Additel 685
Digital Pressure Gauges

Metrology Made Simple

- **Pressure ranges up to 60,000 psi (4,200 bar)**
- **0.01%, 0.02%, 0.05%FS or 0.1%RD accuracy**
- **Fully temperature compensated accuracy**
- Every model measures Gauge or Absolute Pressure
- Built-in Barometer
- Touchscreen display
- Intrinsically safe version 685Ex (optional)
- Bluetooth and USB communications
- Data logging (optional)
- IP67 rated
- Communicates with Additel's Link Mobile App
- ISO 17025-accredited calibration w/data included



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OVERVIEW

Looking for the most advanced, best performing and modern digital pressure gauge on the market? Congratulations, you've just found it! Additel's ADT685 digital pressure gauges are in a class of their own with an amazingly easy to use and read touchscreen display. The all new modern menu structure and control interface bring a new and refreshing experience to gauge work. This completely new way of interfacing with our gauges makes the ADT685 gauges a real pleasure to use. With microprocessor technology, state-of-the-art silicon pressure sensors and plenty of 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. To provide support for intrinsically safe needs, the ADT685Ex comes ready to provide pressure measurements and recordings in the most demanding of environments. Each Additel 685 is also IP67 rated to protect your investment in dusty and/or wet environments.

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 gauge. The 3.4 inch 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 ADT685 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 685 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 ADT685 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!

Datalogging Option:

We've added the option to do stand-alone data logging with the ADT685. Now you can record more than 10M records internal to the 685 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. Additel's 685 digital pressure gauges are unmatched in performance and reliability. You get nothing but the best when you buy Additel Products!

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Rev # 20260514

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SPECIFICATIONS

Model	ADT685	ADT685Ex
Intrinsic Safety & European Compliance	CE, UKCA	CE marked, CSA marked ATEX certified intrinsically safe II 1G EX ia IIC T4 Ga
Accuracy (For detailed accuracy, please see pressure range table)	685(Ex)-01: 0.01% of full span; 02: 0.02% of full span; 05: 0.05% of full span	
	685(Ex)-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	Touch screen (3.4" FSTN segment capacitive) - 5 1/2 full digits	
	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	
Pressure Units[3]	Pa, kPa, MPa, psi, bar, mbar, kgf/cm2, inH2O@4°C, mmH2O@4°C, inHg@4°C, mmHg@4°C and 3 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: three AA alkaline batteries (included)	
	Battery life: 1500 hours typical	
	Power auto-off: user selectable	
	External power: 110/220 V adapter (5 VDC) (optional, excl ADT685Ex)	
Enclosure	Case material: 304 SS	
	Wetted parts: 316 SS[1]	
	size: 4.65" × 1.77" × 7.01" (118mm × 42mm × 178mm)	
	Weight: 1.50 (0.68 kg)	
Compliance	Protection Level: IP67	
	Vibration: 5 g (10-500 Hz)	
	Shock Resistance: 8 g/11 ms	
Data Logging (Available on data logging option ADT685-...-DL)	Data storage: 10,000,000 records	
	Rate: user-selectable from 0.1 to 9999.9 second intervals	
Communication	USB Type-C and Bluetooth included RS-232 or RS-485[2](optional)	
4 - 20 mA Output[2]	3.2 μA	
Warranty	1 year	







[1] Wetted parts material types may vary by pressure range. Please refer to manual or contact Additel for more information
[2] 4-20mA output and RS-485 not available in ADT685Ex models
[3] Available units are dependent on the overall pressure range

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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	0.01, 0.02, 0.05	N/A	3×
GP2	2	0.16	G, L[3]	0.01, 0.02, 0.05	N/A	3×
GP5	5	0.35	G, L	0.01, 0.02, 0.05	0.1	3×
GP10	10	0.7	G, L	0.01, 0.02, 0.05	0.1	3×
GP15	15	1.0	G, L	0.01, 0.02, 0.05	0.1	3×
GP30	30	2.0	G, L	0.01, 0.02, 0.05	0.1	3×
GP50	50	3.5	G, L	0.01, 0.02, 0.05	0.1	3×
GP100	100	7.0	G, L	0.01, 0.02, 0.05	0.1	3×
GP150	150	10	G, L	0.01, 0.02, 0.05	0.1	3×
GP300	300	20	G, L	0.01, 0.02, 0.05	0.1	3×
GP500	500	35	G, L	0.01, 0.02, 0.05	0.1	3×
GP600	600	40	G, L	0.01, 0.02, 0.05	0.1	3×
GP1K	1,000	70	G, L	0.01, 0.02, 0.05	0.1	3×
GP1.5K	1,500	100	G, L	0.01, 0.02, 0.05	0.1	3×
GP2K	2,000	140	G, L	0.01, 0.02, 0.05	0.1	3×
GP3K	3,000	200	G, L	0.01, 0.02, 0.05	0.1	3×
GP5K	5,000	350	G, L	0.01, 0.02, 0.05	0.1	3×
GP10K	10,000	700	G, L	0.01, 0.02, 0.05	0.1	1.5×
GP15K	15,000	1,000	G, L	0.01, 0.02, 0.05	0.1	1.5×
GP20K	20,000	1,400	G, L	0.05 (0.1)	N/A	1.3×
GP25K	25,000	1,600	G, L	0.05 (0.1)	N/A	1.2×
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] 0.01%FS for gas media only

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





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PRESSURE RANGE

Compound Pressure						
P/N	Pressure Range		Media[1]	Accuracy		Burst Pressure
	(psi)	(bar)		%FS[3]	%RD[4]	
CP2	±2	±0.16	G, L[2]	0.01, 0.02, 0.05	N/A	3×
CP5	±5	±0.35	G, L	0.01, 0.02, 0.05	0.1	3×
CP10	±10	±0.7	G, L	0.01, 0.02, 0.05	0.1	3×
CP15	-14.5 to 15	±1.0	G, L	0.01, 0.02, 0.05	0.1	3×
CP30	-14.5 to 30	-1 to 2.0	G, L	0.01, 0.02, 0.05	0.1	3×
CP50	-14.5 to 50	-1 to 3.5	G, L	0.01, 0.02, 0.05	0.1	3×
CP100	-14.5 to 100	-1 to 7.0	G, L	0.01, 0.02, 0.05	0.1	3×
CP150	-14.5 to 50	-1 to 10	G, L	0.01, 0.02, 0.05	0.1	3×
CP300	-14.5 to 300	-1 to 20	G, L	0.01, 0.02, 0.05	0.1	3×
CP500	-14.5 to 500	-1 to 35	G, L	0.01, 0.02, 0.05	N/A	3×
CP600	-14.5 to 600	-1 to 40	G, L	0.01, 0.02, 0.05	N/A	3×
CP1K	-14.5 to 1000	-1 to 70	G, L	0.01, 0.02, 0.05	N/A	3×

[1] G=Gas, L=Liquid
[2] 0.01%FS for gas media only
[3] FS = upper limit of range - lower limit of range
[4] %RD accuracy: 0% to 20% of range: ± (0.02% of full span)
20% to 110% of range: ± (0.1% of reading)
vacuum: ± (0.25% of FS), FS=-14.5psi

Differential Pressure						
P/N	Pressure Range		Media	Accuracy (%FS)[1]	Burst Pressure	Static Pressure Range
	(inH_2O)	(mbar)				
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.

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

● Included ○ Optional

Additel Software Compatibility Matrix								
Model	ADT685/ADT685Ex				ADT686/ADT673			
Comm	ACal	LogII	Land	Link	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.

ORDERING INFORMATION

Model Number

ADT685 – 01 – GP300 – PSI – N • • DL • • 232

Model:
ADT685
ADT685Ex

Accuracy:
01-0.01% of full span
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):
232 = RS - 232
485 = RS - 485 (excl ADT685Ex)
20MA = 4-20 mA (excl ADT685Ex)

Accessories Included

Rubber boot
AA alkaline battery (3 pcs)
USB cable (type-C) (1 pc)
RS-485 Adapter (for RS-485 models only)
4-20mA cable (for 20MA models only)
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 one digital pressure gauge
9040	Hanging strap with magnet
9810	110V/220V external power adapter (DC 5V)
9502	Additel/Log II real time data logging and graphical software for ADT 685 and ADT 685Ex
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
9260	Screen protector kit
9257	Field rain cover

Note: For oil-free applications contact Additel.

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