



HIGH ACCURACY SDI-12 LEVEL TRANSMITTER

ACCULEVEL SDI

SDI-12 OR RS485 DIGITAL OUTPUT SUBMERSIBLE

The Acculevel SDI by Keller America provides outstanding Total Error Band (TEB)₂ accuracy for reliable, accurate measurements in real-world conditions.

The Acculevel SDI combines SDI-12 and RS485, two industry standard digital communication protocols, making it ideally suited for environmental monitoring applications such as surface water, streams, and reservoirs using existing SDI-12 monitoring equipment.

The Acculevel SDI is ideal for remote applications where battery-powered operation with minimal current draw and networking multiple sensors to a data recorder are required. And, the included lightning protection makes it more robust for installation in areas prone to high current and voltage transients.

For more information on the Acculevel SDI, or any other Keller product, please contact Keller America. You may also see the complete line up of Keller products at <http://www.kelleramerica.com/datasheets.html>.

FEATURES

Standard ±0.1% FS TEB or optional USGS OSW accuracies available

- ±0.1% FS TEB on ranges up to 900 ft W.C.
- Meets OSW spec on ranges up to 70 ft W.C. from 0...40°C.

16-bit internal digital error correction for cost-effective low Total Error Band (TEB)₂

Selectable digital outputs (SDI-12 or RS485) for maximum versatility.

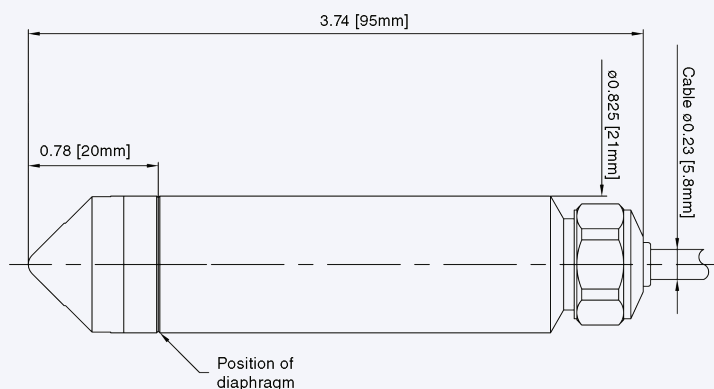
RS485 modified-MODBUS and SDI-12 V1.3 protocol compatibility.

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

2-year warranty covers defects in materials and workmanship.

Lightning protection included at no additional cost.

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



Red	Black	White	Blue	Yellow
+Vcc	GND	SDI-12	RS485A	RS485B
Braided shield wire connected to transmitter housing. For lightning protection to function properly the shield wire must be connected to a good earth ground!				



Pressure Ranges₁

Relative	Infinite between 0...3 thru 0...900 ft W.C.
Absolute	Available on request

1. Level range may be specified in units of bar, mbar, mH₂O, psi, ftWC, or inWC

Accuracy_{2,3}

Pressure	Standard $\pm 0.1\%$ FS TEB Optional Opt. ± 0.01 ft WC when reading ≤ 10 ftWC or $\pm 0.1\%$ of reading > 10 ftWC
Temperature	typ. ± 0.3 °C

2. 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.

3. Optional accuracy is written in compliance with USGS OSW specification mandates

4. Optional accuracy is written in compliance with USGS OSW specification mandates and limited to a compensated temperature range of 0...40° C.

Output₄

Digital	SDI-12 + RS485
Pressure Resolution	0.0005% FS
Temp. Resolution	< 0.01 °C
Comm. Protocol	SDI-12 V1.3, MODBUS RTU
Baud Rate	1200 bits/s

4. The Acculevel SDI can communicate in either SDI-12 or RS485 at any one time. By default, the Acculevel SDI will ship in SDI-12 mode. A USB Dongle is required to change to RS485 mode.

Certifications

CE	EN50081-1, EN50082-2
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Electrical₅

Supply	6...32 VDC
Power Consumption	< 0.1 mA (Sleep) < 5.5 mA (active)
Startup Time	< 5 ms (interface ready)
Load Resistance (mA)	$< (\text{Supply}-6\text{V})/0.0055\text{A}$
Insulation GND-CASE	> 10 M Ω @ 300 V

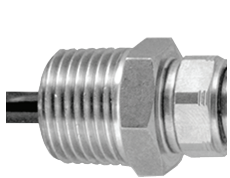
5. Nominal values may be higher depending upon cable length. Cable resistance ($\sim 70\Omega / 1000\text{ft}$) adds to the supply requirement. In order to insure proper system operation, calculate the minimum required supply voltage (at the source) as follows: MINIMUM SUPPLY VOLTAGE = 6 + 0.022 (CABLE LENGTH x 0.07) VDC

Environmental

Protection Rating	IP68
Storage Temp.	-20...80° C
Compensated Temp.	Standard -10...80° C Optional 0...40° C ₆
Wetted Materials	316 L Stainless Steel Titanium Optional Polyamide Fluorocarbon
Cable Options	Polyethylene for general purpose Hytrex for hydrocarbon Tefzel for chemical interaction

6. Optional compensated temperature range applies to transmitters built to USGS OSW accuracy specification.

Optional Accessories



1/2" NPT Conduit Fitting



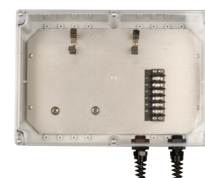
Drying Tube Assembly



Bellows Assembly



Cable Hanger



Termination Enclosure



Pressure Test Adapter



Stabilizing Weight



Interface Converter (RS485)



Process Meter



Open-faced Nose Cap



Signal Line Surge Protector



USB Dongle (SDI-12)