Start-up & Operation

The VRF-2000 will automatically begin operation when powerd up. It should be initially powered after it is installed in the application and with material below the probe. When initially powered up, the VRF-2000 will automatically begin a 3 second calibration operation. If the unit is powered on the bench prior to installation, or moved from one installation to another, recalibration is required. Momentarily press the recalibration pushbutton. The green calibration indication LED will go off, and after 3 seconds illuminate to indicate calibration is complete. The VRF-2000 is shipped from the manufacturer with the automatic calibration/recalibration feature enabled. If only manual pushbutton calibration/recalibration is desired, set SW5 DIP switch position 4 to off.

Please see VRF180001 for complete installation guidelines.

Dimensional and electrical drawings of the VRF-2000 models are available in various formats from Bindicator's website; www.Bindicator.com

From the home page, click on the link Installation Manuals/VRF180001 to obtain the applicable drawing.

If access to the internet is not available, please contact Bindicator® Customer Care Department at 1-800-778-9242 for assistance in obtaining these drawings.

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VRF 180401 Rev. C 12/06

Quick-Start Guide

VRF-2000 Series
of Variable Radio Frequency Point Level Sensors
Integral Electronics with Opti-Sense™

SAFETY INFORMATION

Before installing the VRF-2000 model, please read these instructions and familiarize yourself with the requirements and functions. If any questions or problems arise during the installation, please contact Bindicator® Applications at 1-800-778-9242.

The VRF-2000 model must only be installed and operated as described in this operating instruction. Please note that other action can cause damage for which Bindicator® does not take responsibility. If the model is not installed correctly or used in approved applications, dangers may arise such as product overflow.

Ensure that all personnel installing, wiring, and calibrating this device are suitably qualified.

Observe all local and national electrical codes for the wiring of this device.

IMPORTANT!
Either AC or DC power is to be connected to the power input depending on the model. Consult the nameplate of the unit. Models beginning with VRF2A are AC powered units and accept any voltage between 85 VAC and 265 VAC. Models beginning with VRF2D are DC powered units and accept any voltage between 9 VDC and 36 VDC.

IMPORTANT!
An electrical earth ground connection must be made to the housing input ground screw. See Figure 1 for location. This connection is needed for both electrical safety and proper operation of the unit. This is required for both AC and DC units.

External ground wire must be connected to tank wall or top of tank.

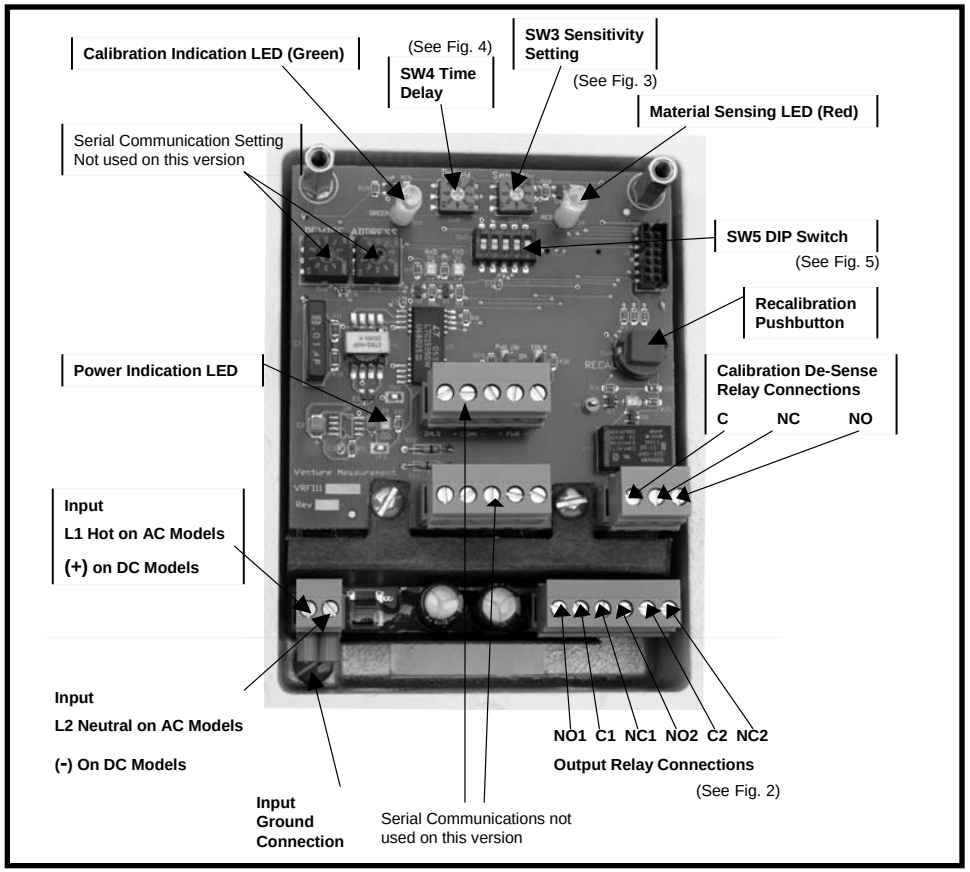

Figure 1. VRF-2000 Electronics

Failsafe Selection

High Level Failsafe Operation

- DIP Switch SW5 position 1 is on.
- If the electrical power fails, the relay turns off. This indicates material as if the tank were full.

Low Level Failsafe Operation

- DIP Switch SW5 position 1 is off.
- If the electrical power fails, the relay turns off. This indicates material as if the tank were empty.

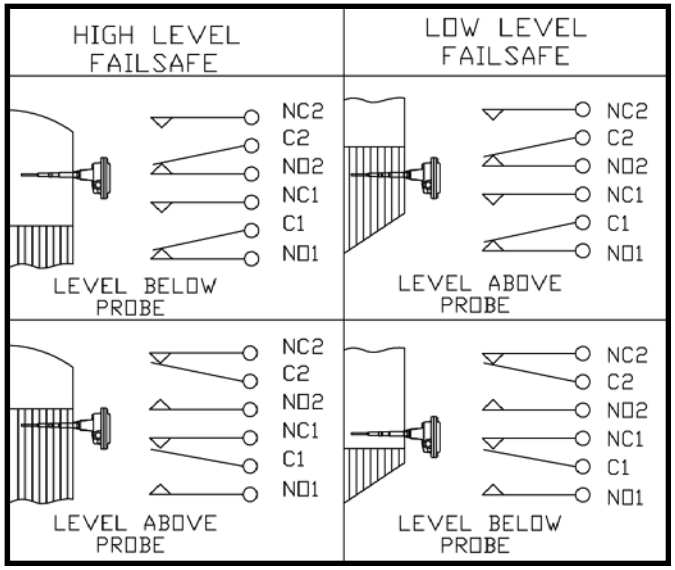

Figure 2. High/Low Level Failsafe

The output relay contacts are labeled in the un-powered alarm state. The relay is energized when the VRF-2000 is not alarmed. This status may be opposite that of other Bindicator® brand units. If the VRF-2000 is replacing an older Model RF8000 or RF9000 unit, connections will need to be opposite. If a connection was made to NC1 terminal of the RF 8/9000, connect now to the NO1 terminal of the VRF-2000. C1 and C2 connections would remain the same.

SW3 Position	Sensitivity
0	.5 pF, Very High
1	1 pF, High
2	2 pF
3	3 pF
4	5 pf, Medium
5	8 pF
6	10 pF, Low
7	15 pF, Very Low

Figure 3. Sensitivity Settings

SW4 Position	Time Delay
0	200 mSec
1	1 Sec
2	2 Sec
3	5 Sec
4	10 Sec
5	20 Sec
6	30 Sec
7	60 Sec

Figure 4. Time Delay Settings

SW5 Position 2	Time Delay Mode
On	The delay set on SW4 is applied when material touches the probe
Off	There is no delay when material touches the probe

SW5 Position 3	Time Delay Mode
On	The delay set on SW4 is applied when material leaves the probe
Off	There is no delay when material leaves the probe

Figure 5. Time Delay Mode Settings