

ACCURACY

Standard Accuracy Version (-10 to 50° C)

- 0 to 20% of Range: $\pm (0.02\% \text{ of Full Scale}^*)$
- 20% to 110% of Range: $\pm (0.1\% \text{ of Reading})$
- 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 1 bar, 2 bar, 7 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.

**Full Scale is 100% of the range*

****Full Scale = -1.0 bar**

-S5 Accuracy Option (-10 to 50° C)

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

-S2 Accuracy Option

- Vacuum to 110% of Range: $\pm (0.02\% \text{ of Full Scale}^*)$ 15 to 25° C
 $\pm (0.05\% \text{ of Full Scale}^*)$ -10 to 15° C,
25 to 50° C, typical

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: **5.5 digits**

LCD readable in sunlight with bright backlight.

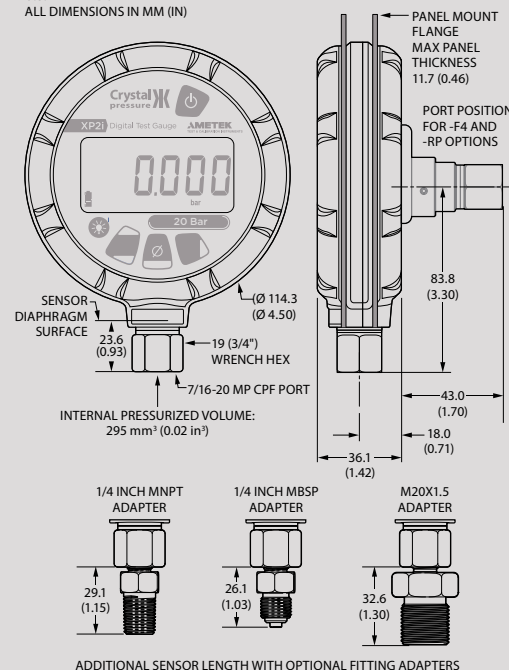
- Single Line Display: **16.9 mm (0.67") high**

- 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)

XP2i Pressure Gauge bar

U.S. PATENT D612277
ALL DIMENSIONS IN MM (IN)



POWER

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

ATEX/IECEx:	Approved Battery Type	Ta=	Marking
	Rayovac Max Plus 815	-20 to 50° C	Ex ia IIC T4 Ga
	Energizer E91		
	Energizer EN91	-20 to 50° C	Ex ia IIC T3 Ga
	Duracell MN1500		

CSA:	Approved Battery Type	Ta=	Marking
	Rayovac Max Plus 815	-20 to 45° C	Class I, Division 1, A, B, C, D T4
	Energizer E91	-20 to 50° C	Class I, Division 1, A, B, C, D T3C
	Energizer EN91		
	Rayovac Max Plus 815		

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: **32 000 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. Produces csv files, or uses Excel template files (samples included) to automatically format and graph data.

*** Logging Type - Average with Peaks.

XP2i Pressure Gauge bar

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 Norske Veritas' Rules for Classification of Ships, High Speed & Light Craft and Offshore Standards.

ENCLOSURE

Weight: 562 g (19.8 oz)	<i>Weight includes batteries.</i>
Rating: IP66 and IP67	<i>Submersible to 1 m for 30 minutes [IEC 60529].</i>
Housing: Diecast aluminum	<i>Nickel plating over low copper, marine grade aluminum.</i>
Keypad and Labels: UV Resistant Polyester	<i>LCD protected from impact damage by 1.5 mm (0.06") thick polycarbonate lens under polyester window.</i>
	<i>Skydrol® compatible.</i>
	<i>For hazardous location product warnings, refer to the operation manual.</i>

SENSOR

Wetted Materials: (WRENCH TIGHT) 316 stainless steel	<i>All welded, with a permanently filled diaphragm seal.</i>
(FINGER TIGHT) 316 stainless steel and Viton® (internal o-ring)	<i>Metal to metal cone seal; O-ring can be removed if necessary.</i>
Diaphragm Seal Fluid: Silicone Oil	<i>Optional connection on back.</i>
Connection: Crystal CPF* Female	<i>1/4" male NPT adapter included unless BSP, M20, or 1KBAR is specified.</i>
	<i>1/4" medium pressure tube system compatible with HiP LM4 and LF4 Series, Autoclave Engr SF250CX Male and Female Series.</i>
	<i>* U.S. Patent No. 8,794,677</i>

STORAGE TEMPERATURE

Temperature Range: -40 to 75° C (-40 to 167° F)	<i>Batteries should be removed if stored for more than one month.</i>
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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 reseal 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
- Online Manual
- ISO 17025 Accredited Calibration Certificate, NIST Traceable
- Velcro Strap (except the -RP and -F4 options)
- 3 x AA Batteries
- DB9 Cover
- 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:

- [Discounted three year calibration program](#)
- [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

P/N	Range (bar)	Over-pressure	Display Resolution								
			bar	mbar	kPa	MPa	psi	in H ₂ O	in Hg	mm Hg	mm H ₂ O
1BAR	1	6.5 x	0.0001	0.1	0.01	0.00001	0.001	0.01	0.001	0.01	1
2BAR	2	3.0 x	0.0001	0.1	0.01	0.00001	0.001	0.01	0.001	0.1	1
7BAR	7	2.0 x	0.0001	0.1	0.01	0.00001	0.01	0.1	0.01	0.1	1
20BAR	20	2.0 x	0.001	1	0.1	0.0001	0.01	0.1	0.01	1	0.001
30BAR	30	2.0 x	0.001	1	0.1	0.0001	0.01	1	0.1	1	0.001
70BAR	70	2.0 x	0.001		0.1	0.0001	0.1		0.1		0.001
140BAR	140	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		0.1		0.01
300BAR	300	1.5 x	0.01		1	0.001	0.1		1		0.01
700BAR	700	1.5 x	0.01		1	0.001	1				0.01
1KBAR	1000	1.3 x	0.01		1	0.001	1				0.01

CPF Adapter Fitting is not included.

ORDERING INFORMATION*

P/N	Model	Dual Display	Accuracy	Adapter Type	Connection Location	Data logging
	XP2I					
Standard:	No .. (omit)	0.1% 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

20BARXP2i 20 bar standard gauge, with a 1/4" NPT pressure fitting.
300BARXP2i-S2-BSP-DL 300 bar gauge with 0.02% of FS accuracy, a 1/4" BSP pressure fitting, and Data logging.
700BARXP2i-DD-GWX-W 700 bar 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 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.

* BAR versions available in USA direct from factory only.

Pump System*	Carrying Case~
No Pump.... (omit)	
System A....-AXX	Aluminum ... (omit)
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 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.

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	■		■		 T-970-CPF	■	■
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	■		■		 T-975-CPF	■	■
System C	CXX	0 to 3000 psi / 200 bar		■ (Oil)	■		 T-620-CPF	■	■
	CHX	0 to 5000 psi / 350 bar		■ (Oil)	■		 T-620H-CPF	■	■
System D	DOX	0 to 5000 psi / 350 bar		■ (Oil)		■	 P-018-CPF	■	
	DWX	0 to 5000 psi / 350 bar		■ (Water)		■	 P-014-CPF	■	
System E	EOX	0 to 10 000 psi / 700 bar		■ (Oil)		■	 T-1-CPF	■	
System F	FOV	0 to 15 000 psi / 1000 bar		■ (Oil)		■	 GaugeCalHP	■	■
	FWV	0 to 15 000 psi / 1000 bar		■ (Water)		■	 T-975-CPF	■	■
System G	GOX	0 to 15 000 psi / 1000 bar		■ (Oil)		■	 T-620H-CPF	■	■
	GWX	0 to 15 000 psi / 1000 bar		■ (Water)		■	 T-975-CPF	■	■
System H	HOX	-27 inHg to 580 psi / -0.91 to 40 bar	■		■		 T-975-CPF		■
		0 to 5000 psi / 350 bar		■ (Oil)	■		 T-620H-CPF		■

ACCURACY

1,1 barA Range

-S5 Option: $\pm (0.05\% \text{ of Full Scale})$ -10 to 50° C

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

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

Only available with -S5 accuracy option.

Calibrated in Vertical Orientation. Orientation Effect = $\pm 0.0003 \text{ bar}$.

10 barA Range

0 to 20% of Range: $\pm (0.02\% \text{ of Full Scale})$

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

20% to 110% of Range: $\pm (0.1\% \text{ of Reading})$

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

-S2 Option: $\pm (0.02\% \text{ of Full Scale})$ 15 to 25° C
 $\pm (0.05\% \text{ of Full Scale})$ -10 to 15° C,
25 to 50° C, typical

-S5 Option: $\pm (0.05\% \text{ of Full Scale})$ -10 to 50° C

30, 70, 140, 200, 300, 700, and 1000 barA Ranges

1 barA to 20% of Range: $\pm (0.02\% \text{ of Full Scale})$

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

20% to 110% of Range: $\pm (0.1\% \text{ of Reading})$

All models indicate pressure from 0 barA to Full Scale, but are only specified from 1 barA to Full Scale.

-S2 Option: $\pm (0.02\% \text{ of Full Scale})$ 15 to 25° C
 $\pm (0.05\% \text{ of Full Scale})$ -10 to 15° C,
25 to 50° C, typical

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

-S5 Option: $\pm (0.05\% \text{ of Full Scale})$ -10 to 50° C

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**

LCD readable in sunlight with bright backlight.

Single Line Display: **16.9 mm (0.67") high**

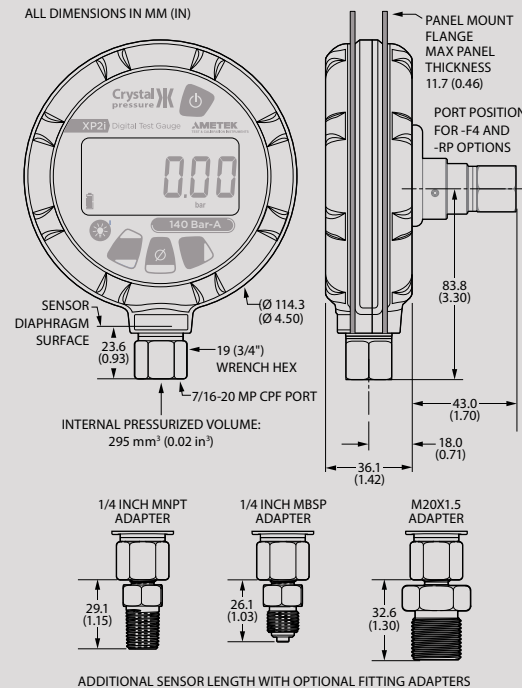
Dual Line Display: **Main Display: 13.9 mm (0.55")**
Secondary Display: 5.3 mm (0.21")

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

XP2i Pressure Gauge barA

U.S. PATENT D612277

ALL DIMENSIONS IN MM (IN)



POWER

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

ATEX/IECEx:	Approved Battery Type	Ta=	Marking
	Rayovac Max Plus 815	-20 to 50° C	Ex ia IIC T4 Ga
	Energizer E91		
	Energizer EN91	-20 to 50° C	Ex ia IIC T3 Ga
	Duracell MN1500		

CSA:	Approved Battery Type	Ta=	Marking
	Rayovac Max Plus 815	-20 to 45° C	Class I, Division 1, A, B, C, D T4
	Energizer E91	-20 to 50° C	Class I, Division 1, A, B, C, D T3C
	Energizer EN91		
	Rayovac Max Plus 815		

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: **32 000 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 Norske Veritas' Rules for Classification of Ships, High Speed & Light Craft and Offshore Standards.

ENCLOSURE

Weight: 562 g (19.8 oz)	<i>Weight includes batteries.</i>
Rating: IP66 and IP67	<i>Submersible to 1 m for 30 minutes [IEC 60529].</i>
Housing: Diecast aluminum	<i>Nickel plating over low copper, marine grade aluminum.</i>
Keypad and Labels: UV Resistant Polyester	<i>LCD protected from impact damage by 1.5 mm (0.06") thick polycarbonate lens under polyester window.</i>
	<i>Skydrol® compatible.</i>
	<i>For hazardous location product warnings, refer to the operation manual.</i>

SENSOR

Wetted Materials: (WRENCH TIGHT) 316 stainless steel	<i>All welded, with a permanently filled diaphragm seal.</i>
(FINGER TIGHT) 316 stainless steel and Viton® (internal o-ring)	<i>Metal to metal cone seal; O-ring can be removed if necessary.</i>
Diaphragm Seal Fluid: Silicone Oil	<i>Optional connection on back.</i>
Connection: Crystal CPF* Female	<i>1/4" male NPT adapter included unless BSP, M20, or 1KBARB is specified.</i>
	<i>1/4" medium pressure tube system compatible with HiP LM4 and LF4 Series, Autoclave Engr SF250CX Male and Female Series.</i>
	<i>* U.S. Patent No. 8,794,677</i>

STORAGE TEMPERATURE

Temperature Range: -40 to 75° C (-40 to 167° F)	<i>Batteries should be removed if stored for more than one month.</i>
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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 reseal 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
- Online Manual
- ISO 17025 Accredited Calibration Certificate, NIST Traceable
- Velcro Strap (except the -RP and -F4 options)
- 3 x AA Batteries
- DB9 Cover
- 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:

- [Discounted three year calibration program](#)
- [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

P/N	Range (barA)	Over-pressure	Display Resolution									
			bar	mbar	kPa	MPa	psi	in H ₂ O	in Hg	mm H ₂ O	mm Hg	kg/cm ²
1,1BARB	1,1	6.5 x	0.0001	0.1	0.01	0.00001	0.001	0.01	0.001	0.1	0.01	0.0001
10BARB	10	2.0 x	0.0001	0.1	0.01	0.00001	0.01	0.1	0.01	1	0.1	0.0001
30BARB	30	2.0 x	0.001	1	0.1	0.0001	0.01	1	0.1		1	0.001
70BARB	70	2.0 x	0.001		0.1	0.0001	0.1		0.1			0.001
140BARB	140	2.0 x	0.01		1	0.001	0.1		0.1			0.01
200BARB	200	1.5 x	0.01		1	0.001	0.1		0.1			0.01
300BARB	300	1.5 x	0.01		1	0.001	0.1		1			0.01
700BARB	700	1.5 x	0.01		1	0.001	1					0.01
1KBARB	1000	1.3 x	0.01		1	0.001	1					0.01

SS is the only accuracy level available.

CPF Adapter Fitting is not included.

ORDERING INFORMATION*

P/N	Model	Dual Display	Accuracy	Adapter Type	Connection Location	Data logging
	XP2i					
	Standard:	No... (omit)	0.1% 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

140BARBXP2i 140 bar Absolute gauge, with a 1/4" NPT pressure fitting.

300BARBXP2i-BSP-DL 300 bar Absolute gauge, with a 1/4" BSP pressure fitting and Data-logging.

700BARBXP2i-DD-GWX-W 700 bar 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.

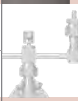
Pump System*	Carrying Case~
No Pump.... (omit)	
System A....-AXX	Aluminum... (omit)
System A....-AHX	Waterproof.....-W
System B....-BXX	
System B....-BHX	
System C....-CXX	
System C....-CHX	
System D....-DOX	
System D....-DWX	
System E....-EOX	
System F....-FOV	
System F....-FWV	
System G....-GOX	
System 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 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.

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	■		■		 T-970-CPF	■	■
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	■		■		 T-975-CPF	■	■
System C	CXX	0 to 3000 psi / 200 bar		■ (Oil)	■		 T-620-CPF	■	■
	CHX	0 to 5000 psi / 350 bar		■ (Oil)	■		 T-620H-CPF	■	■
System D	DOX	0 to 5000 psi / 350 bar		■ (Oil)		■	 P-018-CPF	■	
	DWX	0 to 5000 psi / 350 bar		■ (Water)		■	 P-014-CPF	■	
System E	EOX	0 to 10 000 psi / 700 bar		■ (Oil)		■	 T-1-CPF	■	
System F	FOV	0 to 15 000 psi / 1000 bar		■ (Oil)		■	 GaugeCalHP	■	■
	FWV	0 to 15 000 psi / 1000 bar		■ (Water)		■	 GaugeCalHP	■	■
System G	GOX	0 to 15 000 psi / 1000 bar		■ (Oil)		■	 GaugeCalHP		■
	GWX	0 to 15 000 psi / 1000 bar		■ (Water)		■	 GaugeCalHP		■
System H	HOX	-27 inHg to 580 psi / -0.91 to 40 bar	■		■		 T-975-CPF		■
		0 to 5000 psi / 350 bar		■ (Oil)	■		 T-620H-CPF		■



ACCURACY

Standard Accuracy Version (-10 to 50° C)

- 0 to 20% of Range: $\pm (0.02\% \text{ of Full Scale}^*)$
- 20% to 110% of Range: $\pm (0.1\% \text{ of Reading})$
- 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 100 kPa, 200 kPa, 700 kPa, and 2000 kPa models only.

Not recommended for continuous use below -100.0 kPa. Refer to [XP2i-DP data sheet](#) for gauges that are intended for continuous high vacuum use.

**Full Scale is 100% of the range*

****Full Scale = -100.0 kPa**

-S5 Accuracy Option (-10 to 50° C)

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

-S2 Accuracy Option

- Vacuum to 110% of Range: $\pm (0.02\% \text{ of Full Scale}^*)$ 15 to 25° C
- $\pm (0.05\% \text{ of Full Scale}^*)$ -10 to 15° C, 25 to 50° C, typical

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: **5.5 digits**

LCD readable in sunlight with bright backlight.

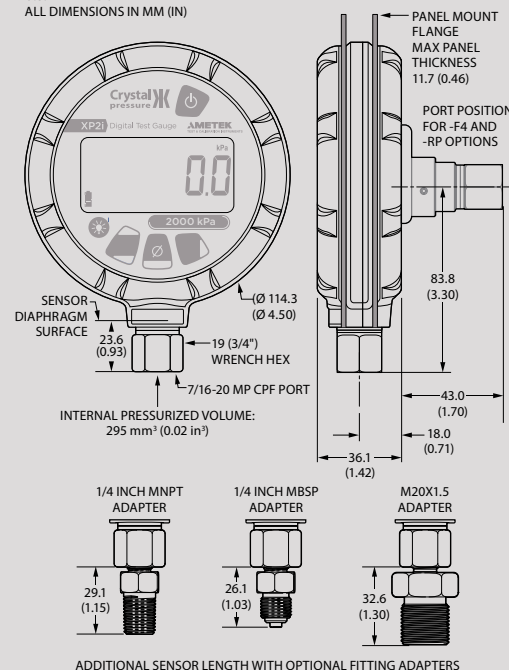
- Single Line Display: **16.9 mm (0.67") high**

- 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)

XP2i Pressure Gauge kPa

U.S. PATENT D612277
ALL DIMENSIONS IN MM (IN)



4612.T 2012 • XP2i kPa

Page 1 of 5

AMETEK
SENSORS, TEST & CALIBRATION

POWER

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

ATEX/IECEx:	Approved Battery Type	Ta=	Marking
	Rayovac Max Plus 815	-20 to 50° C	Ex ia IIC T4 Ga
	Energizer E91		
	Energizer EN91	-20 to 50° C	Ex ia IIC T3 Ga
	Duracell MN1500		

CSA:	Approved Battery Type	Ta=	Marking
	Rayovac Max Plus 815	-20 to 45° C	Class I, Division 1, A, B, C, D T4
	Energizer E91	-20 to 50° C	Class I, Division 1, A, B, C, D T3C
	Energizer EN91		
	Rayovac Max Plus 815		

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: **32 000 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. Produces csv files, or uses Excel template files (samples included) to automatically format and graph data.

*** Logging Type - Average with Peaks.

XP2i Pressure Gauge kPa

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 Norske Veritas' Rules for Classification of Ships, High Speed & Light Craft and Offshore Standards.

ENCLOSURE

Weight: 562 g (19.8 oz)	<i>Weight includes batteries.</i>
Rating: IP66 and IP67	<i>Submersible to 1 m for 30 minutes [IEC 60529].</i>
Housing: Diecast aluminum	<i>Nickel plating over low copper, marine grade aluminum.</i>
Keypad and Labels: UV Resistant Polyester	<i>LCD protected from impact damage by 1.5 mm (0.06") thick polycarbonate lens under polyester window.</i>
	<i>Skydrol® compatible.</i>
	<i>For hazardous location product warnings, refer to the operation manual.</i>

SENSOR

Wetted Materials: (WRENCH TIGHT) 316 stainless steel	<i>All welded, with a permanently filled diaphragm seal.</i>
(FINGER TIGHT) 316 stainless steel and Viton® (internal o-ring)	<i>Metal to metal cone seal; O-ring can be removed if necessary.</i>
Diaphragm Seal Fluid: Silicone Oil	<i>Optional connection on back.</i>
Connection: Crystal CPF* Female	<i>1/4" male NPT adapter included unless BSP, M20, or 100KKPA is specified.</i>
	<i>1/4" medium pressure tube system compatible with HiP LM4 and LF4 Series, Autoclave Engr SF250CX Male and Female Series.</i>
	<i>* U.S. Patent No. 8,794,677</i>

STORAGE TEMPERATURE

Temperature Range: -40 to 75° C (-40 to 167° F)	<i>Batteries should be removed if stored for more than one month.</i>
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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 reseal 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.

XP2i Pressure Gauge kPa

STANDARD DELIVERY

- XP2i Gauge
- Online Manual
- ISO 17025 Accredited Calibration Certificate, NIST Traceable
- Velcro Strap (except the -RP and -F4 options)
- 3 x AA Batteries
- DB9 Cover
- 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:

- [Discounted three year calibration program](#)
- [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

P/N	Range (kPa)	Over-pressure	Display Resolution			
			kPa	MPa	bar	mbar
100KPA	100	6.5 x	0.01	0.00001	0.0001	0.1
200KPA	200	3.0 x	0.01	0.00001	0.0001	0.1
700KPA	700	2.0 x	0.01	0.00001	0.0001	0.1
2KKPA	2000	2.0 x	0.1	0.0001	0.001	1
3KKPA	3000	2.0 x	0.1	0.0001	0.001	1
7KKPA	7000	2.0 x	0.1	0.0001	0.001	
14KKPA	14000	2.0 x	1	0.001	0.01	
20KKPA	20000	1.5 x	1	0.001	0.01	
30KKPA	30000	1.5 x	1	0.001	0.01	
70KKPA	70000	1.5 x	1	0.001	0.01	
100KKPA	100000	1.3 x	1	0.001	0.01	

CPF Adapter Fitting is not included.

ORDERING INFORMATION*

P/N	Model	Dual Display	Accuracy	Adapter Type	Connection Location	Data logging
	XP2I					
Standard:	No .. (omit)	0.1% 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

200KPAXP2I 200 kPa standard gauge, with a 1/4" NPT pressure fitting.
 30KKPAXP2I-S2-BSP-DL 30 000 kPa gauge with 0.02% of FS accuracy, a 1/4" BSP pressure fitting, and Data logging.
 70KKPAXP2I-DD-GWX-W 70 000 kPa 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 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.

* KPA versions available in USA direct from factory only.

Pump System*	Carrying Case~
No Pump.... (omit)	
System A....-AXX	Aluminum ... (omit)
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 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.

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	■		■		 T-970-CPF	■	■
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	■		■		 T-975-CPF	■	■
System C	CXX	0 to 3000 psi / 200 bar		■ (Oil)	■		 T-620-CPF	■	■
	CHX	0 to 5000 psi / 350 bar		■ (Oil)	■		 T-620H-CPF	■	■
System D	DOX	0 to 5000 psi / 350 bar		■ (Oil)		■	 P-018-CPF	■	
	DWX	0 to 5000 psi / 350 bar		■ (Water)		■	 P014-CPF	■	
System E	EOX	0 to 10 000 psi / 700 bar		■ (Oil)		■	 T-1-CPF	■	
System F	FOV	0 to 15 000 psi / 1000 bar		■ (Oil)		■	 GaugeCalHP	■	■
	FWV	0 to 15 000 psi / 1000 bar		■ (Water)		■	 T-975-CPF (and) T-620H-CPF	■	■
System G	GOX	0 to 15 000 psi / 1000 bar		■ (Oil)		■			■
	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 (and) T-620H-CPF		■
		0 to 5000 psi / 350 bar		■ (Oil)	■				■

ACCURACY

110 kPa Range

-S5 Option: $\pm (0.05\% \text{ of Full Scale})$ -10 to 50° C

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

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

Only available with -S5 accuracy option.

Calibrated in Vertical Orientation. Orientation Effect = ± 0.03 kPa.

1000 kPa Range

0 to 20% of Range: $\pm (0.02\% \text{ of Full Scale})$

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

20% to 110% of Range: $\pm (0.1\% \text{ of Reading})$

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

-S2 Option: $\pm (0.02\% \text{ of Full Scale})$ 15 to 25° C
 $\pm (0.05\% \text{ of Full Scale})$ -10 to 15° C,
25 to 50° C, typical

-S5 Option: $\pm (0.05\% \text{ of Full Scale})$ -10 to 50° C

3000, 7000, 14 000, 20 000, 30 000, 70 000, and 100 000 kPa Ranges

100 kPa to 20% of Range: $\pm (0.02\% \text{ of Full Scale})$

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

20% to 110% of Range: $\pm (0.1\% \text{ of Reading})$

All models indicate pressure from 0 kPa to Full Scale, but are only specified from 100 kPa to Full Scale.

-S2 Option: $\pm (0.02\% \text{ of Full Scale})$ 15 to 25° C
 $\pm (0.05\% \text{ of Full Scale})$ -10 to 15° C,
25 to 50° C, typical

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

-S5 Option: $\pm (0.05\% \text{ of Full Scale})$ -10 to 50° C

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**

LCD readable in sunlight with bright backlight.

Single Line Display: **16.9 mm (0.67") high**

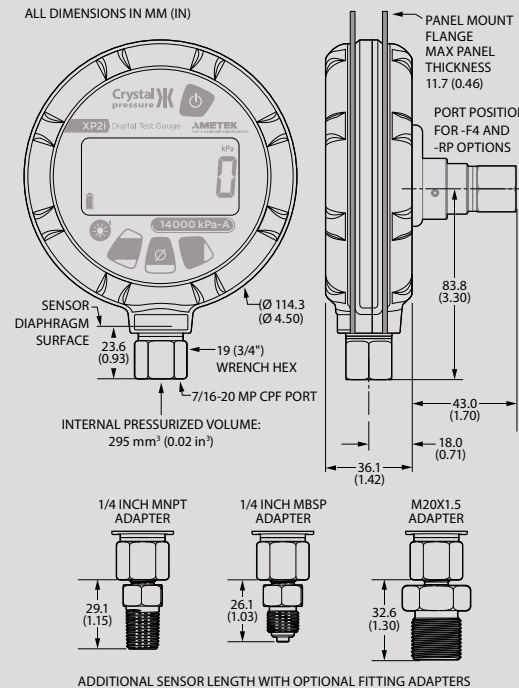
Dual Line Display: **Main Display: 13.9 mm (0.55")**
Secondary Display: 5.3 mm (0.21")

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

XP2i Pressure Gauge kPaA

U.S. PATENT D612277

ALL DIMENSIONS IN MM (IN)



POWER

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

ATEX/IECEx:	Approved Battery Type	Ta=	Marking
	Rayovac Max Plus 815	-20 to 50° C	Ex ia IIC T4 Ga
	Energizer E91		
	Energizer EN91	-20 to 50° C	Ex ia IIC T3 Ga
	Duracell MN1500		

CSA:	Approved Battery Type	Ta=	Marking
	Rayovac Max Plus 815	-20 to 45° C	Class I, Division 1, A, B, C, D T4
	Energizer E91	-20 to 50° C	Class I, Division 1, A, B, C, D T3C
	Energizer EN91		
	Rayovac Max Plus 815		

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: **32 000 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.

XP2i Pressure Gauge kPaA

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 Norske Veritas' Rules for Classification of Ships, High Speed & Light Craft and Offshore Standards.

ENCLOSURE

Weight: 562 g (19.8 oz)	<i>Weight includes batteries.</i>
Rating: IP66 and IP67	<i>Submersible to 1 m for 30 minutes [IEC 60529].</i>
Housing: Diecast aluminum	<i>Nickel plating over low copper, marine grade aluminum.</i>
Keypad and Labels: UV Resistant Polyester	<i>LCD protected from impact damage by 1.5 mm (0.06") thick polycarbonate lens under polyester window.</i>
	<i>Skydrol® compatible.</i>
	<i>For hazardous location product warnings, refer to the operation manual.</i>

SENSOR

Wetted Materials: (WRENCH TIGHT) 316 stainless steel	<i>All welded, with a permanently filled diaphragm seal.</i>
(FINGER TIGHT) 316 stainless steel and Viton® (internal o-ring)	<i>Metal to metal cone seal; O-ring can be removed if necessary.</i>
Diaphragm Seal Fluid: Silicone Oil	<i>Optional connection on back.</i>
Connection: Crystal CPF* Female	<i>1/4" male NPT adapter included unless BSP, M20, or 100KKPAB is specified.</i>
	<i>1/4" medium pressure tube system compatible with HiP LM4 and LF4 Series, Autoclave Engr SF250CX Male and Female Series.</i>
	<i>* U.S. Patent No. 8,794,677</i>

STORAGE TEMPERATURE

Temperature Range: -40 to 75° C (-40 to 167° F)	<i>Batteries should be removed if stored for more than one month.</i>
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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 reseal 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
- Online Manual
- ISO 17025 Accredited Calibration Certificate, NIST Traceable
- Velcro Strap (except the -RP and -F4 options)
- 3 x AA Batteries
- DB9 Cover
- 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:

- [Discounted three year calibration program](#)
- [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

P/N	Range (kPaA)	Over-pressure	Display Resolution			
			kPa	MPa	bar	mbar
110KPAB	110	6.5 x	0.01	0.00001	0.0001	0.1
1KKPAB	1000	2.0 x	0.01	0.00001	0.0001	0.1
3KKPAB	3000	2.0 x	0.1	0.0001	0.001	1
7KKPAB	7000	2.0 x	0.1	0.0001	0.001	
14KKPAB	14 000	2.0 x	1	0.001	0.01	
20KKPAB	20 000	1.5 x	1	0.001	0.01	
30KKPAB	30 000	1.5 x	1	0.001	0.01	
70KKPAB	70 000	1.5 x	1	0.001	0.01	
100KKPAB	100 000	1.3 x	1	0.001	0.01	

SS is the only accuracy level available.

CPF Adapter Fitting is not included.

ORDERING INFORMATION*

P/N	Model	Dual Display	Accuracy	Adapter Type	Connection Location	Data logging
	XP2i					
	Standard:	No . . . (omit)	0.1% 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

14KKPABXP2i 14 000 kPa Absolute gauge, with a 1/4" NPT pressure fitting.

1KKPABXP2i-BSP-DL 1000 kPa Absolute gauge, with a 1/4" BSP pressure fitting and Data-logging.

70KKPABXP2i-DD-GWX-W 70 000 kPa 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.

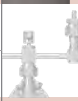
Pump System*	Carrying Case~
No Pump (omit)	
System A -AXX	Aluminum . . . (omit)
System A -AHX	Waterproof -W
System B -BXX	
System B -BHX	
System C -CXX	
System C -CHX	
System D -DOX	
System D -DWX	
System E -EOX	
System F -FOV	
System F -FWV	
System G -GOX	
System G -GWX	
System H -HOX	

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 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.

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	■		■		 T-970-CPF	■	■
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	■		■		 T-975-CPF	■	■
System C	CXX	0 to 3000 psi / 200 bar		■ (Oil)	■		 T-620-CPF	■	■
	CHX	0 to 5000 psi / 350 bar		■ (Oil)	■		 T-620H-CPF	■	■
System D	DOX	0 to 5000 psi / 350 bar		■ (Oil)		■	 P-018-CPF	■	
	DWX	0 to 5000 psi / 350 bar		■ (Water)		■	 P-014-CPF	■	
System E	EOX	0 to 10 000 psi / 700 bar		■ (Oil)		■	 T-1-CPF	■	
System F	FOV	0 to 15 000 psi / 1000 bar		■ (Oil)		■	 GaugeCalHP	■	■
	FWV	0 to 15 000 psi / 1000 bar		■ (Water)		■	 GaugeCalHP	■	■
System G	GOX	0 to 15 000 psi / 1000 bar		■ (Oil)		■	 GaugeCalHP		■
	GWX	0 to 15 000 psi / 1000 bar		■ (Water)		■	 GaugeCalHP		■
System H	HOX	-27 inHg to 580 psi / -0.91 to 40 bar	■		■		 T-975-CPF		■
		0 to 5000 psi / 350 bar		■ (Oil)	■		 T-620H-CPF		■

ACCURACY

16 psiA Range

-S5 Option: $\pm (0.05\% \text{ of Full Scale})$ -10 to 50° C

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

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

Only available with -S5 accuracy option.

Calibrated in Vertical Orientation. Orientation Effect = ± 0.004 psi.

100 psiA Range

0 to 20% of Range: $\pm (0.02\% \text{ of Full Scale})$

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

20% to 110% of Range: $\pm (0.1\% \text{ of Reading})$

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

-S2 Option: $\pm (0.02\% \text{ of Full Scale})$ 15 to 25° C
 $\pm (0.05\% \text{ of Full Scale})$ -10 to 15° C,
25 to 50° C, typical

-S5 Option: $\pm (0.05\% \text{ of Full Scale})$ -10 to 50° C

500, 1000, 2000, 3000, 5000, 10 000, 15 000 psiA Ranges

15 psiA to 20% of Range: $\pm (0.02\% \text{ of Full Scale})$

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

20% to 110% of Range: $\pm (0.1\% \text{ of Reading})$

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

-S2 Option: $\pm (0.02\% \text{ of Full Scale})$ 15 to 25° C
 $\pm (0.05\% \text{ of Full Scale})$ -10 to 15° C,
25 to 50° C, typical

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

-S5 Option: $\pm (0.05\% \text{ of Full Scale})$ -10 to 50° C

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**

LCD readable in sunlight with bright backlight.

Single Line Display: **16.9 mm (0.67") high**

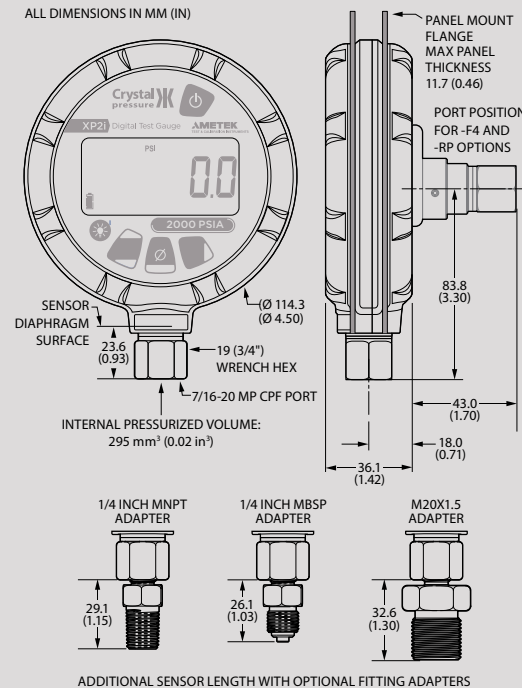
Dual Line Display: **Main Display: 13.9 mm (0.55")**
Secondary Display: 5.3 mm (0.21")

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

XP2i Pressure Gauge psiA

U.S. PATENT D612277

ALL DIMENSIONS IN MM (IN)



POWER

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

ATEX/IECEx:	Approved Battery Type	Ta=	Marking
	Rayovac Max Plus 815	-20 to 50° C	Ex ia IIC T4 Ga
	Energizer E91		
	Energizer EN91	-20 to 50° C	Ex ia IIC T3 Ga
	Duracell MN1500		

CSA:	Approved Battery Type	Ta=	Marking
	Rayovac Max Plus 815	-20 to 45° C	Class I, Division 1, A, B, C, D T4
	Energizer E91	-20 to 50° C	Class I, Division 1, A, B, C, D T3C
	Energizer EN91		
	Rayovac Max Plus 815		

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: **32 000 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.

ENCLOSURE

Weight: 562 g (19.8 oz)	<i>Weight includes batteries.</i>
Rating: IP66 and IP67	<i>Submersible to 1 m for 30 minutes [IEC 60529].</i>
Housing: Diecast aluminum	<i>Nickel plating over low copper, marine grade aluminum.</i>
Keypad and Labels: UV Resistant Polyester	<i>LCD protected from impact damage by 1.5 mm (0.06") thick polycarbonate lens under polyester window.</i>
	<i>Skydrol® compatible.</i>
	<i>For hazardous location product warnings, refer to the operation manual.</i>

SENSOR

Wetted Materials: (WRENCH TIGHT) 316 stainless steel	<i>All welded, with a permanently filled diaphragm seal.</i>
(FINGER TIGHT) 316 stainless steel and Viton® (internal o-ring)	<i>Metal to metal cone seal; O-ring can be removed if necessary.</i>
Diaphragm Seal Fluid: Silicone Oil	<i>Optional connection on back.</i>
Connection: Crystal CPF* Female	<i>1/4" male NPT adapter included unless BSP, M20, or 15KPSIB is specified.</i>
	<i>1/4" medium pressure tube system compatible with HiP LM4 and LF4 Series, Autoclave Engr SF250CX Male and Female Series.</i>
	<i>* U.S. Patent No. 8,794,677</i>

STORAGE TEMPERATURE

Temperature Range: -40 to 75° C (-40 to 167° F)	<i>Batteries should be removed if stored for more than one month.</i>
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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 reseal 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
- Online Manual
- ISO 17025 Accredited Calibration Certificate, NIST Traceable
- Velcro Strap (except the -RP and -F4 options)
- 3 x AA Batteries
- DB9 Cover
- 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:

- [Discounted three year calibration program](#)
- [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

P/N	Range (psiA)	Over-pressure	Display Resolution									
			psi	in H ₂ O	in Hg	mm H ₂ O	mm Hg	kg/cm ²	bar	mbar	kPa	MPa
16PSIB	16	6.5 x	0.001	0.01	0.001	0.1	0.01	0.0001	0.0001	0.1	0.01	0.00001
100PSIB	100	2.0 x	0.01	0.1	0.01	1	0.1	0.0001	0.0001	0.1	0.01	0.00001
500PSIB	500	2.0 x	0.01	1	0.1		1	0.001	0.001	1	0.1	0.0001
1KPSIB	1000	2.0 x	0.1		0.1			0.001	0.001		0.1	0.0001
2KPSIB	2000	2.0 x	0.1		0.1			0.01	0.01		1	0.001
3KPSIB	3000	1.5 x	0.1		0.1			0.01	0.01		1	0.001
5KPSIB	5000	1.5 x	0.1		1			0.01	0.01		1	0.001
10KPSIB	10000	1.5 x	1					0.01	0.01		1	0.001
15KPSIB	15000	1.3 x	1					0.01	0.01		1	0.001

SS is the only accuracy level available.

CPF Adapter Fitting is not included.

ORDERING INFORMATION

P/N	Model	Dual Display	Accuracy	Adapter Type	Connection Location	Data logging
	XP2i					
Standard:	No . . . (omit)	0.1% 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

2KPSIBXP2i 2000 psi Absolute gauge, with a 1/4" NPT pressure fitting.

100PSIBXP2i-BSP-DL 100 psi Absolute gauge with a 1/4" BSP pressure fitting and Data-logging.

15KPSIBXP2i-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.

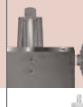
Pump System*	Carrying Case~
No Pump (omit)	
System A -AXX	Aluminum (omit)
System A -AHX	Waterproof -W
System B -BXX	
System B -BHX	
System C -CXX	
System C -CHX	
System D -DOX	
System D -DWX	
System E -EOX	
System F -FOV	
System F -FWV	
System G -GOX	
System G -GWX	
System H -HOX	

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 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.

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	■		■		 T-970-CPF	■	■
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	■		■		 T-975-CPF	■	■
System C	CXX	0 to 3000 psi / 200 bar		■ (Oil)	■		 T-620-CPF	■	■
	CHX	0 to 5000 psi / 350 bar		■ (Oil)	■		 T-620H-CPF	■	■
System D	DOX	0 to 5000 psi / 350 bar		■ (Oil)		■	 P-018-CPF	■	
	DWX	0 to 5000 psi / 350 bar		■ (Water)		■	 P-014-CPF	■	
System E	EOX	0 to 10 000 psi / 700 bar		■ (Oil)		■	 T-1-CPF	■	
System F	FOV	0 to 15 000 psi / 1000 bar		■ (Oil)		■	 GaugeCalHP	■	■
	FWV	0 to 15 000 psi / 1000 bar		■ (Water)		■	 GaugeCalHP	■	■
System G	GOX	0 to 15 000 psi / 1000 bar		■ (Oil)		■	 GaugeCalHP		■
	GWX	0 to 15 000 psi / 1000 bar		■ (Water)		■	 GaugeCalHP		■
System H	HOX	-27 inHg to 580 psi / -0.91 to 40 bar	■		■		 T-975-CPF		■
		0 to 5000 psi / 350 bar		■ (Oil)	■		 T-620H-CPF		■