



KELLER

HIGH ACCURACY SUBMERSIBLE LEVEL TRANSMITTER

ACCULEVEL

THERMALLY-COMPENSATED, CUSTOM RANGES, DUAL OUTPUT SUBMERSIBLE

The Acculevel by Keller America provides standard features that far exceed those of comparably priced transmitters, including standard $\pm 0.25\%$ FS or optional $\pm 0.1\%$ Total Error Band (TEB)₃ accuracy. This level transmitter is approved to NSF 61 and NSF 372, standards for water quality and includes Keller America's guaranteed lightning protection, making the Acculevel an outstanding value for liquid level measurement.

The ability of the Acculevel to provide this level of sustained performance over a wide range of operating conditions makes it ideally suited to an equally wide range of applications, including drinking water, stream and reservoir level, environmental monitoring, tank level, wastewater, and for installations in areas prone to chronic damage due to transients caused by lightning.

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

FEATURES

NSF 61 / NSF 372 approved construction for use in drinking water applications,

4...20mA models include guaranteed lightning protection at no additional cost.

16-bit internal digital error correction for cost-effective low Total Error Band (TEB)₃,

316L stainless construction standard - Optional Titanium for severe applications.

2-year warranty covers defects in materials and workmanship.

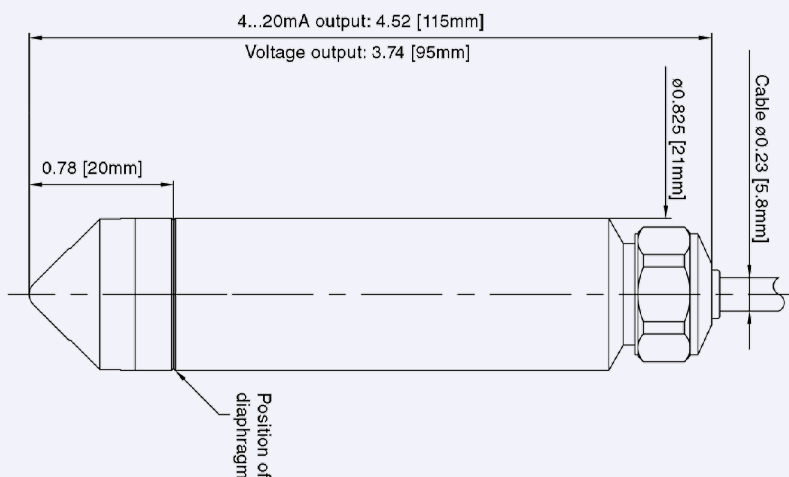
User-rangeable analog output ensures compatibility as requirements change.

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 | Red | Blue | Yellow |
|--------------|-----------|-------|------|--------|--------|
| 2-wire (mA) | OUT / GND | +Vcc | N/A | RS485A | RS485B |
| 3-wire (VDC) | GND | +VCC | +OUT | RS485A | RS485B |

Braided shield wire connected to transmitter housing

| Min. pipe bend radius | 1" IPS | 1.5" IPS | 2" IPS |
|-----------------------|--------|----------|--------|
| Schedule 40 | 22" | 4" | 3" |
| Schedule 80 | 22" | 6" | 4" |





Pressure Ranges_{1,2}

| | |
|----------|---|
| Relative | Infinite between 0...3 thru 0...900 ft W.C. |
| Absolute | Infinite between 0...2 thru 0...11 bar |

1. The Acculevel 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: 1, 3, 10, and 30 bar (relative) 2, 4, and 11 bar (absolute). 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.

Accuracy₃

| | |
|------------------|---|
| Static | Standard $\pm 0.1\%$ FS, Optional $\pm 0.05\%$ FS |
| Total Error Band | Standard $\pm 0.25\%$ BR, Optional $\pm 0.1\%$ 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 |
| Voltage ₄ | 0...5, 0-10VDC + RS485 |
| Resolution ₅ | 0.002% |

4. Other voltage output options available on request.

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

Certifications

| | |
|-------------------------|----------------------|
| CE | EN50081-1, EN50082-2 |
| NSF / ANSI ₇ | 61, 372 |

Electrical₆

| | |
|-----------------------|------------------------------------|
| Supply (4-20mA) | 11-28 VDC |
| Supply (0-5VDC) | 8...28 VDC |
| Supply (0-10VDC) | 13...28 VDC |
| Load Resistance (mA) | $< (\text{Supply} - 11V) / 0.022A$ |
| Load Resistance (VDC) | $> 4k \text{ ohm}$ |

6. Nominal values may be higher depending upon cable length. Internal lightning protection increases the minimum-required supply voltage from 8VDC to 11VDC, due to internal resistance of the surge protectors. In addition, cable resistance ($\sim 70\Omega / 1000ft$) 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 = $11.6 + 0.022 (\text{CABLE LENGTH} \times 0.07) \text{ VDC}$

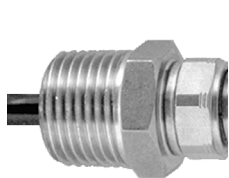
For internal only protector (standard with 4-20mA output):
MINIMUM SUPPLY VOLTAGE = $11 + 0.022 (\text{CABLE LENGTH} \times 0.07) \text{ VDC}$

Environmental

| | |
|-------------------|---|
| Protection Rating | IP68 |
| Operating Temp. | -10...60° C |
| Compensated Temp. | -10...80° C |
| Wetted Materials | 316 L Stainless Steel Titanium Optional Polyamide |
| Cable & Sealing | PE & EPDM for water / wastewater ₇ Hytril & Viton for hydrocarbons Tefzel & Viton or EPDM as required for chemical interaction |

7. NSF 61 and NSF 372 approval applies to both 316L stainless steel & titanium construction with PE & EPDM cable sealing option, which is standard on this instrument unless otherwise specified.

Optional Accessories



1/2" NPT Conduit Fitting



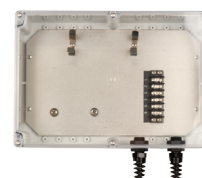
Drying Tube Assembly



Bellows Assembly



Cable Hanger



Termination Enclosure



Pressure Test Adapter



Stabilizing Weight



Interface Converter



Process Meter



Open-faced Nose Cap



Signal Line Surge Protector