

准确度·压力测量

MPa (表压)

► 18 to 28° C

0 to 30% of Range: $\pm(0.01\%$ of FS)

30 to 110% of Range: $\pm(0.035\%$ of Rdg)

Vacuum*: $\pm(0.05\%$ of FS**)

► -20 to 50° C

0 to 30% of Range: $\pm(0.015\%$ of FS)

30 to 110% of Range: $\pm(0.050\%$ of Rdg)

Vacuum*: $\pm(0.05\%$ of FS**)

* 适用于 3 MPa 及以下量程。
真空量程 = -1 MPa。

** FS 为正压量程的数值。

Includes all effects of linearity, hysteresis, repeatability, temperature, and stability for one year.

All models indicate vacuum, but vacuum specification applies to 100 kPa, 300 kPa, 1 MPa, and 3 MPa models only.

Not recommended for continuous use at high vacuum.
Refer to [XP2i-DP data sheet](#) for gauges that are intended for continuous high vacuum use.

The BARO option allows you to toggle between gauge and absolute pressure.

Exposure to environmental extremes of temperature, shock, and/or vibration may warrant a more frequent recertification period.

APMi modules must be exercised and re-zeroed whenever exposed to significant changes in environmental conditions to achieve these specifications. To exercise a module, cycle the module between zero (ambient barometric pressure) and the pressure of interest. A properly exercised module will return to a zero reading (or return to the same ambient barometric reading).

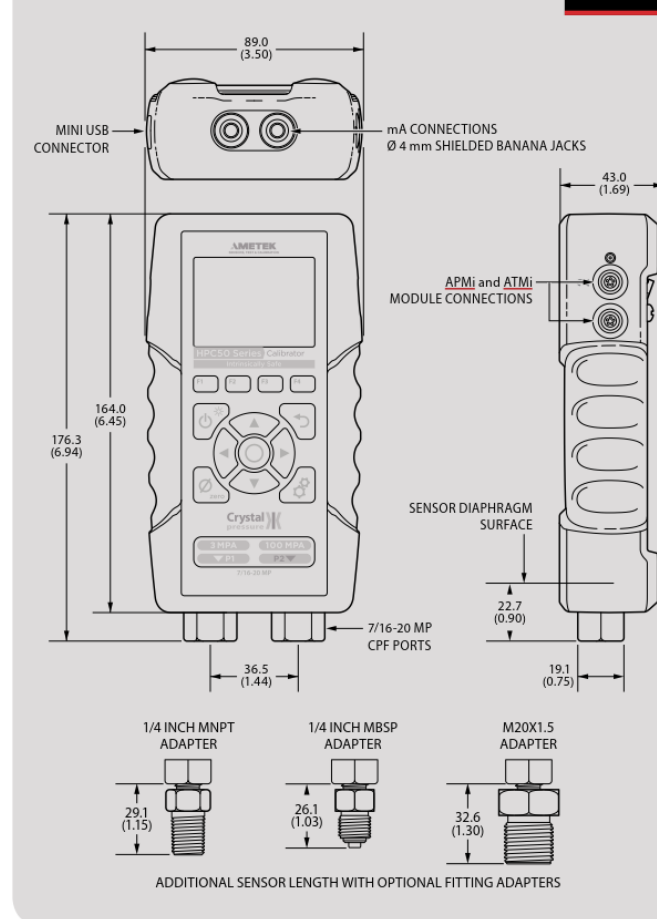
MPaA (绝压 BARO选项)

► 所有绝压准确度等于表压准确度，以下三个量程除外。

100 kPa 量程: 表压准确度 +0.03 kPaA

300 kPa 量程: 表压准确度 +0.03 kPaA

1 MPa 量程: 表压准确度 +0.00001 MPaA



差压

平衡功能可以提高差压测量的准确度，要求使用平衡阀。

两个传感器满量程	二者较大 (+/-)				%差压读数
MPa	psi	mbar	inH ₂ O	mmH ₂ O	
100 (kPa)	0.00015	0.01	0.004	0.1	0.035%
300 (kPa)	0.0005	0.04	0.014	0.4	
1	0.0015	0.10	0.04	1.0	
3	0.005	0.4	0.14	4.0	
10	0.02	1.0	0.4	10.0	
30	0.05	4.0	1.4	n/a	
70	0.2	10.0	4.0	n/a	
100	0.3	15.0	6.0	n/a	

Unit is enabled in CrystalControl

▶不用平衡功能:
±(0.05% 静压读数)

压力传感器

材质: (WRENCH TIGHT) **316 不锈钢**
(FINGER TIGHT) **316 stainless steel and Viton® with internal o-ring**
(10 psi / 1 bar / 100 kPa) 316 stainless steel and Viton®

隔离密封液: 硅油
压力接口: **Crystal CPF** 内螺纹

All welded construction on sensors above 300 kPa. (The 100 kPa sensor may have Viton o-ring seal.)
Metal to metal cone seal; O-ring can be removed if necessary.
1/4" medium pressure tube system compatible with HIP LM4 and LF4 Series, Autoclave Engr SF250CX Male and Female Series.
1/4" male NPT adapter included unless BSP, M20, or 100MPa is specified.

大气压力参考: (BARO)

准确度: ±0.5 mbar, ±0.00725 psi

量程: 700.0 to 1100.0 mbarA,
10.153 to 15.954 psiA

压力单位及分辨率: psi 0.001
inHg 0.001
mmHg 0.01
mbar 0.1

Includes all effects of linearity, hysteresis, repeatability, temperature, and stability for one year.
Exposure to environmental extremes of temperature, shock, and/or vibration may warrant a more frequent recertification period.
Other units available depending on the installed modules.

标准配置

- HPC51 or HPC52
- ISO 17025 Accredited Calibration Certificate, NIST Traceable
- 3 x AA batteries
- Your choice of adapters (1/4" NPT, 1/4" BSP, or 1/4" M20)
- Protective Boot—required for Intrinsic Safety
- Test Leads, red and black with clips
- Velcro strap
- User manual
- Mini-USB Cable

相关产品

Crystal Engineering offers a wide range of products that work with the HPC50 Series:

- [Fittings that connect without tools, safely and without leaks](#)
- [Lightweight, super flexible high pressure hoses](#)
- [Fitting kits and adapters](#)
- [Pneumatic hand pumps](#)
- [Hydraulic hand pumps](#)
- [Portable pressure comparators](#)

Pressure Connection: **Cylindrical sensor fitting of 5.8mm OD. A flexible 4.8 mm [3/16"] ID tube is recommended to connect for calibration.**



电流、电压测量

连接接口: 4 mm 插孔

电流(mA) 测量

准确度: $\pm(0.015\% \text{ of rdg} + 0.002 \text{ mA})$
 mA 量程: 0 to 55 mA
 百分比量程: 0-20, 4-20, 10-50
 最大允许电流: 93.3 mA
 分辨率: 0.001 mA or 0.01%
 单位: mA, scaling, % error, and % flow
 输入电阻: < 4.99 Ω
 电压负荷 @ 20mA: < 0.10 V
 电压负荷 @ 50mA: < 0.250 V
 HART 电阻: 250 Ω

Includes all effects of linearity, hysteresis, repeatability, temperature, and stability for one year.
Inputs protected by a resettable fuse.
mA can be displayed as a percentage, where 0 to 100% corresponds to either 0 to 20, 4 to 20, or 10 to 50 mA.
Jacks are compatible with safety sheathed banana plugs.

电流 (mA) 输出

准确度: $\pm (0.015 \text{ of rdg} + 0.002 \text{ mA})$
 量程: 0 to 25 mA*
 步进时间: 1 to 999 seconds
 斜坡时间: 5 to 999 seconds

* From 0.001 to 0.05 mA, add 0.02 mA to accuracy.

电压 (VDC) 测量

准确度: $\pm(0.015\% \text{ of rdg} + 2 \text{ mV})$
 量程: 0 to 28 VDC
 分辨率: 0.001 VDC

Includes all effects of linearity, hysteresis, repeatability, temperature, and stability for one year.

开关测试

开关类型: 干接点
 常闭阻抗: < 1K Ω
 常开阻抗: > 100K Ω
 采样率: 10 Hz

Switch test screen reports switch open, close, and deadband values.



ATEX IECEx ATEX and IECEx Scheme Entity Parameters

The HPC50 has these specific entity parameters:

mA/V port	APMi/ATMi ports
Ui = 28 V	Uo = 4.95 V
Ii = 94 mA	Io = 731 mA
Pi = 654 mW	Po = 880 mW
Ci = 3 nF	Co = 83.5 μ F
Li = 0	Lo = 32.2 μ H
	Co = 9.2 μ F
	Lo = 12 μ H

外接模块

HPC50系列有两个相同的接口可以连接外接压力、温度模块，详见以下说明。

压力测量



- [详见 APMi 数据表。](#)

温度测量



- [详见 ATMi 数据表。](#)

数据通讯

通讯接口: **mini-USB**

The mini USB will power the HPC50 Series with or without the batteries installed.

Do not use mini USB connection in a hazardous area.

For hazardous location product warnings, refer to the operation manual.

显示

屏幕: **320 x 240 pixel graphical display**

LCD readable in sunlight.

刷新率: **3 读数/秒**

Switch test and peak hi/lo modes are captured at 10 readings/second.



电源

电池: **3x1.5 V (碱性电池)**
电池寿命: >12 小时

Uses 3 alkaline AA (LR6) batteries.

物理参数

重量: **567 g (20.0 oz)**
防护等级: **IP66/67**
机壳: **PC/PBT 塑料**
键盘: **抗UV硅**

*Weight is for dual sensor model with protective boot installed.
LCD protected from impact damage by 0.5 mm (0.02") thick polycarbonate lens.*

操作温度

温度范围: **-20 to 50° C (-4 to 122° F)**

< 95% RH, non-condensing. No change in pressure, electrical, or temperature accuracy over operating temperature range except as noted in the accuracy specifications.

Gauge must be zeroed to achieve rated specification.

储存温度

温度范围: **-40 to 75° C (-40 to 167° F)**

Batteries should be removed if stored for more than one month.

特殊性能

要求使用免费的 **CrystalControl** 软件


移除: 不需要的压力单位.

自动关机: 自动调整关机时间.

校准: 可校准所有模块并可输入校准日期及间隔.


自定义单位: 定义并显示不包括在内的单位, 可以定义为液位、力矩等和压力相关的参数

证书

 **II 1G IEx ia IIC T4/T3 Ga**
FTZU 18 ATEX 0043X

  **Ex ia IIC T4/T3 Ga**
IECEX FTZU 18.0012X

 HPC50 Series complies with the Electromagnetic Compatibility and the Pressure Equipment Directives.

 HPC50 Series complies with the Australian Radiocommunications (Electromagnetic Compatibility) Standard 2008.

量程及分辨率表格

P/N	量程 (MPa)	过压保护	显示分辨率			
			MPa	kPa	bar	mbar
100KPA	100(kPa)	3.0 x		0.001	0.00001	0.01
300KPA	300(kPa)	3.0 x	0.00001	0.01	0.0001	0.1
1MPA	1	2.0 x	0.00001	0.01	0.0001	0.1
3MPA	3	2.0 x	0.0001	0.1	0.001	1
10MPA	10	2.0 x	0.0001	0.1	0.001	
30MPA	30	1.5 x	0.001	1	0.01	
70MPA	70	1.5 x	0.001	1	0.01	
100MPA	100	1.3 x	0.001	1	0.01	

CPF Adapter Fitting is not included.

(Add one digit of resolution for differential mode.)

订货信息

Number of Sensors	1st Pressure Range P/N	2nd Pressure Range P/N	BARO Option	Adapter	Pump System*	Carrying Case~
HPC51 ... (Single)			No ... (omit)	1/4 NPT ... (omit)	No Pump... (omit)	
HPC52 ... (Dual)			Yes... -BARO	G 1/4 B. -BSP M20x1.5 ... -M20	System A.... -AXX System A.... -AHX System B.... -BXX System B.... -BHX System C.... -CXX System C.... -CHX System D.... -DOX System D.... -DWX System E.... -EOX System F.... -FOV System F.... -FWV System G.... -GOX System G.... -GWX System H ... -HOX	Aluminum ... (omit) Waterproof..... -W

AMETEK offers a variety of solutions for pressure generation and measurement. Our line of products for pressure generation includes everything from small pneumatic hand pumps to a precision, hydraulic pressure comparator capable of generating up to 15 000 psi / 1000 bar / 100 MPa.

All of our pumps may be ordered as part of a Pump System, complete with an HPC50 Series and delivered in a sturdy carrying case with custom insert.

* Refer to the following page for a more detailed description of each pump system.

SAMPLE PART NUMBERS

- HPC51-10MPA Single Sensor (10 MPa) HPC50 with a 1/4" male NPT pressure fitting.
- HPC52-30MPA-70MPA-BARO-BSP Dual Sensor (30 MPa/70 MPa) HPC50 with the BARO option and a 1/4" male BSP pressure fitting.
- HPC52-10MPA-70MPA-GWX-W Dual Sensor (10 MPa/70 MPa) HPC50 with a 1/4" male NPT pressure fitting; a System G pump system; and a waterproof carrying case.

► Ordering a Pump System Only

Any pump system, carrying case, and connection fittings for an HPC50 Series calibrator may be ordered separately from the gauge. Enter HPC50-NONE followed by the Pump System part number and the Carrying Case option code.

SAMPLE PART NUMBERS

- HPC50-NONE-GWX-W System G pump system with a waterproof carrying case.