Submersible Ceramic Transmitter

Nanolevel

HIGH ACCURACY AND STABILITY FOR VERY LOW RANGES

The Nanolevel from Keller is specifically designed for use in level measurement applications where full scale ranges are less than 10 ft W.C. The Nanolevel's ceramic capacitive sensor technology is proven to provide excellent stability in full scale pressure ranges as low as 4 inches of water.

Perfectly suited for pump control applications and monitoring levels in tanks, weirs, and cooling towers, the Nanolevel is compatible with any standard 2-wire, 4...20 mA current loop that supplies a minimum of 8 but no more than 28 VDC to the transmitter.

For more information on the Nanolevel, or any other Keller product, please contact Keller America, or view the entire Keller catalog at http://www.kelleramerica.com/datasheets.html.

FEATURES

Gold-plated ceramic sensing diaphragm.

16-bit internal digital error correction for cost effective low Total Error Band $(TEB)_3$

316L SS housing construction.

2-year warranty covers defects in materials and workmanship.

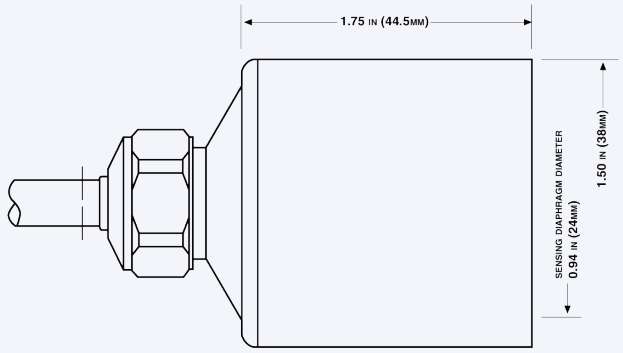
User-rangeable analog output ensures compatibility as requirements change. Converter cable required, sold separately.

RS485 modified-MODBUS compatible interface allows up to 128 transmitters on a single bus.

Standard dual (analog & RS485) outputs simplify interface to controls, data collection, and telemetry systems.

Built in the U.S.A. ARRA Section 1605 Compliant.

Standard 3-day lead time.



Output	White	Black	Blue	Yellow
2-wire (mA)	OUT / GND	+Vcc	RS485A	RS485B
Braided shield wire connected to transmitter housing				

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Subject to alterations
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Pressure Ranges[1,2]

Relative	Infinite between 0...4 thru 0...120 in. W.C.

1.The Nanolevel can be provided with custom calibration at no extra cost. For fluids other than water, the specific gravity must be given at the time the order is placed.

2. Intermediate ranges are realized by deranging the analog output from the next highest basic range: 30, 100, and 300 mbar. Level range may be specified in units of lb/in2(psi), inches WC or feet WC. Keller America uses the International Standard conversion of 2.3067 feet WC/psi.

Accuracy[3]

Static	Standard ±0.1% FS, Optional ±0.05% FS
Total Error Band	Standard ±0.25% BR, Optional ±0.1% BR

3.Static accuracy includes the combined effects of non-linearity, hysteresis, and non-repeatability at room temperature (25°C). Total Error Band (TEB) includes the combined effects of non-linearity, hysteresis, and non-repeatability as well as thermal dependencies, over the compensated temperature range, expressed as a percentage of the basic range (BR).

The calculation for maximum TEB on intermediate ranges (IR) is: $TEB_{IR} = (BR/IR) \times TEB_{BR}$

Output

Current	4...20mA + RS485
Resolution[4]	0.002%

4. Resolution applies to digital output only. Analog resolution is continuous and limited by the process meter and not the instrument.

Electrical[5]

Supply (4-20mA)	8...28 VDC
Load Resistance (mA)	<(Supply-8V)/0.022A

5. Nominal values may be higher depending upon cable length. Cable resistance (~70Ω / 1000ft) adds to the supply requirement. In order to insure proper system operation, calculate the minimum required supply voltage (at the source) as follows:

MINIMUM SUPPLY VOLTAGE = 8 + 0.022 (CABLE LENGTH x 0.07) VDC

Environmental

Protection Rating	IP68
Operating Temp.	0...60° C
Compensated Temp.	10...50° C
Wetted Materials	316 L Stainless Steel
	Gold-plated Ceramic
	Nitrile
	Fluorocarbon
Cable Options	Polyethylene for general purpose
	Hytrel for hydrocarbon
	Tefzel for chemical interaction

Certifications

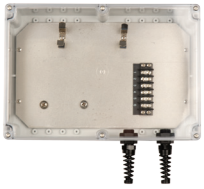
CE	EN50081-1, EN50082-2

Optional Accessories


Drying Tube Assembly


Bellows Assembly


Cable Hanger


Termination Enclosure


Interface Converter

Process Meter

Signal Line Surge Protector

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