

Classification	<input type="checkbox"/> tDS	<input type="checkbox"/> tGW	<input type="checkbox"/> PETL/tET/tPET	<input type="checkbox"/> DS/PDS/PPDS	<input type="checkbox"/> tM-752N
	<input checked="" type="checkbox"/> I/O Card	<input type="checkbox"/> VXC Card	<input type="checkbox"/> VxComm	<input type="checkbox"/> Other	
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Q: How to measure current signals from the A/D Channel on board?

A: We recommend the following A/D card to use the Low Gain of Bipolar +/- 2.5 V to measure current through 125Ohm resistor.

Model	Gain	Bipolar
PCI-1002LU, PEX-1002L	4	+/- 2.5 V
PCI-1202LU, PEX-1202L	2	+/- 2.5 V
PCI-1602U, PCI-1602F, PCI-1602FU	4	+/- 2.5 V
PCI-1802LU, PCI-1800LU	2	+/- 2.5 V
PCI-822LU, PCI-826LU	4	+/- 2.5 V
PIO-821LU	2	+/- 2.5 V
PISO-813U	2 (JP1=10V) 4 (JP1=20V)	+/- 2.5 V

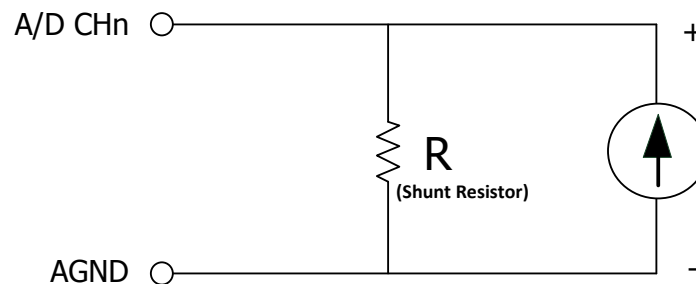
Follow the procedure described below:

Step 1: Wire the current signal source (4 ~ 20 mA or 0 ~ 20 mA) to Analog Input channel, and wire the signals as follows:

Connect the A/D CHn to signal positive (+) (Note: CHn = Channel Number)

Connect the AGND to signal negative (-)

Step 2: Add a **shunt resistor (e.g. 125 Ω, 0.1% DIP Resistors)** between A/D CHn and AGND.



Example: A 20 mA source current through a 125 Ω resistor between + and – terminals and the board will read a 2.5 V_{DC} voltage. You can use the $I = V/R$ (Ohm's law) to calculate what value the source current should have.

$$\begin{aligned}
 \text{Current (I)} &= \text{Voltage (V)} / \text{Resistance (R)} \\
 &= 2.5 \text{ V} / 125\Omega \\
 &= 0.02 \text{ A} \\
 &= 20 \text{ mA}
 \end{aligned}$$