Crystal pressure

**ACCURACY**

<table>
<thead>
<tr>
<th>Range</th>
<th>-S5 Option</th>
<th>-S2 Option</th>
<th>-S5 Option</th>
</tr>
</thead>
<tbody>
<tr>
<td>16 psiA Range</td>
<td>± (0.05% of Full Scale) -10 to 50° C</td>
<td>± (0.02% of Full Scale) 15 to 25° C</td>
<td>± (0.05% of Full Scale) -10 to 15° C, 25 to 50° C, typical</td>
</tr>
<tr>
<td>100 psiA Range</td>
<td>0 to 20% of Range: ±(0.02% of Full Scale)</td>
<td>20% to 110% of Range: ±(0.1% of Reading)</td>
<td>± (0.05% of Full Scale) -10 to 50° C</td>
</tr>
<tr>
<td>500, 1000, 2000, 3000, 5000, 10 000, 15 000 psiA Ranges</td>
<td>15 psiA to 20% of Range: ±(0.02% of Full Scale)</td>
<td>20% to 110% of Range: ±(0.1% of Reading)</td>
<td>± (0.05% of Full Scale) -10 to 50° C</td>
</tr>
</tbody>
</table>

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

Easily switch between gauge (sealed gauge) and absolute pressure measurement.

**OPERATING TEMPERATURE**

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

Non-condensing. No change in accuracy over operating temperature range.

**DISPLAY**

Screen: 5.5 digits

Single Line Display: 16.9 mm (0.67") high

Dual Line Display: Main Display: 13.9 mm (0.55")
                   Secondary Display: 5.3 mm (0.21")

Display Rate: 4 readings/second (standard)
              8 readings/second (PSV mode)

LCD readable in sunlight with bright backlight.

PSV mode is intended for Pressure Safety Valve testing, and requires software to enable. (ConfigXP is a free download from ametekcalibration.com.)
POWER

The XP2i is Intrinsically Safe only if powered by one of the following battery types.

<table>
<thead>
<tr>
<th>ATEX/IECEx:</th>
<th>Approved Battery Type</th>
<th>Ta=</th>
<th>Marking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rayovac Max Plus 815</td>
<td>-20 to 50°C</td>
<td></td>
<td>Ex ia IIC T4 Ga</td>
</tr>
<tr>
<td>Energizer E91</td>
<td>-20 to 50°C</td>
<td></td>
<td>Ex ia IIC T4 Ga</td>
</tr>
<tr>
<td>Energizer EN91</td>
<td>-20 to 50°C</td>
<td></td>
<td>Ex ia IIC T3 Ga</td>
</tr>
<tr>
<td>Duracell MN1500</td>
<td>-20 to 50°C</td>
<td></td>
<td>Ex ia IIC T3 Ga</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CSA:</th>
<th>Approved Battery Type</th>
<th>Ta=</th>
<th>Marking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rayovac Max Plus 815</td>
<td>-20 to 45°C</td>
<td></td>
<td>Class I, Division 1, A, B, C, D T4</td>
</tr>
<tr>
<td>Energizer E91</td>
<td>-20 to 50°C</td>
<td></td>
<td>Class I, Division 1, A, B, C, D T3C</td>
</tr>
<tr>
<td>Energizer EN91</td>
<td>-20 to 50°C</td>
<td></td>
<td>Class I, Division 1, A, B, C, D T3C</td>
</tr>
<tr>
<td>Rayovac Max Plus 815</td>
<td>-20 to 50°C</td>
<td></td>
<td>Class I, Division 1, A, B, C, D T3C</td>
</tr>
</tbody>
</table>

3 x AA: 1500 hours, typical

Ultra Low Power: > 1 year, typical**

Uses 3 alkaline AA (LR6) batteries. Use of backlight and/or RS232 reduces operating time.

Optional AC power supply available.

**20 minute recording interval or greater in LT5 mode.

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

DATA/COMMUNICATION

Digital Interface: RS232, DB-9F

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

DATalogging

Capacity: 32000 data points

Storage Type: Non-volatile flash memory

Minimum Interval: 1 second

Maximum Interval: 18 hours

Min. Event Duration: 250 ms***

DataLoggerXP Firmware Update may be purchased at time of order, or an Upgrade Package may be purchased afterward.

Software available for download from our website. Compatible with 32 & 64 bit Windows 7, Vista, and XP (32 bit only). Produces csv files, or uses Excel template files (samples included) to automatically format and graph data.

*** Logging Type - Average with Peaks.

CERTIFICATIONS

II 1G Ex ia IIC T4/T3 Ga
FTZU 12 ATEX 0048X

Ex ia IIC T4/T3 Ga
IECEx FTZU 12.0009X

Exia Intrinsically Safe and Non-incendive for Hazardous Locations: Class I, Division 1, Groups A, B, C and D, Temperature Code T4 or T3C. For hazardous location product warnings, refer to the operation manual.

XP2i complies with the Electromagnetic Compatibility and the Pressure Equipment Directives.

XP2i complies with the Australian Radiocommunications (Electromagnetic Compatibility) Standard 2008.

XP2i 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.

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

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*** Logging Type - Average with Peaks.

4864.0 1905 • XP2i psiA
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ENCLOSURE

Weight: 562 g (19.8 oz)  
Rating: IP66 and IP67  
Housing: Diecast aluminum  
Keypad and Labels: UV Resistant Polyester

Weight includes batteries.  
Submersible to 1 m for 30 minutes (IEC 60529).  
Nickel plating over low copper, marine grade aluminum.  
LCD protected from impact damage by 1.5 mm (0.06”) thick polycarbonate lens under polyester window.  
Skydrol® compatible.  
For hazardous location product warnings, refer to the operation manual.

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.  
Optional connection on back.  
1/4” male NPT adapter included unless BSF, M20, or 15KPSIB is specified.  
1/4” medium pressure tube system compatible with HiP LM4 and LF4 Series, Autoclave Engr SF250CX Male and Female Series.  
* 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

The following requires the use of our free ConfigXP software

User Defined Unit: Allows the user to define and display any pressure units not included,  
or to use the gauge to display force, level, or other pressure related parameters.  
Reduce or increase displayed resolution.

PSV Mode: Intended for pressure safety valve / burst disk testing. 8 readings per second.  
Captures point at which valve opens, as well as reseat pressure.

Averaging: Smooths unsteady readings (1 to 10 samples).

Remove: Unwanted pressure units from Units button.

Disable: Peak pressure button.

Limit or Disable: Zero button.

Password Protect: Changes to configuration or calibration factor(s).

Save: Configuration to a file.

Copy: Configuration can be copied to other gauges.

STANDARD DELIVERY

• XP2i Gauge  
• CD Manual  
• ISO 17025 Accredited Calibration Certificate, NIST Traceable  
• CPF Connection Fitting (ranges 10 000 psi and lower)

ACCESSORIES

Protective Boot P/N 3696  
Magnetic Hanging Strap P/N 5203  
AC Adapter Kit P/N 2984  
USB B to RS232 DB9M Cable P/N 3313  
Waterproof Carrying Case P/N 2888

COMPLEMENTARY PRODUCTS

Crystal Engineering offers a wide range of products that work with the XP2i:

• Fittings that connect without tools, safely and without leaks  
• Lightweight, super flexible high pressure hoses  
• Pneumatic hand pumps  
• Hydraulic hand pumps  
• Portable pressure comparators  
• Software, for the quickest way to calibrate pressure transmitters and gauges

Autoclave Engineers Fluid Components is a division of Snap-tite, Inc.  
HiP is High Pressure Equipment Company.  
Viton is a registered trademark of DuPont Performance Elastomers.
RANGE & RESOLUTION TABLE

<table>
<thead>
<tr>
<th>P/N</th>
<th>Range (psiA)</th>
<th>Over-pressure</th>
<th>Display Resolution</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>psi</td>
</tr>
<tr>
<td>16PSIB</td>
<td>16</td>
<td>6.5 x</td>
<td>0.001</td>
</tr>
<tr>
<td>100PSIB</td>
<td>100</td>
<td>2.0 x</td>
<td>0.01</td>
</tr>
<tr>
<td>500PSIB</td>
<td>500</td>
<td>2.0 x</td>
<td>0.01</td>
</tr>
<tr>
<td>1KPSIB</td>
<td>1000</td>
<td>2.0 x</td>
<td>0.1</td>
</tr>
<tr>
<td>2KPSIB</td>
<td>2000</td>
<td>2.0 x</td>
<td>0.1</td>
</tr>
<tr>
<td>3KPSIB</td>
<td>3000</td>
<td>1.5 x</td>
<td>0.1</td>
</tr>
<tr>
<td>5KPSIB</td>
<td>5000</td>
<td>1.5 x</td>
<td>0.1</td>
</tr>
<tr>
<td>10KPSIB</td>
<td>10000</td>
<td>1.5 x</td>
<td>1</td>
</tr>
<tr>
<td>15KPSIB</td>
<td>15000</td>
<td>1.3 x</td>
<td>1</td>
</tr>
</tbody>
</table>

ORDERING INFORMATION

<table>
<thead>
<tr>
<th>P/N</th>
<th>Model</th>
<th>Dual Display</th>
<th>Accuracy</th>
<th>Adapter Type</th>
<th>Connection Location</th>
<th>Data logging</th>
<th>Pump System*</th>
<th>Carrying Case**</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>XP2i</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Standard: No. (omit)</td>
<td>0.1% of reading (omit)</td>
<td>NPT (omit)</td>
<td>Bottom (omit)</td>
<td>No (omit)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Optional: Yes. -DD</td>
<td>0.02% of F3 -S2</td>
<td>G 1/4 B -BSP</td>
<td>Back -RP</td>
<td>Yes -DL</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>0.05% of F5 -S5</td>
<td>M20x1.5 -M20</td>
<td>Panel Mount -F4</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

SAMPLE PART NUMBERS

2KPSIBXPI .......................... 2000 psi Absolute gauge, with a 1/4” NPT pressure fitting.
100PSIBXPI-BSP-DL ............. 100 psi Absolute gauge with a 1/4” BSP pressure fitting and Data-logging.
15KPSIBXPI-DD-GWX-W ...... 15 000 psi Dual Display Absolute gauge with 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 XP2i pressure gauge may be ordered separately from the gauge. Enter XP2I-NONE followed by the Pump System part number and the Carrying Case option code.

SAMPLE PART NUMBER

XP2I-NONE-BHX-W ............... System B pump system with a waterproof carrying case.

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 XP2i 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.
## 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><strong>System A</strong></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>
<td></td>
<td></td>
<td></td>
<td></td>
<td>T-970-CPF</td>
<td>(or)</td>
</tr>
<tr>
<td><strong>System B</strong></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><strong>System C</strong></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>
</tr>
<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>
</tr>
<tr>
<td><strong>System D</strong></td>
<td>DOX</td>
<td>0 to 5000 psi / 350 bar</td>
<td>(Oil)</td>
<td></td>
<td></td>
<td></td>
<td>P-018-CPF</td>
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<td></td>
<td>DWX</td>
<td>0 to 5000 psi / 350 bar</td>
<td>(Water)</td>
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<td></td>
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<td>P014-CPF</td>
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<tr>
<td><strong>System E</strong></td>
<td>EOX</td>
<td>0 to 10000 psi / 700 bar</td>
<td>(Oil)</td>
<td></td>
<td></td>
<td></td>
<td>P014-CPF</td>
<td></td>
</tr>
<tr>
<td><strong>System F</strong></td>
<td>FOV</td>
<td>0 to 15000 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 15000 psi / 1000 bar</td>
<td>(Water)</td>
<td></td>
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<td></td>
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<tr>
<td><strong>System G</strong></td>
<td>GOX</td>
<td>0 to 15000 psi / 1000 bar</td>
<td>(Oil)</td>
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<td></td>
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<td>GaugeCalHP</td>
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<tr>
<td></td>
<td>GWX</td>
<td>0 to 15000 psi / 1000 bar</td>
<td>(Water)</td>
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<tr>
<td><strong>System H</strong></td>
<td>HOX</td>
<td>-27 inHg to 580 psi / -0.91 to 40 bar</td>
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<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>
<td></td>
</tr>
</tbody>
</table>