

## ACCURACY – 3 YEAR RECOMMENDED CALIBRATION INTERVAL

0 to 20% of Range:  $\pm(0.05\%$  of Full Scale)

20% to 110% of Range:  $\pm(0.25\%$  of Reading)

Vacuum:  $\pm(0.5\%$  of Full Scale\*)

\* Full Scale = -14.5 psig / -1 bar / -0.1 MPa

*Includes all effects of linearity, hysteresis, repeatability, temperature, and stability for three years.*

*All models indicate vacuum, but vacuum specification applies to 300 psi / 20 bar / 2 MPa models only.*

*Not recommended for continuous use below -14.5 psi. Refer to [XP2i-DP data sheet](#) for gauges that are intended for continuous high vacuum use.*

## OPERATING TEMPERATURE

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

*Non-condensing. No change in accuracy over operating temperature range. Gauge must be zeroed to achieve rated specification.*

## DISPLAY

Screen: **5 digits, 16.8 mm (0.66") high**

Display Rate: **4 readings/second**

*LCD readable in sunlight with bright backlight.*

## POWER

2 x AA: **900 hours, typical**

Extended Battery Life: **1 reading/15 seconds: 3,000 hours**

**1 reading/30 seconds: 6,000 hours**

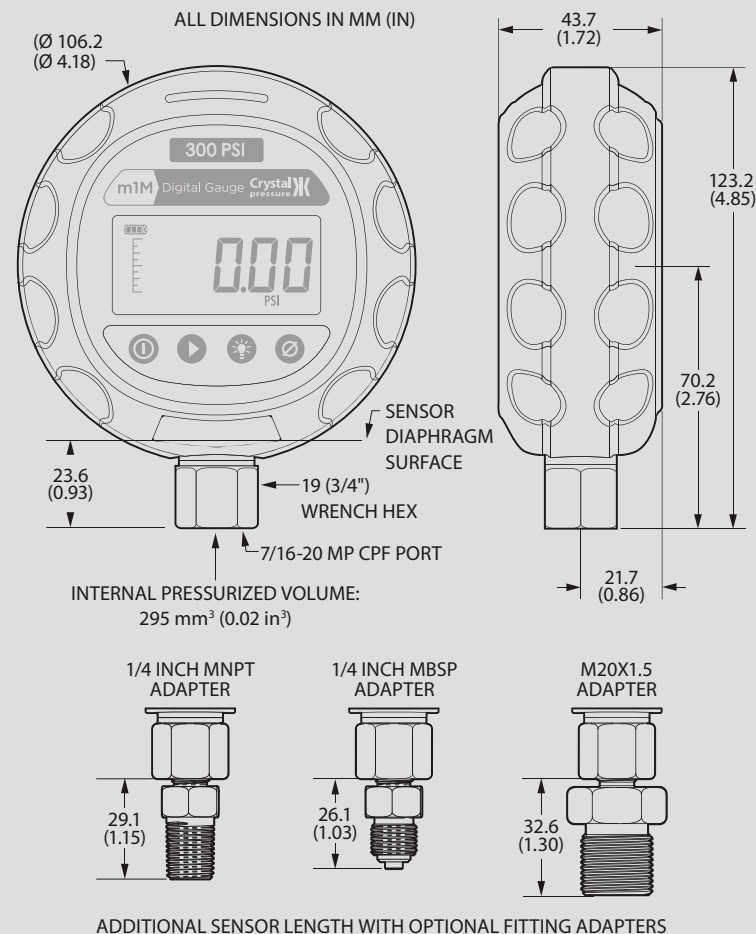
**1 reading/60 seconds: 10,000 hours**

**1 reading/5 minutes: 25,000 hours**

**1 reading/10 minutes: 30,000 hours**

*Uses 2 alkaline AA (LR6) batteries. Use of backlight reduces operating time. Extended battery life is keypad selectable. Do not overtighten rear cover when replacing batteries.*

## m1M Pressure Gauge



## ENCLOSURE

Weight: **331 g (11.7 oz)**

Rating: **IP65**

Housing: **Polyester/Polycarbonate Blend**

Keypad and Labels: **UV Resistant Polyester**

*Weight includes batteries and protective boot.*

*Water resistant housing incorporating o-ring seals [IEC 60529].*

*LCD protected from impact damage by polycarbonate lens under polyester window.*

*Skydrol® compatible.*

## SENSOR

Wetted Materials: (WRENCH TIGHT) **316 stainless steel**

(FINGER TIGHT) **316 stainless steel  
and Viton® (internal o-ring)**

Diaphragm Seal Fluid: **Silicone Oil**

Connection: **Crystal CPF ♦ Female**

*All welded, with a permanently filled diaphragm seal.*

*Metal to metal cone seal; O-ring can be removed if necessary.*

*1/4" medium pressure tube system compatible with HiP LM4 and LF4 Series, Autoclave Engr SF250CX Male and Female Series.*

*1/4" male NPT adapter included unless BSP or M20 is specified.*

*♦ U.S. Patent No. 8,794,677*

## STORAGE TEMPERATURE

Temperature Range: **-40 to 75° C (-40 to 167° F)**

*Batteries should be removed if stored for more than one month.*

## SPECIAL FEATURES

Averaging: **Smooths unsteady readings (2 to 20 samples)**

Vertical Bar Graph: **Percent pressure indication for quick reference**

Capture: **Minimum (LO) and Maximum (HI)**

## m1M Pressure Gauge

### CERTIFICATIONS



m1M complies with the Electromagnetic Compatibility and Pressure Equipment Directives. Refer to the EC Declaration of Conformity for specific details.



m1M 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.

**Notes:** The m1M is specified to support a 3 year recommended calibration interval.

Every m1M comes with an ISO 17025 calibration report-NIST-traceable, A2LA accredited (certificate # 2601.01), internationally recognized by ILAC - with test data at 5 temperatures, proving our gauges meet specifications throughout their full temperature range.

Crystal products include a factory calibration report that proves it meets its specifications over the operating temperature range. The products described herein, are calibrated in Crystal's accredited Calibration Lab (A2LA, Certificate #2601.01 ISO/IEC 17025) in an environmental chamber using fully automated equipment. Inclusion of the ILAC-MRA symbol does not imply certification or approval of the product itself, but rather refers to Crystal's accreditation as a calibration facility.

## RANGE & RESOLUTION TABLE

P/N	Range	Overpressure	Display Resolution							
			psi	in Hg	mm Hg	kg/cm <sup>2</sup>	bar	mbar	kPa	MPa
300PSI	300 psi	2.0 x	0.01	0.1	1	0.001	0.001	1	0.1	0.0001
20BAR	20 bar	2.0 x	0.01	0.1	1	0.001	0.001	1	0.1	0.0001
2MPa	2 MPa	2.0 x					0.001	1	0.1	0.0001
3KPSI	3000 psi	1.5 x	0.1	1		0.01	0.01		1	0.001
200BAR	200 bar	1.5 x	0.1	1		0.01	0.01		1	0.001
20MPa	20 MPa	1.5 x					0.01		1	0.001

Refer to the complementary products section on page 4, for additional ranges and accuracies.

## ORDERING INFORMATION

Model	—	P/N	Adapter Type	Pump System*
M1M		_____	_____	_____
	Standard:	NPT .....	(omit)	No Pump.....(omit)
	Optional:	G 1/4 B ....	-BSP	System B (pneumatic) Maritime Kit — 25 inHg to 580 psi .... -BHM
		M20x1.5 ...	-M20	System B (pneumatic) -25 inHg to 580 psi ..... -BHX
				System C (oil) Maritime Kit — 0 to 3000 psi ..... -CXM
				System C (oil) 0 to 3000 psi ..... -CXX

\* Refer to the following page for a more detailed description of each Pump System.  
Systems C are delivered without fluid.

### SAMPLE PART NUMBERS

M1M-300PSI . . . . . 300 psi gauge, with a 1/4" NPT pressure fitting.  
M1M-200BAR-BSP . . . . . 200 bar gauge, with a 1/4" BSP pressure fitting.  
M1M-3KPSI-CXM . . . . . 3000 psi gauge with a 1/4" NPT fitting; a System C maritime pump system; and carrying case.

### ► Ordering a Pump System Only

Any pump system, including the carrying case and connection fittings, may be ordered separately from the gauge. Enter M1M-NONE followed by the Pump System part number.

### SAMPLE PART NUMBER

M1M-NONE-BHM . . . . . System B maritime pump system with a rugged carrying case.

## PUMP SYSTEMS

### ► Systems B... T-975 Pump (-0.91 to 40 bar/-27 in Hg to 580 psi)

**BHM Maritime System:** Coiled Hose with 1/4" NPT F connection, adapter to 1/4" BSP F, M1M connection fitting, bonded seals, o-ring kit, and rugged carrying case.

**BHX Quick Test CPF System:** CPF hose with 1/4" NPT F and 1/4" BSP F adapters, M1M connection fitting, bonded seals, o-ring kit, and a rugged carrying case.

### ► Systems C... T-620 Pump (200 bar/3000 psi)

**CXM Maritime System:** Standard hose with 1/4" NPT F connection, adapter to 1/4" BSP F, M1M connection fitting, bonded seals, o-ring kit, and rugged carrying case.

**CXX Quick Test CPF System:** CPF hose with 1/4" NPT F and 1/4" BSP F adapters, M1M connection fitting, bonded seals, o-ring kit, and a rugged carrying case..



System C

System B

## m1M Pressure Gauge

### ACCESSORIES

#### Protective Boot **P/N 3436 (included)**

Protect your m1M from harsh environments with our form fitting chemical resistant thermoplastic boot (Skydrol fluid compatible).

#### NPT Hose and Fitting Kit **P/N 4016**

Includes: 1/8 NPT [Male (2), Male 90°, Male Quick Test, and Female Quick Test], 1/4 NPT [Male (2), Female, Male Quick Test, and Female Quick Test], 1/2 NPT [Female Quick Test], Tube [1/4 Male, 3/8 Male, and 1/2 Male], AN4 Male, Transmitter [1/4 Male and 5/16 Male], CPF Connectors [Male-Male, T-Union, Plug, and Cap (2)], Hose [1 meter], and Custom Carrying Case.

#### BSP Hose and Fitting Kit **P/N 4017**

Includes: BSP Female [1/8, 1/4 (2), 3/8, and 1/2], NPT [1/4 Quick Test Female and 1/8 Male (2)], Transmitter [1/4 Male and 5/16 Male], CPF Connectors [Male-Male, T-Union, Plug, and Cap (2)], Hose [1 meter], and Custom Carrying Case.

### COMPLEMENTARY PRODUCTS

AMETEK offers a wide range of DNV certified products for the maritime industry:

- [Fittings that connect without tools, safely and without leaks](#)
- [Lightweight, super flexible high pressure hoses](#)
- [Portable temperature calibrators](#)
- [Intrinsically Safe Digital Test Gauges](#)
- [Intrinsically Safe Reference Recorders](#)
- [Multi-Function Calibrators](#)