

## Data Sheet

# G & L-Series Pressure Switches

### FEATURES

- Precision SPDT or DPDT snap-acting micro switch
- Setpoint adjustable from 15-100% of range
- Single or dual adjustable set points
- Fixed or adjustable deadband
- Wide selection of switch elements

### TYPICAL USES

- Refineries
- Chemical and petrochemical plants
- Pulp and paper mills
- Power plants
- Steel mills
- Water and sewage treatment plants
- Pumps, compressors and turbines
- Dairies and breweries
- Boilers and burners
- Reverse osmosis systems and filters
- Filters and presses
- Paint spraying equipment
- Specialized OEM equipment
- Pharmaceutical plants



**L-Series**  
Watertight Enclosure  
Pressure Switch



**L-Series**  
Watertight Enclosure  
Differential Pressure Switch



**G-Series**  
Watertight Enclosure  
Pressure Switch



**G-Series**  
Watertight Enclosure  
Differential Pressure Switch



### SPECIFICATIONS

Set Repeatability (Accuracy):	±1% of span (Additional setpoint shift of ±1% of range per 50 °F from initial setpoint set at 70 °F typical)
Switch Type:	SPDT or 2 SPDT with independent setpoints, or 2 SPDT acting as DPDT (XC2)
Setpoint:	Single setpoint, fixed deadband Single setpoint, adjustable deadband Independent setpoint, fixed deadband
Deadband:	Fixed or adjustable deadband
Enclosure Ratings:	G Series - NEMA 4X, IP66 L Series - NEMA 4X, IP66
Enclosure Material:	G Series - 316L Stainless steel L Series - Epoxy coated aluminum
Process Connection:	¼ NPT Female, ½ NPT Female, ¼ NPT Female and ½ NPT Male Combination
Electrical Termination:	¾ NPT Female
<b>APPROVALS</b>	
Watertight:	L Series - UL, CSA, FM, CE, RoHS, CRN, UKCA G Series - UL, CSA, CE, RoHS, CRN, UKCA

### KEY BENEFITS

- 316L SS (G-Series) or epoxy-coated aluminum (L-Series) enclosures provide added protection in harsh environments
- Designed for use in wide range of applications
- Easily configurable to meet your application requirements
- Hermetically sealed micro switches offer improved reliability and safety (UL Class I Div II approval)

### WETTED COMPONENTS

Actuator Seal	Process Connection:	
Buna-N, Teflon™, Viton™, 316L SS, or Monel®	<b>Pressure Switches</b> 316L SS or Monel® for psi ranges Epoxy coated carbon steel or 316L SS for IW ranges	<b>Differential Switches</b> Nickel plated brass or 316L SS for psid ranges Epoxy coated carbon steel or 316L SS for IWD ranges

# Data Sheet

## G & L-Series Pressure Switches

ORDERING CODE	Example:	GPSN4	G	S	25	X6B	100#
<b>Enclosure – Pressure Switch</b>							
GPSN4 - Single setpoint, fixed deadband, N4 - NEMA 4, 4X, IP66		GPSN4					
GPAN4 - Single setpoint, adjustable deadband, N4 - NEMA 4, 4X, IP66							
GPDN4 - Two independent adjustable setpoints, fixed deadband, N4 - NEMA 4, 4X, IP66							
LPSN4 - Single setpoint, fixed deadband, N4 - NEMA 4, 4X, IP66							
LPAN4 - Single setpoint, adjustable deadband, N4 - NEMA 4, 4X, IP66							
LPDN4 - Two independent adjustable setpoints, fixed deadband, N4 - NEMA 4, 4X, IP66							
<b>Enclosure – Differential Pressure Switch</b>							
GDSN4 - Single setpoint, fixed deadband, N4 - NEMA 4, 4X, IP66							
GDAN4 - Single setpoint, adjustable deadband, N4 - NEMA 4, 4X, IP66							
GDDN4 - Two independent adjustable setpoints, fixed deadband, N4 - NEMA 4, 4X, IP66							
LDSN4 - Single setpoint, fixed deadband, N4 - NEMA 4, 4X, IP66							
LDAN4 - Single setpoint, adjustable deadband, N4 - NEMA 4, 4X, IP66							
LDDN4 - Two independent adjustable setpoints, fixed deadband, N4 - NEMA 4, 4X, IP66							
<b>Switch Elements For Single Setpoint with Adjustable Deadband - UL/CSA Listed</b>							
H - General purpose, 10A - 125/250 Vac. ½A, 125 Vdc, ¼A, 250 Vdc							
J - Hermetically sealed, general pupose - 11A, - 125/250 Vac, 5A, 30 Vdc							
<b>Single/Dual Switch Setpoint with Fixed Deadband - UL/CSA Listed</b>							
C/CC - Heavy duty ac, 22A - 125/250 Vac							
F/FF - Sealed environment proof, 15A - 125/250 Vac. (estimated dc rating - 4A, 28 Vdc, not UL listed)							
G/GG - General purpose, 15A - 125/250/480 Vac, ½A - 125 Vdc, ¼A - 250 Vdc (not listed at 480 Vac)			G				
H/HH - General purpose, 10A - 125/250 Vac 10A, Vdc (P series only)							
J/JJ - Hermetically sealed switch, general purpose, 11A, 125/250 Vac, 5A, 30 Vdc							
K/KK - Narrow deadband, 15A - 125/250 Vac. (estimated dc rating, 0.4A, 120 Vdc, not UL listed)							
L/LL - Hermetically sealed switch, gold contacts, 1A - 125 Vac							
M/MM - Low level (gold) contacts, 1A - 125 Vac							
P/PP - Hermetically sealed AC - 5A, 125/250 Vac. (estimated dc rating - 2.5A, 28 Vdc, not UL listed)							
S/SS - Heavy duty dc, 10A - 125 Vac or dc, ½ HP - 125 Vac or dc.							
U/UU - Manual reset actuates on increasing pressure 15A, 125/250 Vac, 6A, 130 Vdc							
Y/YY - High temperature 300 °F (148 °C) ambient, 15A, 125/250 Vac							
W/WW - Ammonia service - 5A, 125/250 Vac, 6A, 30 Vdc							
<b>Actuator Seal</b>							
	Temperature Limits						
Material	Ambient	Process					
B - Buna-N	-20 °F to 150 °F	0 °F to 150 °F					
V - Viton™	-20 °F to 150 °F	20 °F to 300 °F					
T - Teflon™	-20 °F to 150 °F	0 °F to 150 °F					
S - 316L SS	-20 °F to 150 °F	20 °F to 300 °F				S	
P - Monel®	-20 °F to 150 °F	20 °F to 300 °F					
<b>Process Connections</b>							
25 - ¼ NPT Female					25		
06 - ¼ NPT Female and ½ NPT Male combination (standard on 1000#, 2000# and 3000# units)							
07 - ½ NPT Female							
20 - 7/16"-20 SAE Female							
<b>Options - Select from Table 4 on page 4 (If choosing an option(s) must include an "X")</b>							
6B - Cleaned for oxygen service						X	6B
<b>Pressure Range (select from pressure range table on page 3)</b>							
100# - 100 psi							100#

# Data Sheet

## G & L-Series Pressure Switches

TABLE 1 - PRESSURE/VACUUM RANGES				Approximate Deadband Switch Element for Buna-N Diaphragm									
Nominal Ranges		Overpressure Ratings		See multiplier TABLE 3 for additional material multipliers									
				LPA-GPA	LPS-GPS				LPD-GPD				
		Proof#	Minimum Burst psi	Switch Element									
J, H	G			J, H	K, F	P	GG	JJ, HH	KK, FF	PP			
<b>Vacuum</b>													
30IMV	-760 mm Hg	250	400	6-24	2.5-4	6-24	1-2	1-2.5	3-5.5	4-6.5	1-2	1-2.5	
<b>Compound</b>													
30IMV/ 15#	-760 mm Hg/ 1.0 kg/cm <sup>2</sup>	250	400	6-24 3-12	2.5-4 1-2.5	4-6 1-3.5	1-2 0.5-1.5	1-2.5 0.5-2	3-5.5 1.5-5.5	4-6.5 1.5-4	1-2 1-2	1-2.5 1-2	
<b>Pressure</b>													
30IW	750 mm H <sub>2</sub> O	20	35	4.0-27	1.5-3.5	2.0-4.0	0.5-1.0	0.7-2.0	2.1-4.9	2.8-5.6	0.7-1.4	0.7-2.8	
60IW	1,500 mm H <sub>2</sub> O	20	35	5.0-54	1.5-4.0	2.5-5.0	0.5-1.4	1.0-2.5	3-5.6	3.5-7.0	0.7-2.0	2-3.5	
100IW	2,500 mm H <sub>2</sub> O	20	35	8.5-90	2.0-5.5	4.0-8.5	1.0-2.0	1.4-3.0	4-7.7	5.6-11.7	1.4-2.8	1-4.2	
150IW	3,750 mm H <sub>2</sub> O	20	35	18-135	5.0-11	10-18	1.5-3.0	2.0-6.0	7.0-16	14-25.1	2.1-4.2	5-9.2	
15#	1.0 kg/cm <sup>2</sup>	500	1,500	2.5-13	1.0-1.5	1.0-2.5	0.5-1.0	0.75-1.5	1.4-2.1	1.4-3.5	0.7-1.4	1-1.4	
30#	2.0 kg/cm <sup>2</sup>	500	1,500	3.0-27	1.0-2.8	1.0-3.2	0.75-1.5	1-1.8	1.4-5	3-6	1-2.1	1.4-2.5	
60#	4.0 kg/cm <sup>2</sup>	500	1,500	5-54	2.0-4.0	2.0-4.5	1.0-2.0	1.0-2.5	3-7	4-8	1.4-2.8	1.4-3.5	
100#	7.0 kg/cm <sup>2</sup>	1,000	3,000	10-90	3-6	5.0-10	1.0-2.5	1.4-3.2	7-12	7.0-14	1.4-3.5	3-7	
200#	14 kg/cm <sup>2</sup>	1,000	3,000	18-180	7-14	10-18	1.0-4.0	5.0-8.0	10-23	14-25	1.4-5.6	7.0-11.2	
400#	28 kg/cm <sup>2</sup>	2,400	3,000	45-360	16-30	16-45	4.0-8.0	5.0-15	22-42	22-63	5.6-11.2	7.0-21	
600#	42 kg/cm <sup>2</sup>	2,400	3,000	75-540	16-50	20-75	5.0-15	6.0-25	22-70	28-105	7.0-21	8.0-35	
1000# <sup>(1)</sup>	70 kg/cm <sup>2</sup>	12,000 <sup>(1)</sup>	14,000	160-900	75-130	50-160	7.0-30	10-85	70-180	70-223	10-42	14-119	
2000#	140 kg/cm <sup>2</sup>	12,000	14,000	350-1,800	150-200	150-350	20-50	25-110	209-279	209-488	28-70	35-154	
3000#	210 kg/cm <sup>2</sup>	12,000	14,000	400-2,600	180-250	180-400	30-70	30-190	251-349	251-558	42-98	42-226	

(1) Proof pressure is 4,000 psi with SS and Monel® welded diaphragms

TABLE 2 - DIFFERENTIAL PRESSURE RANGES				Approximate Deadband Switch Element for Buna-N Diaphragm									
Nominal Ranges		Overpressure Ratings		See multiplier TABLE 3 for additional material multipliers									
				LDA-GDA	LDS-GDS				LDD-GDD				
		Static #	Minimum Proof #	Switch Element									
J, H	G			J, H	K, F	P	GG	JJ, HH	KK, FF	PP			
<b>Differential Pressure</b>													
30IWD	-760 mm Hg	5.4	21.6	4.0-27	1.3-3.5	2.0-4.0	0.5-1.0	0.7-2.0	2.1-4.9	2.8-5.6	0.7-1.4	0.7-2.8	
60IWD	1,500 mm H <sub>2</sub> O	5.4	21.6	5.0-54	1.5-4.0	2.5-5.0	0.5-1.4	1.0-2.5	3-5.6	3.5-7.0	0.7-2.0	2-3.5	
100IWD	2,500 mm H <sub>2</sub> O	5.4	21.6	8.5-90	2.0-5.5	4.0-8.5	1.0-2.0	1.4-3.0	4-7.7	5.6-11.7	1.4-2.8	1-4.2	
150IWD	3,750 mm H <sub>2</sub> O	5.4	21.6	18-135	5.0-11	10-18	1.5-3.0	2.0-6.0	7.0-16	14-25.1	2.1-4.2	5-9.2	
30#D	2.0 kg/cm <sup>2</sup>	500	1,500	3.0-27	1.0-2.8	1.0-3.2	0.75-1.5	1-1.8	1.4-5	3-6	1-2.1	1.4-2.5	
60#D	4.0 kg/cm <sup>2</sup>	500	1,500	5-54	2.0-4.0	2.0-4.5	1.0-2.0	1.0-2.5	3-7	4-8	1.4-2.8	1.4-3.5	
200#D	14 kg/cm <sup>2</sup>	1,000	3,000	18-180	7-14	10-18	1.0-4.0	5.0-8.0	10-23	14-25	1.4-5.6	7.0-11.2	
400#D	28 kg/cm <sup>2</sup>	2,400	3,000	45-360	16-30	16-45	4.0-8.0	5.0-15	22-42	22-63	5.6-11.2	7.0-21	

TABLE 3 - DEADBAND MULTIPLIER TABLE		
Diaphragm Material	Multiply	Notes
Buna-N	1.0	Multiplier table for additional diaphragm materials
Viton™	1.4	
Teflon™	1.7	Not applicable for adjustable deadband units (LPA,GPA,LDA GDA)
316 SS	1.7	
Monel®	1.7	

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## G & L-Series Pressure Switches

TABLE 4 - OPTIONS				Pressure		Differential Pressure	
Code	Description	G Series	L Series	psi	inH <sub>2</sub> O	psid	inH <sub>2</sub> O
CH	Chained cover	•	•	•	•	•	•
FM	FM Approval (includes pilot lights)						
	( <sup>1</sup> ) For gauge differential pressure ranges, 60 to 400 psid only. ( <sup>2</sup> ) "T" diaphragm N/A on IW ranges.		•	•	•	•	•
FP	Fungus proofing	•	•	•	•	•	•
FS	Factory adjusted setpoints (Supply static pressure for D/P switches)	•	•	•	•	•	•
G5	Gas/Oil UL Limit control to 150 in. H <sub>2</sub> O (LDS only)		•				•
G6	Gas/Oil UL Limit control to 600 psi (LDS only)		•	•			
G8	Steam limit control to 600 psi (UL listed steam control)		•	•			
G9	Fire safe actuator	•	•	•			
HS	High static operating pressure for psi range D/P	•	•			•	
HX	High operating pressure for in. H <sub>2</sub> O ranges						
	40 psi Static (Pressure and D/P)	•	•		•		•
	100 psi Proof (Pressure) 160 psi Proof (D/P)						
HY	Hydrostatic pressure test	•	•	•	•	•	•
JL	¾" to ½" Reducing bushing	•	•	•	•	•	•
K3	Terminal blocks	•	•	•	•	•	•
MA	NACE compliance (only with monel actuator)	•	•	•			
NH	Tagging Stainless steel	•	•	•	•	•	•
PK	Pilot lights		•	•	•	•	•
PM	¾" Sealed conduit connection with 16" lead wires	•	•	•	•	•	•
TA	316 SS pressure connection for in. H <sub>2</sub> O ranges	•	•		•		•
UD	316 SS Pressure Connection for psid ranges ( <sup>1</sup> )	•	•			•	
2C	DPDT with Single Setpoint Adjustment	•	•	•	•	•	•
6B	Cleaned for oxygen service (N/A with Buna-N)	•	•	•		•	
C4	<a href="#">Traceable calibration certificate</a>	•	•	•	•	•	•
Y53A	1½" Sanitary seal with glycerin fill with 3A Approval	•	•	•			
Y63A	2" Sanitary seal with glycerin fill with 3A Approval	•	•	•			

NOTE: (<sup>1</sup>)Standard for DP models with "S" actuator seal & psid ranges

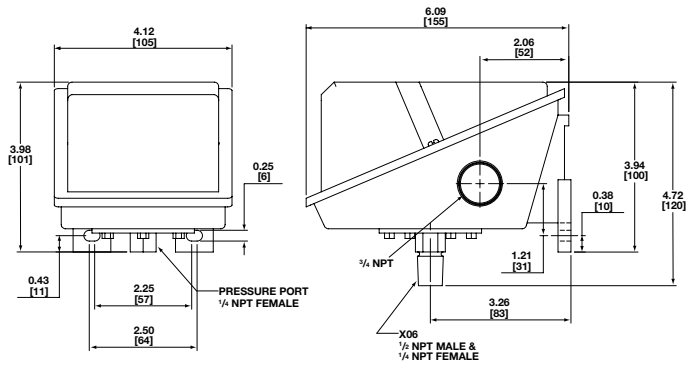
# Data Sheet

## G & L-Series Pressure Switches

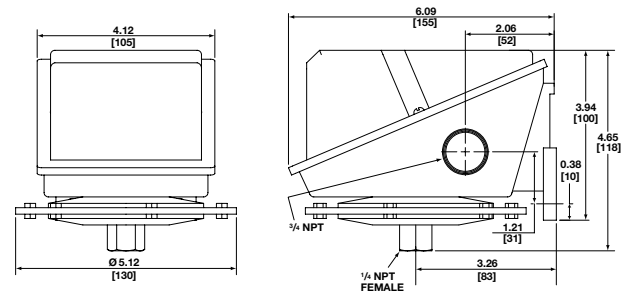
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For reference only, consult Ashcroft for specific dimensional drawings

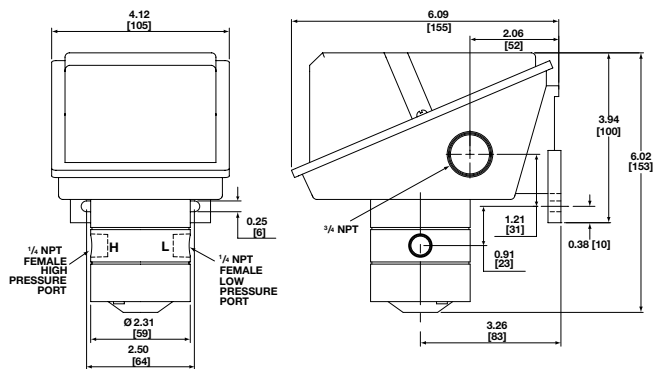
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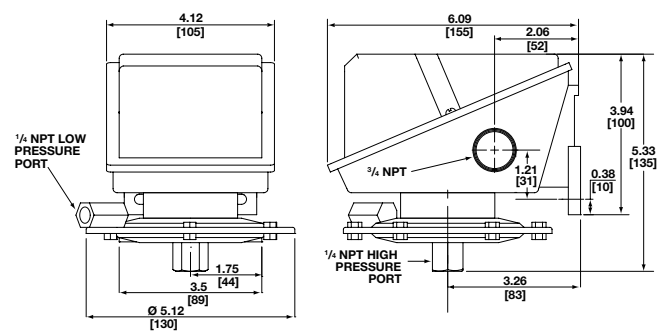
#### PRESSURE SWITCH – INCHES OF WATER RANGES



#### DIFFERENTIAL PRESSURE SWITCH – PSI DIFFERENTIAL RANGES



#### DIFFERENTIAL PRESSURE SWITCH – INCHES OF WATER RANGES



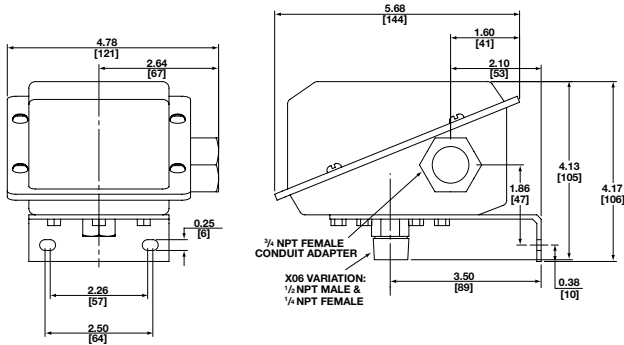
**Data Sheet**

**G & L-Series Pressure Switches**

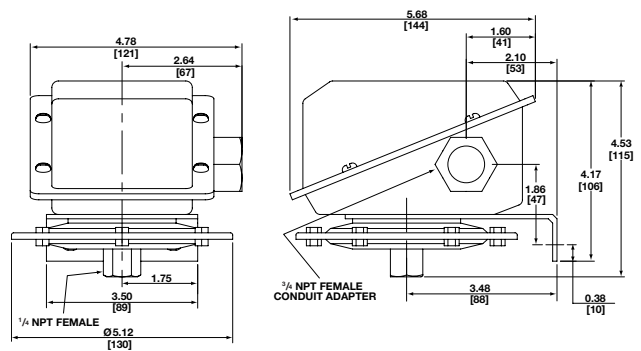
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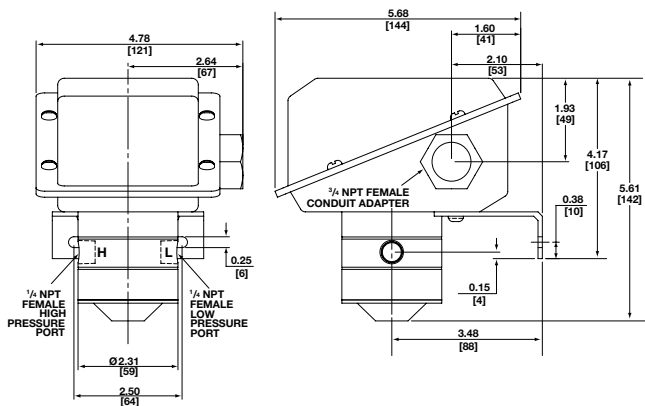
**PRESSURE SWITCH – PSI RANGES**



**PRESSURE SWITCH – INCHES OF WATER RANGES**



**DIFFERENTIAL PRESSURE SWITCH – PSI DIFFERENTIAL RANGES**



**DIFFERENTIAL PRESSURE SWITCH – INCHES OF WATER RANGES**

