

CRYSTAL

ACCURACY—PRESSURE MEASUREMENT

0 to 110% of Full Scale: $\pm(0.05\%$ of Reading + Floor Term)

Floor Term: **0.005% of FS or display resolution, whichever is greater**

Vacuum: $\pm(0.25\%$ of Reading + Vacuum Floor Term)

Vacuum Floor Term: **0.004 PSI for 16 and 36 PSI
0.01 PSI for 300 PSI**

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

All models indicate vacuum, but vacuum specification applies to 16 PSI, 36 PSI, and 300 PSI models only.

Not recommended for continuous use at high vacuum.

ACCURACY—MILLIAMPERES

Accuracy: $\pm(0.025\%$ of Reading + 0.001 mA)

Range: **0 to 55 mA**

Resolution: **0.001 mA**

Connection: **4 mm jacks, 19 mm (0.75") spacing**

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

mA can be displayed as a percentage, where 0 to 100% corresponds to either 4 to 20 mA or 10 to 50 mA.

Jacks are compatible with safety sheathed banana plugs.

OPERATING TEMPERATURE

0°C to 50°C (32°F to 122°F)

Non-condensing.

DISPLAY

Screen: **2 lines of up to 6 digits,
5 mm (0.2") high**

Display Rate: **2 readings/second (Adjustable to
1, 3, or 3.7 readings/second)**

LCD readable in sunlight.

Changes to reading rate requires software: ConfigM30 is a free download from crystalengineering.net.

POWER

1 x 9V: **90 hours, typical**

Uses one alkaline 9V battery.

Use of USB interface reduces operating time.

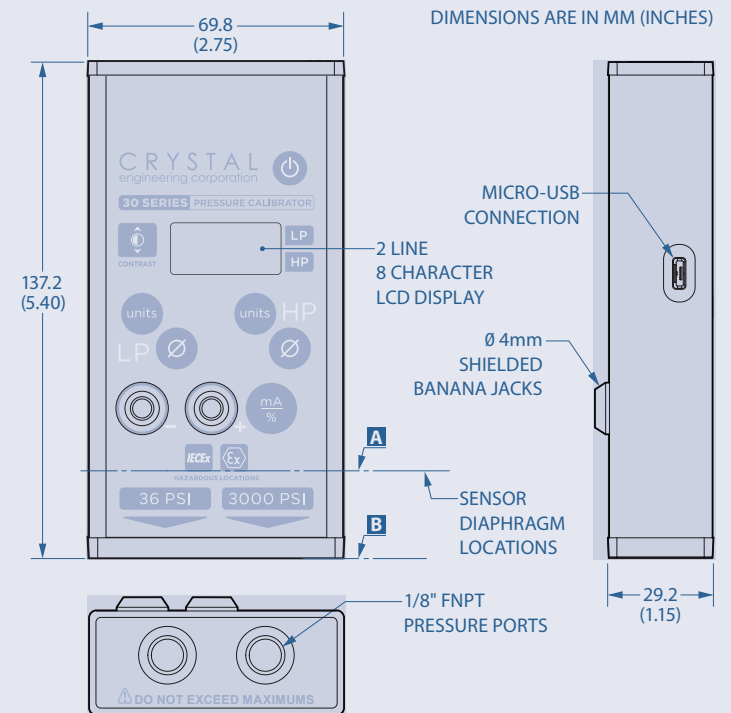
Do not use USB in Hazardous locations.

DATA/COMMUNICATION

Digital Interface: **micro-USB**

Free Labview drivers available online.

30 Series Calibrator PSI



PRESSURE PORT VOLUMETRIC DATA:

LP distance to diaphragm (**A** to **B**): 22.4 (0.88")

LP volume: 2 ml (0.13 cubic inches)

HP distance to diaphragm (**A** to **B**): 17.8 (0.70")

HP volume: 1 ml (0.06 cubic inches)

30 SERIES

30 Series PSI Data Sheet

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CRYSTAL

30 Series Calibrator PSI

ENCLOSURE

All Models: **Extruded aluminum with polyester keypad and labels**

Model 31 ≤ 300 PSI: **342 g (12.0 oz)**

* Model 31 ≤ 300 PSI: **428 g (15.0 oz)**

Model 31 ≥ 1500 PSI: **360 g (13.0 oz)**

Model 33: **400 g (14.0 oz)**

* Model 33: **485 g (17.0 oz)**

** SPSS optional manifold.*

Nylon carry case included.

SENSOR ≥ 1500 PSI

Wetted Materials: **316 stainless steel**

All welded with a permanently filled diaphragm seal.

Diaphragm Seal Fluid: **Dow Corning® 200**

Connection: **Bottom, 1/8" female NPT**

SENSOR ≤ 300 PSI

Wetted Materials: **316 stainless steel, Viton®**

All welded with a permanently filled diaphragm seal.

Anodized aluminum penetrated with PTFE (polytetrafluoroethylene)

Diaphragm Seal Fluid: **Dow Corning® 200**

Connection: **Bottom, 1/8" female NPT**

STORAGE TEMPERATURE

Temperature Range: **-20°C to 70°C (-4°F to 158°F)**

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

SPECIAL FEATURES

The following requires the use of ConfigM30 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.**

Remove: **Unwanted pressure units from Units button.**

Password protect: **Changes to configuration or userspan calibration factor(s).**

Save: **Configuration to a file.**

Copy: **Configuration to other calibrators.**

CERTIFICATIONS



**II 2G Ex ia IIC T4 Gb
FTZU 06 ATEX 0010 X**

This product conforms to:
**EN60079-0: 2006
EN60079-11: 2007**



**II 2G Ex ia IIC T4 Gb
IECEx FTZU 10.0018X**

This product conforms to:
**IEC 60079-0: 2007
IEC 60079-11: 2006**



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



The instrument was tested against **AS/NZS 3584**, C-tick EMC/EMI requirements.



30 Series 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.

30 SERIES

30 Series PSI Data Sheet

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RANGE & RESOLUTION TABLES

P/N	Range (PSI)	Over-Pressure	Display Resolution										
			PSI	inch H ₂ O	inch Hg	mmHg	mm H ₂ O	cm H ₂ O	kPa	MPa	kg/cm ²	bar	mbar
16	16	6.5 x	0.001	0.01	0.001	0.01	1		0.01		0.0001		0.1
36	36	3.0 x	0.001	0.01	0.001	0.01	1		0.01		0.0001		0.1
300	300	2.0 x	0.01	0.1	0.01	0.1		1	0.1		0.001	0.001	
1500	1500	2.0 x	0.1						1	0.001	0.01	0.01	
3000	3000	1.5 x	0.1						1	0.001	0.01	0.01	
5000	5000	1.5 x	0.1						1	0.001	0.01	0.01	

● Model 31 calibrators are not available in this range.

Second Pressure Ranges

First Pressure Ranges	16 PSI	300 PSI	1500 PSI	3000 PSI	5000 PSI
16 PSI	■	■	■	■	■
36 PSI	■	■	■	■	■
300 PSI		■	■		

Model 33 calibrators have dual pressure sensors. This chart shows all of the available sensor combinations ■

ORDERING INFORMATION

Intrinsic Safety	Model	Sensors	1st Pressure Range P/N	2nd Pressure Range P/N	Pressure Unit	Manifold
IS	3				PSI	
		Single Sensor: 1 Dual Sensor: 3				Standard (omit) Stainless Steel: SPSS

SAMPLE PART NUMBERS

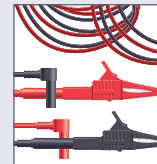
- IS31-36PSI Calibrator with one sensor (36 PSI)
- IS33-36/3000PSI Calibrator with two sensors (36 PSI and 3000 PSI)
- IS33-16/1500PSI-SPSS ... Calibrator with two sensors (16 PSI and 1500 PSI) with two stainless steel manifolds

ACCESSORIES



Carry Case and Strap

A clear plastic cover protects the keypad while allowing operation of all the buttons. (Included with every 30 Series Calibrator)



Test Leads P/N 1351

Our test lead kit features high quality banana to banana test leads with rugged, hard plastic insulated alligator clips.

COMPLIMENTARY PRODUCTS

Crystal Engineering offers a wide range of products that work with the XP2i:

- [Fittings that connect without tools, safely and without leaks](#)
- [Lightweight, super flexible high pressure hoses](#)
- [Fitting kits and adapters](#)
- [Pneumatic hand pumps](#)
- [Hydraulic hand pumps](#)
- [Portable pressure comparators](#)
- [Software, for the quickest way to calibrate pressure transmitters and gauges](#)

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Viton is a registered trademark of DuPont Performance Elastomers.