

ACCURACY

0 to 20% of Range: $\pm(0.04\%$ of Full Scale)

20% to 110% of Range: $\pm(0.2\%$ of Reading)

Vacuum: $\pm(0.25\%$ of Full Scale*)

* Full Scale = -0.1 MPa

Includes all effects of linearity, hysteresis, repeatability, temperature, and stability for two years.

All models indicate vacuum, but vacuum specification applies to 200 kPa, 1 MPa, and 2 MPa models only.

Not recommended for continuous use below -0.1 MPa. Refer to [XP2i-DP data sheet](#) for gauges that are intended for continuous high vacuum use.

OPERATING TEMPERATURE

Temperature Range: **-10 to 50° C (14 to 122° F)**

Non-condensing. No change in accuracy over operating temperature range. Gauge must be zeroed to achieve rated specification.

DISPLAY

Screen: **5 digits, 16.8 mm (0.66") high**

Display Rate: **4 readings/second**

LCD readable in sunlight with bright backlight.

POWER

2 x AA: **900 hours, typical**

Extended Battery Life: **1 reading/15 seconds: 3,000 hours**

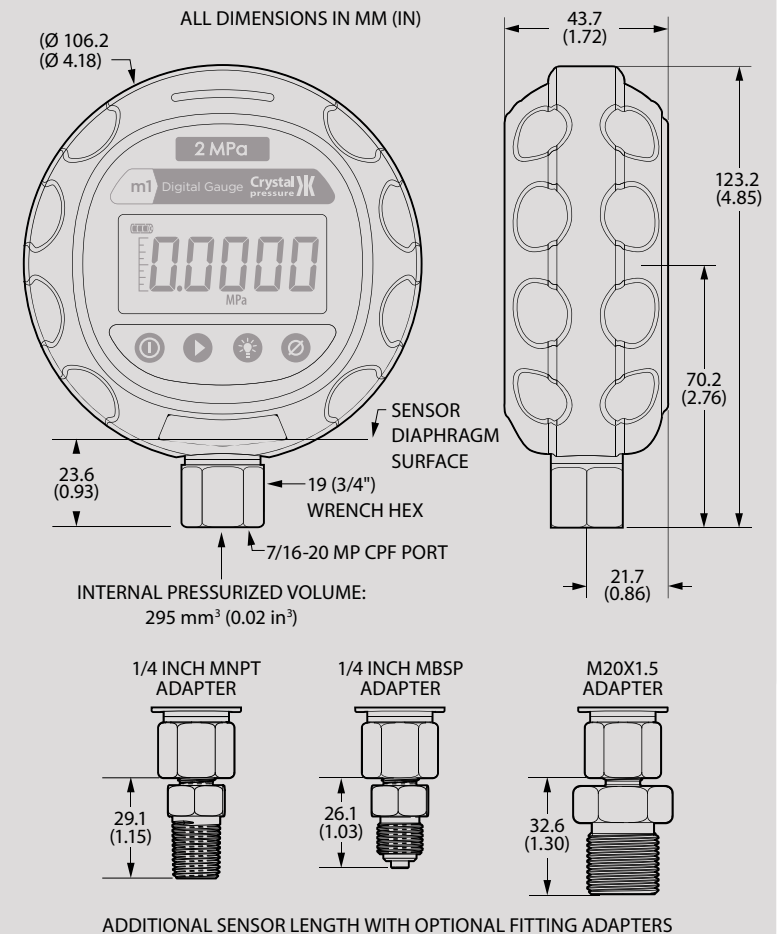
1 reading/30 seconds: 6,000 hours

1 reading/60 seconds: 10,000 hours

1 reading/5 minutes: 25,000 hours

1 reading/10 minutes: 30,000 hours

Uses 2 alkaline AA (LR6) batteries. Use of backlight reduces operating time. Extended battery life is keypad selectable. Do not overtighten rear cover when replacing batteries.



ENCLOSURE

Weight: **331 g (11.7 oz)**

Rating: **IP65**

Housing: **Polyester/Polycarbonate Blend**

Keypad and Labels: **UV Resistant Polyester**

Weight includes batteries and protective boot.

Water resistant housing incorporating o-ring seals [IEC 60529].

LCD protected from impact damage by polycarbonate lens under polyester window.

Skydrol® compatible.

SENSOR

Wetted Materials: (WRENCH TIGHT) **316 stainless steel**
(FINGER TIGHT) **316 stainless steel and Viton® (internal o-ring)**

Diaphragm Seal Fluid: **Silicone Oil**

Connection: **Crystal CPF♦ Female**

All welded, with a permanently filled diaphragm 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 or M20 is specified.

♦U.S. Patent No. 8,794,677

STORAGE TEMPERATURE

Temperature Range: **-40 to 75° C (-40 to 167° F)**

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

SPECIAL FEATURES

Averaging: **Smooths unsteady readings (2 to 20 samples)**

Vertical Bar Graph: **Percent pressure indication for quick reference**

Capture: **Minimum (LO) and Maximum (HI)**

CERTIFICATIONS



m1 complies with the Electromagnetic Compatibility and Pressure Equipment Directives. Refer to the EC Declaration of Conformity for specific details.



m1 is approved for use as a portable test instrument for Marine use and complies with Det Norsjke Veritas' Rules for Classification of Ships, High Speed & Light Craft, and Offshore Standards.

ACCESSORIES



Protective Boot P/N 3436 (included)

Protect your m1 from harsh environments with our form fitting chemical resistant thermoplastic boot (Skydrol fluid compatible).

COMPLEMENTARY PRODUCTS

Crystal Engineering offers a wide range of products that work with the m1:

- [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](#)

RANGE & RESOLUTION TABLE

| P/N | Range (MPa) | Over-pressure | Display Resolution | | | |
|--------|-------------|---------------|--------------------|------|--------|------|
| | | | MPa | kPa | bar | mbar |
| 200KPA | 200 (kPa) | 3.0 x | | 0.01 | 0.0001 | 0.1 |
| 1MPA | 1 | 2.0 x | 0.0001 | 0.1 | 0.001 | 1 |
| 2MPA | 2 | 2.0 x | 0.0001 | 0.1 | 0.001 | 1 |
| 10MPA | 10 | 2.0 x | 0.001 | 1 | 0.01 | |
| 20MPA | 20 | 1.5 x | 0.001 | 1 | 0.01 | |
| 70MPA | 70 | 1.5 x | 0.01 | | 0.1 | |

ORDERING INFORMATION*

| Model | P/N | Adapter Type | Pump System* | Carrying Case~ |
|-------|-----------|----------------------|-----------------------|-----------------------|
| M1 | — | — | — | — |
| | Standard: | NPT (omit) | No Pump. . . . (omit) | |
| | Optional: | G 1/4 B -BSP | System A. . . . -AXX | Aluminum . . . (omit) |
| | | M20x1.5 . . . -M20 | System A. . . . -AHX | Waterproof. . . . -W |
| | | | 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 | |

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 m1 and delivered in a sturdy carrying case with custom insert.

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

~ The Waterproof Case is an **option** for Systems A, B, and C only.
The Waterproof Case is **the only option** for Systems G and H.

Ordering a Pump System Only

Any pump system, carrying case, and connection fittings for an m1 pressure gauge may be ordered separately from the gauge. Enter M1-NONE followed by the Pump System part number and the Carrying Case option code.

SAMPLE PART NUMBER

M1-NONE-GOX-W . . . System G pump system with a waterproof carrying case.

SAMPLE PART NUMBERS






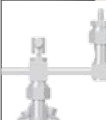


M1-2MPA 2 MPa standard gauge, with a 1/4" NPT pressure fitting.

M1-10MPA-BSP 10 MPa gauge, with a 1/4" BSP pressure fitting.

M1-20MPA-CHX-W 20 MPa standard gauge with a System C pump system and a waterproof carrying case.

* MPA versions available in USA direct from factory only.

PUMP SYSTEMS OVERVIEW

| Pump System | Part Number | Pressure Range | Pneumatic | Hydraulic | Hand Pump | Bench Top | Included Pump | Case Options | | | |
|-------------|-------------|--------------------------------------|-----------|-----------|-----------|-----------|---------------------------------------------------------------------------------------|--------------------|---------------------------|------|---|
| | | | | | | | | Aluminum | Waterproof (Pelican Case) | | |
| System A | AXX | 0 to 30psi /2 bar | ■ | | ■ | |  | T-960-CPF | ■ | (or) | ■ |
| | AHX | 0 to 580 psi /40 bar | ■ | | ■ | | | T-970-CPF | ■ | | ■ |
| System B | BXX | -25 inHg to 30 psi /-0.85 to 2 bar | ■ | | ■ | |  | T-965-CPF | ■ | (or) | ■ |
| | BHX | -27 inHg to 580 psi /-0.91 to 40 bar | ■ | | ■ | | | T-975-CPF | ■ | | ■ |
| System C | CXX | 0 to 3000 psi /200 bar | | ■ (Oil) | ■ | |  | T-620-CPF | ■ | (or) | ■ |
| | CHX | 0 to 5000 psi /350 bar | | ■ (Oil) | ■ | | | T-620H-CPF | ■ | | ■ |
| System D | DOX | 0 to 5000 psi /350 bar | | ■ (Oil) | | ■ |  | P-018-CPF | ■ | | |
| | DWX | 0 to 5000 psi /350 bar | | ■ (Water) | | ■ | | | | ■ | |
| System E | EOX | 0 to 10 000 psi /700 bar | | ■ (Oil) | | ■ |  | P014-CPF | ■ | | |
| System F | FOV | 0 to 15 000 psi /1000 bar | | ■ (Oil) | | ■ |  | T-1-CPF | ■ | | |
| | FWV | 0 to 15 000 psi /1000 bar | | ■ (Water) | | ■ | | | | ■ | |
| System G | GOX | 0 to 15 000 psi /1000 bar | | ■ (Oil) | | ■ |  | GaugeCalHP | | | ■ |
| | GWX | 0 to 15 000 psi /1000 bar | | ■ (Water) | | ■ | | | | | |
| System H | HOX | -27 inHg to 580 psi /-0.91 to 40 bar | ■ | | ■ | |  | T-975-CPF (and) | | | ■ |
| | | 0 to 5000 psi /350 bar | | ■ (Oil) | ■ | | | T-620H-CPF | | | ■ |