

Dual Float Brine Sensors

Smart Sensor Equipped with Intellisense™ Technology

30-0232-D-10B (for Containment Sump) and 30-0232-D-20B (for Fiberglass Tanks)



Description



IMPORTANT: This float body is the same as the 30-0232-D-10 / D-20 and 30-0232-DH-10 / DH-20 (DH-XX has a carbon-polymer strip in the bottom). Look at the label to make sure you have the correct sensor for the applicable function.

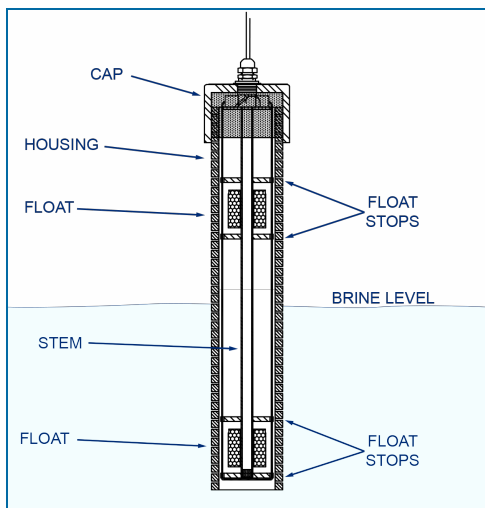
The primary function of the Dual Float Brine Sensor is to sense liquid in the brine-filled reservoir of the interstitial area of a doubled-walled tank. Two (2) float switches are used in the body of the sensor to sense fluid level changes. The device will cause an alarm condition in the system if the fluid level increases or decreases more than the normal constant level in the middle between the upper and lower floats. If there is a break in the cable it will cause an alarm condition in the system.

Since this sensor is not made to sense hydrocarbons it does not use a carbon/polymer strip.



No Carbon/Polymer Strip

The bottom float of the brine sensor will stay in the up position in a normal condition. When the sensor is in an alarm condition, the upper float will be in a position to cause the alarm condition or the fluid level has decreased below the bottom float.



Cutaway View of Sensor Showing Internal Floats

Specifications	
Primary Use:	Measure the level of brine solution
Detects:	Low Liquid, High Liquid
Operating Temperature:	-40°C to +70°C (-40°F to 158°F)
D-10B Dimensions:	Diameter: 5.8 cm (2.3 in.), Length: 28.2 cm (11.1 in.)
D-20B Dimensions:	Diameter: 5.8 cm (2.3 in.), Length: 53.6 cm (21.1 in.)
Float Requirements:	Low: 3.8 cm (1.5 in.), High: 27.9 cm (11 in.)
Cable:	Belden #88760 or Alpha #55371 3.6 m (12 feet) of gas & oil resistant cable to the inline ISIM + 1.3 m (4 feet) ISIM tail
Maximum Wiring Length*:	305 m (1,000 ft.) field wiring
Alarm Threshold Configuration:	Fully Automatic
Diagnostic Reading on sensor setup:	3 to 4 (normal), 12 to 13 (bottom float in alarm - bottom and top floats in the down position), 1 to 2 (upper float in alarm - top and bottom floats in the up position)

Specifications

Multi-Drop Restriction

ProGauge / Integra: 12 on each I.S. barrier channel (48 total per barrier)
Nano: See Mixed Multi-Drop Installation in the [M2010 Nano Installation Guide](#).

Connections:

Red = Power, Black = Signal, Shield = Ground



NOTE: *This is the maximum length of wire to be used to connect all sensors on one channel. This length includes the wire from the VSmart to each sensor board in the string.

Installation

WARNING: Make sure you read and fully understand the warnings and information found in the **Hazardous Areas** section of your console's Installation Guide before you install or do the servicing of this sensor.



IMPORTANT: This Smart Sensor must **ONLY** be connected to a ProGauge or OPW Fuel Management Systems 12V IS Barrier. This will make sure that operation conditions are safe.

CAUTION: ALWAYS obey Local and National Electrical Codes applicable to the installation location.



Make sure that the cables from the field wiring to the controller are in conduit that is dedicated to intrinsically safe wiring.

Use wire-nuts and epoxy-resin seal-packs for field connections (refer to [M00-390008 Waterproof Electrical Connections](#) for information).



IMPORTANT: This sensor can only be used with a 12V IS Module. Sensors can be connected in parallel up to a maximum of 12 sensors on each



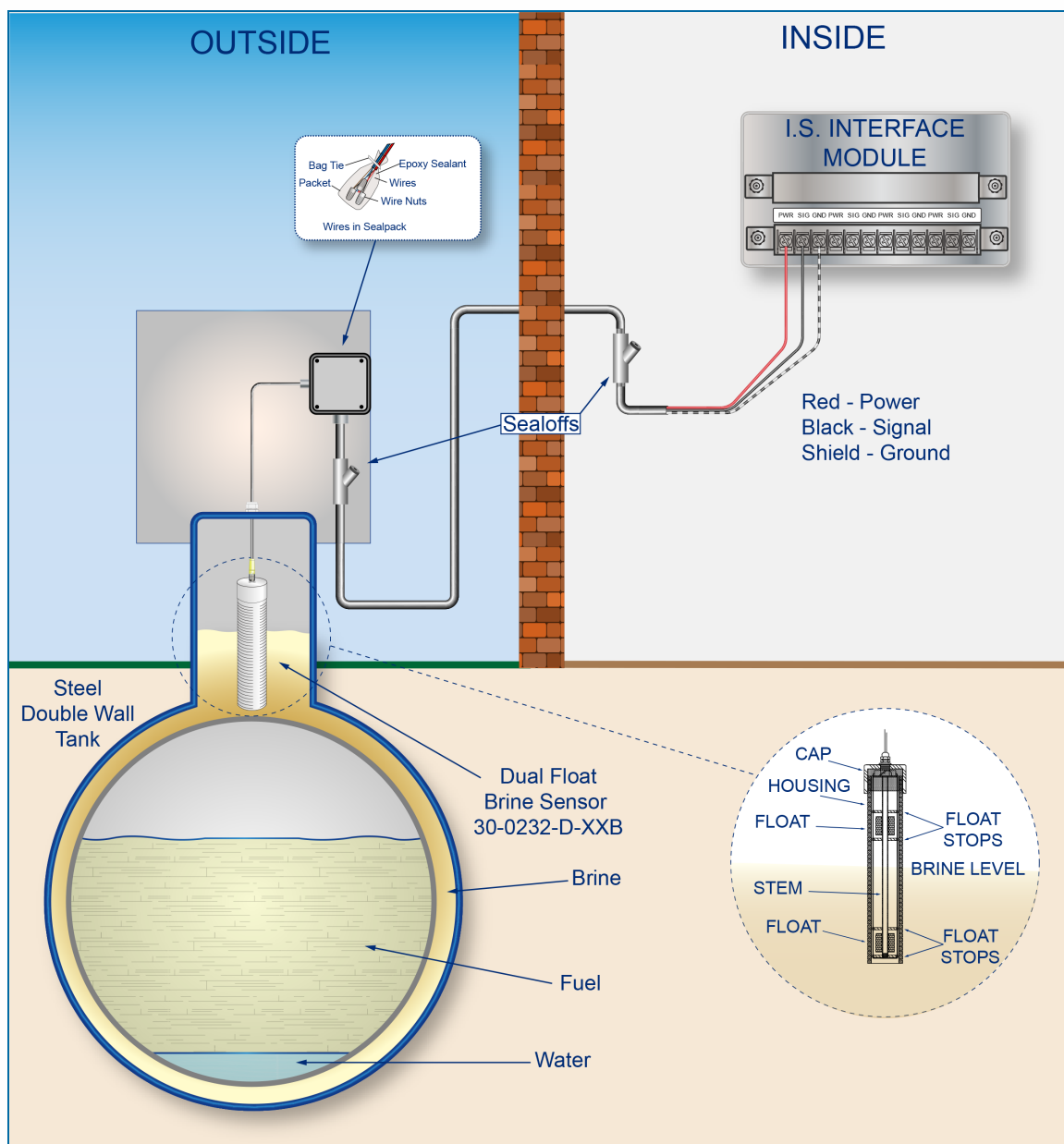
channel (48 total on each barrier). This Sensor **CANNOT** be connected in parallel with devices other than Smart Sensors. It cannot be mixed with non-Smart sensors.

- This sensor uses ONE I.S. Module position
- Start with the Connections table and "Typical Installation" drawing below.
- Connect the sensor cable to the sensor.
- Connect the sensor wires to the field wires in the junction box. Use the supplied cable gland and silicon wire nuts.
- Seal the electrical connections with the epoxy seal packs (refer to [M00-390008 Waterproof Electrical Connections](#) for instructions).
- Install explosion-resistant sealing fittings at both ends of the conduit. Refer to the **Probe-Cable Seal-offs** section of the console's Installation Guide for instructions.

Connections

Sensor Wire Color	12V Smart Sensor Interface Channel
Red	Power
Black (hydrocarbon sensor)	Signal
Shield (or 3rd conductor)	Ground

Typical Installation Drawing



Controller Setup

The sensor must be **Auto Detected** on the console. Alarm thresholds are configured automatically through the *Intellisense* mechanism between the sensor and the console.

Float Sensor Test



CAUTION: Use caution to prevent dangerous conditions when you do work in a hazardous area.

Make sure that the area has sufficient airflow when you do a test or remove contamination from the sensor. Make sure there are no open flames or hot surfaces near the work area.



Sensor installed in an interstitial monitoring reservoir

- Put the bottom float in the low position and the top float in the low position. This will cause a low-level alarm condition in the controller.
- Put the bottom float in the high position and the top float in the high position. This will cause a high-level alarm condition in the controller.
- Put the bottom float in the high position and the top float in the low position. Make sure that the controller is not in an alarm condition.

If the controller does not go into an alarm condition, look to see if the thresholds are correctly programmed in the system. Look to see if the float is in the correct position (refer to the applicable instruction above). A sensor or wiring fault will cause a system alarm. Do a continuity test in the wiring and junction boxes. Make sure there is continuity with no short circuits.