

**KING-GAGE® ES2i****Level Measurement****Inventory Monitoring****Process Integration**

Liquid Level Transmitter

## ES2i Transmitter

- □ Continuous Liquid Level Measurement
- Two Wire Loop Powered (4-20 mA)
- □ Sanitary Flush Mount



KING-GAGE ES2i transmitters provide liquid level measurement for inventory monitoring. Add to their rugged reliability the major benefits of simplified service and maintenance. Performance characteristics of our transmitters include excellent stability and repeatability (better than 0.02% FS). Transmitter span can be adjusted anywhere between 70-140% of nominal range.

KING-GAGE ES2i transmitters are applicable to most tanks or process vessels whose contents remain at normal atmospheric pressure. The transmitter's 4-20 mA dc output signal is compatible with PLCs or other control architecture using analog I/O. Accurate tank gauging can be achieved using KING-GAGE indicators or tank processors that convert the proportional output into a volumetric measurement of tank level.

Measuring hydrostatic head pressure created by liquid depth in the tank, they are unaffected by foam or internal obstructions such as agitators. Pressure affords consistent measurement because it is based on the total mass of the liquid, not its relative volume or displacement when affected by temperature.

### Food & Beverage Applications

KING-GAGE ES2 transmitters are especially suited to the process environments in food, dairy and beverage plants. Stainless steel construction and available flush mounting configurations meet the requirements when sanitary concerns are critical. Typical installations include insulated wall silos and horizontal product storage tanks.

### Ease of Maintenance

ES2i transmitters are designed with a smaller diameter diaphragm face to reduce exposure to accidental impact. Isolated meter terminals simplify accurate calibration of span and zero. Generous load capacity (up to 1600 ohms @ 42 Vdc) can support extended cable runs or multiple loop receivers.

**Specifications**

**Pressure Ranges**

0-5, 0-10, 0-15, 0-30, 0-50 PSIG  
(Gage pressure measured relative to ambient atmospheric pressure)

**Accuracy**

Less than ± 0.20% FS  
Includes linearity, hysteresis, non-repeatability errors.

**Pressure Media**

Gas or Liquids compatible with 316 stainless steel (diaphragm); silicone rubber (O-ring). All other wetted parts 316L.

**Electrical**

Input (excitation): 10-42 Vdc  
Output (mAdc): 4-20 milliamperes

**Span Adjustment**

Adjustable to 70-140% nominal range (-30% / +40%)

**Stability**

Less than 0.003 mA change in output current per volt change at input terminals

**Linearity (Worst Case)**

Less than ± 0.13% FS  
Hysteresis (Worst Case)  
Less than 0.05% FS

**Non-Repeatability (Worst Case)**

Less than 0.02% FS

**Operating Temperature Range**

0°F to 175°F/ -17°C to 79°C

**Mounting Options**

Flush-mounting configurations are intended to meet the 3-A Sanitary Standards for clean-in-place applications. The ES2i transmitter fits directly into KING-GAGE® tankshells or with an adapter on other manufacturers' mounting shells.

**Retrofit Applications** - Adapters are available for the following manufacturer's transmitter tank shells or sanitary mounting flanges:

- Anderson Instrument
- Cherry-Burrell
- Tank Mate
- Continental / Wizard (consult factory)
- Foxboro
- Rosemount

**Tri-Clamp® Mount**

Optional mounting adapter mates with typical 2" Tri-Clover sanitary fitting. (Quick release clamp is not included.)

**Greater Long Term Stability**

Unlike some other transmitters, ES2i has virtually no position sensitivity and its fast thermal recovery accomodates sanitary process environments. Plus, ES2i offers a choice of configurations to match your application needs. The integral stainless steel housing shown here includes a watertight connector for signal cable installation. Mounting lengths offered are intended to mate with tank fittings on non-insulated (single-wall) or insulated wall tanks. Adapters provide additional mounting options (see below).

**ES2i Model 5501 (Short Mount)**

Mates to short weld-in shell 1777-2 or sanitary clamp adapter. Used for single wall (non-insulated) tanks.

**ES2i Model 5502 (Standard Mount)**

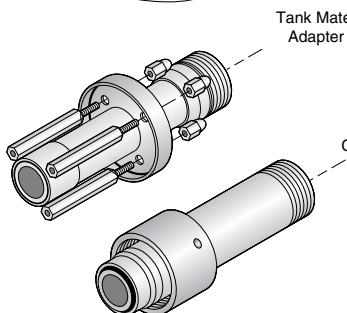
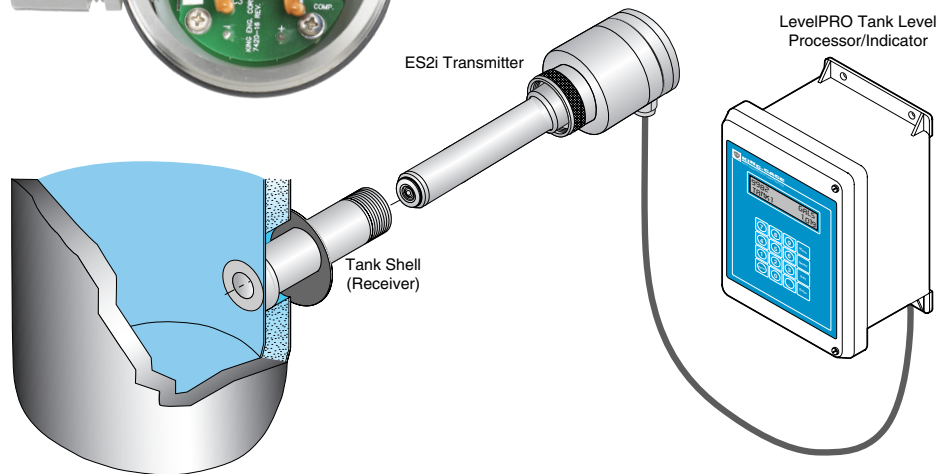
Standard mount mates to our flush weld-in shell 1777 for typical insulated wall tanks. Also used for retrofits on single wall tanks having other manufacturers' tank fittings.

**ES2i Model 5503 (Long Mount)**

The longer housing is designed for flush mounting on insulated tanks having existing fittings by other manufacturers (e.g., Cherry-Burrell *LevelMatic*, Tank Mate, Wizard, Anderson Instrument). Also applicable to thicker insulated wall tanks (up to 6.75 in.) using King shell 1777-3.



Internal View of Transmitter



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