

<b>440-1300-038</b>		Sht. 1 of 1	APPD BY DLC
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### **Bid Specification for Continuous Ultrasonic Transmitter**

The continuous level transmitter shall employ an ultrasonic level measuring principle. It shall produce an isolated 4-20 mA<sub>dc</sub> output into a loop resistance of up to 1000 ohms. Temperature compensation shall be incorporated within the ultrasonic level measuring transducer. The transducer must be capable of being mounted in a 2 inch diameter nozzle and be recessed up to 11 inches (280 mm) inside the nozzle which shall permit the transmitter to measure to 1 inch (25 mm) from the top of the vessel. The transducer must be capable of either integral mounting directly to the electronic unit or optionally mounted remotely up to 75 feet (23 meters) from the electronic unit. When remotely mounted, the manufacturer shall supply all cables and weatherproof fittings required to interconnect the transducer to the electronic unit. The standard enclosure shall be made from copper-free cast aluminum and shall meet the requirements of explosion-proof ratings and NEMA 4X (IP-65) for corrosion resistant service. Power input will be nominal 24 VDC. Power input, transducer cables, and current output shall all exit through separate conduit connections.

Calibration shall be accomplished through direct setting decade switches (in inches) for both zero and span settings. Alarm trip points shall be configured in the same manner. All calibration and configuration shall be accomplished without power to the electronic unit and with or without material present in the vessel. The transmitter shall be capable of being calibrated and configured either connected to the vessel or "on the bench". The direct calibration settings shall have a resolution of the nearest 1 inch (25 mm) or better. The maximum range shall be at least 30 feet (9 meters) with a near zone limit of 12 inches (305 mm) or less. Recommended minimum span capability shall be 3 inches (76 mm) or 10% of the maximum range (whichever is greater). The output shall be capable of being configured for either height or distance. Accuracy of the transmitter shall be 0.2% of range or better with resolution and repeatability of 0.1 inch (3 mm) or better.

The transducer shall be of CPVC construction (or other material as required) with a 2 inch NPT mounting thread or optional flange mount. The recommended operating temperature range for the transducer shall be from -40° to +200°F (-40° to 90°C). The electronic unit shall employ a 50 kHz operating frequency.

The transmitter shall be capable of supporting a near zone, lost echo, and two (2) user addressable alarms. These may be handled as either contact closure alarms (through an optional relay module) or as output drives for user acceptance. The near zone and lost echo drives shall be included as standard with the transmitter. The electronic unit shall incorporate adjustable damping circuitry allowing for 0, 15, or 45 second signal damping.

The manufacturer shall have worldwide technical support and installation assistance capabilities.

The transmitter shall be model 505-1100 Series Ultrasonic Level Transmitter with High Discrimination Circuitry as manufactured by Drexelbrook Engineering Company or engineer approved equal.