Additel 686
Advanced Digital Pressure Gauges

Metrology Made Simple

- **Pressure ranges up to 60,000 psi (4,200 bar)**
- **0.02%, 0.05% FS or 0.1% RD Accuracy**
- **Color Touchscreen Display**
- Every model measures Gauge or Absolute Pressure
- Built-in Barometer
- Intuitive Smartphone Like Interface
- Wi-Fi (optional)
- Bluetooth and USB communication
- Data logging (optional)
- Communicates with Additel's Link Mobile App
- IP67 Rated



Additel 686

OVERVIEW

Additel's 686 Advanced Digital Pressure Gauges will redefine the way you want to measure pressure! With wireless remote connectivity, microprocessor technology, state of-the-art silicon pressure sensors and optional onboard storage capacity, these attractive and fully temperature compensated gauges will provide the performance, durability and reliability you've come to expect from genuine Additel products. The all new modern menu structure and control interface bring a new and refreshing experience to pressure calibration work. This completely new way of interfacing with our gauges makes the ADT686 a real pleasure to use. The handy Additel Link app gives users the ability to remotely monitor these gauges from the convenience of a personal device or cell phone. With an abundance of options to choose from, you can configure these pressure gauges to precisely fit your specific pressure calibration and measurement needs. With an IP67 rating, you will find that these amazing pressure gauges can be used in the field or laboratory to meet the most demanding pressure calibration needs.

A Modern User Experience:
Additel has gone above and beyond to provide our customers with the best possible experience when using these new and revolutionary gauges. The 3.4 inch color touchscreen display comes with a protective replaceable tempered glass screen and is a refreshing update to the traditional push button or blister pad interface. With an easy to navigate menu structure and fast touchscreen response, you will find these ADT686 gauges simple yet powerful to use. The easy to read display isn't just fun to use, but it's built rugged to handle the demands of a busy technician in the field or the laboratory.

Every model measures Gauge or Absolute Pressure:
The Additel 686 Digital Pressure Gauges contain a built-in barometer sensor which allows for the pressure reading to display in gauge pressure or absolute pressure with a simple menu selection. The built-in barometer is calibrated and certified to an accuracy of 55 Pa. With this unique feature, the ADT686 can be a solution for three common applications: gauge pressure measurement, absolute pressure measurement, and barometric or atmosphere pressure measurement. Having an Additel as your gauge will always give you the ability to do more with one instrument!





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SPECIFICATIONS

Model	ADT686
Accuracy (For detailed accuracy, please see pressure range table)	686-02: 0.02% of full span
	686-05: 0.05% of full span
	686-RD: 0% to 20% of range: 0.02% of full span 20% to 110% of range: 0.1% of reading
	Built-in barometer: 55 Pa
Gauge Types	Gauge pressure, compound pressure, absolute pressure, differential pressure and barometric pressure
Display	Color Touchscreen (capacitive)
	Screen protector: tempered glass film (replaceable)
	Display rate: 3 readings per second (default setting). Adjustable from 10 readings per second to 1 reading every 20 seconds
	Resolution: 4, 5 or 6 digits (user selectable)
Pressure Units[2]	Pa, kPa, MPa, psi, bar, mbar, kgf/cm2, inH2O@4°C, mmH2O@4°C, inHg@0°C, mmHg@0°C and 5 customizable units
Environmental	Compensated Temp.: 14°F to 122°F (-10°C to 50°C)
	Operating Temp.: 14°F to 122°F (-10°C to 50°C)
	Storage Temp.: -4°F to 158°F (-30°C to 70°C)
	Humidity: 0 - 95%, Non-condensing
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: barb fitting
	Other connections available per request
Power	Battery: rechargeable Li-ion battery
	Li-Battery life: 16 hours typically
	Recharge time: 4 hours typically
	External power: 110 V / 220 V power adapter (5 VDC)
Enclosure	Case material: 304 SS
	Wetted parts: 316 SS[1]
	Size: 4.65" × 1.77" 7.01"(118 × 42 × 178 mm)
	Weight: 1.58 lb (0.715 kg)
Compliance	Protection Level: IP67
	Vibration: 5 g (10-500 Hz)
	Shock Resistance: 8 g/11 ms
	CE, UKCA
Data Logging (Available on data logging option ADT686-...-DL)	Data storage: 8 GB (100 M+ records)
	Rate: user-selectable from 0.1 to 9999.9 second intervals
Communication	USB Type-C and Bluetooth included, RS232 or WiFi (optional)
Warranty	1 year

[1]Wetted parts material types may vary by pressure range
Please refer to the manual or contact Additel for more information
[2]Available units are dependent on the overall pressure range

PRESSURE RANGE

Gauge Pressure [1]						
P/N	Pressure Range		Media[2]	Accuracy		Burst Pressure
	(psi)	(bar)		%FS	%RD	
V15	-14.5	-1.0	G, L[3]	0.02, 0.05	N/A	3×
GP2	2	0.16	G	0.02, 0.05	N/A	3×
GP5	5	0.35	G, L[3]	0.02, 0.05	0.1	3×
GP10	10	0.7	G, L[3]	0.02, 0.05	0.1	3×
GP15	15	1.0	G, L[3]	0.02, 0.05	0.1	3×
GP30	30	2.0	G, L	0.02, 0.05	0.1	3×
GP50	50	3.5	G, L	0.02, 0.05	0.1	3×
GP100	100	7.0	G, L	0.02, 0.05	0.1	3×
GP150	150	10	G, L	0.02, 0.05	0.1	3×
GP300	300	20	G, L	0.02, 0.05	0.1	3×
GP500	500	35	G, L	0.02, 0.05	0.1	3×
GP600	600	40	G, L	0.02, 0.05	0.1	3×
GP1K	1,000	70	G, L	0.02, 0.05	0.1	3×
GP1.5K	1,500	100	G, L	0.02, 0.05	0.1	3×
GP2K	2,000	140	G, L	0.02, 0.05	0.1	3×
GP3K	3,000	200	G, L	0.02, 0.05	0.1	3×
GP5K	5,000	350	G, L	0.02, 0.05	0.1	3×
GP10K	10,000	700	G, L	0.02, 0.05	0.1	1.5×
GP15K	15,000	1,000	G, L	0.05 (0.1)	0.1	1.5×
GP20K	20,000	1,400	G, L	0.05 (0.1)	N/A	1.5×
GP25K	25,000	1,600	G, L	0.05 (0.1)	N/A	1.5×
GP30K	30,000	2,000	G, L	0.05 (0.1)	N/A	1.5×
GP36K	36,000	2,500	G, L	0.05 (0.1)	N/A	1.5×
GP40K	40,000	2,800	G, L	0.05 (0.1)	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

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PRESSURE RANGE

Compound Pressure

P/N	Pressure Range (psi)	Pressure Range (bar)	Media	Accuracy %FS	Accuracy %RD	Burst Pressure
CP2	±2	±0.16	G	0.02 (0.05)	N/A	3×
CP5	±5	±0.35	G, L[1]	0.02 (0.05)	0.1	3×
CP10	±10	±0.7	G, L[1]	0.02 (0.05)	0.1	3×
CP15	-14.5 to 15	±1	G, L[1]	0.02 (0.05)	0.1	3×
CP30	-14.5 to 30	-1 to 2	G, L	0.02 (0.05)	0.1	3×
CP100	-14.5 to 100	-1 to 7	G, L	0.02 (0.05)	0.1	3×
CP150	-14.5 to 150	-1 to 10	G, L	0.02 (0.05)	0.1	3×
CP300	-14.5 to 300	-1 to 20	G, L	0.02 (0.05)	0.1	3×
CP500	-14.5 to 500	-1 to 35	G, L	0.02 (0.05)	N/A	3×
CP600	-14.5 to 600	-1 to 40	G, L	0.02 (0.05)	N/A	3×
CP1K	-14.5 to 1000	-1 to 70	G, L	0.02 (0.05)	N/A	3×

[1] 0.02% FS for gas media only

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	±125	G	0.05	3×	±10 psi
DP100	±100	±250	G	0.02	3×	±15 psi
DP150	±150	±350	G	0.02	3×	50 psi
DP300	±300	±700	G	0.02	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.

Barometric Pressure

P/N	Pressure Range Low	Pressure Range High	Media	Accuracy	Burst Pressure
BP	60 kPa	110 kPa	G	55 Pa	3×
BPH	60 kPa	110 kPa	G	22 Pa	3×

Communication Types Supported

Comm \ Model	ADT685	ADT685Ex	ADT686	ADT673
RS232	○	○	○	○
RS485	○			
WiFi			○	○
USB	●	●	●	●
Bluetooth(BLE)	●	●	●	●

● Included ○ Optional

Additel Software Compatibility Matrix

Comm \ Model	ADT685/ADT685Ex ACal	LogII	Land	Link	ADT686/ADT673 ACal	LogII	Land	Link
RS232	●	●	●		●	●	●	
RS485 only for ADT685	◐[2]	◐[2]	◐[2]					
WiFi					●	●	●	●[1]
USB	●	●	●		●	●	●	
Bluetooth(BLE)				●				●

● Supported ◐ Non Ex models only

[1] This configuration requires that the device be connected to ACloud via Wi-Fi to utilize the Additel Link app.
[2] 4-20mA output and RS-485 not avaiable in ADT685Ex models.

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ORDERING INFORMATION

Model Number

ADT686 – 02 – GP300 – PSI – N • • DL • • WIFI

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-M20 X 1.5 male
AF-Autoclave F-250-C female
AM-Autoclave M-250-C male

DL: Data logging

Comm port (optional):
WIFI = Wi-Fi
232 = RS-232

Accessories Included

Rubber boot
Rechargeable Lion battery (1 pc)
USB cable (type-C) (1 pc)
Power adapter
Silicone tube - 1 meter each (2 pcs for DP models only)
ISO 17025 Accredited Calibration Certificate

Optional Accessories

Model number	Description
9903	Carrying case for (1) digital pressure gauge
9040	Hanging strap with magnet
9502	Additel/Log II real time data logging and graphical software
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-EXT	RS 232 (DB9/M) extension cable, 9 feet
9260	Screen protector kit
9257	Field rain cover

Note: For oil-free applications contact Additel.

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