Table 3-1. I/O Connector Signals

Signal Name	Reference	Direction	Description
AI GND	—	—	**Analog Input Ground**—These terminals are the reference point for single-ended AI measurements in RSE mode and the bias current return point for DIFF measurements. All three ground references—AI GND, AO GND, and D GND—are connected on the device.
AI <0..79>	Varies	Input	**Analog Input Channels 0 to 79**—For single-ended measurements, each signal is an analog input voltage channel. In RSE mode, AI GND is the reference for these signals. In NRSE mode, the reference for each AI <0..15> signal is AI SENSE; the reference for each AI <16..63> and AI <64..79> signal is AI SENSE 2*. For differential measurements, AI 0 and AI 8 are the positive and negative inputs of differential analog input channel 0. Similarly, the following signal pairs also form differential input channels: <AI 1, AI 9>, <AI 2, AI 10>, <AI 3, AI 11>, <AI 4, AI 12>, <AI 5, AI 13>, <AI 6, AI 14>, <AI 7, AI 15>, <AI 16, AI 24>, <AI 17, AI 25>, <AI 18, AI 26>, <AI 19, AI 27>, <AI 20, AI 28>, <AI 21, AI 29>, <AI 22, AI 30>, <AI 23, AI 31>, <AI 32, AI 40>, <AI 33, AI 41>, <AI 34, AI 42>, <AI 35, AI 43>, <AI 36, AI 44>, <AI 37, AI 45>, <AI 38, AI 46>, <AI 39, AI 47>, <AI 48, AI 56>, <AI 49, AI 57>, <AI 50, AI 58>, <AI 51, AI 59>, <AI 52, AI 60>, <AI 53, AI 61>, <AI 54, AI 62>, <AI 55, AI 63>, <AI 64, AI 72>, <AI 65, AI 73>, <AI 66, AI 74>, <AI 67, AI 75>, <AI 68, AI 76>, <AI 69, AI 77>, <AI 70, AI 78>, <AI 71, AI 79> Also refer to the *Connecting Ground-Referenced Signal Sources* section of Chapter 4, *Analog Input*.
AI SENSE, AI SENSE 2	—	Input	**Analog Input Sense**—In NRSE mode, the reference for each AI <0..15> signal is AI SENSE; the reference for each AI <16..63> and AI <64..79> signal is AI SENSE 2*. Also refer to the *Connecting Ground-Referenced Signal Sources* section of Chapter 4, *Analog Input*.
AO <0..3>	AO GND	Output	**Analog Output Channels 0 to 3**—These terminals supply the voltage output of AO channels 0 to 3.
AO GND	—	—	**Analog Output Ground**—AO GND is the reference for AO <0..3>. All three ground references—AI GND, AO GND, and D GND—are connected on the device.