Classification	☐ tDS ☐ tGW ☐ PETL/tET/tPET ☐ DS/PDS/PPDS ☐ tM-752N ☑ I/O Card ☐ VXC Card ☐ VxComm ☐ Other				
Author	Tammy	**Date**	2015-03-03	**NO.**	FAQ-009

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

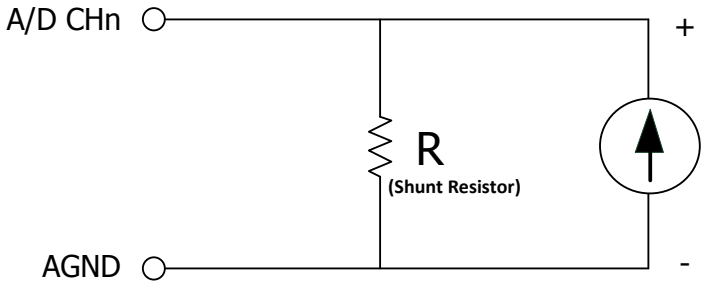
Follow the procedure described below:

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.

Current (I) = Voltage (V) / Resistance (R)

= 2.5 V / 125Ω

= 0.02 A

= 20 mA

Copyright @ 2014 ICP DAS Co., LTD. All Rights Reserved.

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000