



High Accuracy Submersible Level Transmitters **Acculevel™**

16-bit internal digital error correction

- ▶ Cost-effective low Total Error Band

316L SS flush-diaphragm sensor standard

- ▶ Optional titanium for severe applications

User-rangeable analog output

- ▶ Ensures compatibility as requirements change

RS485 modified-MODBUS compatible

- ▶ Up to 128 transmitters on a single bus

Dual (analog & RS485) outputs standard

- ▶ Simplifies interface to control as well as data collection / telemetry systems



The Acculevel by Keller America occupies the middle tier of Keller's three-tiered lineup of submersible level transmitters. It provides standard features that far exceed those of comparably priced transmitters offered by others, including $\pm 0.25\%$ FS standard ($\pm 0.1\%$ optional) Total Error Band. The ability of the Acculevel to provide this level of performance day after day, over a wide range of operating conditions, makes it ideally suited to environmental monitoring applications such as surface water, streams and reservoirs. Keller America's guaranteed lightning protection makes this transmitter ideal for installation in areas prone to chronic damage due to transients caused by lightning.

Please consult the comparison chart below to determine if the Acculevel series is the best solution for your specific application. Datasheets for Levelgate, Microlevel, and other products are available upon request or by visiting our website, www.kelleramerica.com.

Product Comparison	Levelgate™	Acculevel™	Microlevel™
Accuracy	± 1 or $\pm 0.5\%$ FS T.E.B.*	± 0.25 or $\pm 0.1\%$ FS T.E.B.*	± 0.25 or $\pm 0.1\%$ FS T.E.B.*
Custom Pressure Ranges	Yes	Yes	Yes
Available Pressure Range	0 - 3 thru 0 - 900 ft. WC	0 - 3 thru 0 - 900 ft. WC	0 - 3 thru 0 - 375 ft. WC
Compensated Temp. Range	0 - 60°C	-10 - 80°C	0 - 50°C
Field Rangeability	No	Yes	Yes
Pressure Output	0 - 5 VDC, 0 - 10 VDC 4 - 20 mA	0 - 5 VDC, 0 - 10 VDC 4 - 20 mA, RS485	4 - 20 mA, RS485
Temperature Output	No	RS485	RS485
Wetted Materials	316L SS, Polyamide, Fluorocarbon	316L SS, Polyamide, Fluorocarbon	316L SS, Polyamide, Fluorocarbon
Electrical Termination	Vented Hytrel Cable	Vented Hytrel Cable	Vented Hytrel Cable
Relative cost	Lowest	Midrange	Highest

*see reverse, Note 3.

Addition of Option-009 or internal only protection (standard on all 4-20mA pressure transmitters) increases the minimum-required supply voltage, on account of internal resistance of the surge protectors. In addition, cable resistance* adds to the supply requirement. In order to insure proper system operation, calculate the minimum required supply voltage (at the source) as follows:

For two-part (internal+external) system (recommended):
 MINIMUM SUPPLY VOLTAGE = $10.75 + 0.025 (\text{CABLE LENGTH} \times 0.07)$ VDC

For internal only protector (standard with 4-20mA output):
 MINIMUM SUPPLY VOLTAGE = $9.65 + 0.025 (\text{CABLE LENGTH} \times 0.07)$ VDC

*Cable resistance = $\sim 70 \Omega / 1000\text{ft}$

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Acculevel



Specifications

Specifications			
Level range (user specified) _{1,2}	Infinite between 0 – 3 thru 0 – 900 ft. WC		
Accuracy, TEB ₃	Standard: ±0.25%		Optional: ±0.1%
Compensated/operating Temp. Range	-10 – 80°C		
Supply ₄	VDC	8 – 28 VDC	13 – 28 VDC
Output	2 wire analog	4 – 20 mA ₅	
	3 wire analog	0 – 5 VDC	0 – 10 VDC
	4 wire digital	RS485	
Load Resistance (Ω)	mA: < (Supply - 8V) / 0.02A		VDC: > 4KΩ
Wetted Materials	Std. 316L S.S. (opt. titanium), polyamide , Fluorocarbon		
Cable ₆	Hytrel-jacketed, vented & shielded		

Notes

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

2. 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.

3. TEB: Total Error Band; 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. All intermediate ranges are realized by deranging from standard Basic Ranges of 30, 100, 300 and 900 ft WC.

4. Nominal values may be higher depending upon cable length. Cable resistance = ~70Ω / 1000ft.

5. Consult reverse side for minimum supply voltage guidelines.

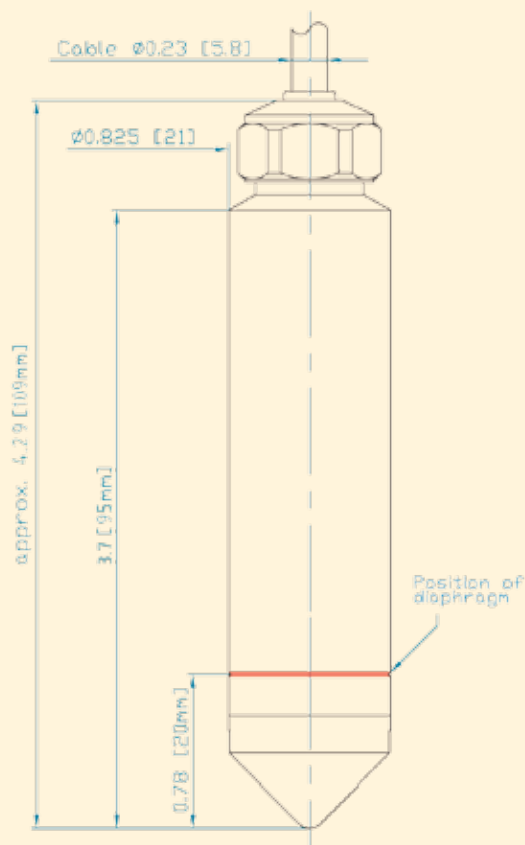
6. The drain / shield is connected to the transmitter housing. For lightning protection to function properly (4-20mA only) the shield wire must be connected to a good earth ground!

Wiring Configuration

Configuration	White	Red	Black	Blue	Yellow
2 Wire (mA)	OUT/GND	N / A	+Vcc	RS485A	RS485B
3 Wire (VDC)	GND	+OUT	+Vcc	RS485A	RS485B

Braided shield wire connected to transmitter housing

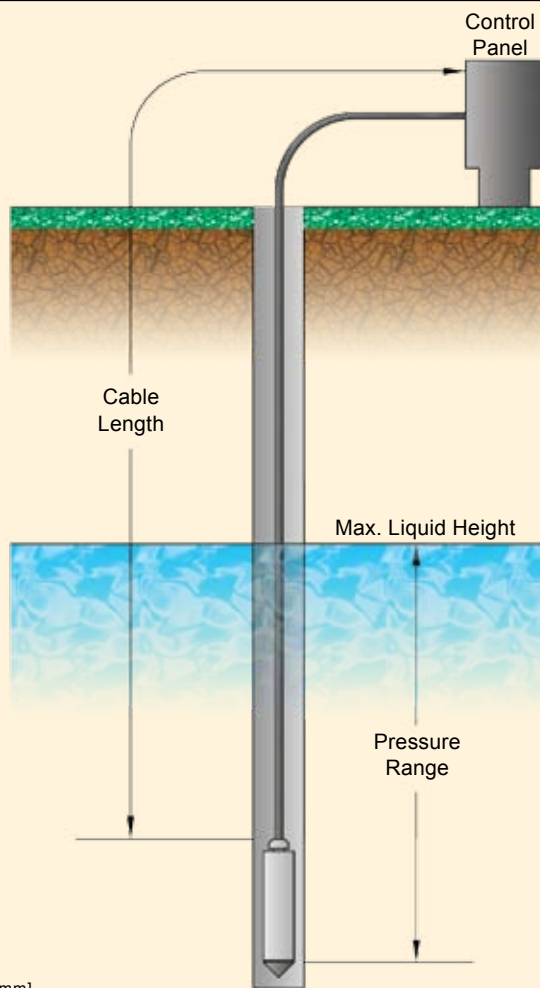
Dimensions



How to Order:

Please specify "Acculevel, pressure (or level) range, accuracy, output and cable length".

Dimensions in inches [mm]



Note: Dimensions & specifications are subject to change without notice. For the most accurate and up to date information on all products please visit our website.

Options & Accessories

- ▶ Bellows Assembly
- ▶ Drying Tube Assembly (Desiccant)
- ▶ Open Face Nose Cap

- ▶ Conduit Fitting
- ▶ Titanium Wetted Material

- ▶ Stabilizing Weight
- ▶ Termination Enclosure