

ADT-681

Digital Pressure Gauges



Now with Data Logging!

- Pressure ranges to 40,000 psi (2,800 bar)
- 0.025%, 0.05%, 0.1% or 0.2% FS accuracy
- % pressure indication with fan-shaped graph scale for visual reference
- Fully temperature compensated accuracy
- Panel mount gauges are available
- Intrinsically safe version (ADT-681IS)
- Data logging option



Gauge pressure

Differential pressure

OVERVIEW

With advanced microprocessor technology and state-of-the-art silicon pressure sensors, the ADT-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.

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 inH₂O (± 2.5 mbar) to 40K psi (2,800 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 inH₂O (± 2.5 mbar) to ± 300 inH₂O (± 700 mbar). Are you looking for a pressure gauge to use in hazardous areas? Our ATEX-certified intrinsically safe models (ADT-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 ADT-681. Now you can record more than 21,000 records internal to the ADT-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 ADT-681 series digital pressure gauges are unmatched in performance and reliability. Best of all, they are very affordable.

FEATURES

- Pressure ranges to 40,000 psi (2,800 bar)
- 0.025% full scale accuracy (ADT-681-02)
- 0.05% full scale accuracy (ADT-681-05)
- 0.1% full scale accuracy (ADT-681-10)
- 0.2% full scale accuracy (ADT-681-20)
- 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 ADT-681IS)
- NIST traceable calibration with data(included)
- 9V battery power or AC adapter (optional)
- Data logging to 21,843 records (includes date, time, pressure and temperature)

SPECIFICATIONS

Model

ADT-681: Regular gauge
ADT-681IS: ATEX certified intrinsically safe

Accuracy

ADT-681(IS)-02: 0.025% of full scale
ADT-681(IS)-05: 0.05% of full scale
ADT-681(IS)-10: 0.1% of full scale
ADT-681(IS)-20: 0.2% of full scale
(For detailed accuracy, please see pressure range table)

Gauge Types

Gauge pressure
Compound pressure
Absolute pressure
Differential 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/cm², inH₂O@4°C
mmH₂O@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

1/4NPT male, 1/4BSP male, M20×1.5 male (≤15,000 PSI)
1/4HP female or 1/4HP male(≥15,000 PSI)
*1/4HP female: Autoclave F-250-C, 9/16" - 18 UNF-2B
*1/4HP male: Autoclave M-250-C, 9/16" - 18 UNF-2A
0.236 inch (Ø6 mm) test hose (for differential pressure)
Other connections available per request

Power

Battery: One 9V alkaline battery (included)
Battery life: 300 hours (10 readings/s), 600 hours (3 reading/s), or 6000 hours (1 reading/10s)
Power auto-off: 60 minutes power auto-off. Auto-off may be disable
External power: 110/220V external power adapter (optional)

*(Do not use the external power adapter in a hazardous atmosphere)

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

Data Logging

Data storage: 21,843 records (each record includes date, time, pressure and temperature)
Rate: user-selectable from 1 to 99,999 second intervals

Intrinsic Safety and European Compliance

CE marked
ATEX certified intrinsically safe (ADT-681IS)
*(Rubber boot for ADT-681 is not ATEX certified)

Communication: RS232

*(Do not use the RS-232 connector in a hazardous atmosphere)

Warranty: 1 year

Pressure Ranges

| Gauge Pressure ^[1] | | | | | |
|-------------------------------|----------------|-------|----------------------|------------------------|----------------|
| P/N | Pressure Range | | Media ^[2] | Accuracy(%FS) | Burst Pressure |
| | (psi) | (bar) | | | |
| V15 | -15 | -1.0 | G | 0.025 (0.05, 0.1, 0.2) | 3× |
| GP2 | 2 | 0.16 | G | 0.05 (0.1, 0.2) | 3× |
| GP5 | 5 | 0.35 | G | 0.025 (0.05, 0.1, 0.2) | 3× |
| GP10 | 10 | 0.7 | G | 0.025 (0.05, 0.1, 0.2) | 3× |
| GP15 | 15 | 1.0 | G, L ^[3] | 0.025 (0.05, 0.1, 0.2) | 3× |
| GP30 | 30 | 2.0 | G, L ^[3] | 0.025 (0.05, 0.1, 0.2) | 3× |
| GP50 | 50 | 3.5 | G, L | 0.025 (0.05, 0.1, 0.2) | 3× |
| GP100 | 100 | 7.0 | G, L | 0.025 (0.05, 0.1, 0.2) | 3× |
| GP300 | 300 | 20 | G, L | 0.025 (0.05, 0.1, 0.2) | 3× |
| GP500 | 500 | 35 | G, L | 0.025 (0.05, 0.1, 0.2) | 3× |
| GP600 | 600 | 40 | G, L | 0.025 (0.05, 0.1, 0.2) | 3× |
| GP1K | 1,000 | 70 | G, L | 0.025 (0.05, 0.1, 0.2) | 3× |
| GP2K | 2,000 | 140 | G, L | 0.025 (0.05, 0.1, 0.2) | 3× |
| GP3K | 3,000 | 200 | G, L | 0.025 (0.05, 0.1, 0.2) | 3× |
| GP5K | 5,000 | 350 | G, L | 0.025 (0.05, 0.1, 0.2) | 3× |
| GP10K | 10,000 | 700 | G, L | 0.025 (0.05, 0.1, 0.2) | 3× |
| GP15K | 15,000 | 1,000 | G, L | 0.05 (0.1,0.2) | 2× |
| GP20K | 20,000 | 1,400 | G, L | 0.05 (0.1,0.2) | 1.5× |
| GP25K | 25,000 | 1,600 | G, L | 0.1 (0.2) | 1.5× |
| GP30K | 30,000 | 2,000 | G, L | 0.1 (0.2) | 1.5× |
| GP36K | 36,000 | 2,500 | G, L | 0.1 (0.2) | 1.5× |
| GP40K | 40,000 | 2,800 | G, L | 0.1 (0.2) | 1.1× |

Note: [1]. Sealed gauge pressure for above 1000 psi

[2]. G=Gas, L=Liquid

[3]. 0.025% FS for gas media only

ADT-681 Digital Pressure Gauges



| Absolute Pressure | | | | | |
|-------------------|----------------|-------|-------|-----------------|----------------|
| P/N | Pressure Range | | Media | Accuracy(%FS) | Burst Pressure |
| | (psi) | (bar) | | | |
| 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× |

| Differential Pressure | | | | | | |
|-----------------------|----------------------|--------|-------|----------------|----------------|-----------------------|
| P/N | Pressure Range | | Media | Accuracy (%FS) | Burst Pressure | Static Pressure Range |
| | (inH ₂ O) | (mbar) | | | | |
| DP1 | ±1 | ±2.5 | G | 0.05 | 100× | ±10 psi |
| DP2 | ±2 | ±5.0 | G | 0.05 | 100× | ±10 psi |
| DP5 | ±5 | ±10 | G | 0.05 | 50× | ±10 psi |
| DP10 | ±10 | ±25 | G | 0.05 | 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 |
| DP150 | ±150 | ±350 | G | 0.025 (0.05) | 3× | 50 psi |
| DP300 | ±300 | ±700 | G | 0.025 (0.05) | 3× | 50 psi |

* One year accuracy (including yearly stability) except DP1 and DP2 range which is 0.05%FS calibration accuracy and 0.05%FS yearly stability.

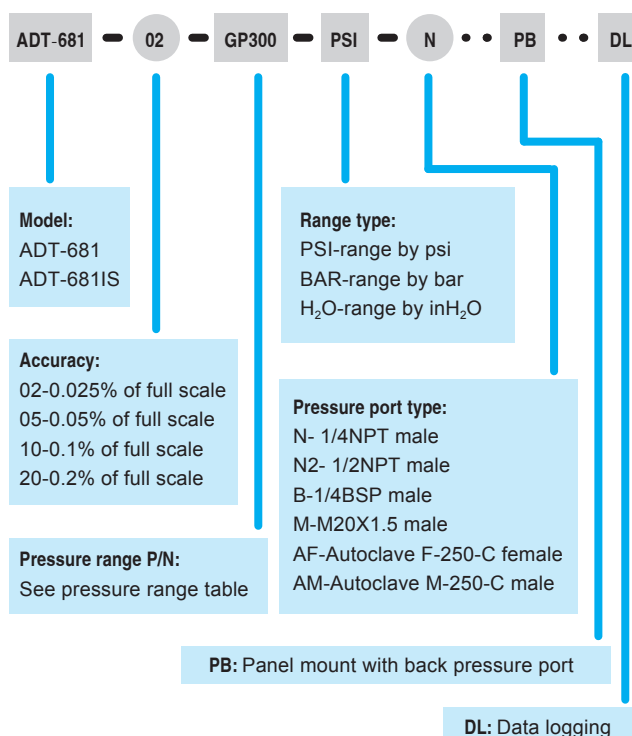
| Compound Pressure | | | | | |
|-------------------|----------------|----------|-------|----------------------|----------------|
| P/N | Pressure Range | | Media | Accuracy(%FS) | Burst Pressure |
| | (psi) | (bar) | | | |
| CP2 | ±2 | ±0.16 | G | 0.05 (0.1,0.2) | 3× |
| CP5 | ±5 | ±0.35 | G | 0.025 (0.05,0.1,0.2) | 3× |
| CP10 | ±10 | ±0.7 | G | 0.025 (0.05,0.1,0.2) | 3× |
| CP15 | ±15 | ±1 | G | 0.025 (0.05,0.1,0.2) | 3× |
| CP30 | -15 to 30 | -1 to 2 | G | 0.025 (0.05,0.1,0.2) | 3× |
| CP100 | -15 to 100 | -1 to 7 | G, L | 0.025 (0.05,0.1,0.2) | 3× |
| CP300 | -15 to 300 | -1 to 20 | G, L | 0.025 (0.05,0.1,0.2) | 3× |

Note: G=Gas, L=Liquid

ORDERING INFORMATION



Model Number



Accessories included

- Rubber boot (Except panel mount and ADT-681IS gauges)
- 9V alkaline battery (1 pc)
- Manual
- NIST traceable calibration certificate

Optional Accessories

| Model number | Description |
|--------------|-----------------------------------------------------------------------------------|
| 9812 | 110V/220V external power adapter (DC 9V) for ADT-681 digital pressure gauge. |
| 9502 | Additel/Log II real time data logging and graphical software for ADT-681 and 672. |
| 9506 | Additel/PCal pressure calibration software |
| 9050 | USB to RS232 (DB9/M) Adapter |
| 9900-681 | Carrying Case for one ADT-681 digital pressure gauge |