Key specifications for the AD627 are summarized in Figure 2-11 below. Although it has been designed as a low power, single-supply device, the AD627 is capable of operating on traditional higher voltage supplies such as ±15V, with excellent performance.

- Wide Supply Range: ±2.7V to ±18V
- Input Voltage Range: \(-V_S - 0.1V\) to \(+V_S + 1V\)
- 85\(\mu\)A Supply Current
- Gain Range: 5 to 1000
- 75\(\mu\)V Maximum Input Offset Voltage (AD627B)
- 10ppm/°C Maximum Offset Voltage TC (AD627B)
- 10ppm Gain Nonlinearity
- 85dB CMR @ 60Hz, 1kΩ Source Imbalance (G = 5)
- 3\(\mu\)V p-p 0.1Hz to 10Hz Input Voltage Noise (G = 5)

**Figure 2-11: AD627 in-amp key specifications**

Three Op Amp In-Amps

A second popular in-amp architecture is based on three op amps, and is shown below in Figure 2-12. This circuit is typically referred to as the three op amp in-amp.

![Three Op Amp In-Amps Diagram](image)

**Figure 2-12: The three op amp in-amp**

Resistor \(R_C\) sets the overall gain of this amplifier. It may be internal, external, or (software or pin-strap) programmable, depending upon the in-amp. In this configuration, CMR depends upon the ratio matching of \(R_3/R_2\) to \(R_3'/R_2'\). Furthermore, common mode signals are only amplified by a factor of 1 regardless of gain (no common mode voltage will appear across \(R_C\), hence, no common mode current will flow in it because the input terminals of an op amp will have no significant potential difference between them).