

# Current Sensing with Different Types of Amplifiers

TI Precision Labs – Current Sense Amplifiers

## Quiz

# Current sensing w/ diff. types of amplifiers – quiz

1. Direct current sensing usually measures voltage across which circuit element?
  - a) Capacitor
  - b) Inductor
  - c) Resistor
  - d) Diode
  
2. In low-side sensing, the shunt resistor is placed between:
  - a) The system load and ground
  - b) The bus voltage and system load
  - c) The bus voltage and ground
  - d) Analog ground and digital ground

# Current sensing w/ diff. types of amplifiers – quiz

3. A disadvantage of using op amps for current sensing is:
- a)  $V_{CM}$  is limited to  $V_S$  of the op amp
  - b) Parasitic impedances on the PCB can cause errors
  - c) Accuracy may be dominated by external components
  - d) All of the above
4. The main advantage of using instrumentation amps for current sensing is:
- a) Low cost
  - b)  $V_{CM}$  can be larger than the supply voltage  $V_S$
  - c) The internal feedback network adds extra load to the system
  - d) Very low input bias current allows for measuring very small currents

# Current sensing w/ diff. types of amplifiers – quiz

5. Which type of amplifier can handle  $V_{CM}$  larger than  $V_S$ ?
- a) Op amps
  - b) Difference amps
  - c) Instrumentation amps
  - d) Current sense amps
6. The maximum load current measurable with a current sense amp is:
- a) About 100A
  - b) About 10A
  - c) About 1A
  - d) About 100mA

# Answers

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