

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

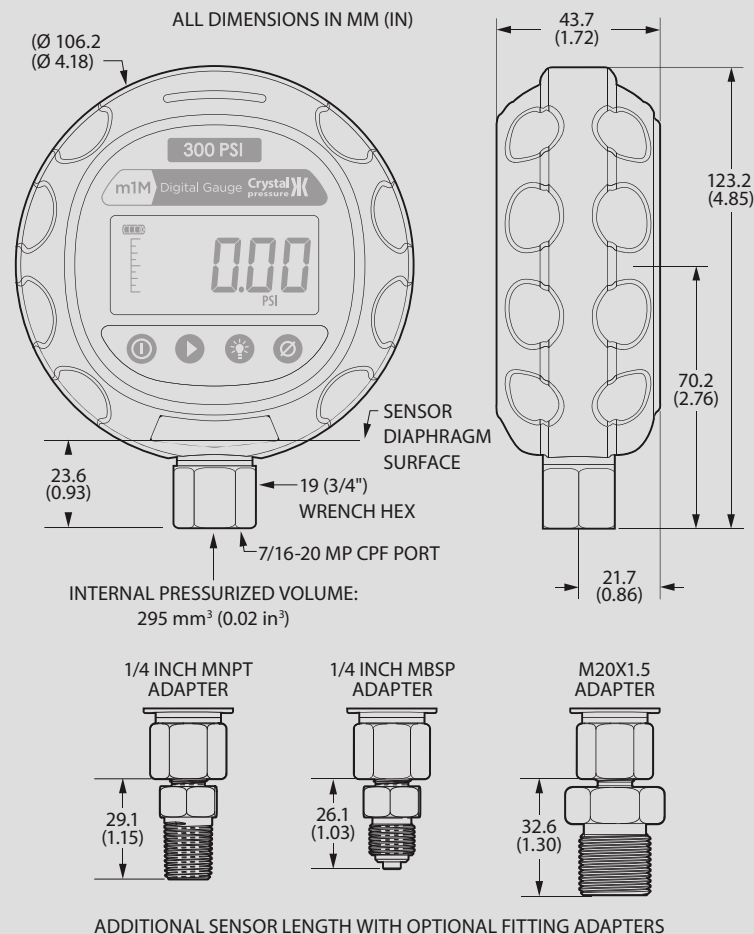
1 reading/60 seconds: 10,000 hours

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 ²	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](#)