



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 100 kPa, 200 kPa, 700 kPa, 2000, and 3000 kPa 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 = -100.0 kPa*

ACCURACY - ABSOLUTE PRESSURE

110 kPa 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.

110 psi Range

Only available with -S5 accuracy option.

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

7000 kPa Ranges and Above

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

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

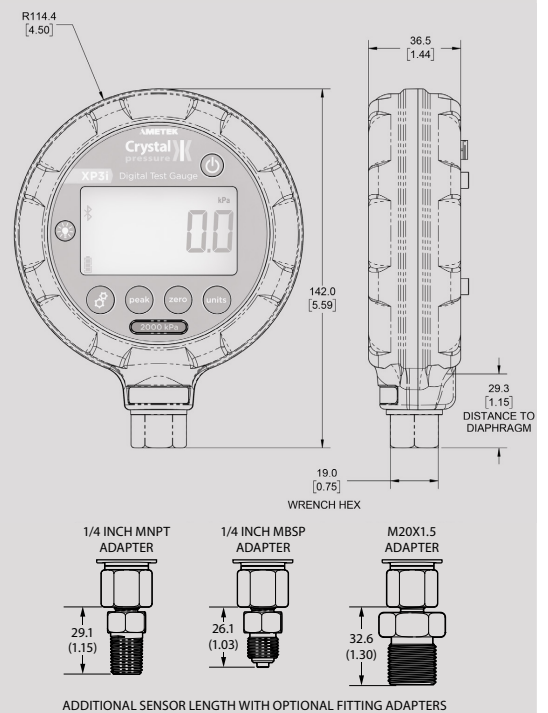
1000 and 3000 kPa Range

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

7000, 14 000, 20 000, 30 000, 70 000 kPa Ranges

- 100 kPa 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 kPa





OPERATING TEMPERATURE

Temperature 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****

Digital Interface: **USB Type C**

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

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

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

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/s²**

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

Housing: **15 g, 11 ms**

Skydrol® compatible.

Protective Boot Option: **Fully static dissipative* to avoid build-up of electrostatic charge on portable equipment (incl. boot).****

Vibration and Shock tested to IEC 60068.

*Meeting EN IEC 60079-0:2018 requirements.

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

XP3i Pressure Gauge kPa

CERTIFICATIONS



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



**Ex ia IIC T4/T3 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. (Including Bluetooth.)



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

Range	Specified to	Over-Pressure Warning	Potential Sensor Damage
100 kPa/110 kPaA	110 kPa	115 kPa	300 kPa
200 kPa	220 kPa	230 kPa	600 kPa
700 kPa	770 kPa	805 kPa	1400 kPa
2000 kPa	2200 kPa	2300 kPa	4000 kPa
3000 kPa	3300 kPa	3450 kPa	6000 kPa
7000 kPa	7700 kPa	8050 kPa	14 000 kPa
14 000 kPa	15 400 kPa	16 100 kPa	28 000 kPa
20 000 kPa	22 000 kPa	23 000 kPa	30 000 kPa
30 000 kPa	33 000 kPa	34 500 kPa	45 000 kPa
70 000 kPa	77 000 kPa	80 500 kPa	105 000 kPa

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 kPa

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

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.

7183.A 2311 • XP3i kPa
Page 3 of 5

AMETEK®
SENSORS, TEST & CALIBRATION

RANGE & RESOLUTION TABLES

Gauge Pressure		Display Resolution			
P/N	Range (kPa)	kPa	MPa	bar	mbar
100KPA	100	0.01	0.00001	0.0001	0.1
200KPA	200	0.01	0.00001	0.0001	0.1
700KPA	700	0.01	0.00001	0.0001	0.1
2KKPA	2000	0.1	0.0001	0.001	1
3KKPA	3000	0.1	0.0001	0.001	1
7KKPA	7000	0.1	0.0001	0.001	
14KKPA	14 000	1	0.001	0.01	
20KKPA	20 000	1	0.001	0.01	
30KKPA	30 000	1	0.001	0.01	
70KKPA	70 000	1	0.001	0.01	

Absolute Pressure		Display Resolution			
P/N	Range (kPaA)	kPa	MPa	bar	mbar
A110KPA	110	0.01	0.00001	0.0001	0.1
A1KKPA	1000	0.01	0.00001	0.0001	0.1
A3KKPA	3000	0.1	0.0001	0.001	1
A7KKPA	7 000	0.1	0.0001	0.001	
A14KKPA	14 000	1	0.001	0.01	
A20KKPA	20 000	1	0.001	0.01	
A30KKPA	30 000	1	0.001	0.01	
A70KKPA	70 000	1	0.001	0.01	

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-200KPA 2000 kPa standard gauge, with a 1/4" NPT pressure fitting.

XP3I-30KKPA-S2-BSP-DL 30 000 kPa gauge with 0.02% of FS accuracy, a 1/4" BSP pressure fitting, and Data logging.

XP3I-A70KKPA-DD-GWX-W 70 000 kPa 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.

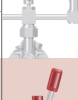
Pump System*	Carrying Case~
No Pump.... (omit)	
System A....-AXX	Aluminum ... (omit)
System A....-AHX	Waterproof.....-W
System B....-BXX	
System B....-BHX	
System C....-CXX	
System C....-CHX	
System D....-DOX	
System D....-DWX	
System E....-EOX	
System F....-FOV	
System F....-FWV	
System G....-GOX	
System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

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 (and) T-620H-CPF		■
		0 to 5000 psi /350 bar		■ (Oil)	■				■