Additel 681
Digital Pressure Gauges

New Ranges to 60,000 psi (4,200 bar)

- **Pressure ranges to 60,000 psi (4,200 bar)**
- **0.02%, 0.05%, 0.1%, 0.2% FS or 0.1%RD accuracy**
- **% pressure indication with fan-shaped graph scale for visual reference**
- **Fully temperature compensated accuracy**
- **Panel mount gauges are available**
- **Intrinsically safe version (681IS)**
- **Data logging option**
- **IP67 rated (681IS)**



Gauge pressure **Differential pressure**

OVERVIEW

With advanced microprocessor technology and state-of-the-art silicon pressure sensors, the 681 series digital pressure gauges provide an accurate, reliable, and economic solution for a wide range of pressure applications. They are loaded with functionality and remarkably easy to use. To reach the best performance, every silicon pressure sensor in our gauges is specially aged, tested and screened before assembly. At Additel, fully temperature compensated accuracy means every sensor is pressure tested at several environmental temperatures from -10°C to 50°C. With this test data individual coefficients are generated and stored in the gauge characterizing its performance over the full temperature compensated range. And now the ADT681IS comes with an IP67 rating meaning it is dust resistant and water proof, submersible in 1 meter of water.

Designed to fit your need

Additel pressure gauges give you the widest variety of sensor choices on the market. Whether you require low inches of water measurement or very high pressure measurement, we have a gauge that will meet your need. We offer sensors which are ±1 inH_2O (±2.5 mbar) to 60K psi (4,200 bar) and everything in between.

Do your applications require you to measure both positive and vacuum pressure? Our compound gauges do not compromise accuracy and provides you with the same high accuracy specification on both positive and vacuum pressures. We offer a wide variety up to 300 psi (20 bar). If you need a higher range, just contact us and we can likely customize one to meet your need. We also offer absolute pressure sensors to 5K psi (350 bar) and a full range of differential pressure sensors from ±1 inH_2O (±2.5 mbar) to ±300 inH_2O (±700 mbar). Are you looking for a pressure gauge to use in hazardous areas? Our certified (ATEX, CSA US & IECEx) intrinsically safe models (681IS) are designed for pressure measurement in hazardous areas.

If you need to panel mount our sensors, we offer the option (see ordering information) for a back-mounted pressure port and gauge housing designed to fit in a panel. And most recently, we've added the option to do stand-alone data logging with the 681. Now you can record more than 21,000 records internal to the 681 series. Each record includes date, time, pressure and temperature readings. Download the logged data with our free Additel/Land software or you can purchase our Additel/Log II for real-time logging and data analysis. The 681 series digital pressure gauges are unmatched in performance and reliability. Best of all, they are very affordable.

FEATURES

- Pressure ranges to 60,000 psi (4,200 bar)
- 0.02% full span accuracy (681-02)
  0.05% full span accuracy (681-05)
  0.1% full span accuracy (681-10)
  0.2% full span accuracy (681-20)
  0.1% reading span accuracy (681-RD)
- IP67 rated: Submersible in 1 meter of water(681IS)
- Fully temperature compensated accuracy from 14°F to 122°F (-10°C to 50°C)
- Up to eleven selectable pressure units
- Large, easy to read display with 5-digit resolution
- Backlit display
- % pressure indication with fan-shaped graph scale for visual reference
- Display flash warning when pressure over 120% of FS
- Bottom mount or panel mount
- ATEX certified intrinsically safe (Model 681IS)
- ISO 17025 accredited calibration with data(included)
- 9V battery power or AC adapter (optional)
- Data logging to 21,843 records (includes date, time, pressure and temperature)

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SPECIFICATIONS

Model	ADT681	ADT681IS
Description	Digital Pressure Gauge	Intrinsically Safe Digital Pressure Gauge
Intrinsic Safety & European Compliance	CE marked	CE marked ATEX certified intrinsically safe II 1G EX ia IIC T4 Ga TUR 16.0023X
Accuracy (For detailed accuracy, please see pressure range table)	681(IS)-02 : 0.02% of full span	
	681(IS)-05 : 0.05% of full span	
	681(IS)-10 : 0.1% of full span	
	681(IS)-20 : 0.2% of full span	
	681(IS)-RD: 0% to 20% of Range: 0.02% of full span 20% to 110% of Range: 0.1% of reading Vacuum: 0.25% of full span[1][2]	
Gauge Types	Gauge pressure, compound pressure, absolute pressure, differential pressure and barometric pressure	
Fan-shaped Graph Scale	Similar to analog dials, including pressure swing, % indication with fan-shaped graph scale for visual reference, low/high alarm.	
Display	Description: 5 full digit FSTN LCD	
	Display rate: 3 readings per second (Default setting). Adjustable from 10 readings per second to 1 reading every ten seconds	
	Numeral display height: 16.5mm (0.65")	
Pressure Units	Pa, kPa, MPa, psi, bar, mbar, kgf/cm^2, inH_2O@4°C mmH_2O@4°C, inHg@0°C, mmHg@0°C	
Environmental	Compensated Temperature: 14°F to 122°F (-10°C to 50°C)	
	Operating Temperature: 14°F to 122°F (-10°C to 50°C)	
	Storage Temperature: -4°F to 158°F (-20°C to 70°C)	
	Humidity: <95%	
Pressure Port	≤15,000 psi: 1/4NPT male, 1/2NPT male, 1/4BSP male, 1/2BSP male, M20×1.5 male	
	>15,000 psi: 1/4HP female or 1/4HP male *1/4HP female: Autoclave F-250-C, 9/16" - 18 UNF-2B *1/4HP male: Autoclave M-250-C, 9/16" - 18 UNF-2A	
	Differential Pressure: 0.236 inch (Ø6 mm) test hose	
	Other connections available per request	
Power	Battery: One 9V alkaline battery (included)	
	Battery life: 1. High power mode: 320 hours 2. Low power mode: 300 hours (10 readings/s), 600 hours (3 reading/s), or 4000 hours (1 reading/10s)	
	Power auto-off: 120, 90, 60, 45, 30, 15, 10, 5 and 1 minute auto-off options.	
	External power: 110/220V external power adapter (optional)	
Enclosure	Case material: Aluminum alloy	
	Wetted parts: 316L SS	
	Dimension: Ø110mm X 35mm depth X 176mm height (panel mount gauge: Ø140mm X 86mm depth)	
	Weight: 0.6kg	
Compliance	Protection Level: IP67(available for 681IS GP15-60K)	
	Vibration: 5g (20-2000 Hz)	
	Shock Resistance: 100g/11ms	
Data Logging (Available on with data logging option ADT681-...-DL)	Data storage: 21,843 records (each record includes date, time, pressure and temperature)	
	Rate: user-selectable from 1 to 99,999 second intervals	
Communication	RS232 *(Do not use the RS-232 connector in a hazardous atmosphere)	
Warranty	1 year	

[1] FS = -14.5 psi
[2] Applicable ADT681-RD-CPX

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PRESSURE RANGE

Gauge Pressure [1]						
P/N	Pressure Range		Media[2]	Accuracy		Burst Pressure
	(psi)	(bar)		%FS	%RD	
V15	-15	-1.0	G	0.02 (0.05, 0.1, 0.2)	N/A	3×
GP2	2	0.16	G	0.05 (0.1, 0.2)	N/A	3×
GP5	5	0.35	G, L	0.05 (0.1, 0.2)	0.1	3×
GP10	10	0.7	G, L[3]	0.02 (0.05, 0.1, 0.2)	0.1	3×
GP15	15	1.0	G, L[3]	0.02 (0.05, 0.1, 0.2)	0.1	3×
GP30	30	2.0	G, L[3]	0.02 (0.05, 0.1, 0.2)	0.1	3×
GP50	50	3.5	G, L	0.02 (0.05, 0.1, 0.2)	0.1	3×
GP100	100	7.0	G, L	0.02 (0.05, 0.1, 0.2)	0.1	3×
GP150	150	10	G, L	0.02 (0.05, 0.1, 0.2)	0.1	3×
GP300	300	20	G, L	0.02 (0.05, 0.1, 0.2)	0.1	3×
GP500	500	35	G, L	0.02 (0.05, 0.1, 0.2)	0.1	3×
GP600	600	40	G, L	0.02 (0.05, 0.1, 0.2)	0.1	3×
GP1K	1,000	70	G, L	0.02 (0.05, 0.1, 0.2)	0.1	3×
GP2K	2,000	140	G, L	0.02 (0.05, 0.1, 0.2)	0.1	3×
GP3K	3,000	200	G, L	0.02 (0.05, 0.1, 0.2)	0.1	3×
GP5K	5,000	350	G, L	0.02 (0.05, 0.1, 0.2)	0.1	3×
GP10K	10,000	700	G, L	0.02 (0.05, 0.1, 0.2)	0.1	3×
GP15K	15,000	1,000	G, L	0.05 (0.1,0.2)	0.1	2×
GP20K	20,000	1,400	G, L	0.05 (0.1,0.2)	N/A	1.5×
GP25K	25,000	1,600	G, L	0.1 (0.2)	N/A	1.5×
GP30K	30,000	2,000	G, L	0.1 (0.2)	N/A	1.5×
GP36K	36,000	2,500	G, L	0.1 (0.2)	N/A	1.5×
GP40K	40,000	2,800	G, L	0.1 (0.2)	N/A	1.35×
GP50K	50,000	3,500	G, L	0.1 (0.2)	N/A	1.2×
GP60K	60,000	4,200	G, L	0.1 (0.2)	N/A	1.1×

[1] Sealed gauge pressure for above 1,000 psi
[2] G=Gas, L=Liquid
[3] 0.02% FS for gas media only

Barometric Pressure					
P/N	Pressure Range		Media	Accuracy	Burst Pressure
	Low	High			
BP	60 kPa	110 kPa	G	40 Pa	3×





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Absolute Pressure					
P/N	Pressure Range (psi)	Pressure Range (bar)	Media [1]	Accuracy(%FS)	Burst Pressure
AP5	5	0.35	G	0.1 (0.2)	3×
AP10	10	0.7	G	0.1 (0.2)	3×
AP15	15	1.0	G	0.1 (0.2)	3×
AP30	30	2.0	G	0.1 (0.2)	3×
AP50	50	3.5	G	0.1 (0.2)	3×
AP100	100	7.0	G, L	0.05 (0.1, 0.2)	3×
AP300	300	20	G, L	0.05 (0.1, 0.2)	3×
AP500	500	35	G, L	0.05 (0.1, 0.2)	3×
AP1K	1,000	70	G, L	0.05 (0.1, 0.2)	3×
AP3K	3,000	200	G, L	0.05 (0.1, 0.2)	3×
AP5K	5,000	350	G, L	0.05 (0.1, 0.2)	3×

[1] G=Gas, L=Liquid

Differential Pressure						
P/N	Pressure Range (inH_2O)	Pressure Range (mbar)	Media	Accuracy (%FS)[1]	Burst Pressure	Static Pressure Range
DP1	±1	±2.5	G	0.05[2]	100×	±10 psi
DP2	±2	±5.0	G	0.05[2]	100×	±10 psi
DP5	±5	±10	G	0.05[2]	50×	±10 psi
DP10	±10	±25	G	0.05[2]	20×	±10 psi
DP20	±20	±50	G	0.05	20×	±10 psi
DP30	±30	±75	G	0.05	20×	±10 psi
DP50	±50	±160	G	0.05	3×	±10 psi
DP100	±100	±250	G	0.02	3×	±15 psi
DP150	±150	±350	G	0.02 (0.05)	3×	50 psi
DP300	±300	±700	G	0.02 (0.05)	3×	50 psi

[1] FS specification applies to the span of the range. Accuracy includes one year stability.

[2] 0.05%FS accuracy (incl 6 months stability). One year accuracy is 0.05%FS calibration accuracy combined with 0.05%FS one year stability.

Compound Pressure						
P/N	Pressure Range (psi)	Pressure Range (bar)	Media [1]	Accuracy %FS[2]	Accuracy %RD	Burst Pressure
CP2	±2	±0.16	G	0.05 (0.1,0.2)	N/A	3×
CP5	±5	±0.35	G	0.02 (0.05,0.1,0.2)	0.1	3×
CP10	±10	±0.7	G	0.02 (0.05,0.1,0.2)	0.1	3×
CP15	±15	±1	G	0.02 (0.05,0.1,0.2)	0.1	3×
CP30	-15 to 30	-1 to 2	G	0.02 (0.05,0.1,0.2)	0.1	3×
CP100	-15 to 100	-1 to 7	G, L	0.02 (0.05,0.1,0.2)	0.1	3×
CP300	-15 to 300	-1 to 20	G, L	0.02 (0.05,0.1,0.2)	0.1	3×

[1] G=Gas, L=Liquid

[2] FS specification applies to the span of the range.

ORDERING INFORMATION

Model Number

ADT681 – 02 – GP300 – PSI – N • • PB • • DL

Model:
ADT681
ADT681IS

Accuracy:
02-0.02% of full span
05-0.05% of full span
10-0.1% of full span
20-0.2% of full span
RD-0.1% of reading

Pressure range P/N:
See pressure range table

Range type:
PSI-range by psi
BAR-range by bar
H_2O-range by inH_2O

Pressure port type:
N- 1/4NPT male
N2- 1/2NPT male
B-1/4BSP male
B2-1/2BSP male
M-M20X1.5 male
AF-Autoclave F-250-C female
AM-Autoclave M-250-C male

PB: Panel mount with back pressure port

DL: Data logging

Accessories Included

Rubber boot (Except panel mount)
9V alkaline battery (1 pc)
Manual
ISO17025 accredited calibration certificate

Optional Accessories

Model number	Description
9812	110V/220V external power adapter (DC 9V) for 681 digital pressure gauge.
9502	Additel/Log II real time data logging and graphical software for 681 and 672.
9530-BASIC	Additel/Acal Automated calibration software with asset management, basic version
9530-NET	Additel/Acal Automated calibration software with asset management, network version, Includes server installation and 1 user license
9050	USB to RS232 (DB9/M) Adapter
9050-EXT	RS 232 (DB9/M) extension cable, 9 feet
9900-681	Carrying Case for one 681 digital pressure gauge
9902	Carrying case for 4 gauges
9251	Rubber boot for ADT681
9200-681	Certified O_2 Cleaning for ADT681 gauges (some limitations apply)

Note: For oil-free applications contact Additel.

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