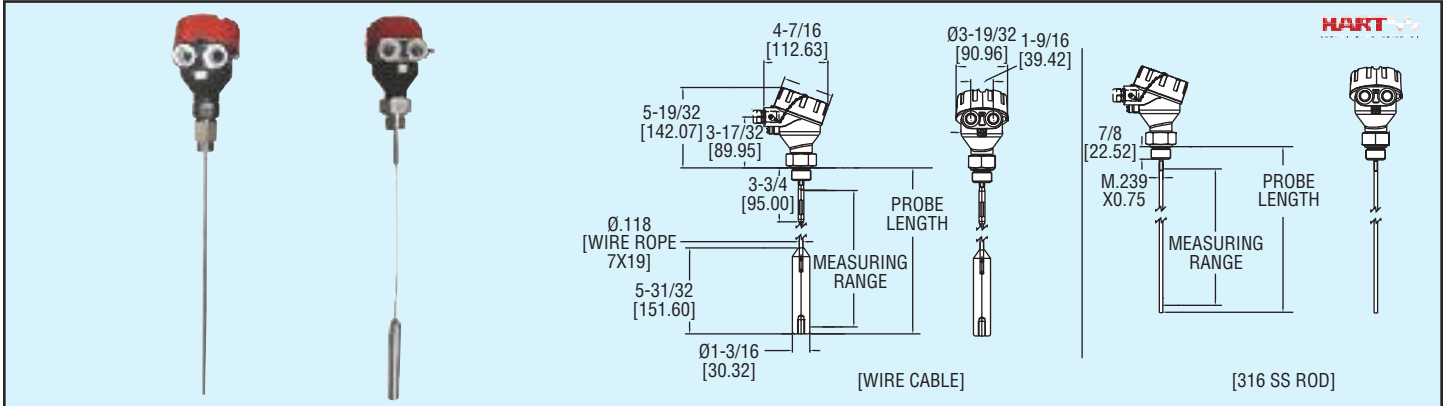




Series
GWB

Guided Wave Radar Transmitter for Solids

Low Cost, Analog & Switch Output



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 installation required, 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 [εr]:

- 316 SS rod/wire cable: > 1.8.

Dynamic Viscosity: 316 SS rod/wire cable: < 5.00 mPa; s=5.000 cP; 316 SS.

Velocity of Level Change: < 3.2 fps.

Start-Up Time: < 6 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 s, 5 s selectable.

Electrical Connection: Screwless, cage clamp terminal block for stranded and solid wires AWG 22-14.

Conduit Connection: 1/2" NP 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.

Example Model GWB-RN4-01-120

Probe Type Recommendations

WIRE CABLE PROBE		316 SS ROD PROBE	
PROBE MOUNTING			
Tall & narrow nozzles	•	•	•
Difficult tank or nozzle geometries	•	•	•
Close to internal tank structures or tank wall	•	•	•
Probe might move or touch internal tank structures/tank wall	•	•	•
Non-stationary interface targets, e.g. agitator blades	•	•	•
Measurement readings at the very top or bottom of the tank	•	•	•
Non-metallic tanks	•	•	•
Bypass chambers and stilling wells	+	-	-
Limited headroom for installation	•	+	+
Tall tanks	•	+	+
MEDIA CHARACTERISTICS			
Bulk solids	-	+	+
Clean-ability of probe is important	+	+	+

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

Example	GWB	R	N4	0	1	120	GWB-RN4-01-120
Series	GWB						Guided Wave Radar Transmitter for Solids
Probe Type		R W					316 SS rod Wire cable
Enclosure			N4				NEMA 4X
Process Connection				0 1			1" NPT 1" G
Conduit Entries & Cable Glands					1 2 3		1/2" NPT (2) Cable gland (2) 1/2" NPT, cable gland
Probe Lengths						XXX	Insertion length in inches. Example 048 is 48" length. Rod range of 4 to 118". Wire cable range of 40 to 780".

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