



### OVERVIEW

With advanced microprocessor technology and state-of-the-art silicon pressure sensors, the PPC 681 series digital pressure gauges provide an accurate, reliable, and economic solution for 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 gauges has been specially aged, tested and screened before assembly. PPC 681 series digital pressure gauges are unmatched in performance and reliability. Best of all, they are surprisingly affordable.

### FEATURES

- 0.025% full scale accuracy (PPC 681-02)
- 0.05% full scale accuracy (PPC 681-05)
- 0.1% full scale accuracy (PPC 681-10)
- 0.2% full scale accuracy (PPC 681-20)
- Pressure ranges to 36,000 psi (2500 bar)
- 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
- Back lighted display
- % pressure indication with fan-shaped graph scale for visual reference
- Display flash warning when pressure over 120% of FS
- ATEX certified intrinsically safe (Model PPC 681 IS)
- NIM traceable calibration certificate (optional)
- 9V battery power or AC adapter (optional)

### APPLICATIONS

- Precision pressure measurement
- Field gauge calibration
- Pressure safety valve (PSV) testing
- Pressure regulator testing

### SPECIFICATIONS

#### Model

- PPC 681: Regular gauge
- PPC 681 IS: ATEX certified intrinsically

#### Accuracy

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

#### Gauge types

- Gauge pressure
- Compound Pressure
- Absolute pressure
- Differential pressure

#### Pressure Ranges

Gauge Pressure <sup>[1]</sup>					
P/N	Pressure Range (psi)	Pressure Range (bar)	Media <sup>[2]</sup>	Accuracy (% FS)	Burst Pressure
V15	-15	-1.0	G	0.025 (0.05, 0.1, 0.2)	3 X
GP2	2	0.16	G	0.05 (0.1, 0.2)	3 X
GP5	5	0.35	G	0.025 (0.05, 0.1, 0.2)	3 X
GP10	10	0.7	G	0.025 (0.05, 0.1, 0.2)	3 X
GP15	15	1.0	G, L <sup>[3]</sup>	0.025 (0.05, 0.1, 0.2)	3 X
GP30	30	2.0	G, L <sup>[3]</sup>	0.025 (0.05, 0.1, 0.2)	3 X
GP50	50	3.5	G, L	0.025 (0.05, 0.1, 0.2)	3 X
GP100	100	7.0	G, L	0.025 (0.05, 0.1, 0.2)	3 X
GP300	300	20	G, L	0.025 (0.05, 0.1, 0.2)	3 X
GP500	500	35	G, L	0.025 (0.05, 0.1, 0.2)	3 X
GP1K	1000	70	G, L	0.025 (0.05, 0.1, 0.2)	3 X
GP3K	3000	200	G, L	0.025 (0.05, 0.1, 0.2)	3 X
GP5K	5000	350	G, L	0.025 (0.05, 0.1, 0.2)	3 X
GP10K	10000	700	G, L	0.025 (0.05, 0.1, 0.2)	2 X
GP15K	15000	1000	G, L	0.1 (0.2)	2 X
GP25K	25000	1600	G, L	0.1 (0.2)	1.5 X
GP30K	30000	2000	G, L	0.1 (0.2)	1.5 X
GP36K	36000	2500	G, L	0.1 (0.2)	1.5 X

Note:

[1]. Sealed gauge pressure for above 1000 psi

[2]. G=Gas, L=Liquid

[3]. 0.025% FS for gas media only

Absolute Pressure					
P/N	Pressure Range (psi)	Pressure Range (bar)	Media	Accuracy (% FS)	Burst Pressure
AP5	5	0.35	G	0.1 (0.2)	3 X
AP10	10	0.7	G	0.1 (0.2)	3 X
AP15	15	1.0	G	0.1 (0.2)	3 X
AP30	30	2.0	G	0.1 (0.2)	3 X
AP50	50	3.5	G	0.1 (0.2)	3 X
AP100	100	7.0	G, L	0.1 (0.2)	3 X
AP300	300	20	G, L	0.1 (0.2)	3 X
AP500	500	35	G, L	0.1 (0.2)	3 X
AP1K	1000	70	G, L	0.1 (0.2)	3 X
AP3K	3000	200	G, L	0.1 (0.2)	3 X
AP5K	5000	350	G, L	0.1 (0.2)	3 X

Differential Pressure					
P/N	Pressure Range (inH <sub>2</sub> O)	Pressure Range (mbar)	Media	Accuracy (% FS)	Burst Pressure
DP1	1	2.5	G	0.4	100 X
DP2	2	5.0	G	0.2	100 X
DP5	5	10	G	0.1	50 X
DP10	10	25	G	0.1	20 X
DP20	20	50	G	0.05	20 X
DP30	30	100	G	0.05	20 X

Compound Pressure					
P/N	Pressure Range (psi)	Pressure Range (bar)	Media	Accuracy (%FS)	Burst Pressure
CP2	±2	±0.16	G	0.05 (0.1, 0.2)	3X
CP5	±5	±0.35	G	0.025(0.05,0.1,0.2)	3X
CP10	±10	±0.7	G	0.025(0.05,0.1,0.2)	3X
CP15	±15	±1	G	0.025(0.05,0.1,0.2)	3X
CP30	-15 to 30	-1 to 2	G	0.025(0.05,0.1,0.2)	3X

### 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" )

### Fan-shaped Graph Scale

Similar to analog dial, including pressure swing, % indication with fan-shaped graph scale for visual reference, low/high alarm

### Pressure Units

Pa, kPa, MPa, psi, bar, mbar, kgf/cm<sup>2</sup>, inH<sub>2</sub>O, mmH<sub>2</sub>O, inHg, mmHg

### 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)  
 \*0.025%FS accuracy guaranteed only over the ambient temperature range of 68° F to 79° F (20° C to 26° C)  
 Storage Temperature: -4° F to 158° F (-20° C to 70° C)  
 Humidity: <95%

### Media Compatibility

(0 - 30) psi: Clean dry non-corrosive gases  
 (50 - 36,000) psi: media compatible with 316L SS

### Pressure Port

¼"NPT(≤15,000psi)  
 Autoclave F-250-C, 9/16" - 18 UNF female or Autoclave M-250-C, 9/16"-18 UNF male (>15,000psi)  
 0.156 inch (4mm) 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: 120mm diameter X 40mm depth  
 Weight: 0.6kg

### Intrinsic Safety and European Compliance

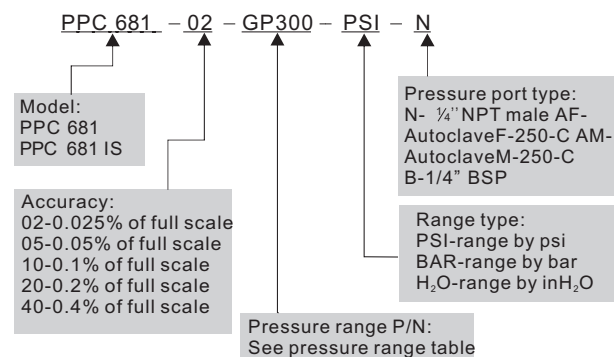
CE marked  
 ATEX certified intrinsically safe (PPC 681IS)

### Communication

RS232 (Do not use the RS-232 connector in a hazardous atmosphere)

## ORDERING INFORMATION

### Model Number



### Optional Accessories

Model Number	Description
9812	110V/220V external power adapter (DC 9V) for PPC 681 digital pressure gauge
9902	Carrying case for digital pressure gauge ( up to 4 pcs PPC 681)
9101	NIM traceable calibration certificate for PPC 681 series gauges(≤10,000psi)
9102	NIM traceable calibration certificate for PPC 681 series gauges(>10,000psi)
9502	Log II real time logging and graphical software for PPC 681 and PPC 273

## 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)