Dividers for LDC500/501/LDC502 Modulation Input

There is no internal way to reduce the Modulate sensitivity on the LDC500, LDC501 and LDC502. This has to be done externally.

There is a straightforward way for the user to reduce the gain on the Modulate input, and that is to build a simple voltage divider to place in series with the input. The only (important) caveat is that this must be a BALANCED divider, otherwise the common-mode rejection performance of the LDC501 will be completely ruined.

Figure 1 shows a sketch of a circuit that will reduce the modulate sensitivity 100-fold; it is straightforward to modify it from there as needed.

Circuit shown above will reduce modulate input sensitivity 100x, to 0.25 mA/V for low range of LDC501 and 0.5mA/V for its high range.

It is important to keep R2 and R3 matched to preserve the Common-Mode Rejection performance of the LDC501. Do NOT simply connect the outer shell from J1 to J2.

Since the LDC500’s modulation input impedance is about 2kΩ, R1 should be kept below **50 ohms** to ensure gain accuracy.