

KING-GAGE® Marine Systems

Tank Level and Draft Indicating Systems for the Marine and Offshore Industries

LevelWAV Radar Level Transmitter

- Measure Level, Volume or Ullage
- Advanced Smart Radar Improves Reliability
- Use for Potable Water, Fuel Oil, Service Tanks

KING-GAGE LevelWAV microwave level transmitter can be used to measure the level, volume or ullage for tank service including ballast water, heavy fuel oil and slurries. It is well suited to marine applications since it is independent of temperature, pressure and liquid density variations. Radar level measurement is a practical solution to failing or erratic tank level transmitters.

2-wire technology means LevelWAV radar transmitters are easier to implement and help simplify shipboard wiring. This advanced radar design automatically adjusts the transmit energy and receiver gain to eliminate false echo or reflected signals within irregular shaped tanks. A compact mounting footprint permits tank top mounting in tight spaces. Accurate and reliable operation with no moving parts or submerged components eliminates the maintenance requirements of other level technologies.

Applications include ballast monitoring, fuel oil, day tanks, greywater, waste oil and drilling mud. The transmitter is also available in a sanitary configuration for safeguarding potable water supplies.

Tank top mounting allows for easy retrofitting for upgrading level measurement while the rugged design ensures long service life in even the most demanding marine environments. The 4-20mA dc output is widely compatible and can be easily transmitted long distances.



**Model 3700 Free-Air
Radar Transmitter**

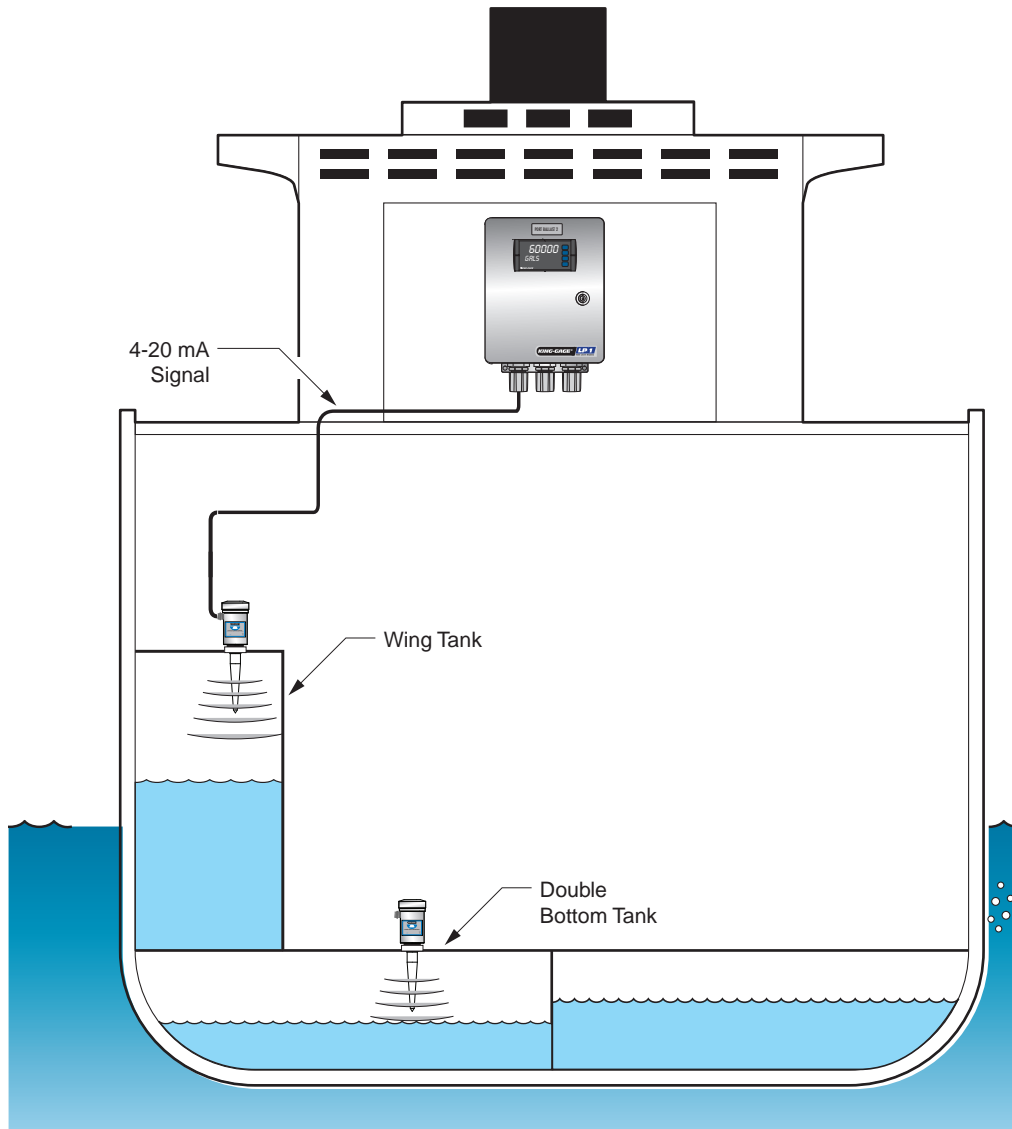


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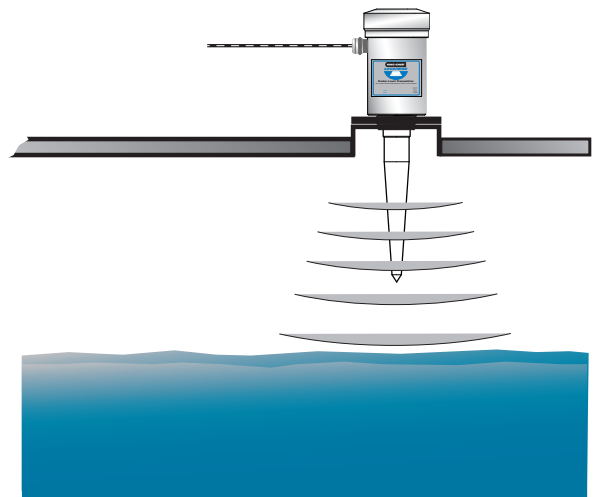
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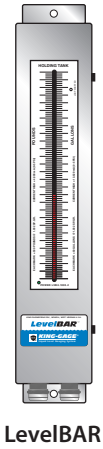
DETECTING LEVEL USING FREE-AIR RADAR

Microwave pulses are emitted into free space where they are reflected by the liquid surface. Using the Time of Flight (ToF) principle, the returning echo is received at the device which determines the distance to the liquid surface. Pulse burst radar does not require the greater power and more complex processing needed for frequency modulated continuous wave radar transmitters. KING-GAGE LevelWAV radar level transmitters have greater proficiency at sorting through extraneous echoes and isolating the one generated by actual surface level. In this way, they provide greater accuracy and reliability in marine tank level gauging.





System Options

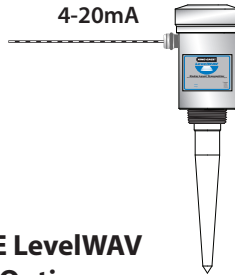


LevelBAR

LP1 - Single Tank



KING-GAGE LevelWAV Display Options



COMPLETE GAUGING SYSTEM

LevelWAV can be supplied with any display shown above preconfigured for the tank gauging application (capacity programming is based on sounding charts). KING-GAGE systems are intended for quick startup with virtually no commissioning required.

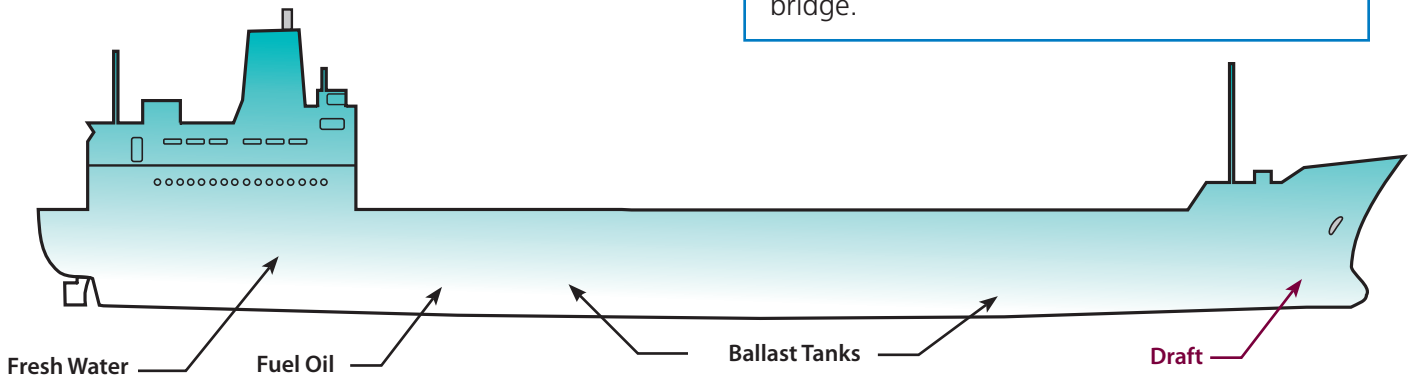
LevelWAV is a true loop powered (2-wire) transmitter remotely powered by a nominal 24 Vdc power supply such as provided by KING-GAGE tank level display systems. Utilizing tank sounding tables, we can factory configure the LevelWAV transmitter and calibrated scale or preconfigure the application profile for a complete plug-and-play tank gauging package - eliminating the need for commissioning.

Fresh water (potable): Maintain safe supply of drinking water with a sanitary configuration LevelWAV transmitter.

Heavy fuel oil (HFO): This highly viscous fuel can be difficult to gauge for some transmitters but LevelWAV can accurately monitor these tank levels.

VESSEL DRAFT MEASUREMENT (KING-GAGE LiquiSeal Transmitters)

LiquiSeal Purge Control can be used to sense tank levels or measure ship's draft. These are downpipe purge (bubbler) transmitters that sense hydrostatic pressure due to draft depth. Extremely rugged and uniquely suited to reliable draft measurement regardless of conditions. The output signal (4-20 mAdc) can be transmitted to KING-GAGE indicators in the engine room, control center or ship's bridge.



LevelWAV Radar Transmitter

Tank Level Systems for Marine and Offshore

KING-GAGE®
Marine Systems

LevelWAV radar tank level transmitter is a two-wire loop powered unit intended for tank top mounting. Stainless steel housing and rugged digital circuitry are well-suited to the marine environment. IP68 rating safeguards the reliability when exposed to extreme conditions including deck mount installations.

King Engineering has over 75 years experience in level measurement in the marine and offshore sectors. KING-GAGE Marine Systems have proven their reliability in offshore supply, ferry service, barge operations and oceangoing fleets.

Specifications

Pulse burst non-contact radar transmitter

Radar Frequency

6.3 GHz

Tank Top Mounting Connection

1-1/2" NPT or 2" NPT

Housing

316 stainless steel (optional - sanitary configuration includes PTFE antenna cover)

Environmental Rating IP68 (NEMA 6)

Temperature

Ambient -40 °F to 140 °F (-40 to +60 °C)

Process -40 °F to 176 °F (-40 to +80 °C)

Pressure (Process)

5 bar (72 psi)

Accuracy: $\pm 0.25\%$ of range

Maximum Measurement 0-15m (0-50 Ft.)

Optional extended ranges - consult factory

Output

2-wire analog 4-20mA dc

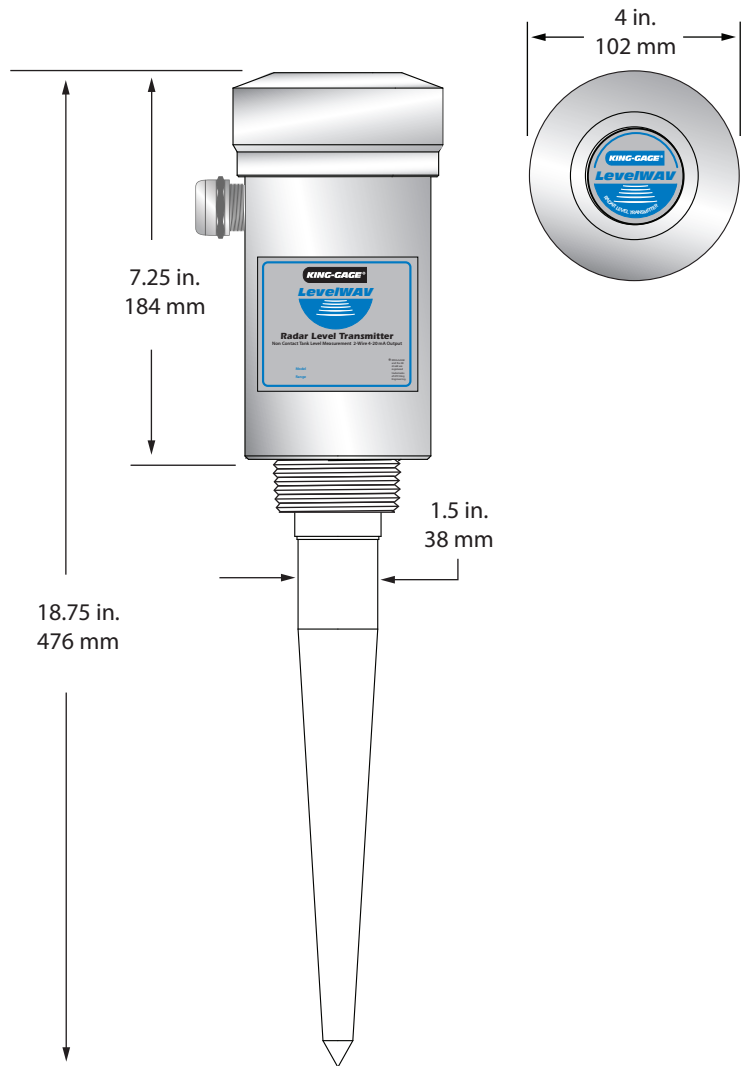
Power Requirement

20-35 Vdc

Maximum Load (Resistance)

33 ohms @35Vdc

ABS approval available



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All specifications are subject to change without notice.
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