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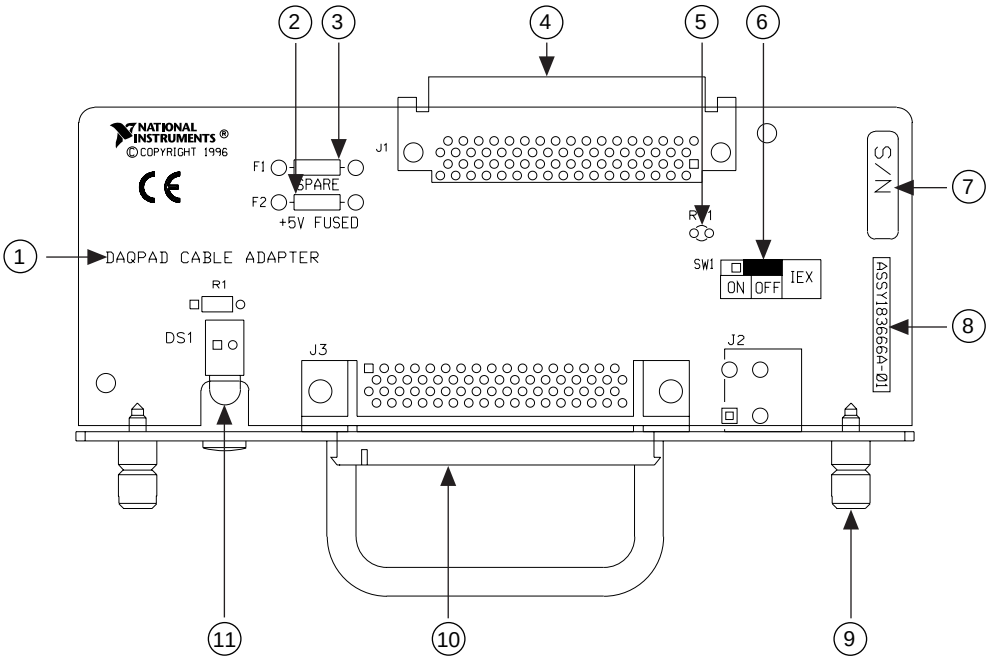
DAQPAD CABLE ADAPTER

Thank you for purchasing the DAQPad cable adapter from National Instruments. This guide describes how to install the adapter to connect the DAQPad-MIO-16XE-50 to external accessories.

The DAQPad cable adapter contains the shielded 68-pin E Series I/O connector that connects the DAQPad-MIO-16XE-50 to accessories such as the SCB-68 and the SC-2040 Series. The adapter also contains spring terminals for connection to external current excitation and a temperature sensor for cold-junction compensation with thermocouples. Figure 1 shows the DAQPad cable adapter parts locator diagram.

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Front Panel

1	Product Name	6	SW1 IEX Switch	10	68-Pin E Series I/O Connector
2	+5 V Fused/F2	7	Serial Number	11	Power LED
3	SPARE Fuse/F1	8	Assembly Number	12	Grounding Lug (Optional)
4	DAQPad-MIO-16XE-50 Connector	9	Thumbscrew	13	Spring Terminal
5	Cold-Junction Sensor				

Figure 1. *Parts Locator Diagram*

+5 V Fuses

There are two fuses on the adapter. The fuse labeled *+5 V FUSED/F2* limits the +5 V power output current. The fuse labeled *SPARE FUSE/F1* is a replacement.

Grounding Lug

If you are using a shielded cable for external current excitation, you can install a grounding lug to connect the cable shield to the chassis ground of the DAQPad-MIO-16XE-50. Two grounding lugs are included in your adapter kit; one of these is a spare.

To install a lug, remove the thumbscrew nearest the spring terminals. Put the thumbscrew through the hole in the lug and reinstall the thumbscrew, as shown in Figure 1.

IEX Spring Terminals

The spring terminals on the front panel, IEX+ and IEX-, provide external current excitation for temperature measurements using RTDs or thermistors. IEX+ is the current output and IEX- is the current return. The constant current source provides 100 µA of external excitation.

To connect to the spring terminal blocks, you can use up to 20 AWG wire with the insulation stripped to 0.5 in. Depress the orange lever using a small screwdriver, then insert the wire and release the lever.

The IEX slide switch, SW1, turns external current excitation on and off. For external current excitation, push SW1 to the ON position.

Figure 2 suggests how you can connect several RTDs in series to the DAQPad-MIO-16XE-50 using four-wire measurement techniques.

☞ **Note:** ***If you do not externally connect IEX+ to IEX- and you want to perform cold-junction sensor measurements, you must push the slide switch to the OFF position.***

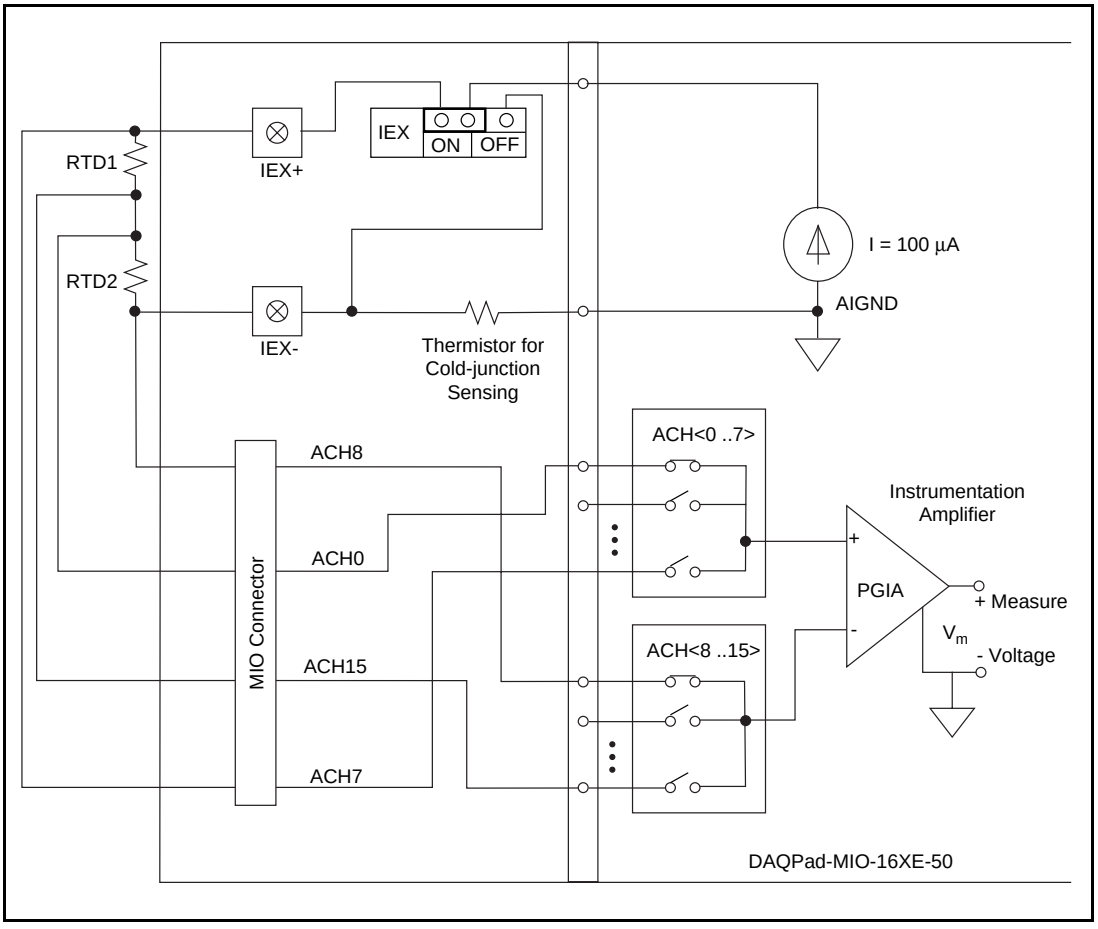


Figure 2. *RTD Connection Using External Current Excitation*

Pin Assignments

Figure 3 shows the pin assignments of the DAQPad cable adapter.

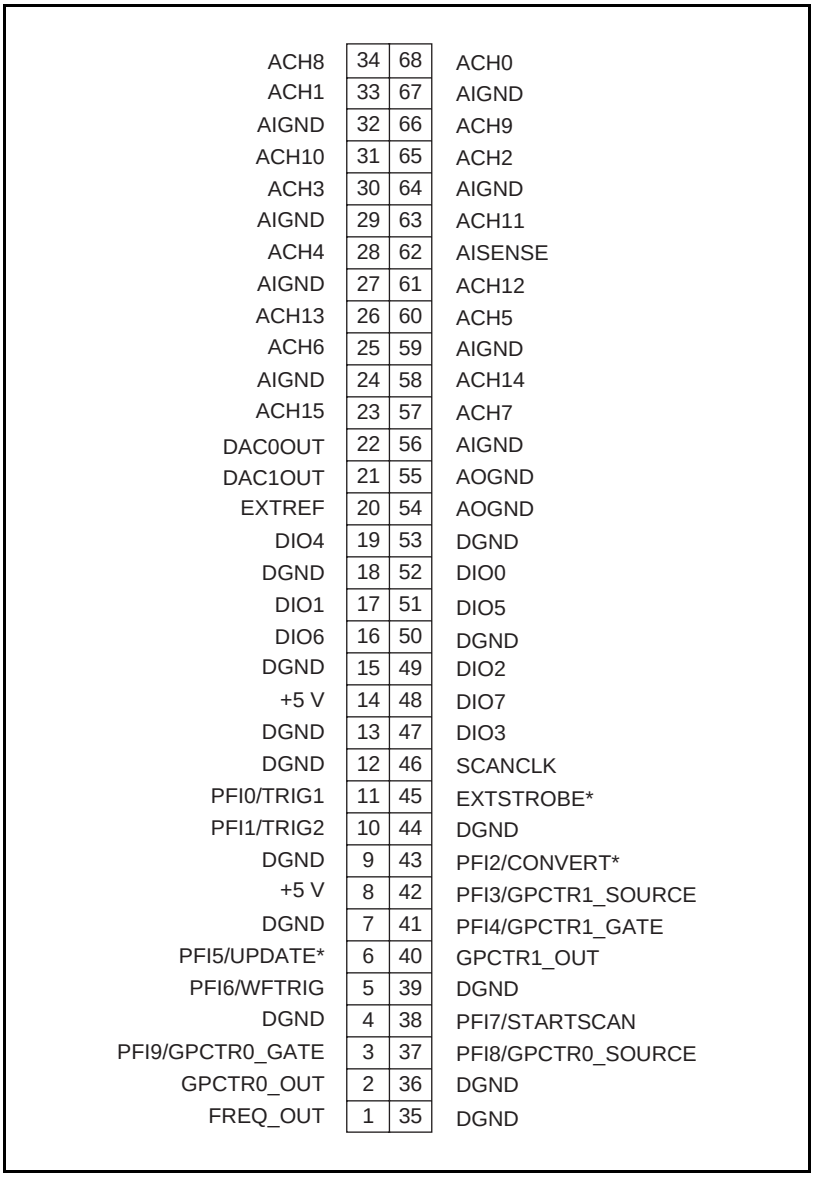


Figure 3. *DAQPad Cable Adapter Pin Assignments*

Warning: ***Connections that exceed any of the maximum ratings of input or output signals on the DAQPad-MIO-16XE-50 can damage the DAQPad-MIO-16XE-50 and the computer. The*** *DAQPad-MIO-16XE-50 User Manual* ***lists the maximum input ratings for each signal. National Instruments is NOT liable for any damages resulting from incorrect signal connections.***

Installation

To install the DAQPad cable adapter, remove the DAQPad-TB-52 (a detachable terminal block with screw terminals) from the DAQPad-MIO-16XE-50. Slide the cable adapter into the DAQPad-MIO-16XE-50 and screw it in place using the two thumbscrews.

Note: ***The LED on the DAQPad cable adapter lights only when the adapter is firmly connected to the DAQPad-MIO-16XE-50.***

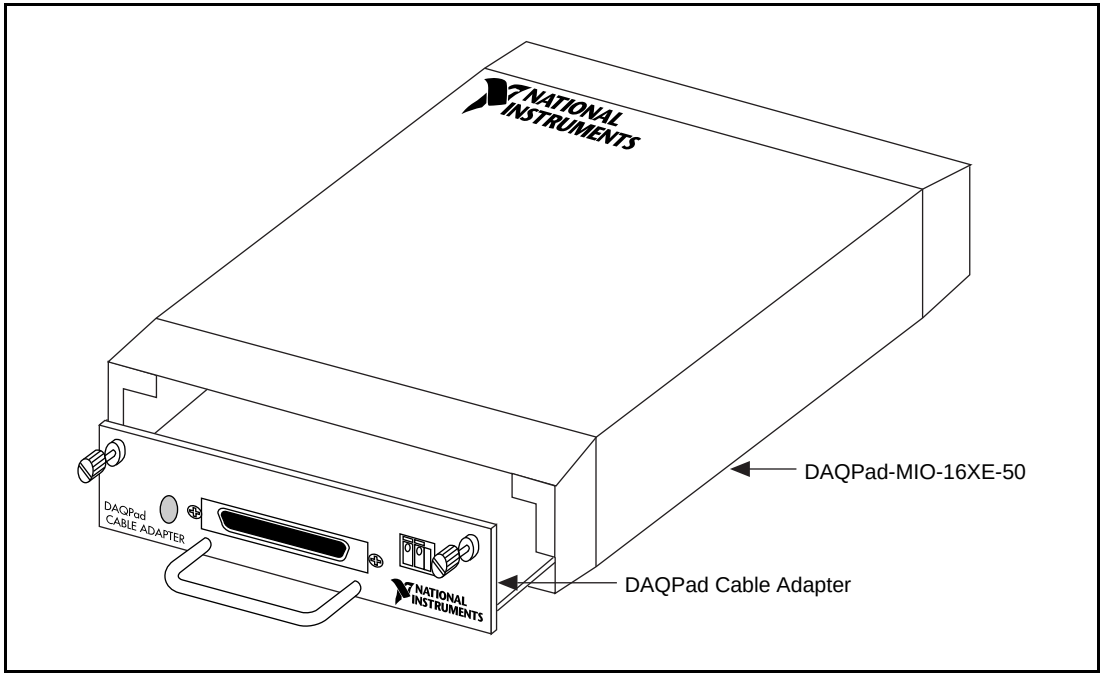


Figure 4. *DAQPad-MIO-16XE-50*

Refer to your *DAQPad-MIO-16XE-50 User Manual* for instructions on connecting your parallel port connectors and power supply to the DAQPad-MIO-16XE-50.

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