LIFT STATION LEVEL TRANSMITTER

NON-FOULING DESIGN FOR WASTEWATER APPLICATIONS

Specifically designed for extended service in sewage lift station environments, the LevelRat by KELLER America features a wide sensing diaphragm yet small overall size. Unlike competing models which feature a fragile Teflon®-coated rubber diaphragm, the LevelRat incorporates a monolithic diaphragm which combines the non-stick quality of Teflon with superior toughness and abrasion resistance.

Perfectly suited for pump control applications, the LevelRat is compatible with any standard 2-wire, 4...20 mA current loop or 3-wire voltage systems.

KELLER America’s guaranteed lightning protection makes this transmitter ideal for installation in areas prone to chronic damage due to transients caused by lightning.

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

FEATURES

- 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).
- 316L SS housing construction.
- Non-fouling diaphragm for superior resistance to puncture.
- 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.

<table>
<thead>
<tr>
<th>Output</th>
<th>White</th>
<th>Black</th>
<th>Red</th>
<th>Blue</th>
<th>Yellow</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-wire (mA)</td>
<td>OUT / GND</td>
<td>+Vcc</td>
<td>N/A</td>
<td>RS485A</td>
<td>RS485B</td>
</tr>
<tr>
<td>3-wire (VDC)</td>
<td>GND</td>
<td>+VCC</td>
<td>+OUT</td>
<td>RS485A</td>
<td>RS485B</td>
</tr>
</tbody>
</table>

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.
Pressure Ranges

1. The LevelRat 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, and 10 bar (relative). 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 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:

\[ TEB_{IR} = \left( \frac{BR}{IR} \right) \times TEB_{BR} \]

Electrical

Supply (4-20mA) 11...32 VDC
Supply (0-5VDC) 8...32 VDC
Supply (0-10VDC) 13...32 VDC
Load Resistance (mA) <(Supply-11V)/0.022A
Load Resistance (VDC) >4k ohm

Environmental

Protection Rating IP68
Operating Temp. -10...60° C
Compensated Temp. 0...50° C
Wetted Materials 316 L Stainless Steel
Kynar
Cable & Sealing PE & EPDM for water / wastewater
Hytrel & Viton for hydrocarbons
Tefzel & Viton or EPDM as required for chemical interaction

Output

Current 4...20mA + RS485
Voltage 0...5, 0...10VDC + RS485
Resolution 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

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
Signal Line Surge Protector