

The 900D4S **SEELEVEL II** Tank Fluid Monitor



FEATURES:

- *Patented microprocessor based digital system measures total fluid level with 1/4" resolution in tanks up to 32 feet high (longer lengths are in development)*
- *Temperature sensors are spaced every 16" in sender bar to provide average product temperature*
- *Self powered system allows stand alone operation with no external power*
- *Large backlit LCD displays are easy to read in any lighting conditions and show product temperature, fluid level in inches, fluid volume and alarm status.*
- *Inches of level, alarm status, and battery condition can be shown at the push of a button*
- *Front panel keypad allows the display to be calibrated in the field, security codes control access to programming and allow the selection of which features are on or off*
- *Programmable 4-20mA or 1-5V analog outputs for each volume and temperature*
- *Polyethylene sender bar and float resist corrosion*
- *Based on a highly reliable design with over five years of production*
- *Designed for simple installation and servicing; system features modular design, fibre optic connection between sender bar and display (no electrician required), no external power requirements, and extensive diagnostic tools*
- *Display operation from -40 to +140°F (-40 to +60°C)*
- *Product temperature from -40 to +194°F (-40 to +90°C)*
- *One year limited warranty, competitive price*

MODEL 900D4S **SEEL**LEVEL II MONITOR SPECIFICATIONS

Maximum tank height:	32 feet (9 m), greater lengths are in development
Principle of operation:	Reed switches in sender bar are activated by magnets in the float, and are read by a microprocessor. Signal from the sender bar is transmitted to the display through plastic fibre optic cable, providing electrical isolation for hazardous environments.
Resolution:	1/4 inch (6 mm).
Accuracy:	±1/8 inch (3 mm), temperature drift is zero.
Specific gravity sensitivity:	Total volume float sinks one inch (25 mm) in water, interface float must be specified for specific gravity.
Hysteresis:	1/16 inch (1.5 mm) (Difference between reading with float rising and reading with float falling. Eliminates display flicker.)
Maximum fibre optic length:	200 feet (60 m). Fibre can be cut with a knife.
Ambient temperature range:	-40 to +140°F, product temperature range is -40 to +194°F
Battery lifetime:	5 years continuous operation for both sender bar and display. Sender bar powered by a replaceable lithium battery module. Display powered by four alkaline "AA" cells.
Display type:	½" LCD with LED backlight.
Alarms:	Four alarms, each consisting of a transistor conducting to ground when the alarm is "on". Each transistor has a rating of 1.0 ADC at 24 volts DC. Alarms default "off" if the signal from the sender bar is corrupted or lost. Alarm temperature drift is zero.
Remote communications:	Four 4-20 mA two wire <u>or</u> four 1-5V three wire outputs for fluid volumes and temperature, optically isolated, require a minimum of 8 volts, maximum of 28 volts. Digital interface in development.
4-20 mA output temp. drift:	+/- 20ppm/°C
Temperature sensors:	Sensors located inside the sender bar, spaced 16" apart. Temperature measurement range is from -40°C to +99°C; accuracy is +/- 2°C worst case.
Power requirements:	<u>Display/Sender Bar:</u> None (operate from internal batteries). <u>Alarms:</u> External indicators must provide their own power. 4-20 mA and 1-5V transmitter must be externally powered.
Display enclosure:	NEMA 4 rated non metallic enclosure, nominally 8" high by 6" wide by 4" deep.
Float construction:	Cylindrical, approximately 7 inches diameter by 4.5 inches high. Float material is polyethylene.
Bar construction:	Nominal 1/2" polyethylene pipe houses reed switches and temperature sensors.
Fitting requirements:	Sender bars are held in place at the top with a compression fitting, requires a one inch female NPT thread in the tank top. At tank bottom either a weighted anchor or a weld in anchor can be used.
Diagnostics:	Display shows if signal from sender bar is corrupted or lost or if the float has failed.

Programming: The 900D4S monitor has several programming options, all of which are field programmable at any time from the front panel keypad. Programmable security codes prevent unauthorized access and controls which gauge features are active. All memories are retained even if the batteries are dead or removed. For upright tanks with a linear calibration (equal volume per inch of depth throughout the tank) the volume reading can be calibrated by entering a single number for volume per inch of depth. For tanks on their side with a nonlinear calibration, the volume reading can be calibrated by entering a table of values for inches of depth verses volume. The volume offset can be set to specify where the zero volume point is in the tank. The temperature can be set to read in °F or °C. The alarms can be set independently to any point in the tank, and can be set to turn on or off as the fluid level rises. The full scale of the volume 4-20mA outputs are calibrated from the keypad, there are no analog controls to adjust.

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