



## ACCURACY - GAUGE PRESSURE

### Standard Accuracy Version

- 0 to 40% of Range:  $\pm (0.02\% \text{ of Full Scale}^*)$
- 40% to 110% of Range:  $\pm (0.05\% \text{ of Reading})$
- Vacuum:  $\pm (0.25\% \text{ of Full Scale}^{**})$

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

**All models indicate vacuum, but vacuum specification applies to 15 psi, 30 psi, 100 psi, 300 psi, and 500 psi models only, and includes vacuum calibration points.**

### -S5 Accuracy Option

- Vacuum to 110% of Range:  $\pm (0.05\% \text{ of Full Scale}^*)$

*\*Full Scale is 100% of the range*

### -S2 Accuracy Option

- Vacuum to 110% of Range:  $\pm (0.02\% \text{ of Full Scale}^*)$

*\*\*Full Scale = -14.5 psig*

## ACCURACY - ABSOLUTE PRESSURE

### 16 psiA Range

- S5 Option:  $\pm (0.05\% \text{ of Full Scale}^*)$

#### All Absolute Ranges

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

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

#### 16 psiA Range

*Only available with -S5 accuracy option.*

*Calibrated in Vertical Orientation. Orientation Effect =  $\pm 0.004$  psi.*

#### 1000 psiA Ranges and Above

*All models indicate pressure from 0 psiA to Full Scale, but are only specified from 15 psiA to Full Scale.*

*\*Full Scale is 100% of the range.*

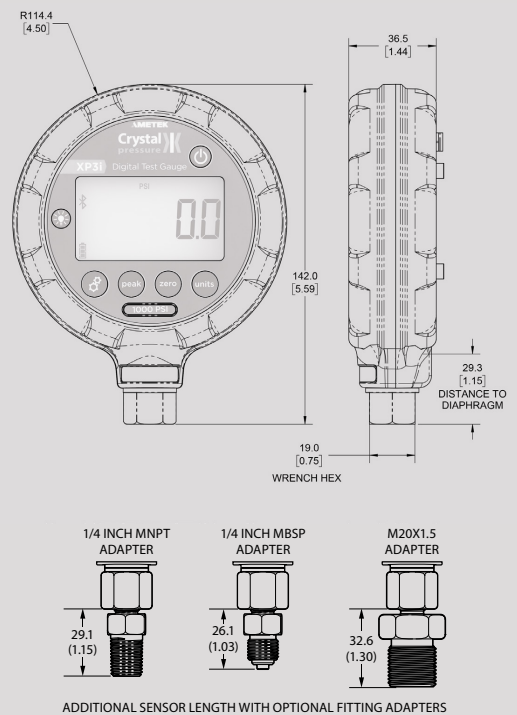
### 100 and 500 psiA Ranges

- 0 to 40% of Range:  $\pm (0.02\% \text{ of Full Scale}^*)$
- 40% to 110% of Range:  $\pm (0.05\% \text{ of Reading})$
- S2 Option:  $\pm (0.02\% \text{ of Full Scale}^*)$
- S5 Option:  $\pm (0.05\% \text{ of Full Scale}^*)$

### 1000, 2000, 3000, 5000, 10 000 psiA Ranges

- 15 psiA to 40% of Range:  $\pm (0.02\% \text{ of Full Scale}^*)$
- 40% to 110% of Range:  $\pm (0.05\% \text{ of Reading})$
- S2 Option:  $\pm (0.02\% \text{ of Full Scale}^*)$
- S5 Option:  $\pm (0.05\% \text{ of Full Scale}^*)$

## XP3i Pressure Gauge psi





## OPERATING TEMPERATURE

Fully Compensated Range: **-20 to 50° C (-4 to 122° F)**

Fully temperature compensated temperature range. No change in accuracy over the specified temperature range.

## DISPLAY

Screen: **5.5 digits**

LCD readable in all conditions with two level backlight.

Single Line Display: **17 mm (0.68") high**

PSV mode is for Pressure Safety Valve testing. Configure using CrystalControlWeb.

Dual Line Display: **Main Display: 16.8 mm (0.66")  
Secondary Display: 7.1 mm (0.28")**

Display Rate: **4 readings/second (standard)**

## POWER / COMMUNICATION

3 x AA: **1500 hours, typical\***

Uses 3 alkaline AA (LR6) batteries. \*Typical battery life when operating without backlight or Bluetooth communication.

Ultra Low Power: **> 1 year, typical\*\***

May be powered via the USB port when operating outside the hazardous environment. Optional USB adapter available.

Digital Interface: **USB Type C**

Bluetooth Low Energy: **Version 5.4, up to 100 feet typical**

\*\*Enabled when datalogging interval is 20 minutes or longer.

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

## ENCLOSURE

Weight: **580 g (20.7 oz)**

Weight includes batteries.

Rating: **IP67**

Submersible to 1 m for 30 minutes [IEC 60529].

Housing: **Diecast aluminum**

Thick nickel plating over low copper, marine grade aluminum.

Vibration: **10-500 Hz, 50 m/s<sup>2</sup>**

LCD protected from impact damage by 1.5 mm (0.06") thick polycarbonate lens under polyester window - no glass.

Shock: **15 g, 11 ms**

Skydrol® compatible.

Surface: **Fully static dissipative\* to avoid**

Vibration and Shock tested to IEC 60068.

**build-up of electrostatic charge on portable equipment (incl. boot).\*\***

\*Meeting EN IEC 60079-0:2018 requirements.

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

## XP3i Pressure Gauge psi

### CERTIFICATIONS



**II 1G Ex ia IIC T3...T4 Ga  
FTZU 23 ATEX 0015X**



**Ex ia IIC T3...T4 Ga  
IECEx FTZU 23.0017X**



**CSA24CA80188655X** - Exia Intrinsically Safe - Class I, Div 1, Grp A, B, C and D, T4/T3C. Class I, Zone 0, AEx ia IIC, T3C...T4 Ga. For hazardous location product warnings, refer to the operation manual.



XP3i complies with the ATEX, RoHS, Pressure Equipment, and Radio Equipment Directives. (Includes Bluetooth.)



XP3i complies with the Australian Radiocommunications (Electromagnetic Compatibility) Standard 2008. (Includes Bluetooth.)



Bluetooth, USA: **FCC ID: 2BD5G001**  
Bluetooth, Canada: **IC: 31893-001**  
Bluetooth, Japan: **205-240004**

MIL-STD-810H - Withstands 5 foot drop (without protective boot) and 10 foot drop (with boot) to steel plate for 6 orientations.



## DATALOGGING

Capacity: **Greater than 200M data points**  
Storage Type: **Non-volatile flash memory**  
Minimum Interval: **5 Hz / five per second**  
Maximum Interval: **24 hours**  
Transfer Rates: **USB 5-10x faster than Bluetooth**

*The One-Time Upgrade purchase allows the XP3i to log readings. This may be purchased at the time of order, or an upgrade package may be purchased afterwards.*

**Crystal Control** Web

## 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 construction on sensors above 15 psi. (The 15 psi sensor has a Viton o-ring seal.)  
Metal to metal cone seal; O-ring can be removed if necessary.  
Optional connection on back.  
1/4" male NPT adapter included unless BSP or M20 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)**

## OVER-PRESSURE (ABSOLUTE AND GAUGE PRESSURES)

| Range          | Specified to | Over-Load Warning     | Potential Sensor Damage |
|----------------|--------------|-----------------------|-------------------------|
| 15 psi/16 psiA | 16.5 psi     | 17.25 psi / 18.4 psiA | 45 psi                  |
| 30 psi         | 33 psi       | 34.5 psi              | 90 psi                  |
| 100 psi        | 110 psi      | 115 psi               | 200 psi                 |
| 300 psi        | 330 psi      | 345 psi               | 600 psi                 |
| 500 psi        | 550 psi      | 575 psi               | 1000 psi                |
| 1000 psi       | 1100 psi     | 1150 psi              | 2000 psi                |
| 2000 psi       | 2200 psi     | 2300 psi              | 4000 psi                |
| 3000 psi       | 3300 psi     | 3450 psi              | 4500 psi                |
| 5000 psi       | 5500 psi     | 5750 psi              | 7500 psi                |
| 10000 psi      | 11000 psi    | 11500 psi             | 15000 psi               |

*All ranges are specified to 110% of their range.*

*As a precaution, the "Over-Load Warning" will occur at 115% of the range, and the display will alternate between OL and the current reading until the pressure returns below 115% of the range.*

*The potential sensor damage is an estimated value, based on tests, at which permanent sensor damage is likely to occur.*

## XP3i Pressure Gauge psi

### STANDARD DELIVERY

- XP3i Gauge
- Online Manual
- ISO 17025 Accredited Calibration Certificate, NIST Traceable. Includes Data at Multiple Temperatures, Covering the Full Temperature Compensated Range. (Proving temperature compensation - for each gauge individually.)
- Velcro Strap (except the -RP and -F4 options)
- 3 x AA Batteries
- CrystalConnect Mobile App (download at iOS App Store)
- Free PC Configuration
- CPF Connection Fitting

### ACCESSORIES - NOT INTRINSICALLY SAFE EXCEPT P/N 7095

**Protective Boot P/N 7095**  
**Magnetic Hanging Strap P/N 5203**  
**USB Cable USB-C/USB-A P/N 6885**  
**USB Universal Adapter, Wall Mount, USB-A P/N 7190**  
**Waterproof Carrying Case P/N 2888**

### COMPLEMENTARY PRODUCTS

Crystal Engineering offers a wide range of products that work with the XP3i:

- [Discounted three year calibration program \(NA only\)](#)
- [Fittings that connect without tools, safely and without leaks](#)
- [Lightweight, super flexible high pressure hoses](#)
- [Pneumatic hand pumps](#)
- [Hydraulic hand pumps](#)
- [Portable pressure comparators](#)

\*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. \*Skydrol is a registered trademark of Monsanto Chemical Corp.

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**AMETEK®**  
SENSORS, TEST & CALIBRATION

## RANGE & RESOLUTION TABLES

| Gauge Pressure |             | Display Resolution |                     |       |       |                     |                    |        |      |      |         |
|----------------|-------------|--------------------|---------------------|-------|-------|---------------------|--------------------|--------|------|------|---------|
| P/N            | Range (psi) | psi                | in H <sub>2</sub> O | in Hg | mm Hg | mm H <sub>2</sub> O | kg/cm <sup>2</sup> | bar    | mbar | kPa  | MPa     |
| 15PSI          | 15          | 0.001              | 0.01                | 0.001 | 0.01  | 1                   | 0.0001             | 0.0001 | 0.1  | 0.01 | 0.00001 |
| 30PSI          | 30          | 0.001              | 0.01                | 0.001 | 0.1   | 1                   | 0.0001             | 0.0001 | 0.1  | 0.01 | 0.00001 |
| 100PSI         | 100         | 0.01               | 0.1                 | 0.01  | 0.1   | 1                   | 0.0001             | 0.0001 | 0.1  | 0.01 | 0.00001 |
| 300PSI         | 300         | 0.01               | 0.1                 | 0.01  | 1     |                     | 0.001              | 0.001  | 1    | 0.1  | 0.0001  |
| 500PSI         | 500         | 0.01               | 1                   | 0.1   | 1     |                     | 0.001              | 0.001  | 1    | 0.1  | 0.0001  |
| 1KPSI          | 1000        | 0.1                |                     | 0.1   |       |                     | 0.001              | 0.001  |      | 0.1  | 0.0001  |
| 2KPSI          | 2000        | 0.1                |                     | 0.1   |       |                     | 0.01               | 0.01   |      | 1    | 0.001   |
| 3KPSI          | 3000        | 0.1                |                     | 0.1   |       |                     | 0.01               | 0.01   |      | 1    | 0.001   |
| 5KPSI          | 5000        | 0.1                |                     | 1     |       |                     | 0.01               | 0.01   |      | 1    | 0.001   |
| 10KPSI         | 10 000      | 1                  |                     |       |       |                     | 0.01               | 0.01   |      | 1    | 0.001   |

| Absolute Pressure |              | Display Resolution |                     |       |       |                     |                    |        |      |      |         |
|-------------------|--------------|--------------------|---------------------|-------|-------|---------------------|--------------------|--------|------|------|---------|
| P/N               | Range (psiA) | psi                | in H <sub>2</sub> O | in Hg | mm Hg | mm H <sub>2</sub> O | kg/cm <sup>2</sup> | bar    | mbar | kPa  | MPa     |
| A16PSI            | 16           | 0.001              | 0.01                | 0.001 | 0.01  | 1                   | 0.0001             | 0.0001 | 0.1  | 0.01 | 0.00001 |
| A100PSI           | 100          | 0.01               | 0.1                 | 0.01  | 0.1   | 1                   | 0.0001             | 0.0001 | 0.1  | 0.01 | 0.00001 |
| A500PSI           | 500          | 0.01               | 1                   | 0.1   | 1     |                     | 0.001              | 0.001  | 1    | 0.1  | 0.0001  |
| A1KPSI            | 1000         | 0.1                |                     | 0.1   |       |                     | 0.001              | 0.001  |      | 0.1  | 0.0001  |
| A2KPSI            | 2000         | 0.1                |                     | 0.1   |       |                     | 0.01               | 0.01   |      | 1    | 0.001   |
| A3KPSI            | 3000         | 0.1                |                     | 0.1   |       |                     | 0.01               | 0.01   |      | 1    | 0.001   |
| A5KPSI            | 5000         | 0.1                |                     | 1     |       |                     | 0.01               | 0.01   |      | 1    | 0.001   |
| A10KPSI           | 10 000       | 1                  |                     |       |       |                     | 0.01               | 0.01   |      | 1    | 0.001   |

## ORDERING INFORMATION

| Model     | P/N          | Dual Display              | Accuracy         | Adapter Type       | Connection Location | Data logging |
|-----------|--------------|---------------------------|------------------|--------------------|---------------------|--------------|
| XP3I-     |              |                           |                  |                    |                     |              |
| Standard: | No .. (omit) | 0.05 of reading .. (omit) | NPT ..... (omit) | Bottom .... (omit) | No ..... (omit)     |              |
| Optional: | Yes.....-DD  | 0.02% of FS .....-S2      | G 1/4 B ....-BSP | Back .....-RP      | Yes.....-DL         |              |
|           |              | 0.05% of FS .....-S5      | M20x1.5...-M20   | Panel Mount ..-F4  |                     |              |

### SAMPLE PART NUMBERS

XP3I-300PSI ..... 300 psi standard gauge, with a 1/4" NPT pressure fitting.

XP3I-5KPSI-S2-BSP-DL ..... 5000 psi gauge with 0.02% of FS accuracy, a 1/4" BSP pressure fitting, and Data logging.

XP3I-A10KPSI-DD-GWX-W ..... 10 000 psi absolute pressure Dual Display 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 XP3i pressure gauge may be ordered separately from the gauge. Enter XP3I-NONE followed by the Pump System part number and the Carrying Case option code.

### SAMPLE PART NUMBER

XP3I-NONE-BHX-W ..... System B pump system with a waterproof carrying case.

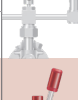
| Pump System*       | Carrying Case~                                                   |
|--------------------|------------------------------------------------------------------|
| No Pump.... (omit) |                                                                  |
| System A....-AXX   | Aluminum ... (omit)                                              |
| System A....-AHX   | Waterproof.....-W                                                |
| System B....-BXX   |                                                                  |
| System B....-BHX   | ~ The Waterproof Case is an option for Systems A, B, and C only. |
| System C....-CXX   |                                                                  |
| System C....-CHX   | The Waterproof Case is the only option for Systems G and H.      |
| System D....-DOX   |                                                                  |
| System D....-DWX   |                                                                  |
| System E....-EOX   |                                                                  |
| System F....-FOV   |                                                                  |
| System F....-FWV   |                                                                  |
| System G....-GOX   |                                                                  |
| System G....-GWX   |                                                                  |

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 XP3i and delivered in a sturdy carrying case with custom insert.

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

**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                          | ■            | ■                         |
|             | AHX         | 0 to 580 psi / 40 bar                 | ■         |           | ■         |           |                                                                                                                        | (or) ■       | ■                         |
| System B    | BXX         | -25 inHg to 30 psi / -0.85 to 2 bar   | ■         |           | ■         |           |  T-965-CPF                          | ■            | ■                         |
|             | BHX         | -27 inHg to 580 psi / -0.91 to 40 bar | ■         |           | ■         |           |                                                                                                                        | (or) ■       | ■                         |
| System C    | CXX         | 0 to 3000 psi / 200 bar               |           | ■ (Oil)   | ■         |           |  T-620-CPF                         | ■            | ■                         |
|             | CHX         | 0 to 5000 psi / 350 bar               |           | ■ (Oil)   | ■         |           |                                                                                                                        | (or) ■       | ■                         |
| 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<br>(and)<br>T-620H-CPF |              | ■                         |
|             |             | 0 to 5000 psi / 350 bar               |           | ■ (Oil)   | ■         |           |                                                                                                                        |              | ■                         |