

## 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 = -1.0 bar

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

*All models indicate vacuum, but vacuum specification applies to 2 bar, 10 bar, and 20 bar models only.*

*Not recommended for continuous use below -1.0 bar. 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**

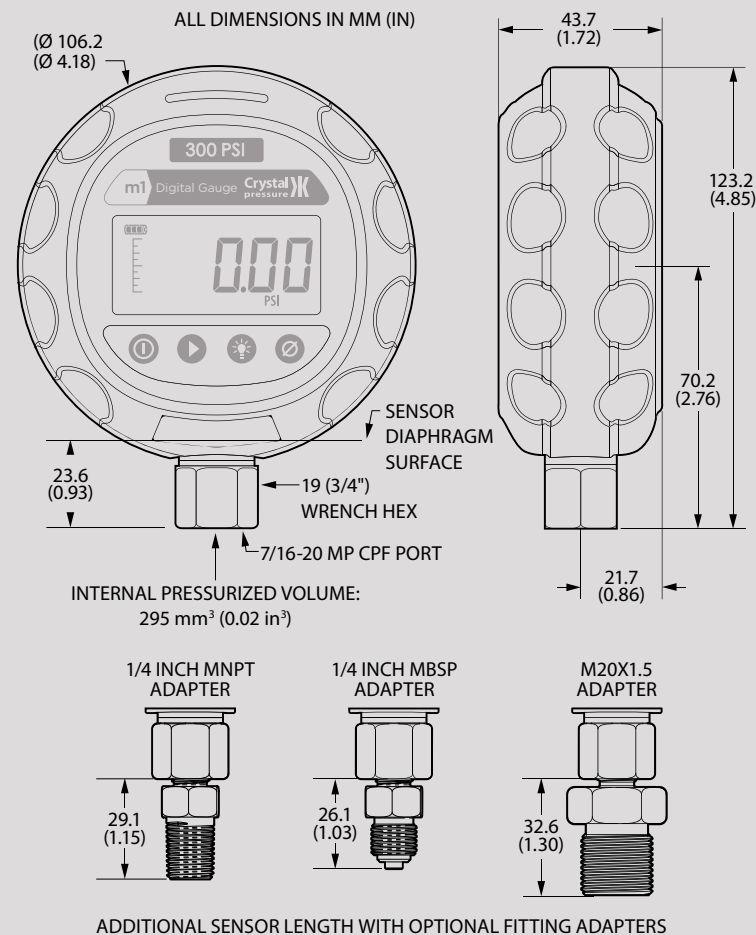
*LCD readable in sunlight with bright backlight.*

## 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.*

# m1 Pressure Gauge bar



**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 (bar) | Over-Pressure | Display Resolution |      |      |        |       |                     |       |       |                     |                    |
|--------|-------------|---------------|--------------------|------|------|--------|-------|---------------------|-------|-------|---------------------|--------------------|
|        |             |               | bar                | mbar | kPa  | MPa    | psi   | in H <sub>2</sub> O | in Hg | mm Hg | mm H <sub>2</sub> O | kg/cm <sup>2</sup> |
| 2BAR   | 2           | 3.0 x         | 0.0001             | 0.1  | 0.01 |        | 0.001 | 0.1                 | 0.01  | 0.1   | 1                   | 0.0001             |
| 10BAR  | 10          | 2.0 x         | 0.001              | 1    | 0.1  | 0.0001 | 0.01  | 0.1                 | 0.01  | 1     |                     | 0.001              |
| 20BAR  | 20          | 2.0 x         | 0.001              | 1    | 0.1  | 0.0001 | 0.01  |                     | 0.1   | 1     |                     | 0.001              |
| 100BAR | 100         | 2.0 x         | 0.01               |      | 1    | 0.001  | 0.1   |                     | 0.1   |       |                     | 0.01               |
| 200BAR | 200         | 1.5 x         | 0.01               |      | 1    | 0.001  | 0.1   |                     | 1     |       |                     | 0.01               |
| 700BAR | 700         | 1.5 x         | 0.1                |      |      | 0.01   | 1     |                     | 1     |       |                     | 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.

**SAMPLE PART NUMBERS**

- M1-20BAR . . . . . 20 bar standard gauge, with a 1/4" NPT pressure fitting.
- M1-100BAR-BSP . . . . . 100 bar gauge, with a 1/4" BSP pressure fitting.
- M1-200BAR-CXX-W . . . . . 200 bar standard gauge with a System C pump system and a waterproof carrying case.

**Ordering a Pump System Only**





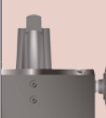
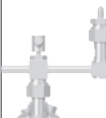


Any pump system, carrying case, and connection fittings for an m1 pressure gauge may be ordered separately from the gauge. Enter M1-NONE followed by the Pump System part number and the Carrying Case option code.

**SAMPLE PART NUMBER**

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

\* BAR 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                    | ■         |           | ■         |           |    | ■                          | (or)                      | ■ |
|             | AHX         | 0 to 580 psi /40 bar                 | ■         |           | ■         |           |   | T-970-CPF                  |                           | ■ |
| System B    | BXX         | -25 inHg to 30 psi /-0.85 to 2 bar   | ■         |           | ■         |           |    | ■                          | (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)   | ■         |           |    | ■                          | (or)                      | ■ |
|             | CHX         | 0 to 5000 psi /350 bar               |           | ■ (Oil)   | ■         |           |   | T-620H-CPF                 |                           | ■ |
| System D    | DOX         | 0 to 5000 psi /350 bar               |           | ■ (Oil)   |           | ■         |    | ■                          |                           |   |
|             | DWX         | 0 to 5000 psi /350 bar               |           | ■ (Water) |           | ■         |   | P-018-CPF                  | ■                         |   |
| System E    | EOX         | 0 to 10 000 psi /700 bar             |           | ■ (Oil)   |           | ■         |   | ■                          |                           |   |
| System F    | FOV         | 0 to 15 000 psi /1000 bar            |           | ■ (Oil)   |           | ■         |  | ■                          |                           |   |
|             | FWV         | 0 to 15 000 psi /1000 bar            |           | ■ (Water) |           | ■         |   | T-1-CPF                    | ■                         |   |
| System G    | GOX         | 0 to 15 000 psi /1000 bar            |           | ■ (Oil)   |           | ■         |  |                            |                           | ■ |
|             | GWX         | 0 to 15 000 psi /1000 bar            |           | ■ (Water) |           | ■         |   | GaugeCalHP                 |                           |   |
| System H    | HOX         | -27 inHg to 580 psi /-0.91 to 40 bar | ■         |           | ■         |           |  | ■                          |                           | ■ |
|             |             | 0 to 5000 psi /350 bar               |           | ■ (Oil)   | ■         |           |   | T-975-CPF (and) T-620H-CPF |                           |   |