

SUBMERSIBLE LEVEL TRANSDUCER



MODEL SLX 220

FEATURES

- Loop powered 4-20 mADC output
- Choice of ranges:
0-2 feet to 0-100+ feet
- Rugged construction:
Lightning and transient protection
Chemical resistance
- Field calibration circuit
- Manual level simulation
- Large 2.5" Teflon® diaphragm
- Sealed breather system

APPLICATIONS

- Sewage Wet Wells
- Sludge Sumps
- Water Tanks and Reservoirs
- Clearwells
- Process Sumps

The CONTEGRA Model SLX 220 submersible level transducer reliably measures the level of water, wastewater, or other liquids based upon the hydrostatic pressure of the liquid above the submerged sensor's diaphragm. The transducer provides a 4-20 mADC output signal that is directly proportional to the sensed level.

The Model SLX 220 provides superior service in demanding level sensing applications such as sewage wet wells,

treatment plant level monitoring, etc. Its PVC, Teflon®, PVDF, and Viton® wetted parts provide strong chemical resistance. The isolated, loop powered 4-20 mADC transmitter is accurate and reliable.

The Model SLX 220 provides convenient signal spanning and offsetting, in-circuit calibration and signal simulation.

Contegra

MODEL SLX 220

The Model SLX 220 measures the head pressure imposed by the height of liquid above the diaphragm. A silicone oil fill transfers this pressure to the sensor that converts the pressure to an analog signal. The system is calibrated to a stable specific gravity (density), typically that of water.

The Model SLX 220 does an outstanding job of sensing in dense wastewater sludge applications. The large 2.5" diameter diaphragm: 1) resists solids bridging across the face of the transducer or the clogging often associated with other smaller diameter submersible transducers and 2) avoids the complexity, cost, and maintenance of bubbler systems.

The 4-20 mA transmitter has on-board span and offset adjustments, manual level simulation (for easy range adjustment and process simulation), damping adjustment, and three levels of transient protection on the loop.

Features and Benefits

Wetted parts of PVC, Teflon®, PVDF, and Viton®: Provide excellent protection from corrosive environments.

PVC body: Electrical isolation from media provides improved immunity to electrical surges caused by lightning.

Wide Teflon® sensing diaphragm: Maintenance free, non-clogging operation in most any media.

Integral cable suspension: The transducer can be cable suspended without the need for mounting poles or suspension kits.

Integral pipe fitting: Internal 3/4" NPT threading allows transducer to be pipe mounted.

Shielded Teflon® cable: Foil shield with drain wire provides electrical shielding. The 1/4" diameter Teflon® jacket makes the cable easy to pull and provides high chemical resistance.

Sealed breather system: The sensor is protected from potentially corrosive environments by a sealed breather system. (Sensors with unsealed breather systems may fail after prolonged contact with corrosive gasses.)

Approvals: UL Listed as pictured

Hydrophobic vent: The enclosure's hydrophobic Teflon® vent protects the electronics and cabling while venting the gauge sensor to atmospheric pressure.

Accessibility: The 4-20 mA transmitter is external to the submersible sensing unit, allowing access to its extensive features.

Field calibration and level simulation: The transmitter provides broad span and offset adjustments. The transmitter can be calibrated without disconnecting from the loop thus reducing field-work and eliminating 'loss of signal' alarms.

Simulation allows for easy field calibration of span and offset without a calibration stand. The simulation function can be used to exercise the 4-20 mA loop for testing the monitoring and control system.

Adjustable damping: Smooths the reaction of the sensor to turbulence or wave action.

Integral transient protection: Three levels of protection on the 4-20 mA loop are standard, not an extra-cost option.

Options: Intrinsically safe barriers, condensation protection heaters, level indicating meters (digital), special pressure sensors, etc. Consult the factory for additional information.

Model SLX 220 Specifications

Pressure Ranges: 5,15, 30 PSI sensing elements. Consult the factory for other ranges.

Pressure Overload: Five times full scale of sensor.

Accuracy: 0.25% over the full scale pressure range including nonlinearity, hysteresis, and nonrepeatability.

Operating Temperatures

Transducer: 0° to +60° C (+32° to +140° F) (non-freezing)

Transmitter: -40° to +70° C (-40° to +176° F)

Relative Humidity

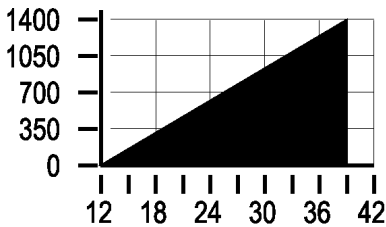
Transducer: Submersible

Transmitter: 95% non-condensing

Media Compatibility: Any media compatible with Teflon®, PVC, PVDF, and Viton®.

Damping: Selectable time constant of 0.1, 2 or 5 seconds.

Input/Output: Loop powered 4-20 mA output, 12-40 VDC Class 2 supply into 0-1400 ohms.



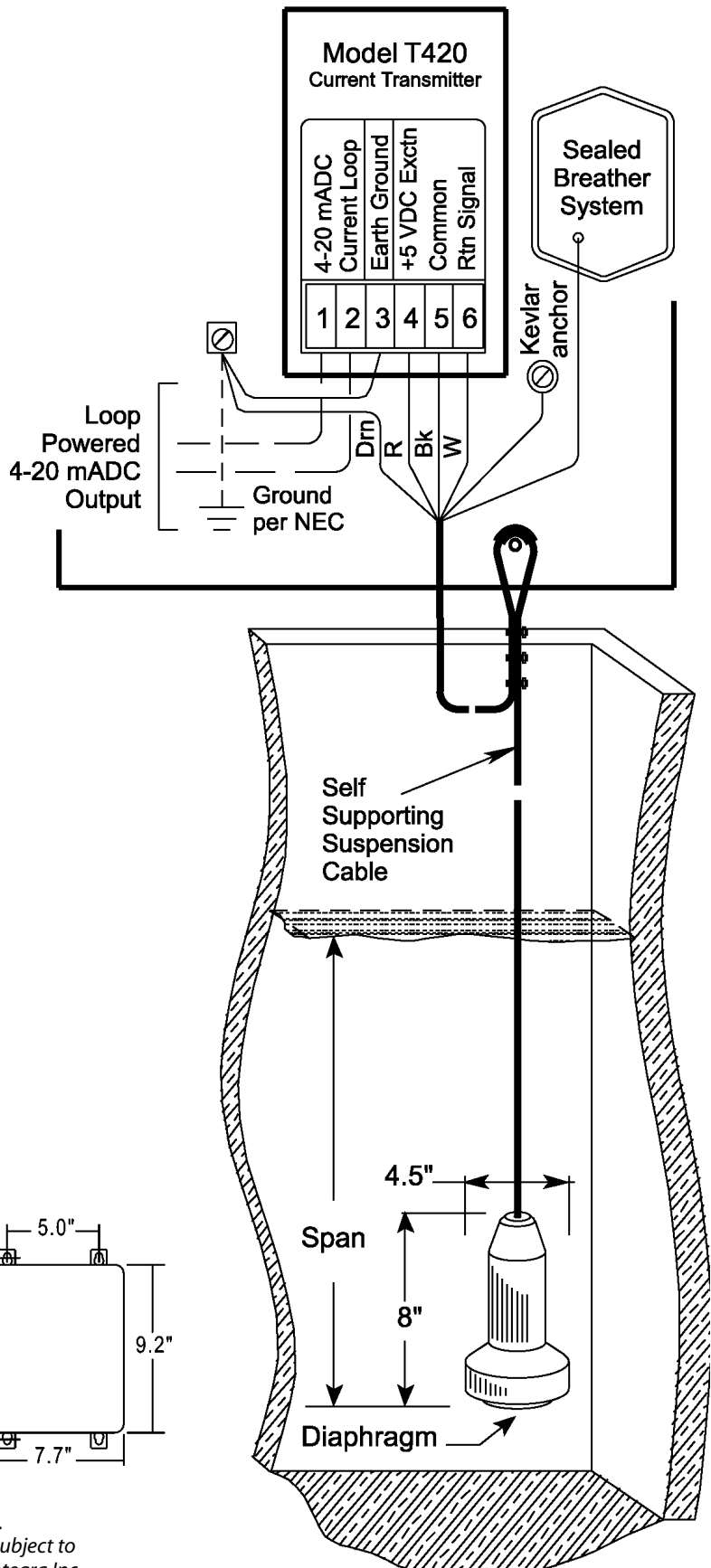
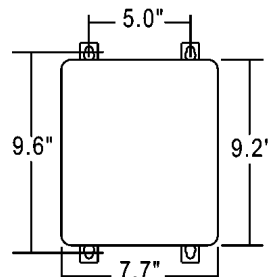
$$\text{Max Load} = (\text{Supply Voltage} - 12) \times 50$$

Span Adjustment: From 10-100% of range. Non interactive with offset adjustment.

Offset Adjustment: Turn-down of 10:1.

Electrical Connections: Cage clamp-type barrier terminals for AWG #12-22

Transmitter Enclosure: Nema 4 FRP, lockable



Teflon®, Viton®, and Kevlar® are registered trademarks of DuPont. The diaphragm uses PTFE, the cable uses FEP. Specifications are subject to change without notice. CONTEGRA is a trademark owned by Contegra Inc.

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Engineering Specifications

A submersible level transducer shall be provided to sense the liquid level of the _____ at the location as shown on the plan drawings and in accordance with the manufacturer's recommendations. The transmitter shall be a 4-20 mADC, 2-wire, 12 to 40 VDC loop-powered type with its output signal directly proportional to the measured level excursion. The transducer shall be UL Listed.

The transducer housing shall be fabricated of PVC with a 2.5" diameter Teflon® diaphragm. Silicone oil shall be used as a hydraulic fill. The sensor shall provide an output signal directly proportional to the sensed pressure. The sensor shall be mounted using its signal cable and have 3/4" NPT pipe threading for pipe mounting.

The internal air pressure of the sensor assembly shall be relieved to atmospheric pressure through a sealed breather system.

The transmitter shall contain easily accessible calibration and ranging adjustments. Offset shall be adjustable from 0-90% of the sensor range. Span shall be adjustable from 10-100% of the sensor range. The transmitter shall contain integral level simulation for ranging adjustments and system test purposes. The transmitter shall provide adjustable signal damping.

The transmitter shall provide three levels of transient protection on the 4-20 mA loop: a gas tube arrestor for suppression of high voltages, transorbs, and varistors for fast clamping of lower voltage transients. The transmitter's output shall be measurable without disconnecting the loop power. The transducer shall be a CONTEGRA Model SLX 220.

Ordering Information (SEE EXAMPLE BELOW*)

Model	Pressure Sensor (PSI)	Feet of cable	Calibrated Range (ft)	Options
SLX 220	XX 5 (11.5 ft. max.) 15 (34.6 ft. max.) 30 (69.3 ft. max.)	XXX 20 ft. minimum 10 ft. increments	XX Specific gravity of 1.0 (water)	ENCLOSURE A = Nema 4X FRP B = None (components) OTHER M = Meter (digital) P = Power (local loop power) C = Condensation protection heater/thermostat

*A typical model number is **SLX 220-15-40-20-A**

This includes a submersible level transducer with a 4-20 mADC output and additionally:

- A 15 PSI sensor
- 40 feet of cable
- Calibrated over a 0-20 foot span
- Enclosed – Nema 4X

Consult your CONTEGRA representative or the factory for additional options.



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