The Series GWB Guided Wave Radar Transmitter for Solids is a level transmitter providing an analog and switching output (4 to 20 mA as well as a NC-SPST switch output) to provide continuous level indication of powder and bulk material. The sensor can output level indication as a continuous measurement reading through its analog output, or it can alter that information into freely adjustable switching output signals. State-of-the-art Time Domain Reflectometry technology in this transmitter makes for excellent accuracy and stability. Suppression of disturbance signals allows the GWB to measure precisely even when operating close to interfering structures. This series is available with either a rigid or flexible probe depending on the application requirement, as well as a custom probe length. One of the GWB characteristics is virtually no installation restrictions making it ideal for small tanks, tall and narrow nozzles, and various other types of processing and storage applications.

FEATURES

- Precise continuous level measurement and reliable point level detection.
- Disturbance signal suppression.
- Simple installation.
- HART® Communication protocol.
- Economical.
- No density or conductivity restrictions.
- Zero and full span adjustable within measuring range (length minus the top and bottom dead bands).

METHOD OF OPERATION

The GWB senses low-energy, high-frequency electromagnetic impulses, produced by the sensor which are transmitted along the probe immersed in the fluid to be measured. When these impulses hit the surface of the liquid, part of the impulse energy is reflected back up the probe to the sensor which then utilizes the time difference between the impulses sent and the impulses reflected to determine the fluid level.

SPECIFICATIONS

Service: Compatible, non-combustible powder and bulk materials.
Wetted Materials:
- 316 SS rod: 316 L SS, PEEK & Klingersil
- Wire cable: 316 SS, PEEK & Klingersil
Accuracy: ±0.12".
Repeatability: < 0.08".
Resolution: < 0.04".
Dielectric Constant \[ \epsilon_r \]:
- 316 SS rod/wire cable: > 1.8.
Dynamic Viscosity: 316 SS rod/wire cable: < 5 cP (5 mPa • s).
Velocity of Level Change: < 3.2 fps (0.98 m/s).
Start-Up Time: < 6.0 s.
Temperature Limits:
- Ambient: -13 to 176°F (-25 to 80°C);
- Process: -40 to 302°F (-40 to 150°C).
Pressure Limits: -14.5 to 580 psi (-1 to 40 bar).
Output Signal: Analog or switch type.
Analog Output: 4 to 20 mA.
Switch Type: SPST, NC.
Power Requirements: 12 to 30 VDC.
Electrical Rating: 70 mA @ 24 VDC.
Mounting Orientation: Vertical.
Response Time: 0.5 s, 2.0 s, 5.0 s selectable.
Electrical Connection: Screwless, cage clamp terminal block for stranded and solid wires AWG 22-14.
Conduit Connection: 1/2” NPT or M20.
Process Connection: 1” male NPT or 1” male G.
Enclosure Rating: NEMA 4X (IP66).
Weight: 2.09 lb (0.95 kg).
Agency Approval: CE.

PROBE TYPE RECOMMENDATIONS

Wire Cable Probe

<table>
<thead>
<tr>
<th>Wire Cable Probe</th>
<th>316 SS Rod Probe</th>
</tr>
</thead>
<tbody>
<tr>
<td>Probe Mounting</td>
<td>Tall &amp; narrow nozzles</td>
</tr>
<tr>
<td></td>
<td>Difficult tank or nozzle geometries</td>
</tr>
<tr>
<td></td>
<td>Close to internal tank structures or tank wall</td>
</tr>
<tr>
<td></td>
<td>Probe might move or touch internal tank structures/tank wall</td>
</tr>
<tr>
<td></td>
<td>Non-stationary interface targets, e.g. agitator blades</td>
</tr>
<tr>
<td></td>
<td>Measurement readings at the very top or bottom of the tank</td>
</tr>
<tr>
<td></td>
<td>Non-metallic tanks</td>
</tr>
<tr>
<td></td>
<td>Bypass chambers and stilling wells</td>
</tr>
<tr>
<td></td>
<td>Limited headroom for installation</td>
</tr>
<tr>
<td></td>
<td>Tall tanks</td>
</tr>
</tbody>
</table>

Media Characteristics

- Bulk solids
- Clean-ability of probe is important

= Recommended
= Possible, maybe with configuration and/or mounting adjustments
= Not recommended

HART® is a registered trademark of Hart Communication Foundation.