

Calibrating Alliance Sensor's LVITs with SenSet™ Field Programmability

Please note that your LVIT sensor is calibrated at the factory to a specific measuring range. You may choose to retain this calibration if it fits your purpose, or you may choose to recalibrate your sensor using the SenSet™ feature if you desire a more precise match of the sensor's electrical output to your mechanical device's range of movement.

Alliance Sensors' LVIT Linear Position Sensors feature SenSet™ Field Programmability, which allows the installer to very simply and quickly match the full scale electrical output of a sensor to the actual mechanical range of movement of the device in which the sensor is installed. This type of activity is usually referred to as field calibration. To proceed with SenSet field calibration, follow these instructions:

1. Install the sensor into your mechanical device, leaving the sensor's I/Os unconnected.
2. Connect the black wire or *ground* terminal to power (-), and then connect the correct DC power input (+) to the sensor via the red wire or + *power* terminal.
- 3a. To begin the SenSet process for voltage output, connect a DC voltmeter having an appropriate range with its plus (+) test lead connected to the green wire or *output* terminal, and the meter's (-) test lead connected to the black wire or *ground*.
- 3b. To begin the SenSet process for current loop output, connect a DC milliammeter having an appropriate range with its plus (+) test lead connected to the green wire or *output* terminal and its minus (-) test lead connected to the loop load resistor, typically 250 or 500 Ohms. Connect the other end of the loop load resistor to the black wire or *ground*.
4. Extend your mechanical device to the point of its full range of motion; then connect the white (*cal*) wire or *cal* terminal to the black wire or *ground* terminal for at least 3 seconds.
5. Fully retract the mechanical device to its zero (start) position; then connect the white (*cal*) wire or *cal* terminal to the black wire or *ground* terminal for at least 3 seconds.
6. The sensor's output will now be calibrated to the end points of your mechanical device. The SenSet procedure can be redone without limit, but its operational range is limited to 20% of specified full range, both at zero and at full range. (0 to 20% around zero, and 80 to 100% around full range) Note that both ends of the sensor's range must be calibrated using the SenSet procedure for the process to take effect.
7. In the event of a problem, the sensor can be reset to its original state before SenSet was attempted by connecting the SenSet white wire or terminal to the black wire or *ground* terminal for at least 30 seconds.
8. When the SenSet process is complete, disconnect the voltmeter, or, in the case of current loop output, disconnect the milliammeter and reconnect the loop load to the green or *output* terminal. If you are using a leaded or cable output sensor, you may wish to trim and insulate the end of the white (*cal*) wire to avoid an inadvertent recalibration.