

# Intelligent Pressure Calibrator Model PY801

## Applications

- Gauge calibration
- Precision pressure measurement
- Pressure transmitters calibration
- Pressure switch and Safety relief valve test
- Pressure regulator test

## Special features

- Pressure ranges : -0.1 ... 25,00 bar ,Accuracy: up to 0.02 % F.S (incl. calibration certificate)
- Current, voltage, and switching measurements, 24V loop power supplies power the transmitter.
- Temperature-compensated in the range of -10...+50°C[14...122°F]
- 9 switchable pressure units
- LCD, 6 digit, with background lighting
- Built-in HART hand manipulator



**PY 801 Intelligent Pressure Calibrator**

## Description

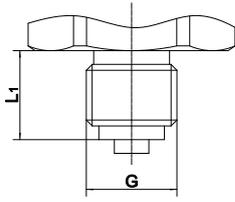
PY 801 Intelligent pressure calibrator with HART protocol, a single range, full scale pressure measurement, high accuracy DC current, voltage measurement and the 24VDC power output function instrument. Can be used to verify the ordinary (precision) pressure gauge, pressure transmitter, pressure regulating valves, pressure switches and pressure of real-time measurement, and can debug the HART smart pressure transmitter.

- Current Measured functions: 0~25.0000mA , Accuracy:  $\pm 0.02\%RD + 0.003\%F.S$
- Voltage Measured functions: 0~25.0000VDC , Accuracy:  $\pm 0.02\%RD + 0.003\%F.S$
- Switch Measured functions: on/off, case the switch comes with voltage, range(1~12)V
- Power output: 24vdc $\pm 0.5v$ , Max. Output Current: 50mA, Protect Current: 120mA

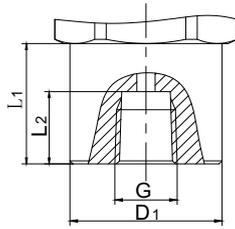
# Specifications

Basic information	
<b>Pressure types</b>	
<b>Pressure ranges</b>	-0.1 ... 2,500 bar
<b>Accuracy</b>	0.02%FS , 0.025 %FS , 0.05 % FS , 0.1 % FS
<b>Temperature compensation</b>	-10...50 °C
<b>Units</b>	
<b>Pressure</b>	bar ,mbar, Pa, kPa, MPa, PSI, kg/cm <sup>2</sup> , mmH <sub>2</sub> O, mmHg, inHg
<b>Electrical Measured functions</b>	
<b>Current</b>	0~25.0000mA ,Accuracy: ±0.02%RD+0.003%F.S
<b>Voltage</b>	0~25.0000VDC ,Accuracy: ±0.02%RD+0.003%F.S
<b>Switch</b>	on/off, case the switch comes with voltage, range(1~12)V
<b>Power output</b>	24vdc±0.5v, Max. Output Current: 50mA, Protect Current: 120mA
<b>Display</b>	
<b>Type</b>	Multifunctional LCD, 6 digit, with background lighting
<b>Functions</b>	Bar Graph, Pressure Units, Pressure Measured Value, Current/Voltage/Switching, Current/Voltage Units, Overpressure Indication 120 % of Full Scale Pressure (F.S)
<b>Process connection</b>	
<b>Thread</b>	1/4NPT, 1/2NPT, G1/2, G1/4,Others can be customized
<b>Material</b>	316L
<b>Power supply</b>	
<b>Battery type</b>	Rechargeable lithium-ion battery ,Operating time: 80 hours
<b>Charging time</b>	3 hours
<b>External power supply</b>	110V/220V power adapter (DC 9V)
<b>Interface</b>	RS 232 port
<b>Housing</b>	
<b>Dimensions</b>	Ø 114 mm, D=39mm H=180 mm with protection cap
<b>Ambient conditions</b>	-20...70°C with air humidity ≤95%r.h.
<b>Weight</b>	600 g

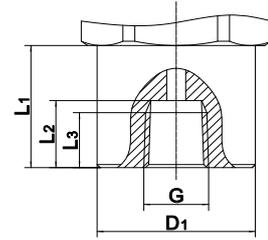
# Process connections



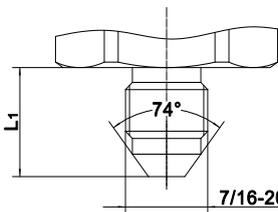
G	L <sub>1</sub>	Standard
G1/4 B	13	EN 837
G3/8 B	16	
G1/2 B	20	
M20×1.5	20	



G	D <sub>1</sub>	L <sub>1</sub>	L <sub>2</sub>	Standard
NPT1/8	Φ25	20	12	ANSI/ASME B1.20.1
NPT1/4	Φ25	20	14	
NPT1/2	Φ25	25	19	

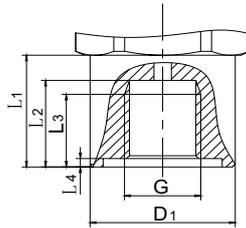


G	D <sub>1</sub>	L <sub>1</sub>	L <sub>2</sub>	L <sub>3</sub>	Standard
G1/8	Φ25	20	10	7.5	EN 837
G1/4	Φ25	20	13	10	

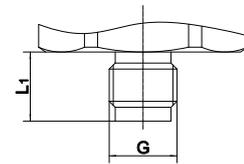


7/16-20 UNF-2A

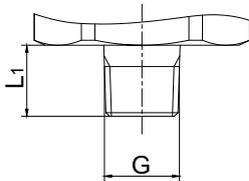
G	L <sub>1</sub>	Standard
7/16-20 UNF-74° cone	14	SAE J514 E



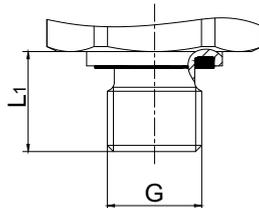
G	D <sub>1</sub>	L <sub>1</sub>	L <sub>2</sub>	L <sub>3</sub>	L <sub>4</sub>	Standard
G1/4	Φ25	20	15.5	13	1.5	ISO 1179-1



G	L <sub>1</sub>	Standard
G1/8 B	10	EN 837



G	L <sub>1</sub>	Standard
NPT1/8	10	ANSI/ASME B1.20.1
NPT1/4	13	
NPT1/2	19	
R1/4	13	ISO 7
R3/8	15	
R1/2	19	



G	L <sub>1</sub>	Standard
G1/4 A	14	ISO 1179-2
G3/8 A	14.5	
G1/2 A	17	
M12×1.5	14	ISO 9974-2
M14×1.5	14	
M20×1.5	16.5	

# Measuring ranges, gauge pressure

Overview pressure ranges(bar)							
Type		A002		A005		A010	
Accuracy (± of full scale value)		0.02%		0.05%		0.1%	
		Resolution	max. Overload	Resolution	max. Overload	Resolution	max. Overload
GP 0.16	0...0.16			0.0001	0.7	0.0001	0.7
GP 0.25	0...0.25			0.0001	0.7	0.0001	0.7
GP 0.4	0...0.4			0.0001	1.2	0.0001	1.2
GP 0.6	0...0.6	0.00001	1.8	0.0001	1.8	0.0001	1.8
GP 1	0...1	0.00001	2	0.0001	2	0.0001	2
GP 1.6	0...1.6	0.00001	3.2	0.0001	3.2	0.0001	3.2
GP 2.5	0...2.5	0.00001	5	0.0001	5	0.0001	5
GP 4	0...4	0.00001	8	0.0001	8	0.0001	8
GP 6	0...6	0.00001	12	0.0001	12	0.0001	12
GP 10	0...10	0.0001	20	0.001	20	0.001	20
GP 16	0...16	0.0001	30	0.001	30	0.001	30
GP 25	0...25	0.0001	50	0.001	50	0.001	50
GP 40	0...40	0.0001	80	0.001	80	0.001	80
GP 60	0...60	0.0001	120	0.001	120	0.001	120
GP 100	0...100	0.001	200	0.01	200	0.01	200
GP 160	0...160	0.001	320	0.01	320	0.01	320
GP 250	0...250	0.001	500	0.01	500	0.01	500
GP 400	0...400	0.001	800	0.01	800	0.01	800
GP 600	0...600	0.001	800	0.01	800	0.01	800
GP 700	0...700	0.001	1000	0.01	1000	0.01	1000
GP 1000	0...1000	0.01	1500	0.1	1500	0.1	1500
GP 1600	0...1600			0.1	2500	0.1	2500
GP 2500	0...2500			0.1	3000	0.1	3000

## Measuring ranges, absolute pressure

Overview pressure ranges(bar)							
Type		A002		A005		A010	
Accuracy (± of full scale value)		0.02%		0.05%		0.1%	
		Resolution	max. Overload	Resolution	max. Overload	Resolution	max. Overload
AP 0.25	0...0.25			0.0001	0.7	0.0001	0.7
AP 0.4	0...0.4			0.0001	1.2	0.0001	1.2
AP 0.6	0...0.6			0.0001	1.8	0.0001	1.8
AP 1	0...1	0.00001	2	0.0001	2	0.0001	2
AP 1.6	0...1.6	0.00001	3.2	0.0001	3.2	0.0001	3.2
AP 2.5	0...2.5	0.00001	5	0.0001	5	0.0001	5
AP 4	0...4	0.00001	8	0.0001	8	0.0001	8
AP 6	0...6	0.00001	12	0.0001	12	0.0001	12
AP 10	0...10	0.0001	20	0.001	20	0.001	20
AP 16	0...16	0.0001	30	0.001	30	0.001	30
AP 25	0...25	0.0001	50	0.001	50	0.001	50
AP 40	0...40	0.0001	80	0.001	80	0.001	80
AP 60	0...60	0.0001	120	0.001	120	0.001	120

## Measuring ranges, differential pressure

Overview pressure ranges(mbar)							
Type		A002		A005		A010	
Accuracy (± of full scale value)		0.02%		0.05%		0.1%	
		Resolution	max. Overload	Resolution	max. Overload	Resolution	max. Overload
DP 2.5	-2.5...2.5			0.0001	20	0.0001	20
DP 10	-10...10			0.001	20	0.001	20
DP 20	-20...20			0.001	40	0.001	40
DP 50	-50...50	0.0001	100	0.001	100	0.001	100
DP 100	-100...100	0.001	200	0.001	200	0.001	200

# Measuring ranges, vacuum and +/- measuring ranges

Overview pressure ranges(bar)							
Type		A002		A005		A010	
Accuracy (± of full scale value)		0.02%		0.05%		0.1%	
		Resolution	max. Overload	Resolution	max. Overload	Resolution	max. Overload
VP -0.25	-0.25...0.25			0.00001	1	0.0001	1
VP -0.4	-0.4...0.4			0.00001	1	0.0001	1
VP -0.6	-0.6...0.6			0.00001	2	0.0001	2
VP 0	-1...0	0.0001	2	0.0001	2	0.0001	2
VP 0.6	-1...0.6	0.00001	2	0.0001	2	0.0001	2
VP 1	-1...1	0.00001	2	0.0001	2	0.0001	2
VP 1.6	-1...1.6	0.00001	3.2	0.0001	3.2	0.0001	3.2
VP 2.5	-1...2.5	0.00001	5	0.0001	5	0.0001	5
VP 4	-1...4	0.00001	8	0.0001	8	0.001	8
VP 6	-1...6	0.00001	12	0.0001	12	0.001	12
VP 10	-1...10	0.0001	20	0.001	20	0.001	20

## Note:

The compensation temperature for 0.02 %FS is 20 ± 5 °C. The compensation temperature for 0.05 % FS is 0-50 °C. If the pressure is less than 100 mbar, the measuring medium is Gas. For pressures greater than 100 mbar, the measuring medium is Liquid or Gas.

Order code					
model	Code	Accuracy	Pressure ranges	Unit	Process connection
PY 801	A(N-A) H(HART)	A002(0.02%F.S) A005(0.05%F.S) A010(0.1%F.S)	Table of reference measuring ranges	bar psi MPa kg/cm <sup>2</sup> kPa mbar mmHg mmHO Pa	1/4NPT 1/2NPT G1/2 M20*1.5 G1/4 Other
Example order number		PY801A-A005-GP4(0...4)bar-1/2NPT			