925-22	Series 925 Transducer, NW 25 KF, RS485, 1 to 9 VDC, 3 set point relays
925-31	Series 925 Transducer, 1/8" NPT-F, RS232, 1 to 9 VDC, 3 set point relays
925-32	Series 925 Transducer, 1/8" NPT-F, RS485, 1 to 9 VDC, 3 set point relays
925-41	Series 925 Transducer, 4 VCR [®] -F ¹ , RS232, 1 to 9 VDC, 3 set point relays
925-42	Series 925 Transducer, 4 VCR [®] -F ¹ , RS485, 1 to 9 VDC, 3 set point relays
925-51	Series 925 Transducer, 8 VCR [®] -F ¹ , RS232, 1 to 9 VDC, 3 set point relays
925-52	Series 925 Transducer, 8 VCR [®] -F ¹ , RS485, 1 to 9 VDC, 3 set point relays
925-81	Series 925 Transducer, Long NW 16 KF, RS232, 1 to 9 VDC, 3 set point relays
925-82	Series 925 Transducer, Long NW 16 KF, RS485, 1 to 9 VDC, 3 set point relays
925C-11	Series 925C Transducer, NW 16 KF, RS232, 1 to 9 VDC, 1 set point relay
925C-12	Series 925C Transducer, NW 16 KF, RS485, 1 to 9 VDC, 1 set point relay
925C-21	Series 925C Transducer, NW 25 KF, RS232, 1 to 9 VDC, 1 set point relay
925C-22	Series 925C Transducer, NW 25 KF, RS485, 1 to 9 VDC, 1 set point relay
925C-31	Series 925C Transducer, 1/8" NPT-F, RS232, 1 to 9 VDC, 1 set point relay
925C-32	Series 925C Transducer, 1/8" NPT-F, RS485, 1 to 9 VDC, 1 set point relay
925C-41	Series 925C Transducer, 4 VCR [®] -F ¹ , RS232, 1 to 9 VDC, 1 set point relay
925C-42	Series 925C Transducer, 4 VCR [®] -F ¹ , RS485, 1 to 9 VDC, 1 set point relay
925C-51	Series 925C Transducer, 8 VCR [®] -F ¹ , RS232, 1 to 9 VDC, 1 set point relay
925C-52	Series 925C Transducer, 8 VCR [®] -F ¹ , RS485, 1 to 9 VDC, 1 set point relay
925C-81	Series 925C Transducer, Long NW 16 KF, RS232, 1 to 9 VDC, 1 set point relay
925C-82	Series 925C Transducer, Long NW 16 KF, RS485, 1 to 9 VDC, 1 set point relay

Series 979B

979B-11	Series 979B Transducer, 1/8" CF, RS232, 0.5 VDC
979B-12	Series 979B Transducer, 1/8" CF, RS485, 0.5 VDC
979B-21	Series 979B Transducer, 2/8" CF, RS232, 0.5 VDC
979B-22	Series 979B Transducer, 2/8" CF, RS485, 0.5 VDC
979B-31	Series 979B Transducer, NW 16 KF, RS232, 0.5 VDC
979B-32	Series 979B Transducer, NW 16 KF, RS485, 0.5 VDC
979B-41	Series 979B Transducer, NW 25 KF, RS232, 0.5 VDC
979B-42	Series 979B Transducer, NW 25 KF, RS485, 0.5 VDC
979B-51	Series 979B Transducer, NW 40 KF, RS232, 0.5 VDC
979B-52	Series 979B Transducer, NW 40 KF, RS485, 0.5 VDC

Series 999

999-11	Series 999 Transducer, 1/8" CF, RS232, 0.5 to 7 VDC
999-12	Series 999 Transducer, 1/8" CF, RS485, 0.5 to 7 VDC
999-21	Series 999 Transducer, 2/8" CF, RS232, 0.5 to 7 VDC
999-22	Series 999 Transducer, 2/8" CF, RS485, 0.5 to 7 VDC
999-31	Series 999 Transducer, NW 16 KF, RS232, 0.5 to 7 VDC
999-32	Series 999 Transducer, NW 16 KF, RS485, 0.5 to 7 VDC
999-41	Series 999 Transducer, NW 25 KF, RS232, 0.5 to 7 VDC
999-42	Series 999 Transducer, NW 25 KF, RS485, 0.5 to 7 VDC
999-51	Series 999 Transducer, NW 40 KF, RS232, 0.5 to 7 VDC
999-52	Series 999 Transducer, NW 40 KF, RS485, 0.5 to 7 VDC
999-61	Series 999 Transducer, 1" Tube, RS232, 0.5 to 7 VDC
999-62	Series 999 Transducer, 1" Tube, RS485, 0.5 to 7 VDC

Transducer Accessories

100012641	Power supply with cable, RS232, 120VAC, USA
100012664	Power supply with cable, RS232, 90-230VAC, Universal (UK, Continental Europe & Australia)
100012621	D-type converter, for 902 and 925C
100013527	Adapter, USB to RS485
100012604	Setup and demonstration software
100014510	NW16KF Centering ring with 4µm filter and Viton O-ring*
100014515	NW25KF Centering ring with 4µm filter and Viton O-ring*
100014520	NW40KF Centering ring with 4µm filter and Viton O-ring*

* Recommended on inlet flange of Series 900 transducers to protect sensors from particulates when used in harsh environments. Other filter sizes available upon request.



Ordering Information (cont.)

PDR900 Series 900 Controller

PDR900-11-US	PDR900 Single Channel Controller, RS232/RS485, US
PDR900-11-EU	PDR900 Single Channel Controller, RS232/RS485, EU
PDR900-11-UK	PDR900 Single Channel Controller, RS232/RS485, UK
PDR900-11-DK	PDR900 Single Channel Controller, RS232/RS485, Denmark
PDR900-11-JP	PDR900 Single Channel Controller, RS232/RS485, Japan (SI units)

PDR900 Cables

100013703	Cable, PDR900 to 909, 10 ft. (3 m), RS485
100013705	Cable, PDR900 to 909, 25 ft. (7.6 m), RS485
100013613	Cable, PDR900 to 902/925C, 9 Pin, 10 ft. (3 m), RS232
100013615	Cable, PDR900 to 902/925C, 9 Pin, 25 ft. (7.6 m), RS232
100013664	Cable, PDR900 to 902/925C, 9 Pin, 10 ft. (3 m), RS485
100013666	Cable, PDR900 to 902/925C, 9 Pin, 25 ft. (7.6 m), RS485
100013620	Cable, PDR900 to 901P/910/979B/999/925, 15 Pin, 10 ft. (3 m), RS232
100013622	Cable, PDR900 to 901P/910/979B/999/925, 15 Pin, 25 ft. (7.6 m), RS232
100013671	Cable, PDR900 to 901P/910/979B/999/925, 15 Pin, 10 ft. (3 m), RS485
100013673	Cable, PDR900 to 901P/910/979B/999/925, 15 Pin, 25 ft. (7.6 m), RS485

PDR900 Accessories

100013638	Analog Output DIN8
100010757	Setpoint Connector Kit
100013690	Mounting Hardware

PDR900 Series 900 Controller

The PDR900 power supply and readout unit is a stand alone, single channel controller for use with the Series 900 digital vacuum transducers. The instrument sets new standards for vacuum gauge controllers and can be used as a standalone power supply readout unit or as a tool for configuration, calibration and diagnostics of system integrated transducers in OEM applications.



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