

MAXiCAL PPC681 & PPC681 ATEX

Calibratore di Pressione con pompa Integrata



MAXiCAL

Process Multifunction Calibrators

● Modello :

PPC681-40 Pneumatico fino 40 Bar
PPC681-60 Pneumatico fino 60 Bar
PPC681-700 Idraulico fino 700 Bar
PPC681-1000 Idraulico fino 1000 Bar
campi relativi o assoluti
Classe 0,02%

- Pompa e Calibratore sezionabili :
Manutenzione più semplice
manda solo il calibratore in taratura
- Interfaccia RS232 / USB
- Datalogging & Windows Software
- Ampio display 5 digit retroilluminato
- Batteria 9V
sostituibile in campo
- Certificato di calibrazione



La calibrazione può essere semplicemente descritta come un'attività dove lo strumento da provare viene comparato con uno di riferimento. Nel livello più semplice, calibrazione è la comparazione tra due misure, una di livello conosciuto ed una in maniera simile con un altro dispositivo. Il dispositivo con livello conosciuto viene chiamato standard. Il secondo dispositivo è l'unità in prova. La calibrazione è spesso richiesta su uno strumento nuovo o quando un intervallo di tempo è trascorso. Inoltre la calibrazione è di solito effettuata quando uno strumento è stato soggetto a un shock inaspettato che lo può aver portato fuori specifica. Per questo sono necessari dei calibratori semplici da utilizzare ed alla portata di tutti.

La serie PPC è un calibratore compatto e potente, che utilizza tecnologie di ultima generazione e con una facilità di utilizzo che permette di lavorare con efficienza e sicurezza.





Additel 681 Digital Pressure Gauges

- Pressure ranges to 40,000 psi (2,800 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)

Now IP67 Rated!



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 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 (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 40,000 psi (2,800 bar)
- 0.02% full scale accuracy (681-02)
- 0.05% full scale accuracy (681-05)
- 0.1% full scale accuracy (681-10)
- 0.2% full scale accuracy (681-20)
- 0.1% reading scale 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)
- 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

ADT681: Regular gauge
ADT681IS: ATEX certified intrinsically safe

Accuracy

681(IS)-02 : 0.02% of full scale
681(IS)-05 : 0.05% of full scale
681(IS)-10 : 0.1% of full scale
681(IS)-20 : 0.2% of full scale
681(IS)-RD: 0% to 20% of Range: 0.02% of full scale
20% to 110% of Range: 0.1% of reading
Vacuum: 0.25% of full scale^{[1][2]}

[1] FS = -14.5 psi

[2] Applicable ADT681-RD-CPX

(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, 1/2NPT male, 1/4BSP male, 1/2BSP
male, M20x1.5 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)

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 GP15-40K)
Vibration: 5g (20-2000 Hz)
Shock Resistance: 100g/11ms

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 (ADT681IS)
⚠ II 1G EX ia IIC T4 Ga

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

[1] Sealed gauge pressure for above 1,000 psi

[2] G=Gas, L=Liquid

[3] 0.02% FS for gas media only

Additel 681 Digital Pressure Gauges

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

[1] G=Gas, L=Liquid

Differential Pressure						
P/N	Pressure Range		Media	Accuracy (%FS) ^[1]	Burst Pressure	Static Pressure Range
	(inH ₂ O)	(mbar)				
DP1	±1	±2.5	G	0.05 ^[2]	100x	±10 psi
DP2	±2	±5.0	G	0.05 ^[2]	100x	±10 psi
DP5	±5	±10	G	0.05 ^[2]	50x	±10 psi
DP10	±10	±25	G	0.05 ^[2]	20x	±10 psi
DP20	±20	±50	G	0.05	20x	±10 psi
DP30	±30	±75	G	0.05	20x	±10 psi
DP50	±50	±160	G	0.05	3x	±10 psi
DP150	±150	±350	G	0.02 (0.05)	3x	50 psi
DP300	±300	±700	G	0.02 (0.05)	3x	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 ^[1]						
P/N	Pressure Range		Media [2]	Accuracy		Burst Pressure
	(psi)	(bar)		%FS ^[3]	%RD	
CP2	±2	±0.16	G	0.05 (0.1,0.2)	N/A	3x
CP5	±5	±0.35	G	0.02 (0.05,0.1,0.2)	0.1	3x
CP10	±10	±0.7	G	0.02 (0.05,0.1,0.2)	0.1	3x
CP15	±15	±1	G	0.02 (0.05,0.1,0.2)	0.1	3x
CP30	-15 to 30	-1 to 2	G	0.02 (0.05,0.1,0.2)	0.1	3x
CP100	-15 to 100	-1 to 7	G, L	0.02 (0.05,0.1,0.2)	0.1	3x
CP300	-15 to 300	-1 to 20	G, L	0.02 (0.05,0.1,0.2)	0.1	3x

[1] Sealed gauge pressure for above 1,000 psi.

[2] G=Gas, L=Liquid

[3] 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 scale
05-0.05% of full scale
10-0.1% of full scale
20-0.2% of full scale
RD-0.1% of reading

Pressure range P/N:
See pressure range table

Range type:
PSI-range by psi
BAR-range by bar
H₂O-range by inH₂O

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
NIST traceable 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.
9506	Additel/PCal pressure calibration software
9050	USB to RS232 (DB9/M) Adapter
9900-681	Carrying Case for one 681 digital pressure gauge
9251	Rubber boot for ADT681

Note: For oil-free applications contact Additel.

PGS series

Handheld Pressure test pump



PGS-700/PGS-1000



PGS-40/60

The Eigroup PGS pump series are a remarkable new range of hand pumps for generating vacuum, gas and hydraulic pressure from a few mbar up to 1000 bar. The pumps are the ideal tool for applying test pressures to sensors, gauges, pressure switches and any pressure device. They are a low cost solution for field and workshop use and can be supplied with the wide range of Eigroup digital pressure indicators or for OEM applications.

- calibrate pressure device
- 4 separate models
- range from Vacuum to 1000 bar
- extended kit solutions to suits different needs

The pneumatic pumps allow pressures in excess of 600 psi to be generated with just a few strokes of the pump. By changing the push-in switching valve to vacuum, the pump will generate vacuum down to nearly 96%.

The PGS 700 and PGS 1000 hydraulic test pumps work with a variety of different fluids, including water and oil to easily generate pressures up to 1000 bar (14500 psi). The pump uses a unique "switch" which allows for fast priming or filling of the test system and then switching as needed to a smaller stroke for easier generation at high pressure.

The desired pressure point can be easy tuned by using the vernier control and a precision needle vent valve allows for controlled venting.

All 4 pumps can be supplied as a bare pump or in kit form with a hard transit case, set of adaptors, seals and hose.

SELECTION GUIDE

Features	PGS-60	PGS-40	PGS-700	PGS-1000
Pneumatic pressure capability	•	•		
Vacuum capability	•	•		
Hydraulic capability			•	•
Integral fine control for accurate set point	•	•	•	•
adjustable stroke for over pressure safety	•	•		
Controlled pressure relief valve	•	•	•	•
Priming operation			•	•
Fluid compatible (not distilled water)			•	•
Scissor action pump	•	•	•	•

TECHNICAL SPECIFICATION

Parameter	PGS-60-OEM	PGS-40-OEM	PGS-700-OEM	PGS-1000-OEM
Operating pressure range	-960mbar to 60bar	-960 mbar to 40 bar	0 to 700 bar	0 to 1000 bar
Pressure media	air	air	liquid	liquid
Fine adjustment resolution	1 mbar	1 mbar	10 to 100 mbar	10 to 100 mbar
Ref port pressure connection	3/8" BSP (F)	3/8" BSP (F)	3/8" BSP (F)	3/8" BSP (F)
Ref port standard adaptor	1/2 BSP (F)	1/2 BSP (F)	3/8" BSP (F)	1/2" BSP (F)
Test point pressure connection	1/4 BSP (F)	1/4 BSP (F)	1/4 BSP (F)	1/4 BSP (F)
Hose extension	1 x 1 meter	1 x 1 meter	option	option
Weight	510 g	510 g	1.6 Kg	1.6 Kg

Specification are based on minimum volume

G10 series

Reference pressure gauge

A range of analogue reference gauges for the PGS pump series. All gauges are dual scale reading bar/psi and fit on the top of the PGS40/700/1000 pump by using the supplied swivel adaptor, hand tight no adaptor or spanner required.



TECHNICAL SPECIFICATION

Over pressure: 30% FS

Connection: 1/2" BSP (M)

Fine graduation

Knife pointer

G10-0060 through G10-1000 -Wetted part: AISI 316 and AISI 316L,

-Case: AISI 304, glass tempered

G10-0000 through G10-0040 -Wetted part: brass, chrome plated

-Case: AISI 304, glass normal

PRESSURE RANGES

Model	Range	Accuracy	Diameter
G10-0000	-1 to 0 bar/-30 to 0 inHG	1% FS	63 mm
G10-0002	0 to 2 bar/0 to 30 psi	1% FS	63 mm
G10-0011	0 to 11 bar/0 to 160 psi	1% FS	63 mm
G10-0025	0 to 25 bar/0 to 365 psi	1% FS	63 mm
G10-0040	0 to 40 bar/0 to 600 psi	1% FS	63 mm
G10-0060	0 to 60 bar/0 to 800 psi	0.6% FS	100 mm
G10-0100	0 to 100 bar/0 to 1400 psi	0.6% FS	100 mm
G10-0160	0 to 160 bar/0 to 2000 psi	0.6% FS	100 mm
G10-0250	0 to 250 bar/0 to 3000 psi	0.6% FS	100 mm
G10-0400	0 to 400 bar/0 to 5000 psi	0.6% FS	100 mm
G10-0600	0 to 600 bar/0 to 8000 psi	1% FS	100 mm
G10-1000	0 to 1000 bar/0 to 15000 psi	1% FS	100 mm

MAXICAL

Process Multifunction Calibrators

PGS-40/60 Pneumatic Test Kits

Combined vacuum/pneumatic kit for pressure testing includes:

- PGS-40/60-OEM pump
- Set of BSP or NPT adaptors (to be specified)
- Set of seals
- Pressure hose with 1/4" BSP F adaptor (1 meter)
- Robust ABS transit case with customised foam and cells



SPECIFICATION

Model	Description
PGS-4/60-P-BSP	Pressure test kit, BSP adaptor 1/4" BSP male to 1/8", 3/8" (F) and 1/2" BSP (M)
PGS-4/60-P-NPT	Pressure test kit, NPT adaptor 1/4" BSP male to 1/8", 3/8", 1/2" and 1/4" NPT (F)

PGS-700/1000 Hydraulic Test Kit

Hydraulic test kit for high pressure testing includes:

- PGS-700-OEM or PGS-1000-OEM pump
- Set of BSP or NPT adaptors
- HTH-1000-1 high pressure hose, 1 meter
- PGS700-A-G14 adaptor for HTH-1000 hose
- Set of seals
- PGS700-TC Robust ABS transit case with customised foam and cells



SPECIFICATION

Model	Description
PGS-700-H-BSP	Pressure test kit, BSP adaptor 1/4" BSP male to 1/8", 3/8" (F) and 1/2" BSP (M)
PGS-700-H-NPT	Pressure test kit, NPT adaptor 1/4" BSP male to 1/8", 3/8", 1/2" and 1/4" NPT (F)
PGS-1000-H-BSP	Pressure test kit, BSP adaptor 1/4" BSP male to 1/8", 3/8" (F) and 1/2" BSP (M)
PGS-1000-H-NPT	Pressure test kit, BSP adaptor 1/4" BSP male to 1/8", 3/8", 1/2" and 1/4" NPT (F)

Ordering Informations

Pump Model

- PGS-60-OEM:** Medium pressure pump, -960 mbar to 60 bar
PGS-40-OEM: Medium pressure pump, -960 mbar to 40 bar
PGS-700-OEM: High pressure pump, 0 to 700 bar
PGS-1000-OEM: High pressure pump, 0 to 1000 bar

Pump Kits

- PGS-60-P-BSP:** Low pressure pump kit, BSP adaptors
PGS-60-P-NPT: Low pressure pump kit, NPT adaptors
PGS-40-P-BSP: Medium pressure pump kit, BSP adaptors
PGS-40-P-NPT: Medium pressure pump kit, NPT adaptors
PGS-700-H-BSP: Hydraulic test kit, BSP adaptors
PGS-700-H-NPT: Hydraulic test kit, NPT adaptors
PGS-1000-H-BSP: Hydraulic test Kit, BSP adaptors
PGS-1000-H-NPT: Hydraulic test kit, NPT adaptors

Pressure Gauges

See table for part number

Adaptors

- PGS-BSP adaptor set:** 1/4" BSP (M) to 1/8", 3/8" (F) and 1/2" BSP (M)
PGS-NPT adaptor set: 1/4" BSP (M) to 1/8", 3/8", 1/2" and 1/4" NPT (F)
PGS-A-N14I-G38A: 3/8" BSP (M) to 1/4" NPT (F) adaptor for ref port
PGS-A-G14I-G38A: 3/8" BSP (M) to 1/4" BSP (F) swivel connector for Ref port

Carrying cases

- PGS60-TC:** Robust transit case with customised cells and foam
PGS40-TC: Robust transit case with customised cells and foam
PGS700-TC: Robust transit case with customised cells and foam

High Pressure hose (PGS 700/PGS 1000 only)

- HTH-1000-1:** High pressure hose 1 meter, 1500 bar, 1/4" BSP (F)
HTH-1000-2: High pressure hose 2 meters, 1500 bar, 1/4" BSP (F)
HTH-1000-3: High pressure hose 3 meters, 1500 bar, 1/4" BSP (F)