**ACCURACY**

- **0 to 20% of Range:** ±(0.04% of Full Scale)
- **20% to 110% of Range:** ±(0.2% of Reading)
- **Vacuum:** ±(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.

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**INTERNAL PRESSURIZED VOLUME:**

295 mm³ (0.02 in³)

**ADDITIONAL SENSOR LENGTH WITH OPTIONAL FITTING ADAPTERS**

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**SCREEN**

- **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: IP6S  
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
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.

### RANGE & RESOLUTION TABLE

<table>
<thead>
<tr>
<th>P/N</th>
<th>Range (psi)</th>
<th>Over-pressure psi</th>
<th>Display Resolution</th>
<th>in H₂O</th>
<th>in Hg</th>
<th>mm Hg</th>
<th>mm H₂O</th>
<th>kg/cm²</th>
<th>bar</th>
<th>mbar</th>
<th>kPa</th>
<th>MPa</th>
</tr>
</thead>
<tbody>
<tr>
<td>30PSI</td>
<td>30</td>
<td>3.0 x</td>
<td>0.001</td>
<td>0.1</td>
<td>0.01</td>
<td>0.1</td>
<td>1</td>
<td>0.0001</td>
<td>0.001</td>
<td>0.1</td>
<td>0.01</td>
<td></td>
</tr>
<tr>
<td>100PSI</td>
<td>100</td>
<td>2.0 x</td>
<td>0.01</td>
<td>0.1</td>
<td>0.01</td>
<td>1</td>
<td>0.001</td>
<td>0.001</td>
<td>1</td>
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</tr>
<tr>
<td>300PSI</td>
<td>300</td>
<td>2.0 x</td>
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<td>0.1</td>
<td>1</td>
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<td>0.001</td>
<td>0.001</td>
<td>1</td>
<td>0.1</td>
<td>0.0001</td>
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</tr>
<tr>
<td>1KPSI</td>
<td>1000</td>
<td>2.0 x</td>
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<td></td>
<td>1</td>
<td></td>
<td>0.01</td>
<td>0.01</td>
<td>1</td>
<td>0.0001</td>
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<td>3KPSI</td>
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<td>0.01</td>
<td>0.01</td>
<td>1</td>
<td>0.0001</td>
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<td>10KPSI</td>
<td>10,000</td>
<td>1.5 x</td>
<td>1</td>
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<td>0.1</td>
<td>0.1</td>
<td>0.0001</td>
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### ORDERING INFORMATION

**Model**

<table>
<thead>
<tr>
<th>Model</th>
<th>P/N</th>
<th>Adapter Type</th>
<th>Pump System*</th>
<th>Carrying Case*</th>
</tr>
</thead>
<tbody>
<tr>
<td>M1</td>
<td></td>
<td>NPT</td>
<td>No Pump, (omit)</td>
<td>No Pump, (omit)</td>
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<tr>
<td></td>
<td></td>
<td>G 1/4 B</td>
<td>System A ... -AXX</td>
<td>Aluminum ... (omit)</td>
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<tr>
<td></td>
<td></td>
<td>M20x1.5-M20</td>
<td>System A ... -AHX</td>
<td>Waterproof ... -W</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>System B ... -BXX</td>
<td>System B ... -BHX</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>System C ... -CXX</td>
<td>System C ... -CHX</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>System D ... -DOX</td>
<td>System D ... -DWX</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>System E ... -EOX</td>
<td>System E ... -FOV</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>System F ... -FWV</td>
<td>System F ... -FWV</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>System G ... -GOX</td>
<td>System G ... -GWX</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>System H ... -HOX</td>
<td>System H ... -HOX</td>
</tr>
</tbody>
</table>

**Pump System**

*No Pump, (omit)
*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

**Carrying Case**

*No Pump, (omit)
*Aluminum ... (omit)
*Waterproof ... -W
*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

### 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**

M1-300PSI - 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-CXX-W - 3000 psi standard gauge with a System C pump system and a waterproof carrying case.
# PUMP SYSTEMS OVERVIEW

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