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 ±0.25% FS or optional ±0.1% Total Error Band $(TEB)_3$ accuracy. This level transmitter is approved to NSF/ANSI 61 and 372_7 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 online at kelleramerica.com.

FEATURES

Certified to NSF/ANSI 61 and 372 standards for use in drinking water applications$_7$

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.

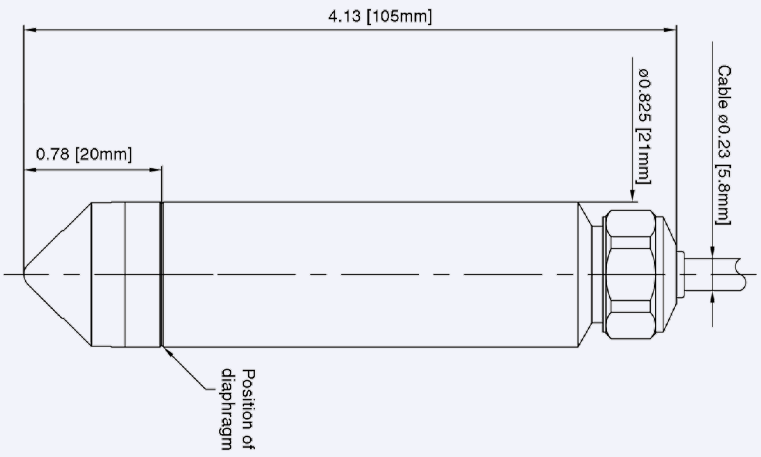
RS485 modified-MODBUS compatible interface allows up to 128 transmitters on a single bus.

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

Buy America, Build America Act compliant configurations available.

Standard 3-day lead time

CLASSIFIED UL WATER QUALITY



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

Colors refer to 26AWG PE-jacketed cable conductors.

Braided shield wire connected to transmitter housing. For lightning protection to function properly (4-20mA only) the shield wire must be connected to a good earth ground.

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

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Subject to alterations
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Pressure Ranges[1,2]

Relative	Infinite between 0...3 and 0...900 ft W.C.
Absolute	Infinite between 0...2 and 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.

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
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

Electrical[6]

Supply (4-20mA)	11-28 VDC
Supply (0-5VDC)	8...28 VDC
Supply (0-10VDC)	13...28 VDC
Load Resistance (mA)	<(Supply-11V)/0.022A
Load Resistance (VDC)	>4k 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 (~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:

For two-part (internal+external) system (recommended):
MINIMUM SUPPLY VOLTAGE = 11.6 + 0.022 (CABLE LENGTH x 0.07) VDC

For internal only protector (standard with 4-20mA output):
MINIMUM SUPPLY VOLTAGE = 11 + 0.022 (CABLE LENGTH x 0.07) 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]
	Hytrel & Viton for hydrocarbons
	Tefzel & Viton or EPDM as required for chemical interaction

7. NSF/ANSI 61 and 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.

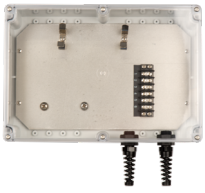
Optional Accessories


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

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