

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 = -14.5 psig

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

All models indicate vacuum, but vacuum specification applies to 30 psi, 100 psi, and 300 psi models only.

Not recommended for continuous use below -14.5 psi. 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

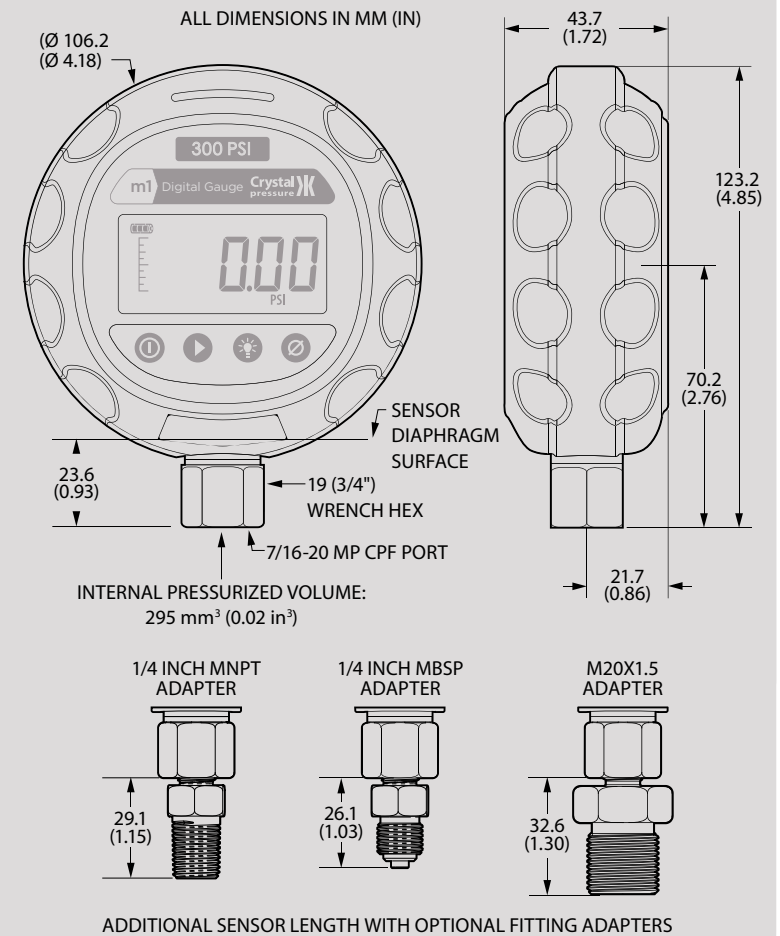
Screen: **5 digits, 16.8 mm (0.66") high**
 Display Rate: **4 readings/second**

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.

RANGE & RESOLUTION TABLE

| P/N | Range (psi) | Over-pressure | Display Resolution | | | | | | | | | |
|--------|-------------|---------------|--------------------|---------------------|-------|-------|---------------------|--------------------|--------|------|------|--------|
| | | | psi | in H ₂ O | in Hg | mm Hg | mm H ₂ O | kg/cm ² | bar | mbar | kPa | MPa |
| 30PSI | 30 | 3.0 x | 0.001 | 0.1 | 0.01 | 0.1 | 1 | 0.0001 | 0.0001 | 0.1 | 0.01 | |
| 100PSI | 100 | 2.0 x | 0.01 | 0.1 | 0.01 | 1 | | 0.001 | 0.001 | 1 | 0.1 | 0.0001 |
| 300PSI | 300 | 2.0 x | 0.01 | | 0.1 | 1 | | 0.001 | 0.001 | 1 | 0.1 | 0.0001 |
| 1KPSI | 1000 | 2.0 x | 0.1 | | 0.1 | | | 0.01 | 0.01 | | 1 | 0.001 |
| 3KPSI | 3000 | 1.5 x | 0.1 | | 1 | | | 0.01 | 0.01 | | 1 | 0.001 |
| 10KPSI | 10000 | 1.5 x | 1 | | 1 | | | 0.1 | 0.1 | | | 0.01 |

ORDERING INFORMATION

| Model | P/N | Adapter Type | CPF* Fitting Kits | Pump System** | Liquid (Systems C-H) | Carrying Case~ |
|-----------|----------------------|-------------------------|---|-----------------------|-----------------------|----------------|
| M1 | — | — | — | — | — | — |
| Standard: | NPT (omit) | No (omit) | No Pump (omit) | | | |
| Optional: | G 1/4 B -BSP | NPT Kit (4013) . . . -N | System A (pneumatic) 0 to 30 psi -AXX | Full (omit) | Aluminum . . . (omit) | |
| | M20x1.5 . . . -M20 | BSP Kit (4015) . . . -B | System A (pneumatic) 0 to 580 psi -AHX | Drained -E | Waterproof -W | |
| | | | System B (pneumatic) -25 inHg to 30 psi -BXX | | | |
| | | | System B (pneumatic) -25 inHg to 580 psi -BHX | | | |
| | | | System C (oil) 0 to 3000 psi -CXX | | | |
| | | | System C (oil) 0 to 5000 psi -CHX | | | |
| | | | System D (oil) 0 to 5000 psi -DOX | | | |
| | | | System D (water) 0 to 5000 psi -DWX | | | |
| | | | System E (oil) 0 to 10 000 psi -EOX | | | |
| | | | System F (oil) 0 to 15 000 psi -FOV | | | |
| | | | System F (water) 0 to 15 000 psi -FWV | | | |
| | | | System G (oil) 0 to 15 000 psi -GOX | | | |
| | | | System G (water) 0 to 15 000 psi -GWX | | | |
| | | | System H (oil/pneumatic) -25 inHg to 580 psi and 0 to 5000 psi . . . -HOX | | | |

* CPF Fitting Kits can **only** be ordered as part of a Pump System. All fittings are rated to 10 000 psi, with the exception of the MPF-1/2QTF rated to 5000 psi.

** 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

M1-300PSI 300 psi standard gauge, with a 1/4" NPT pressure fitting.
 M1-1KPSI-BSP 1000 psi gauge, with a 1/4" BSP pressure fitting.
 M1-3KPSI-N-CXX-E-W 3000 psi standard gauge with an NPT CPF fitting kit; a System C pump system; no liquid; 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.



900 Series



600 Series



P-018-CPF



P014



T-1-CPF



GaugeCalHP

PUMP SYSTEMS

All pump systems for the m1 include 1/4 NPT and BSP female fittings and a carrying case with custom insert. Additional fittings and accessories included with individual systems are listed below.

- ▶ **Systems A...** AXX (T-960), AHX (T-970)
MPH-1 hose, bonded seals, o-ring kit, and teflon tape.
- ▶ **Systems B...** BXX (T-965), BHX (T-975-CPF)
MPH-1 hose, bonded seals, o-ring kit, and teflon tape.
- ▶ **Systems C...** CXX (T-620), CHX (T-620H-CPF)
MPH-1 hose, MPF-CAP, MPM-PLUG, bonded seals, o-ring kit, and teflon tape.
- ▶ **Systems D...** DOX and DWX (P-018-CPF)
Bonded seals, o-ring kit, and teflon tape.
- ▶ **System E...** EOX (P014)
Bonded seals, o-ring kit, and teflon tape.
- ▶ **Systems F...** FOV and FWV (T-1-CPF)
Bonded seals, o-ring kit, and teflon tape.
- ▶ **Systems G ...** GOX and GWX (GaugeCalHP)
Carrying case hold-down straps.
- ▶ **System H...** HOX (T-975-CPF and T-620H-CPF)
MPF-CAP, MPM-PLUG, bonded seals, o-ring kit, and teflon tape.

CPF FITTING KITS

- ▶ **NPT Kit...** -N (4013)
Includes MPF-1/8QTF, MPF-1/4QTF, and MPF-1/2QTF.
- ▶ **BSP Kit...** -B (4015)
Includes MPF-1/8BSPF, MPF-1/4BSPF, MPF-3/8BSPF, and MPF-1/2BSPF.

ACCESSORIES



Protective Boot P/N 3436 (included)

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

COMPLIMENTARY 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](#)