

# ALLIANCE SENSORS GROUP

A DIVISION OF H.G. SCHAEVITZ LLC

## LR, LRL, LV, or LZ Series Wiring and SenSet™ Instructions



Standard I/O connections for LR, LRL, LV, or LZ LVIT sensors with a 4-conductor cable or a 5-pin connector are on the back below the illustration for SenSet™ field calibration of LR, LRL, LV, or LZ series LVIT position sensors

Please note that your LR, LRL, LV, or LZ sensor was calibrated at the factory to a specified measuring range. You may choose to retain this calibration if it fits your purpose, or you may choose to field 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. The Linear Position Sensor's SenSet feature allows the installer to very simply and quickly match the full scale electrical output of a sensor to the actual range of mechanical movement of the device in which the sensor is installed or to which it is attached. This type of activity is usually referred to as a field calibration. To proceed with a SenSet-based field recalibration, follow these instructions:

1. Install the position sensor into your mechanical device, leaving the sensor's I/Os unconnected.
2. Connect the black wire or *common ground* terminal to power ground (-), and then connect + DC power input to the sensor via the red wire or + *power input* terminal. **Never connect + power to white wire!**
3. To begin the SenSet process for voltage output, connect a DC voltmeter having the appropriate range with its plus (+) test lead connected to the green wire or *voltage output* terminal, and the meter's (-) test lead connected to the black wire or *common ground* terminal.
4. 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 *current 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 *common ground* terminal.
5. Extend the mechanical device to the end point of its full range of motion; then connect the white (*cal*) wire or *cal* terminal to the black wire or *common ground* terminal for at least 3 seconds.
6. Fully retract the mechanical device to its zero (start) position; then connect the white (*cal*) wire or *cal* terminal to the black wire or *common ground* terminal for at least 3 seconds.
7. The sensor's output is now calibrated to the end points of your mechanical device's range of motion. 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 field programmability procedure for the process to take effect.
8. When the SenSet™ process is completed, disconnect the voltmeter, or, in the case of current loop output, disconnect the milliammeter and reconnect the loop load to the green or *current 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 any inadvertent recalibration.

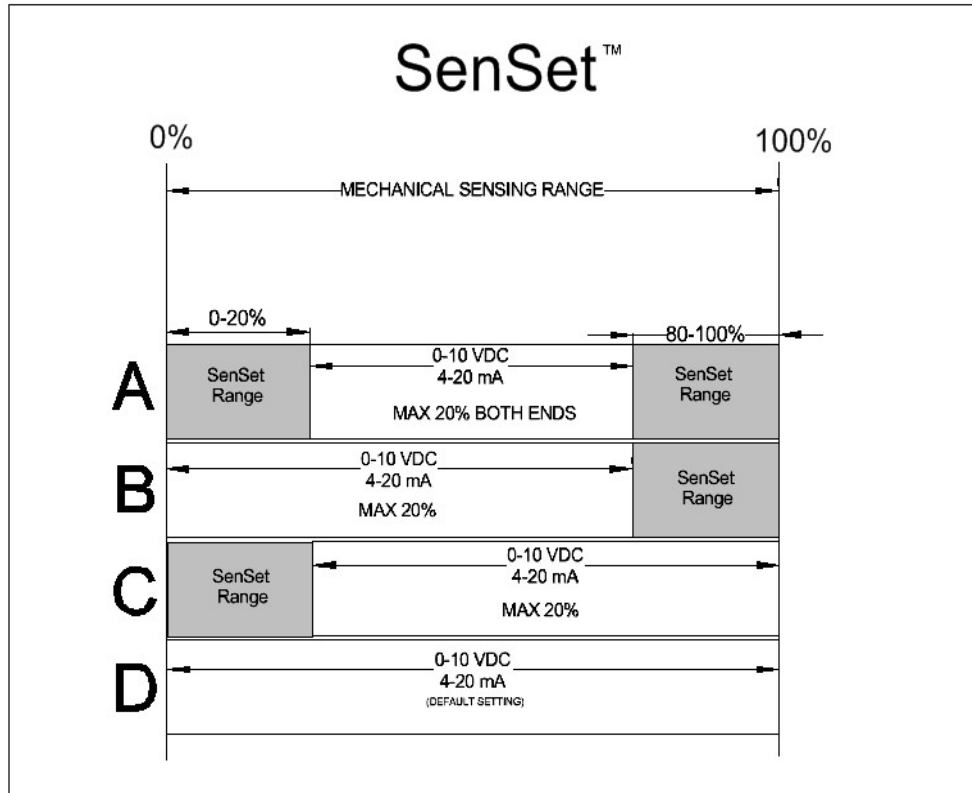
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## LR, LRL, LV, or LZ series LVIT I/O Wiring Pinout / Color Code

Pin 1 or Red: + DC Power Input

Pin 2 or Black: Common Ground

Pin 3 or Green: Voltage Output

Pin 4 or Green: Current Output (See 4-20 mA note at bottom below)

Pin 5 or White: SenSet™ (Cal) **Never connect to + power or output!**

**Note: Metal rod end on LVIT's moving element should be grounded**

### Analog I/Os:

0 - 5 or 0.5 - 4.5 V DC output with 8-30 V DC input (35 mA max)

0 - 10 V DC output with 12-30 V DC input (35 mA max)

4 - 20 mA, 3-wire sourcing, with 18-30 V DC input (60 mA max)

**Do not connect 4-20 mA output to a 2-wire loop powered system**

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