BULLETIN NO. 122/11a
(SUPERSEDES BULLETIN NO. 122/01)

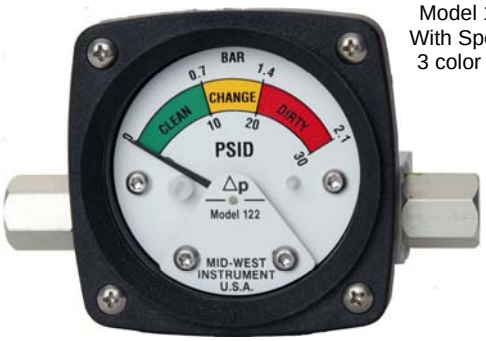
Mid-West® Instrument

"Piston Type"

Differential Pressure Gauges
Switches & Transmitters

Model 122

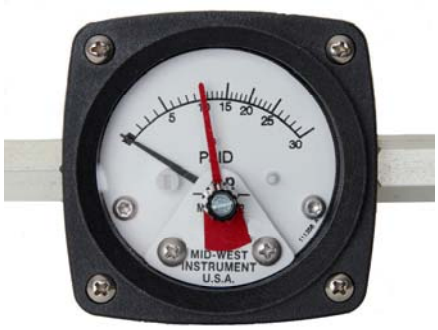
A low cost differential pressure gauge for use in measuring the pressure drop across filters, strainers, separators, valves, pumps, chillers, etc., and for local flow indication and control.



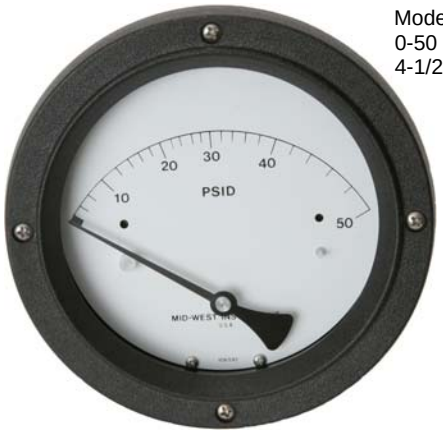
Model 122
With Special
3 color dial

- Simple, rugged, compact design.
- Working pressure up to 3,000 PSIG (200 bar)
- Over-range protection to maximum pressure.
- Body material: Aluminum with 316 stainless steel internals.
- Weather-resistant construction standard.
- Shatter resistant acrylic lens.
- Variety of Dial type and Sizes: 2-1/2", 3-1/2" & 4-1/2"
- Available DP Ranges: Inches H2O, PSID, bar, and Kpa
- ¼" FNPT End Process Connections
- Panel Mountable, Wall mount available as option
- Temperature Limits: -40°F(-40°C) to +200°F(+93°C)

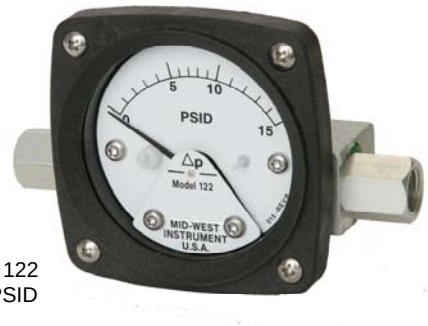
Due to precision sizing of piston and body bore, leakage across piston will not exceed 15 SCFH air at 100 PSID at ambient temperature.



Model 122 0-30 PSID
2-1/2" Dial w/Maximum
Follower Pointer



Model 122
0-50 PSID
4-1/2" Dial



Model 122
0-15 PSID

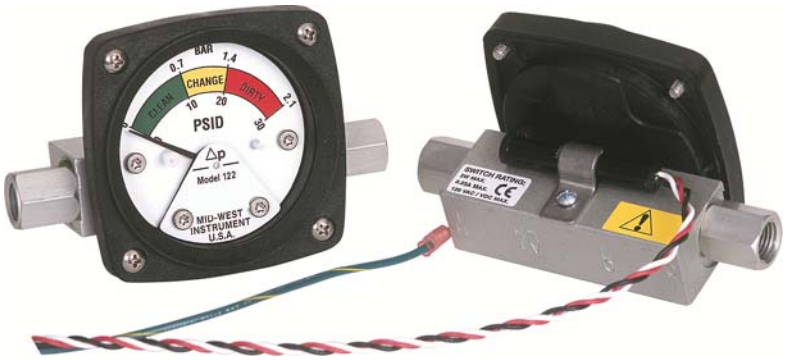
An optional maximum indication follower pointer provides automatic indication of maximum differential occurring during a time period or system cycle.
Reversed pressure ports are optionally available to facilitate installation and readability depending on which side of a filter, etc., the instrument must be installed.

Model	Body Material	Accuracy	Min. ΔP Range	Max. ΔP Range	MWP PSIG (Bar)	Switch Options
122	Aluminum	±5%	0-5 PSID (0-0.35 bar)	0-110 PSID (0-7 bar)	3,000 (200)	1 & 2 switch Hermetically Sealed

Proof Pressure: Two times rated working pressure at ambient temperature
Standards: Model 122 gauge either conforms to and/or is designed to the requirements of the following standards:

ASME B1.20.1	NACE MR0175
ASME B40.100	NEMA Std. No. 250
CSA-C22.2 No. 14.25 and 30	SAE J514
EN-61010-1	UL Std. No. 50,508 and 1203

“Piston Type”
Differential Pressure Gauge
Switch Option
Model 122



Model 122 Gauge with switches have one or two Single Pole Single Throw (SPST) or Single Pole Double Throw (SPDT) reed switches with the resistive ratings specified in the table below.

A provision to connect a protective conductor terminal is provided on the Low port end of the gauge body. A 6-32 screw, 18 Awg, green/yellow wire, and a #6 terminal is provided.

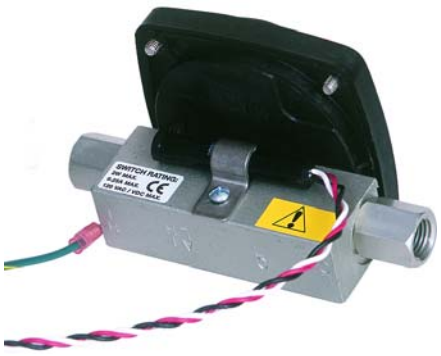
Note: Switches can be set below the defined minimum set point how ever the switch may not remain activated at maximum PSID. If the unit is set below the defined minimum set point, the customer should verify that the switch remains activated from the set point to over range of the gauge.

Provide standard protection techniques for the switch contacts for capacitive and inductive loads. Use current limiting techniques near the switch to protect the contacts due to high inrush (i.e.; in line resistor or inductor) for long cable interfaces. Provide clamping devices at or near inductive loads (i.e.; relay).

Maximum wire length between the 3W switch and its load should not exceed 70 – 100 feet or 120 VAC applications. Contact the factory for assistance regarding this condition.

WARNING:
Electrical connections should be performed by qualified personnel and meet representative national electrical code.

WARNING:
Failure to connect to the protective conductor terminal may result in a shock hazard.



Temperature Limits:
-40°F (-40°C) to +200°F (+93°C)
These limits are based on the entire instrument being saturated to these temperatures. System (process) temperatures may exceed these limitations

REED SWITCH RATINGS (Resistive Load) CE

Type	SPDT	SPST NO	SPDT
Option	**A**	**E**	**H**
Power	3 W	60 W	60 W
Max Current	0.25 Amps	3.0 Amps	1.0 Amps
Max Voltage VAC/VDC	125	240	240
Setting Full Scale	10-100%	25-100%	25-100%
Hysterisis (Max / Norm)	10% / 5% (FS)	15% / 8% (FS)	25% / 13% (FS)
Repeatability	1% F.S.	1% F.S.	1% F.S.
Leads 22 Awg	(3) 24"	(2) 24"	(3) 24"

Mid-West® Instrument

Standard Dial Ranges: Model 120, 122, 123, 124

Range Type			
PSID	**Kpa**	**Bar**	**Dual Scale**
0-5 PSID	0-35 Kpa	0-1.0 Bar	0-5 PSID & 0-0.35 Kg/Cm2
0-10 PSID	0-70 Kpa	0-1.6 Bar	0-5 PSID & 0-35 KPA
0-15 PSID	0-100 Kpa	0-2.0 Bar	0-10 PSID & 0-0.7 BAR
0-20 PSID	0-160 Kpa	0-2.5 Bar	0-10 PSID & 0-0.7 KG/CM2
0-25 PSID	0-250 kpa	0-4.0 Bar	0-10 PSID & 0-70 KPA
0-30 PSID	0-400 Kpa	0-6.0 Bar	0-100 PSID & 0-7 BAR
0-50 PSID	0-600 Kpa	0-7.0 Bar	0-100 PSID & 0-7 KG/CM2
0-60 PSID	0-700 Kpa		0-100 PSID & 0-700 KPA
0-75 PSID			0-15 PSID & 0-1 BAR
0-100 PSID			0-15 PSID & 0-1 KG/CM2
0-110 PSID			0-15 PSID & 0-100 KPA
**0-150 PSID			0-20 PSID & 0-1.4 BAR
**0-200 PSID			0-20 PSID & 0-140 KPA
**0-250 PSID			0-25 PSID & 0-1.75 BAR
**0-300 PSID			0-25 PSID & 0-1.75 KG/CM2
**0-400PSID			0-25 PSID & 0-175 KPA
			0-30 PSID & 0-2 BAR
Bi-Directional	**Bi-Directional**	**Bi-Directional**	0-30 PSID & 0-2 KG/CM2
5-0-5 PSID	40-0-40 Kpa	0.4-0-0.4 Bar	0-30 PSID & 0-200 KPA
10-0-10 PSID	60-0-60 Kpa	0.6-0-0.6 Bar	0-50 PSID & 0-3.5 BAR
15-0-15 PSID	100-0-100 Kpa	1-0-1 Bar	0-50 PSID & 0-3.5 KG/CM2
20-0-20 PSID	160-0-160 Kpa	1.6-0-1.6 Bar	0-50 PSID & 0-350 KPA
25-0-25 PSID	250-0-250 Kpa	2.5-0-2.5 Bar	0-75 PSID & 0-500 KPA
30-0-30 PSID	400-0-400 Kpa	4-0-4 Bar	
50-0-50 PSID	600-600 Kpa	6-0-6 Bar	
60-0-60 PSID			
100-0-100 PSID			

Bi-Directional ranges available for Model 120 4-1/2" Dials only.

The above mentioned ranges are some of the most popular requested today. Mid-West Instrument can provide special un-cataloged dial range requirements. As well as multiple scale dials, multiple color dials and special decals. Please consult factory for complete information.

Model	Min. ΔP Range	Max. ΔP Range
120	0-5 PSID (0-0.35 bar)	0-110 PSID (0-7 bar)
122	0-5 PSID (0-0.35 bar)	0-100 PSID (0-7 bar)
**123	0-150 PSID (0-10 bar)	0-400 PSID (0-27.0 bar)
**124	0-5 PSID (0-0.35 bar) 0-150 PSID (0-10 bar)	0-110 PSID (0-7 bar) 0-400 PSID (0-27.0 bar)

Proof Pressure: Two times rated working pressure at ambient temperature
Temperature Limits: -40°F(-40°C) to +200°F(+93°C)
Transmitter Option: -20°F(-28°C) to +150°F(+65°C)
These limits are based on the entire instrument being saturated to these temperatures. System (process) temperatures may exceed these limitations with proper installation. Contact our customer service representative for details.

Standards: Model 120 -124 Series gauges either conform to and/or are designed to the requirements of the following standards:

ASME B1.20.1
ASME B40.100
CSA-C22.2 No. 14.25 and 30
EN-61010-1
NACE MR0175
NEMA Std. No. 250
SAE J514
UL Std. No. 50,508 and 1203

Standard Model Specification: 122AA02-OO

3000 PSIG Working Pressure, Aluminum Body, Stainless Steel Piston, Ceramic Magnet,
Buna-N Seals, ¼" FNPT End Connections, 2-1/2" round dial,
Engineered Plastic Case with Shatter Resistant Acrylic Lens,
Accuracy ±5% Full Scale (Ascending)

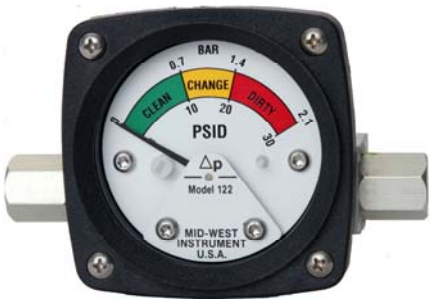
Mid-West Instrument
1-800-648-5778

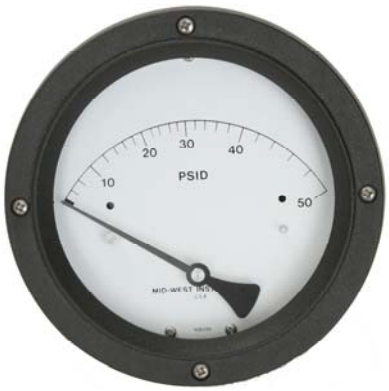
Range: 0-5 PSID to 0-100 PSID (0-.35 bar to 0-7.0 bar)

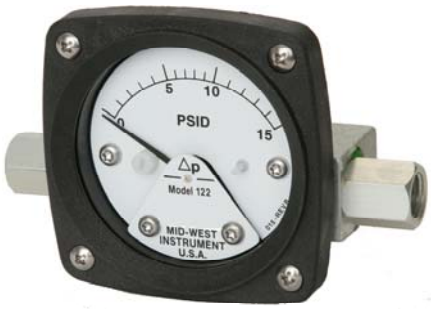
1	2	3	4	5	6	7	8
1	2	2					

Basic Model

Range:_____



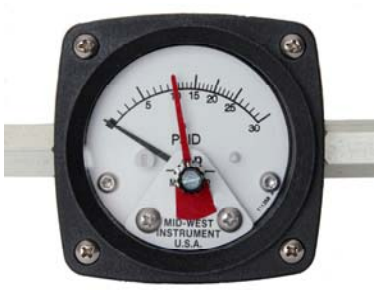


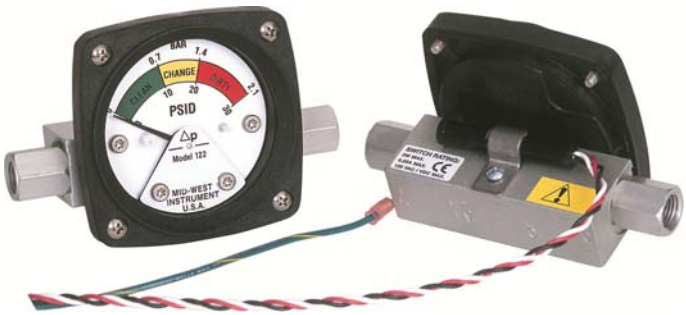


2	Material
A	Aluminum Body / Stainless Steel Piston
Z	Special ***(Un-coded Options)***
3	**Dial Size & Type**
A	2-1/2" Round Uni-Directional Dial w/Engineered Plastic Dial Case
C	4-1/2" Round Uni-Directional Dial w/Engineered Plastic Dial Case
E	3-1/2" Round Uni-Directional Dial w/Anodized Aluminum Housing Dial Case
G	4-1/2" Round Uni-Directional Dial w/Anodized Aluminum Housing Dial Case
T	Non-Indicating DP Switch Only
Z	Special ***(Un-coded Options)***
4	**Seal Materials**
0	Buna-N **(Standard)**
1	Viton®-A Registered Trademark of Dupont
2	Neoprene
4	Teflon®-A Registered Trademark of Dupont
5	Ethylene Propylene
9	Special ***(Un-coded Options)***
5	**Process Connections**
2	1/4" FNPT End Connections **(Standard)**
9	Special ***(Un-coded Options)***

Factory preset switches at no charge (Specify Setting)

Standard Model Specifications – continued Model 122





6	Additional Options
O	None
A	Reversed High / Low Process Connections.
E	Two (2) 1/4-20 Mounting Holes
L	Liquid Fill **(4-1/2" available with "G" option Aluminum Dial Case only) (not available with shatter proof lens)**
M	Maximum Indicator Follower Pointer **(Not available with Liquid fill) (not available with shatter proof lens)**
S	Shatter Proof Glass Lens **(only available with 4-1/2" option "G" Aluminum Dial Case) (not available w/shatter proof lens)**
T	Oxygen Cleaning
U	Stainless Steel Tag with S.S. Wire
V	Stainless Steel Tag and S.S. Screw **(Contact factory on switch options)**
W	Wall Mount Kit
Z	Special ***(Un-coded Options)***
	Note: Not All Options Available in Combination with other Options
7	**Electrical Configurations (All options CE marked)**
O	None
M	One (1) Reed Switch **(Clamp-On)**
N	Two (2) Reed Switches **(Clamp-On)**
Z	Special ***(Un-Coded Options)***
	Note: M & N OPTIONS HAVE 22 AWG LEADS – 24" LENGTHS
8	**Electrical Specifications (For Resistive Loads)**
O	None
A	SPDT 3W, 0.25 Amp, 125 VAC/VDC (standard) (Switch adjustable range of 10-100%)
E	SPST 60W, 3.0 Amp, 240 VAC/VDC (Normally Open) (Switch adjustable range of 25-100%)
H	SPDT 60W, 1.0 Amp, 240 VAC/VDC (Switch adjustable range of 25-100%)
Z	Special ***(Un-Coded Options)***